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Director, APRU Sustainable Waste Management Program  
Director, Korea Biochar Research Center  
Division of Environmental Science and Ecological Engineering  
Korea University, Seoul 02841, Korea

H Index: 103 (Total citations: 42,209)  
<https://scholar.google.ca/citations?user=hSemLBMAAAAJ&hl=en>  
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<https://koreauniv.pure.elsevier.com/en/persons/yong-sik-ok-2>  
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Dr. Ok is a Full Professor and global research director at Korea University in Seoul, Korea. His academic background covers waste management, the bioavailability of emerging contaminants, and bioenergy and value-added products (such as biochar). Further, Professor Ok has experience in fundamental soil science and the remediation of various contaminants in soils and sediments. In collaboration with graduate students and colleagues, Professor Ok has published over 600 research papers, 88 of which have been ranked as Web of Science ESI top papers (85 were nominated as “highly cited papers” [HCPs], and three were nominated as “hot papers”) since 2009. He has been a Web of Science Highly Cited Researcher (HCR) since 2018. In 2019, he became the first Korean to be selected as an HCR in the field of *Environment and Ecology*. He maintains a worldwide professional network by serving as an Editor (*former Co-Editor*) of *Critical Reviews in Environmental Science and Technology*, Editor of *Environmental Pollution*, and a member of the editorial advisory board of *Environmental Science & Technology* and editorial boards of *Renewable and Sustainable Energy Reviews*, *Chemical Engineering Journal*, *Chemosphere*, *Journal of Analytical and Applied Pyrolysis*, and *Environmental Science: Water Research & Technology* with several other top journals. Professor Ok has served in several positions worldwide: honorary professor at The University of Queensland (Australia), visiting professor at Tsinghua University (China), adjunct professor at the University of Wuppertal (Germany), and guest professor at Ghent University (Belgium), being some of them. He currently serves as Director of the Sustainable Waste Management Program for the Association of Pacific Rim Universities (APRU) and Co-President of the International ESG Association. Moreover, he has served as chairman of numerous major conferences such as Engineering Sustainable Development 2019, organized by the APRU and the Institute for Sustainability of the American Institute of Chemical Engineers (AIChE). Prof. Ok will host the first *Nature* conference among South Korean universities in Seoul in 2021 on waste management and valorization for a sustainable future together with Chief Editors of Nature Sustainability (Dr. Monica Contestabile), Nature Electronics (Dr. Owain Vaughan), and Nature Nanotechnology (Dr. Fabio Pulizzi).

## Selected Publications

1. Yuan, X., Bank, M.S., Sonne, C., Ok, Y.S.\* (2021). Dual closed-loop chemical recycling support sustainable mitigation of plastic pollution. *Matter*, 4 (4): 1095-1097(\*Corresponding author).
2. Bank, M.S., Swarzenski, P.W., Bianchi, G., Metian, M., Ok, Y.S., Duarte, C.M. (2021) Reimagining aquaculture in the Global South. *Science*. 372(6539): 247-248
3. Bolan, N., Hoang, S.A., Beiyuan, J., Gupta, S., Hou, D., Karakoti, A., Joseph, S., Jung, S., Kim, K-H., Kirkham, M.B., Kua, H.W., Kumar, M., Kwon, E.E., Ok, Y.S., Perera, V., Rinklebe, J., Shaheen, S.M., Sarkar, B., Sarmah, A.K., Singh, B.P., Singh, G., Tsang, D. C. W., Vikrant, K., Vithanage, M., Vinu, A., Wang, H., Wijesekara, H., Yan, Y., Younis, S.A., Zwieter, L.V. (2021). Multifunctional applications of biochar beyond carbon storage, *International Materials Reviews*, Published online: 07 May 2021
4. Yuan, X., Suvarna, M., Low, S., Dissanayake, P.D., Lee, K.B., Li, J., Wang, X., Ok, Y.S. (2021). Applied Machine Learning for Prediction of CO<sub>2</sub> Adsorption on Biomass Waste-Derived Porous Carbons, *Environmental Science & Technology*, Published online 21 July 2021.
5. Bank, M.S., Ok, Y.S., Swarzenski, P.W. (2020). Microplastic's role in antibiotic resistance. *Science*, 369 (6509): 1315
6. You, S., Sonne, C., Ok, Y.S.\* (2020). COVID-19's unsustainable waste management. *Science*. 368 (6498): 1438. (\*Corresponding Author)
7. Hou, D., O'Connor, D., Igalavithana, A.D., Alessi, D.S., Luo, J., Tsang, D.C.W., Sparks, D.L., Yamauchi, Y., Rinklebe, J., Ok, Y.S.\* (2020). Metal contamination and bioremediation of agricultural soils for food safety and sustainability. *Nature Reviews Earth & Environment*, 1: 366-381 (\*Corresponding Author)
8. Lim, H., Kani, K., Henzie, J., Nagaura, T., Nugraha, A. S., Iqbal, M., Ok, Y.S., Hossain, Md. S. A., Bando, Y., Wu, K.C.W, Kim, H.-J., Rowan, A.E., Na, J., Yamauchi, Y. (2020). A Universal Approach for the Synthesis of Mesoporous Gold, Palladium and Platinum Films for Applications in Electrocatalysis. *Nature Protocols*, 15:2980-3008
9. O'Connor, D., Hou, D., Ok, Y. S., & Lanphear, B. P. (2020). The effects of iniquitous lead exposure on health. *Nature Sustainability*, 3(2), 77-79.
10. Sonne, C., Alstrup, A.K.O., Ok, Y.S., Dietz, R., Kanstrup, N. (2019). Time to ban lead hunting accumulation. *Science*, 366 (6468): 961-962.
11. Hou, D., O'Connor, D., Sonne, C., Ok, Y.S.\* (2019). Trade war threatens sustainability. *Science*, 364 (6447): 1242-1243. (\*Corresponding Author)
12. Hou, D. and Ok, Y.S.\*(2019). Speed up mapping of soil pollution. *Nature*, 566, 455. (\*Corresponding Author)
13. Shaheen, S. M., Niazi, N. K., Hassan, N. E. E., Bibi, I., Wang, H., Tsang, D. C. W., Ok, Y. S., Bolan, N., & Rinklebe, J. (2019). Wood-based biochar for the removal of potentially toxic elements in water and wastewater: a critical review. *International Materials Reviews*, 64(4), 216-247.
14. Kankala, R.K., Han, Y.H., Na, J., Lee, C.H., Sun, Z., Wang, S.B., Kimura, T., Ok, Y.S., Yamauchi, Y., Chen, A.Z., Wu, K.C.W. (2020). Nanoartitected Structure and Surface Biofunctionality of Mesoporous Silica Nanoparticles. *Advanced Materials*. 1907035.
15. Kumar, A. N.K., Dissanayake, P.D., Masek, O., Priya, A., Lin, C. S. K., Ok, Y.S.\*, Kim, S-H. (2021). Recent Trends in biochar integration with anaerobic fermentation: Win-win strategies

- in a closed-loop. *Renewable and Sustainable Energy Reviews*. 149: 111371 (\*Corresponding Author)
16. Dissanayake, P. D., Choi, S. W., Igalavithana, A. D., Yang, X., Tsang, D. C. W., Wang, C. H., Kua, H. W., Lee, K. B., & Ok, Y. S.\* (2020). Sustainable gasification biochar as a high efficiency adsorbent for CO<sub>2</sub> capture: A facile method to designer biochar fabrication. *Renewable and Sustainable Energy Reviews*, 124, 109785. (\*Corresponding author).
  17. Zhang M., Song G., Gelardi D.L., Huang L., Khan E., Mašek O., Parikh S.J., Ok Y.S.\* (2020). Evaluating biochar and its modifications for the removal of ammonium, nitrate, and phosphate in water. *Water Research*, 186: 116303 (\*Corresponding Author)
  18. Zhao W., Chen Z., Yang X., Qian X., Liu C., Zhou D., Sun T., Zhang M., Wei G., Dissanayake P.D., Ok Y.S.\* (2020). Recent advances in photocatalytic hydrogen evolution with high-performance catalysts without precious metals. *Renewable and Sustainable Energy Reviews*, 132: 110040 (\*Corresponding Author)
  19. Dissanayake, P. D., You, S., Igalavithana, A. D., Xia, Y., Bhatnagar, A., Gupta, S., Kua, H. W., Kim, S., Kwon, J. H., Tsang, D. C. W., & Ok, Y. S.\* (2020). Biochar-based adsorbents for carbon dioxide capture: A critical review. *Renewable and Sustainable Energy Reviews*, 119, 109582. (\*Corresponding author).
  20. Cao, L., Dai, P., Tang, J., Li, D., Chen, R., Liu, D., Gu, X., Li, L., Bando, Y., Ok, Y.S., Zhao, X. (2020). Spherical Superstructure of Boron Nitride Nanosheets Derived from Boron-Containing Metal-Organic Framework. *Journal of American Chemical Society*. (Published online: 28 March 2020)
  21. Yu, I.K.M., Tsang, D.C.W., Yip, A.C.K., Hunt, A.J., Sherwood, J., Shang, J., Song, H., Ok, Y.S.\*, Poon, C.S. (2018). Propylene carbonate and  $\gamma$ -valerolactone as green solvents enhance Sn (IV)-catalysed hydroxymethylfurfural (HMF) production from bread waste. *Green Chemistry*, 20: 2064-2074. (\*Corresponding author).
  22. Qin, Y., Li, G., Gao, Y., Zhang, L., Ok, Y. S., & An, T. (2018). Persistent free radicals in carbon-based materials on transformation of refractory organic contaminants (ROCs) in water: A critical review. *Water Research*, 137, 130-143.
  23. Alam, M. S., Gorman-Lewis, D., Chen, N., Flynn, S. L., Ok, Y. S., Konhauser, K. O., & Alessi, D. S. (2018). Thermodynamic Analysis of Nickel(II) and Zinc(II) Adsorption to Biochar. *Environmental Science and Technology*, 52(11), 6246-6255.
  24. Rajapaksha, A. U., Vithanage, M., Ok, Y. S., & Oze, C. (2013). Cr(VI) formation related to Cr(III)-muscovite and birnessite interactions in ultramafic environments. *Environmental Science and Technology*, 47(17), 9722-9729.
  25. Van Ginkel, S. W., Hassan, S. H. A., Ok, Y. S., Yang, J. E., Kim, Y. S., & Oh, S. E. (2011). Detecting oxidized contaminants in water using sulfur-oxidizing bacteria. *Environmental Science and Technology*, 45(8), 3739-3745.

## Professional Experience

01/2019 - Present	Honorary Visiting Professor, School of Environmental Science and Engineering, Southern Queensland of Science and Technology, Australia
01/2019 - Present	Honorary Professor, The University of Queensland, Australia
05/2019 - Present	Visiting Professor, Henan Agricultural University, China
12/2018 - Present	Visiting Professor, Tsinghua University, China

03/2019 - Present Research Director (Global), Korea University, Seoul, Korea  
09/2017 - Present Full Professor, Division of Environmental Science and Ecological Engineering, Korea University, Seoul, Korea  
07/2016 - Present Guest Professor, Ghent University Global Campus, Belgium  
03/2016 - Present Adjunct Professor, University of Wuppertal, Germany  
12/2016 - 02/2017 Academic Visitor, Department of Chemical & Biomolecular Engineering, National University of Singapore, Singapore  
06/2015 - 07/2015 Visiting Scholar, Department of Applied Analytical and Physical Chemistry, Ghent University, Belgium  
12/2014 - 02/2015 Visiting Professor, Department of Civil and Environmental Engineering, Hong Kong Polytechnic University, Hong Kong  
06/2013 - 06/2014 Visiting Professor, Department of Renewable Resources, University of Alberta, Canada  
05/2013 - 08/2017 Guest Professor, College of Quality and Safety Engineering, China Jiliang University, China  
01/2011 - Present Director, Korea Biochar Research Center, Republic of Korea  
03/2007 - 08/2017 Full Professor, School of Natural Resources and Environmental Science, Kangwon National University, Korea  
03/2006 - 02/2007 Research Associate, Department of Renewable Resources, University of Alberta, Canada

## Editorship

Co-Editor-in Chief (former Co-Editor), *Critical Reviews in Environmental Science and Technology* (2018 to present) (<https://www.tandfonline.com/loi/best20>)  
Editor, *Environmental Pollution* (2018 to present) (<https://www.journals.elsevier.com/environmental-pollution>)  
Editor-in-Chief, *Sustainable Environment* (2020 to present) (<https://www.tandfonline.com/loi/oaes20>)  
Associate Editor, *Biochar* (2018 to present) (<https://www.springer.com/journal/42773>)  
Editorial Board Member, *Renewable & Sustainable Energy Reviews* (2019 to present) (<https://www.journals.elsevier.com/renewable-and-sustainable-energy-reviews>)  
Editorial Board Member, *Chemosphere* (2016 to present) (<https://www.journals.elsevier.com/chemosphere>)  
Editorial Advisory Board Member, *Journal of Analytical and Applied Pyrolysis* (2017 to present) (<https://www.journals.elsevier.com/journal-of-analytical-and-applied-pyrolysis>)  
Editorial Board Member, *Environmental Pollutants and Bioavailability* (2015 to present) (<https://www.tandfonline.com/loi/tcsb21>)  
Editorial advisory board member, *Environmental Science & Technology* (January, 2021 to present)  
Advisory board member, *Environmental Science: Water Research & Technology* (February, 2021 to present)

## Editorship (Past)

- Editor (former Co-Editor in Chief), *Journal of Hazardous Materials* (2019 to 2020) (<https://www.journals.elsevier.com/journal-of-hazardous-materials>)
- Associate Editor, *Bioresource Technology* (2019-2020) (<https://www.journals.elsevier.com/bioresource-technology>)
- Associate Editor, *Environmental Geochemistry and Health* (<https://www.springer.com/journal/10653>)
- Associate Editor, *Environmental Pollution* (<http://www.journals.elsevier.com/environmental-pollution/>)
- Associate Editor, *Canadian Journal of Soil Science* (2013-2017) (<https://www.nrcresearchpress.com/journal/cjss>)
- Associate Editor, *Heliyon* (2019-2020) (<https://www.cell.com/heliyon/home>)
- Subject Editor, *Journal of Soils and Sediments* (2013-2019) (<https://www.springer.com/journal/11368>)
- Editorial Board Member, *Chemical Engineering Journal* (<https://www.journals.elsevier.com/chemical-engineering-journal>)
- Editorial Board Member, *Applied Biological Chemistry* (2016-2017) (<https://appliedbiolchem.springeropen.com/>)
- Editorial Board Member, *Environmental Geochemistry and Health* (<https://www.springer.com/journal/10653/>)
- Editorial Board Member, *Environmental Technology* (<https://www.tandfonline.com/toc/tent20/current>)

## Guest Editor

- Guest Editor, *Journal of Hazardous Materials* (Micro(nano)plastics in the environment) (<https://www.sciencedirect.com/journal/journal-of-hazardous-materials/special-issue/10VHC741S76>)
- Guest Editor, *Environment International*, (Greener and cleaner methods for remediation and risk management of contaminated land) (<https://www.journals.elsevier.com/environment-international/call-for-papers/greener-and-cleaner-methods-for-remediation-risk-management>)
- Guest Editor, *Cogent Environmental Science*, (Production and Application of Biochar to Underpin Select Sustainable Development Goals) (<https://www.tandfonline.com/toc/oaes20/3/1>)
- Guest Editor, *Critical Reviews in Environmental Science and Technology* (Advanced Site Characterization and Sustainable Remediation Technologies) (<https://www.tandfonline.com/loi/best20>)
- Guest Editor, *Environmental Pollution* (Emerging contaminants, concerns, and characterization methods in addressing global soil pollution issues) (<https://www.journals.elsevier.com/environmental-pollution>)
- Guest Editor, *Applied Energy* (Waste-to-hydrogen New Development and Direction) (<https://www.sciencedirect.com/journal/applied-energy/special-issue/107L40LK4K8>)
- Guest Editor, *Critical Reviews in Environmental Science and Technology* (Advanced Site Characterization and Sustainable Remediation Technologies) (<https://www.tandfonline.com/loi/best20>)

Guest Editor, *Critical Reviews in Environmental Science and Technology* (Biomass valorization) (<https://www.tandfonline.com/loi/best20>)

Guest Editor, *Environment International*, (Waste to Resources: Emergent Materials for Environmental Applications) (<https://www.journals.elsevier.com/environment-international>)

Guest Editor, *Environment International* (Waste to Resources: Detoxification and Functionalization for Oceans and Human Health) (<https://www.journals.elsevier.com/environment-international>)

Guest Editor, *Chemical Engineering Journal* (Designer/Engineered Biochar for Sustainable Waste Management) (<https://www.journals.elsevier.com/chemical-engineering-journal>)

Guest Editor, *Journal of Hazardous Materials* (Nanomaterials in the Environment: Recent Advances in Metrology, Applications, and Fate & Transport Assessment) (<http://www.sciencedirect.com/science/journal/03043894/322/part/PA>)

Guest Editor, *Journal of Hazardous Materials* (Emerging applications of biochar: A way forward to attenuate environmental pollution and contaminant toxicity) (<https://www.journals.elsevier.com/journal-of-hazardous-materials/call-for-papers/emerging-applications-of-biochar-a-way-forward>)

Guest Editor, *Bioresource Technology* ((Advances in Algal Biochar: Production, Characterization and Applications) (<https://www.journals.elsevier.com/bioresource-technology/call-forpapers/advances-in-algal-biochar-production-characterization>)

Guest Editor, *Applied Energy* (Waste-to-hydrogen New Development and Direction) (<https://www.sciencedirect.com/journal/applied-energy/special-issue/107L40LK4K8>)

Guest Editor, *Environment International* Environment International (Waste to Resources: Emergent Materials for Environmental Applications) (<https://www.sciencedirect.com/journal/environment-international/special-issue/10PV1J3XSXJ>)

Guest Editor, *Journal of CO<sub>2</sub> Utilization* (Innovative and Effective CO<sub>2</sub> Conversion and Utilization Practices) (<https://www.sciencedirect.com/journal/journal-of-co2utilization/special-issue/10RFQLL2V63>)

Guest Editor, *Science of the Total Environment* (Sustainable remediation and revival of brownfields) (<https://www.sciencedirect.com/journal/science-of-the-totalenvironment/special-issue/10TS90Z3CKR>)

Guest Editor, *Journal of Cleaner Production* (Biowaste Valorization for Biofuel, Chemical, and Biochar Production) (<https://www.sciencedirect.com/journal/journal-of-cleaner-production/special-issue/10NTP88F189>)

Guest Editor, *Bioresource Technology* (Advance Biological Treatment Technologies for Sustainable Waste Management) (<https://www.sciencedirect.com/journal/bioresource-technology/vol/168/suppl/C>)

Guest Editor, *Journal of Soils and Sediments* (Biochar for a Sustainable Environment) (<https://link.springer.com/journal/11368/17/3/page/1>)

Guest Editor, *Bioresource Technology* (Biochar: Production, Characterization and Applications - Beyond Soil Applications)(<https://www.sciencedirect.com/journal/bioresourcetechology/vol/246/suppl/C>)

Guest Editor, *Geoderma* (Integrated Management Strategies for Arsenic and Cadmium in Rice Paddy Environments) (<https://www.sciencedirect.com/journal/geoderma/vol/270/suppl/C>)

Guest Editor, *Chemosphere* (Biochars Multifunctional Role as a Novel Technology in the Agricultural, Environmental, and Industrial Sectors) (<https://www.sciencedirect.com/journal/chemosphere/vol/142/suppl/C>)

- Guest Editor, *Chemosphere* (Thermodynamics and Kinetics of Emerging Contaminants in the Environment) (<https://www.sciencedirect.com/journal/chemosphere/specialissue/10Q6MBT-PWM6>)
- Guest Editor, *Journal of Environmental Management* (Biogeochemistry of Trace Elements in the Environment) (<https://www.sciencedirect.com/journal/journal-of-environmentalmanagement/vol/186/part/P2>)
- Guest Editor, *Process Safety and Environmental Protection* (Biowaste for Energy Recovery and Environmental Remediation) (<https://www.sciencedirect.com/journal/process-safety-and-environmental-protection/vol/115/suppl/C>)
- Guest Editor, *Environmental Geochemistry and Health* (Contaminated Land, Ecological Assessment and Remediation) (<http://link.springer.com/journal/10653/37/6/page/1>)
- Guest Editor, *Environmental Geochemistry and Health* (Persistent Toxic Substances (PTSs) in Agroecosystems) (<http://link.springer.com/journal/10653/37/6/page/1>)
- Guest Editor, *Environmental Science and Pollution Research* (Environmental Pollution and Remediation) (<http://link.springer.com/journal/11356/23/2/page/1>)
- Guest Editor, *Environmental Science and Pollution Research* (Biological Waste as Resource, with a Focus on Food Waste) (<http://link.springer.com/journal/11356/23/8/page/1>)
- Guest Editor, *Biodegradation* (Bioremediation of contaminated soil and water: GeoTrop 2017) (<https://link.springer.com/article/10.1007/s10532-018-9842-0>)
- Guest Editor, *Journal of Chemistry* (Occurrence and Remediation of Pollutants in the Environment) (<http://www.hindawi.com/journals/jchem/si/912871/>)

## International Conference Organization

- |         |   |
|---------|---|
| 10/2021 | Organizing Committee, Nature Conferences 2021, Seoul, Korea   |
| 10/2021 | Chair, PYRO ASIA 2021, Seoul, Korea   |
| 08/2021 | Co-Chair, 3 <sup>rd</sup> Sustainable Waste Management Conference (Virtual)   |
| 06/2021 | Co-Chair, The 5 <sup>th</sup> International Conference on Contaminated Land, Ecological Assessment and Remediation (CLEAR 2021), London, UK |
| 05/2021 | Chair, The 5 <sup>th</sup> Asia Pacific Biochar Conference 2021, Hong Kong  |
| 05/2021 | Chair of the Scientific Committee, 3 <sup>rd</sup> Tsinghua Forum on Environmental Remediation, China                                       |
| 12/2020 | Country Chair, PYRO ASIA 2020 E-Symposium, Singapore  |
| 12/2020 | Chair, Engineering Sustainable Development 2020 (Virtual)   |
| 11/2020 | Chair, Food Innovation and Engineering (FOODIE) Asia Conference, Seoul, Korea   |
| 10/2020 | Chair, 20 <sup>th</sup> International Conference on Heavy Metals in the Environment (ICHMET 2020), Seoul, Korea                             |
| 09/2020 | Co-chair, Sustainable Waste Management Conference, Glasgow, UK  |
| 09/2020 | 4 <sup>th</sup> International Conference on Bioresources, Energy, Environment, and Materials Technology (BEEM 2020), Incheon, Korea         |
| 05/2020 | Co-chair, 5 <sup>th</sup> International Conference on Contaminated Land, Ecological Assessment and Remediation (CLEAR 2020), London, UK     |
| 01/2020 | Chair, Sustainable Waste Management Conference, Singapore   |

12/2019 Chair, CleanUp Korea 2019, Seoul, Korea

12/2019 Chair, Engineering Sustainable Development 2019, Seoul, Korea

11/2019 Chair, IBI Biochar World Congress 2019, Seoul, Korea

11/2019 Chair, 3<sup>rd</sup> IIES Workshop and Graduate Student Forum 2019, Seoul, Korea

11/2019 Director, Asia resilience Center Conference (ARC 2019), Korea University, Seoul, South Korea

07/2019 Co-chair, 9<sup>th</sup> International Conference on Geochemistry in the Tropics & Sub-Tropics (GEOTROP 2019), Queensland, Australia

06/2019 Co-Chair, 3<sup>rd</sup> International Conference on Bioresources, Energy, Environment, and Materials Technology (BEEM 2019), The Hong Kong Polytechnic University, Hong Kong

04/2019 Co-Chair, International Harmful Organisms Symposium 2019 (Harmful Organisms 2019), Busan, Korea

03/2019 Co-Chair, E2S2-CREATE and AIChE Waste Management Conference, Singapore

12/2018 Co-Chair, 3<sup>rd</sup> International Conference on Biological Waste as Resource (BWR2018), Hong Kong

11/2018 Director, Asia resilience Center Conference (ARC 2018), Korea University, Seoul, South Korea

11/2018 Co-Chair, 4<sup>th</sup> Asia Pacific Biochar Conference (APBC 2018), Foshan, China

08/2018 Co-Chair, 4<sup>th</sup> International Conference on Contaminated Land, Ecological Assessment and Remediation (CLEAR 2018), Hung Hom, Hong Kong

07/2018 Session Chairs, 19<sup>th</sup> International Conference on Heavy Metals in the Environment (ICHMET 2018), Athens, USA

06/2018 Co-Chair, 2<sup>nd</sup> International Conference on Bioresources, Energy, Environment, and Materials Technology (BEEM 2018), Technology Nexus for the Resonance of Nature and Humans, Hongcheon, Korea

12/2017 Co-Chair & International Advisory Committee, 8<sup>th</sup> International Conference on Geochemistry in the Topics & Sub-Tropics, Ecotoxicology of Persistent Toxic Substances In Food Production (GeoTrop2017), Shenzhen, China

11/2017 Symposia Organizer, O-jeong Eco-Resilience Institute (OJERI) 3<sup>rd</sup> Anniversary Symposium, Seoul, Republic of Korea

09/2017 Session coordinator, The 7<sup>th</sup> International Contaminated Site Remediation Conference incorporating the 1<sup>st</sup> International PFAS Conference (CleanUp 2017), Melbourne, Australia

07/2017 Symposia Organizer, Special Symposium on Interactions between Biochars and Trace Elements (TEs) in the Environment, The International Conference on the Biogeochemistry of Trace Elements (ICOBTE 2017), Zurich, Switzerland

05/2017 Co-Chair, The 2<sup>nd</sup> International Conference on Biological Waste as Resource (BWR2017), Hung Hom, Hong Kong

04/2017 Co-Organizer, Division of Geochemistry, 253<sup>rd</sup> American Chemical Society National Meeting & Exposition: Advanced Materials, Technologies, Systems & Processes, San Francisco, United States

11/2016 Key International Organizing Committee Member, 3<sup>rd</sup> International Conference on Contaminated Land, Ecological Assessment and Remediation (CLEAR 2016), Taipei, Taiwan



- 10/2016 Chair, 3<sup>rd</sup> Asia Pacific Biochar Conference (APBC 2016): A Shifting Paradigm towards Advanced Materials and Energy/Environmental Research, Chuncheon, Korea
- 10/2016 Convener, 3<sup>rd</sup> Asia Pacific Biochar Conference (APBC 2016): A Shifting Paradigm towards Advanced Materials and Energy/Environmental Research, Chuncheon, Republic of Korea
- 09/2016 Co-Organizer & International Organizing Committee Member, 5<sup>th</sup> International Conference on Soil Pollution and Remediation (SOILREM 2016), Hangzhou, China
- 09/2016 Co-Chair, Session (Application of Biochar in Soil Remediation), 5<sup>th</sup> International Conference on Soil Pollution and Remediation (SOILREM 2016), Hangzhou, China
- 09/2016 Co-Organizer & International Organizing Committee Member, 13<sup>th</sup> International Phytotechnologies Conference (PHYTOTECH 2016): Plant-Based Solutions for Environmental Problems from Lab to Field, Hangzhou, China
- 08/2016 Co-Organizer, Joint International Conference on Environment, Health, GIS and Agriculture (ISEH 2016 & Geoinformatics 2016), Galway, Ireland
- 09/2015 Convener, Session (From Biochar and Black Carbon to Stable SOM), 5<sup>th</sup> International Symposium on Soil Organic Matter (SOM 2015), Göttingen, Germany
- 08/2015 Co-Chair, International Symposium on Risk Assessment and Management of Contaminated Site, Daejeon, Republic of Korea
- 07/2015 Chair, Special Symposia (Biochar as a Sorbent for Contaminant Management in Soil and Water), 13<sup>th</sup> International Conference on the Biogeochemistry of Trace Elements (ICOBTE 2015), Fukuoka, Japan
- 01/2015 Co-Chair, Session (Eco-friendly Materials for Pollution Control), 2<sup>nd</sup> International Conference on Sustainable Urbanization (ICSU 2015), Hunghom, Hong Kong
- 12/2014 Co-Organizer, International Conference on Biological Waste as Resource, with a Focus on Food Waste, Taipo, Hong Kong
- 11/2014 International Organizing Committee, International Conference on Remediation and Management of Soil and Groundwater Contaminated Sites, Taipei, Taiwan
- 10/2014 Organizer, 2<sup>nd</sup> International Conference on Contaminated Land Ecological Assessment and Remediation (CLEAR 2014), Chuncheon, Republic of Korea
- 06/2014 Organizing Committee, 20<sup>th</sup> World Congress of Soil Science-Soils Embrace Life and Universe, Jeju, Korea
- 06/2014 Organizer and Convener, International Symposium on Biochar Soil Amendment for Environmental and Agronomic Benefits, 20<sup>th</sup> World Congress of Soil Science-Soils Embrace Life and Universe, Jeju, Republic of Korea
- 06/2014 Convener, International Symposium on Integrated Management Strategies for As and Cd in Rice Paddy Environments, 20<sup>th</sup> World Congress of Soil Science-Soils Embrace Life and Universe, Jeju, Republic of Korea
- 06/2014 Convener, International Symposium on Soil Health-Key to Food Security, 20<sup>th</sup> World Congress of Soil Science-Soils Embrace Life and Universe, Jeju, Republic of Korea
- 04/2013 Organizer, Biochar Session, International Conference on Solid Waste 2013-Innovation in Technology and Management, Wanchai, Hong Kong

- 11/2012 Organizer, International Symposium on Heavy Metal Remediation in Agricultural Ecosystems-Bioavailability-Based Soil Management Technology for Safer Food Crop Production, Chuncheon, Republic of Korea
- 11/2012 International Organizing Committee, 1<sup>st</sup> International Conference on Contaminated Land, Ecological Assessment and Remediation (CLEAR 2012), Hangzhou, China
- 12/2011 Organizer, 1<sup>st</sup> International Symposium on Biochar for Climate Change Mitigation and Soil and Environmental Management, Chuncheon, Republic of Korea

### **International Scientific Committee**

- 10/2021 Scientific Organizing Committee, Nature Conference, Korea University, South Korea
- 05/2021 International Scientific Committee, Tsinghua Forum on Environmental Remediation, Beijing, China
- 12/2020 Scientific Organizing Committee, Nature Forum, South Korea
- 11/2020 Scientific Committee, MICRO 2020
- 12/2020 Technical Committee, PYRO ASIA 2020 E-Symposium, Singapore
- 03/2019 International Scientific Committee, E2S2-CREATE and AIChE Waste Management Conference, Singapore
- 12/2016 International Scientific Committee, Asia-Pacific Conference on Biotechnology for Waste Conversion 2016 (BioWCHK 2016), Hong Kong, China
- 09/2016 International Program Committee, International Conference on Heavy Metals in the Environment (ICHMET 2016), Ghent, Belgium
- 08/2016 Scientific and Organizing Committee Member (ISEH 2016 & ISEG 2016), Joint International Conference on Environment, Health, GIS and Agriculture (ISEH 2016, ISEG 2016 & Geoinformatics 2016), Galway, Ireland
- 09/2015 Scientific Committee, 5<sup>th</sup> International Symposium on Soil Organic Matter (SOM 2015), Göttingen, Germany
- 05/2015 International Scientific Committee, International Conference on Solid Waste-Knowledge Transfer for Sustainable Resource Management, Wanchai, Hong Kong
- 06/2014 International Scientific Committee, 20<sup>th</sup> World Congress of Soil Science-Soils Embrace Life and Universe, 2014, Jeju, Republic of Korea
- 07/2013 Advisory Committee, International Biochar Initiative (IBI)
- 05/2013 International Scientific Committee, International Conference on Solid Waste 2013-Innovation in Technology and Management, Wanchai, Hong Kong
- 09/2012 Scientific Committee Member, 4<sup>th</sup> International Biochar Congress-Road to Richer Food and Safer Environment, Beijing, China
- 2011-Present Scientific Committee Member, The Working Group on Remediation for Soil and Groundwater Pollution of Asian Countries
- 01/2019-12/2020 Member, International Bioprocessing Association (IBA-IFIBiop)

## Keynote and Invited Speech

- 05/2021 Invited Speech, Tsinghua Forum on Environmental Remediation, Beijing, China
- 12/2020 Speaker, Nature Forum, Korea
- 12/2020 Plenary Speech, PYRO ASIA 2020 E-Symposium, Singapore
- 12/2020 Invited Speech, Engineering Sustainable Development 2020, Bangkok, Thailand
- 11/2020 Invited Speech, Food Innovation and Engineering (FOODIE) Asia Conference, Seoul, Korea
- 10/2020 Plenary Speech, 20<sup>th</sup> International Conference on Heavy Metals in the Environment (ICHMET 2020), Seoul, Korea
- 09/2020 Keynote Speech, “Sustainable Remediation Technologies of Heavy Metals and Metalloids in Contaminated Agricultural Soils: Bioavailability and Food Security”, 4<sup>th</sup> International Conference on Bioresources, Energy, Environment, and Materials Technology (BEEM 2020), Incheon, Korea
- 10/2019 Plenary Speech, Academic Forum by Editors of International Renowned Journals and Web of Science 2018 Highly Cited Researchers, Henan Agricultural University, China
- 07/2019 Invited Speech, Trade war threatens sustainability, GeoTrop 2019, Griffith University, Australia
- 06/2018 Invited Speech, Australia-Korea Collaboration in Environment/Ecology, Korea
- 11/2017 Invited Speech, “SMART Biochar for Resilience-A shifting paradigm towards Environmental Research”, Invited Research Seminar, Institute of Environment and Ecology, Korea University, Republic of Korea
- 01/2017 Invited Speech, “SMART Biochar Technology-A shifting paradigm towards advanced materials”, Invited Research Seminar, Department of Building, National University of Singapore, Singapore
- 01/2017 Invited Speech, “SMART biochar technology: A shifting paradigm towards advanced materials and energy/environment research”, 2<sup>nd</sup> Renewable Energy and Biochar Workshop, National University of Singapore, Singapore
- 01/2017 Invited Speech, “SMART biochar technology: A shifting paradigm towards advanced materials and energy/environment research”, Invited Research Seminar, Nanyang Polytechnic, Singapore
- 01/2017 Invited Speech, “SMART biochar technology: A shifting paradigm towards advanced materials and energy/environment research”, Invited Research Seminar, School of Civil and Environmental Engineering, Nanyang Technological University, Singapore
- 01/2017 Invited Speech, “SMART biochar technology: A shifting paradigm towards advanced materials and energy/environment research”, Invited Research Seminar, Nanyang Environment & Water Research Institute (NEWRI), Singapore
- 01/2017 Plenary Speech, “Engineered biochar for environmental remediation and sustainable energy production”, International Conference on Materials Engineering and Nano Sciences 2017 (ICMENS 2017), Nanyang Executive Centre, Singapore
- 12/2016 Invited Speech, “Pyrolysis process of agricultural waste using CO<sub>2</sub> for waste management, energy recovery, and biochar fabrication”, Asia-Pacific Conference on Biotechnology for Waste Conversion 2016 (BioWC 2016), Hong Kong Baptist University, Hong Kong SAR, China

- 11/2016 Invited Speech, “Removal of hexavalent chromium in aqueous solutions using biochars: Chemical and spectroscopic investigations”, 3<sup>rd</sup> International Conference on Contaminated Land, Ecological Assessment and Remediation (CLEAR 2016), Taipei, Taiwan
- 09/2016 Invited Speech, “Impacts of vegetable waste and pine cone biochars on microbial communities and heavy metal immobilization in contaminated soils”, 5<sup>th</sup> International Conference on Soil Pollution and Remediation (SOILREM 2016), Hangzhou, China
- 08/2016 Keynote Speech, “SMART Biochar Technology-A shifting paradigm towards advanced materials and healthcare research”, Joint International Conference on Environment, Health, GIS and Agriculture (ISEH 2016 & Geoinformatics 2016), Galway, Ireland
- 07/2016 Invited Speech, “SMART Biochar Technology-A shifting paradigm towards advanced materials and healthcare research”, 15<sup>th</sup> International Conference on Sustainable Energy Technologies (SET 2016), National University of Singapore, Singapore
- 10/2015 Invited Speech, “SMART Biochar Technology-A shifting paradigm towards advanced materials and healthcare research”, Zhejiang University, Hangzhou, China
- 07/2015 Invited Speech, “SMART Biochar Technology-A shifting paradigm towards advanced materials and energy/environment research”, Ghent University, Ghent, Belgium
- 07/2015 Invited Speech, “How to write and publish a scientific paper”, Ghent University, Ghent, Belgium
- 06/2015 Invited Speech, “SMART Biochar Technology-A shifting paradigm towards advanced materials and energy/environment research”, Wuppertal University, Wuppertal, Germany
- 05/2015 Invited Speech, “SMART biochar for management of veterinary antibiotics in the environment”, International Conference on Solid Waste 2015, Wanchai, Hong Kong
- 04/2015 Invited Speech, “SMART Biochar Technology-A shifting paradigm towards advanced materials and energy/environment research”, 2<sup>nd</sup> International Conference on Biochar and Green Agriculture (BioGra 2015), Nanjing, China
- 03/2015 Invited Speech, “Green remediation by biochar”, Department of Environmental Science, Zhejiang University, Hangzhou, China
- 01/2015 Invited Speech, “SMART biochar for contaminant management in soil and water, department of engineering, civil”, The University of Hong Kong, Pokfulam, Hong Kong
- 01/2015 Invited Speech, “SMART biochar for contaminant management in soil and water, school of energy and environment”, City University of Hong Kong, Tatcheave, Hong Kong
- 01/2015 Invited Speech, “SMART Biochar Technology-A shifting paradigm towards advanced materials and healthcare research”, Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University, Pokfulam, Hong Kong

- 01/2015 Invited Speech, “SMART biochar for management of veterinary antibiotics in the environment”, Department of Biology, Hong Kong Baptist University, Kowloontong, Hong Kong
- 01/2015 Invited Speech, “SMART biochar for management of veterinary antibiotics in the environment”, 2<sup>nd</sup> International Conference on Sustainable Urbanization (ICSU 2015), The Hong Kong Polytechnic University, Pokfulam, Hong Kong
- 12/2014 Keynote Speech, “SMART biochar technology for management of soil metals”, International Conference on Biological Waste as Resource, with a Focus on Food Waste, Wanchai, Hong Kong
- 11/2014 Invited Speech, “The role of biochar, natural iron oxides and nanomaterials as soil amendments for immobilizing metals in shooting range soil”, International Conference on Remediation and Management of Soil and Groundwater Contaminated Sites, Taipei, Taiwan
- 09/2014 Invited Speech, “SMART biochar technology for remediation of toxic metals in soils”, MARCO-FFTC Joint International Seminar on Management and Remediation Technologies of Rural Soils Contaminated by Heavy Metals and Radioactive Materials, Taichung, Taiwan

## Education

- Ph.D. 2003** Division of Environmental Science and Ecological Engineering (formerly, Department of Agricultural Chemistry), Korea University, Seoul, Republic of Korea (Title: *Empirical and mechanistic approach to adsorption and bioavailability of cadmium in soils and plants: implications in phytoremediation*)
- M.S. 2000** Division of Environmental Science and Ecological Engineering, Korea University, Seoul, Republic of Korea (Title: *The evaluation of the hybrid model for the measurement of surface charge characteristics of clay, organic matter, oxides and composites*)
- B.S. 1998** Division of Environmental Science and Ecological Engineering, Korea University, Seoul, Republic of Korea

## Publications (Journal Articles)

**Highly Cited Papers** (Data from Essential Science Indicators. As of 29<sup>th</sup> July 2021, these highly cited papers received enough citations to place them in the top of the academic fields of engineering, environment/ ecology, biology and biochemistry, and agricultural science based on a highly cited threshold for the field and publication year)

1. Ahmad, M., Rajapaksha, A.U., Lim, J.E., Zhang, M., Bolan, N., Mohan, D., Vithanage, M., Lee, S.S. and Ok, Y.S.\* (2014). Biochar as a sorbent for contaminant management in soil and water: A review. *Chemosphere*, 99:19-33 (\*Corresponding Author)
2. Mohan, D., Sarswat, A., Ok, Y.S. and Pittman, C.U. (2014). Organic and inorganic contaminants removal from water with biochar, a renewable, low cost and sustainable adsorbent-A critical review. *Bioresource Technology*, 160:191-202
3. Ahmad, M., Lee, S.S., Dou, X., Mohan, D., Sung, J.K., Yang, J.E. and Ok, Y.S.\* (2012). Effects of pyrolysis temperature on soybean stover- and peanut shell-derived biochar properties and TCE adsorption in water. *Bioresource Technology*, 118:536-544 (\*Corresponding Author)
4. Yang, Y., Ok, Y.S., Kim, K.H., Kwon, E.E., Tsang, Y.F. (2017). Occurrences and removal of pharmaceuticals and personal care products (PCPPs) in drinking water and water/sewage treatment plants: A Review. *Science of the Total Environment*, 596: 303-320.
5. Inyang, M.I., Gao, B., Yao, Y., Xue, Y., Zimmerman, A., Mosa, A., Pullammanappallil, P., Ok, Y.S. and Cao, X. (2016). A review of biochar as a low-cost adsorbent for aqueous heavy metal removal. *Critical Reviews in Environmental Science and Technology*, 46(4):406-433
6. Rajapaksha, A.U., Chen, S.S., Tsang, D.C.W., Zhang, M., Vithanage, M., Mandal, S., Gao, B., Bolan, N.S. and Ok, Y.S.\* (2016). Engineered/designer biochar for contaminant removal/immobilization from soil and water: Potential and implication of biochar modification. *Chemosphere*, 148:276-291 (\*Corresponding Author)
7. Stefaniuk, M., Oleszczuk, P. and Ok, Y.S. (2016). Review on nano zerovalent iron (nZVI): From synthesis to environmental applications. *Chemical Engineering Journal*, 287:618-632
8. Park, J.H., Ok, Y.S., Kim, S.H., Cho, J.S., Heo, J.S., Delaune, R.D. and Seo, D.C. (2016) Competitive adsorption of heavy metals onto sesame straw biochar in aqueous solutions. *Chemosphere*, 142:77-83
9. Lu, K., Yang, X., Gielen, G., Bolan, N., Ok, Y.S., Niazi, N.K., Xu, S., Yuan, G., Chen, X., Zhang, X., Liu, D., Song, Z., Liu, X. and Wang, H. (2017). Effect of bamboo and rice straw biochars on the mobility and redistribution of heavy metals (Cd, Cu, Pb and Zn) in contaminated soil. *Journal of Environmental Management*, 186(2):285-292
10. Antoniadis, V., Levizou, E., Shaheen, S.M., Ok, Y.S., Sebastian, A., Baum, C., Prasad, M.N.V., Wenzel, W.W., Rinklebe, J. (2017). Trace Elements in the soil-plant interface: Phytoavailability, translocation, and phytoremediation-A Review. *Earth Science Reviews* 171: 621-645.
11. Yang, X., Wan, Y., Zheng, Y., He, F., Yu, Z., Huang, J., Wang, H., Ok, Y., Jiang, Y. and Gao, B. (2019). Surface functional groups of carbon-based adsorbents and their roles in the removal of heavy metals from aqueous solutions: A critical review. *Chemical Engineering Journal*, 366:608-621

12. Xiong, X., Yu, I.K.M., Cao, L., Tsang, D.C.W., Zhang, S. and Ok, Y.S.\* (2017) A review of biochar-based catalysts for chemical synthesis, biofuel production, and pollution control. *Bioresource Technology*, 246:254-270 (\*Corresponding Author)
13. Rizwan, M., Ali, S., Abbas, T., Zia-ur-Rehman, M., Hannan, F., Keller, C., Al-Wabel, M.I. and Ok, Y.S. (2016). Cadmium minimization in wheat: A critical review. *Ecotoxicology and Environmental Safety*, 130:43-53
14. El-Naggar, A', Lee, S.S., Rinklebe, J., Farooq, M., Song, H., Sarmah, A.K., Zimmerman, A.R., Ahmad, M., Shaheen, S.M. and Ok, Y.S.\* (2019). Biochar application to low fertility soils: A review of current status, and future prospects. *Geoderma*, 337: 536-554. (\* Corresponding author)
15. Rizwan, M., Ali, S., Qayyum, M.F., Ok, Y.S., Adrees, M., Ibrahim, M, Zia-ur-Rehman, M., Farid, M. and Abbas, F. (2017). Effect of metal and metal oxide nanoparticles on growth and physiology of globally important food crops: A critical review. *Journal of Hazardous Materials*, 322:2-16
16. Sun, Y., Yu, I.K.M., Tsang, D.C.W., Cao, X., Lin, D., Wang, L., Graham, N.J.D., Alessi, D.S., Komarek, M., Ok, Y.S.\*, Feng, Y. and Li, X.D. (2019). Multifunctional iron-biochar composites for the removal of potentially toxic elements, inherent cations, and heterochloride from hydraulic fracturing wastewater. *Environment International*, 124:521-532. (\*Corresponding Author)
17. Abbas, T., Rizwan, M., Ali, S., Zia-ur-Rehman, M., Qayyum, M.F., Abbas, F., Hannan, F., Rinklebe, J. and Ok, Y.S. (2017). Effect of biochar on cadmium bioavailability and uptake in wheat (*Triticum aestivum* L.) grown in a soil with aged contamination. *Ecotoxicology and Environmental Safety*, 140:37-47
18. Rizwan, M., Ali, S., Adrees, M., Ibrahim, M., Tsang, D.C.W., Zia-ur-Rehman, M., Zahir, Z.A., Rinklebe, J., Tack, F.M.G. and Ok, Y.S.\* (2017). A critical review on effects, tolerance mechanisms and management of cadmium in vegetables. *Chemosphere*, 182:90-105 (\*Corresponding Author)
19. Rajapaksha, A.U., Vithanage, M., Ahmad, M., Seo, D.C., Cho, J.S., Lee, S.E., Lee, S.S. and Ok, Y.S.\* (2015). Enhanced sulfamethazine removal by steam-activated invasive plant-derived biochar. *Journal of Hazardous Materials*, 290:43-50 (\*Corresponding Author)
20. Hussain, M., Farooq, M., Nawaz, A., Al-Sadi, A.M., Solaiman, Z.M., Alghamdi, S.S., Ammara, U., Ok, Y.S. and Siddique, K.H.M. (2017) Biochar for crop production: Potential benefits and risks. *Journal of Soils and Sediments*, 17:685-716
21. Fang, J., Zhan, L., Ok, Y.S. and Gao, B. (2017) Minireview of potential applications of hydrochar derived from hydrothermal carbonization of biomass. *Journal of Industrial and Engineering Chemistry*, 57: 15-21
22. Choppala, G., Saifullah, Bolan, N., Bibi, S., Iqbal, M., Rengel, Z., Kunhikrishnan, A., Ashwath, N. and Ok, Y.S. (2014). Cellular mechanisms in higher plants governing tolerance to cadmium toxicity. *Critical Reviews in Plant Sciences*, 33:374-391
23. Vikrant, K., Kim, K.H., Ok, Y.S.\*, Tsang, D.C.W., Tsang, Y.F., Giri, B.S. and Singh, R.S. (2017) Engineered/designer biochar for the removal of phosphate in water and wastewater. *Science of The Total Environment*, 616-617:1242-1260 (\*Corresponding Author)
24. Ali, S., Rizwan, M., Qayyum, M.F., Ok, Y.S., Ibrahim, M., Riaz, M., Arif, M.S., Hafeez, F., Al-Wabel, M.I. and Shahzad, A.N. (2017). Biochar soil amendment on alleviation of drought

- and salt stress in plants: a critical review. *Environmental Science and Pollution Research*, 24(14):12700-12712
25. Yuan, Y., Bolan, N., PrevotEAU, A., Vithanage, M., Biswas, J.K., Ok, Y.S., Wang, H.L. (2017) Applications of biochar in redox-mediated reactions. *Bioresource Technology*, 246: 271-281
  26. Niazi, N.K., Bibi, I., Shahid, M., Ok, Y.S., Burton, E.D., Wang, H.I., Shaheen, S.M., Rinklebe, J., Luttge, A. (2018). Arsenic Removal by Perilla Leaf Biochar in Aqueous Solutions and Groundwater: An Integrated Spectroscopic and Microscopic Examination. *Environmental Pollution* 232: 31-41.
  27. Igalavithana, A.D., Lee, S.E., Lee, Y.H., Tsang, D.C., Rinklebe, J., Kwon, E.E. and Ok, Y.S.\* (2017). Heavy metal immobilization and microbial community abundance by vegetable waste and pine cone biochar of agricultural soils. *Chemosphere*, 174:593-603 (\*Corresponding Author)
  28. Ok, Y.S., Chang, S.X., Gao, B. and Chung, H.J. (2015) SMART biochar technology-A shifting paradigm towards advanced materials and healthcare research. *Environmental Technology & Innovation*, 4:206-209
  29. Chen, S.S., Maneerung, T., Tsang, D.C.W., Ok, Y.S and Wang, C.H. (2017). Valorization of biomass to hydroxymethylfurfural, levulinic acid, and fatty acid methyl ester by heterogeneous catalysts. *Chemical Engineering Journal*, 328:246-273
  30. Beiyuan, J., Awad, Y.M., Beckers, F., Tsang, D.C.W., Ok, Y.S. and Rinklebe, J. (2017) Mobility and phytoavailability of As and Pb in a contaminated soil using pine sawdust biochar under systematic change of redox conditions. *Chemosphere*, 178:110-118.
  31. Sarkar, B., Mandal, S., Tsang, Y.F., Kumar, P., Kim, K.H. and Ok, Y.S.\* (2018) Designer carbon nanotubes for contaminant removal in water and wastewater: A critical review. *Science of the Total Environment*, 612:561-581 (\*Corresponding author)
  32. Wang, L., Cho, D.-W., Tsang, D.C.W., Cao, X., Hou, D., Shen, Z., Alessi, D.S., Ok, Y.S., Poon, C.S. (2019). Green remediation of As and Pb contaminated soil using cement-free clay-based stabilization/solidification. *Environment International*. 126:336-345
  33. Shaheen, S.M., Niazi, N.K., Hassan, N.E., Bibi, I., Wang, H., Tsang, D.C., Ok, Y.S., Bolan, N. and Rinklebe, J., (2018). Wood-based biochar for the removal of potentially toxic elements in water and wastewater: a critical review. *International Materials Reviews*, 64 (4): 216-247
  34. Palansooriya K.N., Shaheen S.M., Chen S.S., Tsang D.C.W., Hashimoto Y., Hou D., Bolan N.S., Rinklebe J., Ok Y.S. (2020). Soil amendments for immobilization of potentially toxic elements in contaminated soils: A critical review. *Environment International*. 134: 105046. (\*Corresponding Author)
  35. Ahmad, M., Lee, S.S., Lee, S.E., Al-Wabel, M.I., Tsang, D.C.W., Ok, Y.S. (2017). Biochar-induced changes in soil properties affected immobilization/mobilization of metals/metalloids in contaminated soils. *Journal of Soils and Sediments*, 17(3): 717-730
  36. Cao, L.C., Yu, I.K.M., Liu, Y.Y., Ruan, X.X., Tsang, D.C.W., Hunt, A.J., Ok, Y.S., Song, H., Zhang, S.C. (2018). Lignin Valorization for the production of renewable chemicals: State-of-threat review and future prospects. *Bioresource Technology*, 269: 465-475.
  37. Rizwan, M., Ali, S., Rehman, M.Z., Rinklebe, J., Tsang, D.C.W., Bashir, A., Maqbool, A., Tack, F. M. G., Ok, Y.S.\*. (2018). Cadmium phytoremediation potential of Brassica crop



- species: A review. 631-632: 1175-1191. *Science of The Total Environment* (\*Corresponding author)
38. Ahmad, M., Ok, Y.S.\*, Rajapaksha, A.U., Lim, J.E., Kim, B.Y., Ahn, J.H., Lee Y.H., Al-Wabel, M.I., Lee S.E. and Lee S.S. (2016) Lead and copper immobilization in a shooting range soil using soybean stover- and pine needle-derived biochars: Chemical, microbial and spectroscopic assessments. *Journal of Hazardous Materials*, 301:179-186
  39. Lee, J., Yang, X., Cho, S.H., Kim, J.K., Lee, S.S., Tsang, D.C.W., Ok, Y.S.\* and Kwon, E.E. (2017). Pyrolysis process of agricultural waste using CO<sub>2</sub> for waste management, energy recovery, and biochar fabrication. *Applied Energy*, 185:214-222 (\*Corresponding Author)
  40. Qin, Y.X., Li, G.Y., Gao, Y.P., Zhang, L.Z., Ok, Y.S., An, T.C. (2018). Persistent free radicals in carbon-based materials on transformation of refractory organic contaminants (ROCs) in water: A critical review. *Water Research*. 137: 130-143
  41. Rajapaksha, A. U., Alam, M.S., Chen N., Alessi D. S., Igalavithana, A.D., Tsang, D.C.W., Ok, Y.S.\* (2018) Removal of hexavalent chromium in aqueous solutions using biochar: Chemical and spectroscopic investigations. *Science of the Total Environment*, 612:103-110 (\*Corresponding author)
  42. Zou, W., Gao, B., Ok, Y.S. and Dong, L. (2019). Integrated adsorption and photocatalytic degradation of volatile organic compounds (VOCs) using carbon-based nanocomposites: A critical review. *Chemosphere*. 218. 845-859.
  43. El-Naggar, A., Leed, S.S., Awad, Y.M., Yang, X., Ryu, C., Rizwang, M., Rinklebeh, J., Tsangj, D.C.W., Ok, Y.S.\* (2018). Influence of soil properties and feedstocks on biochar potential for carbon mineralization and improvement of infertile soils. *Geoderma*, 332: 100-108 (\*Corresponding author)
  44. Nie, C.R., Yang, X., Niazi, N.K., Xu, X.Y., Wen, Y.H., Rinklebe, J., Ok, Y.S., Xu, S., Wang, H.L. (2018). Impact of sugarcane bagasse-derived biochar on heavy metal availability and microbial activity: A field study. *Chemosphere*, 200:274-282.
  45. El-Naggar, Ali, Shaheen, S.M., Ok, Y.S.\* and Rinklebe, J. (2018). Biochar affects the dissolved and colloidal concentrations of Cd, Cu, Ni, and Zn and their phytoavailability and potential mobility in a mining soil under dynamic redox conditions. *Science of The Total Environment*, 624, 1059-1071 (\* Corresponding author)
  46. Xia, S., Song, Z., Jeyakumar, P., Shaheen, S.M., Rinklebe, J., Ok, Y.S., Bolan, N. and Wang, H. (2019). A critical review on bioremediation technologies for Cr (VI)-contaminated soils and wastewater. *Critical Reviews in Environmental Science and Technology*, 49(12):1028-1078
  47. Antoniadis, V., Shaheen, S.M., Levizou, E., Shahid, M., Niazi, N.K., Vithanage, M., Ok, Y.S., Bolan, N., Rinklebe, J. (2019). A critical prospective analysis of the potential toxicity of trace element regulation limits in soils worldwide: are they protective concerning health risk assessment? - a review. *Environment International*. 127:819-847
  48. Yang, F.Zhang, S., Sun, Y., Tsang, D.C.W., Cheng, K. and Ok, Y.S. (2019). Assembling biochar with various layered double hydroxides for enhancement of phosphorus recovery. *Journal of Hazardous Materials*. 365: 665-673

49. Yu, I.K.M., Xiong, X., Tsang, D.C.W., Wang, L., Hunt, A.J., Song, H., Shang, J., Ok, Y.S. and Poon, C.S. (2018). Aluminium-Biochar Composites as Sustainable Heterogeneous Catalysts for Glucose Isomerisation in a Biorefinery. *Green Chemistry*, 21:1267-1281
50. Wang, S., Zhao, M., Zhou, M., Li, Y.C., Wang, J., Gao, B., Feng, K., Igalavithana, I.D., Oleszczuk, P., Wang, X., Ok, Y.S.\* (2019). Biochar-Supported nZVI (nZVI/BC) for Contaminant Removal from Soil and Water: A Critical Review. *Journal of Hazardous Materials*, 373: 820-834 (\*Corresponding author).
51. Yoo, J.C., Beiyuan, J., Wang, L., Tsang, D.C.W., Baek, K., Bolan, N.S., Ok, Y.S. and Li, X.D. (2017) A combination of ferric nitrate/EDDS-enhanced washing and sludge-derived biochar stabilization of metal-contaminated soils. *Science of The Total Environment*, 616-617:572-582
52. O'Connor, D., Hou, D., Ok, Y.S., Mulder, J., Duan, L., Wu, Q., Wang, S., Tack, F.M.G., Rinklebe, J. (2019). Mercury speciation, transformation and transportation in soils, atmospheric flux, and implications for risk management: A critical review, *Environment International*, 126:747-761
53. Jin, Y., O'Connor, D., Ok, Y.S., Tsang, D.C.W., Liu, A. and Hou, D. (2019). Assessment of sources of heavy metals in soil and dust at children's playgrounds in Beijing using GIS and multivariate statistical analysis. *Environment International*. 124: 320-328.
54. Xiong, X.X., Yu, I.K.M., Tsang, D.C.W., Bolan, N.S., Ok, Y.S., Igalavithana, A.D., Kirkham, M.B., Kim, K.H., Vikrant, K. (2019). Value-added chemicals from food supply chain wastes: State of the art review and future prospects. *Chemical Engineering Journal*, 375: 121983
55. Dutta, S., Yu, I.K.M, Tsang, D.C.W, Ng, Y.H., Ok, Y.S., Sherwood, J., Clark, J.H. (2019). Green synthesis of gamma-valerolactone (GVL) through hydrogenation of biomass-derived levulinic acid using non-noble metal catalysts: A critical review. *Chemical Engineering Journal*, 372: 992-1006
56. El-Naggar, A., El-Naggar, A.H., Shaheen, S.M., Sarkar, B., Chang, S.X., Tsang, D.C.W., Rinklebe, J., Ok, Y.S. (2019). Biochar composition-dependent impacts on soil nutrient release, carbon mineralization, and potential environmental risk: A review. *Journal of Environmental Management*, 241:458-467
57. O'Connor, D., Hou, D., Ok, Y. S., Song, Y.N., Sarmah, A.K., Li, X.R., Tack, F.M.G. (2018). Sustainable in situ remediation of recalcitrant organic pollutants in groundwater with controlled release materials: A review. *Journal of Controlled Release*, 283:200-213
58. Cao, L. Yu, I.K.M., Cho, D-W., Tsang, D.C.W., Zhang, S., Ding, S., Wang, L., Ok, Y.S. (2019). Microwave-assisted low-temperature hydrothermal treatment of red seaweed (*Gracilaria lemaneiformis*) for production of levulinic acid and algae hydrochar. *Bioresource Technology*. 273: 251-258.
59. Wan, Z.H., Sun, Y.Q., Tsang, D.C.W., Yu, I.K.M., Fan, J.J., Clark, J.H., Zhou, Y.Y., Cao, X.D., Gao, B., Ok, Y.S. (2019). A sustainable biochar catalyst synergized with copper heteroatoms and CO<sub>2</sub> for singlet oxygenation and electron transfer routes, *Green Chemistry*, 21(17): 4800-4814

60. Cho, DW; Yoon, K; Ahn, Y; Su, YQ; Tsang, DCW; Hou, DY; Ok, YS; Son, H. (2019). Fabrication and environmental applications of multifunctional mixed metal-biochar composites (MMBC) from red mud and lignin wastes. *Journal of Hazardous Materials*, 374: 412-419
61. Tsang, Y.F., Kumar, V., Smadar, P., Yang, Yi., Lee, J., Ok, Y.S., Song, H., Kim, Ki-Hyun, Kwon, E.E., Jeon, Y.J. (2019). Production of bioplastic through food waste valorization. *Environment International*. 119, 1-19
62. Premarathna, K.D.S., Rajapaksha, A.U., Sarkar, B., Kwon, E.E., Bhatnagar, A., Ok, Y.S., Vithanage, M. (2019). Biochar-based engineered composites for sorptive decontamination of water: A review, *Chemical Engineering Journal*, 372:536-550
63. Shen, Z., Zhang, J., Hou, D., Tsang, D.C.W., Ok, Y.S., Alessi, D.S. (2019). Synthesis of MgO-coated corncob biochar and its application in lead stabilization in a soil washing residue. *Environment International*, 122:357-362
64. Zhang, Y.H., Hou, D., O'Connor, D., Shen, Z.T., Shi, P.L., Ok, Y.S., Tsang, D.C.W., Wen, Y., Luo, M.N. (2019) Lead contamination in Chinese surface soils: Source identification, spatial-temporal distribution and associated health risks. *Critical Reviews in Environmental Science and Technology*, 49 (15): 1386-1423
65. Kankala, R.K., Han, Y.H., Na, J., Lee, C.H., Sun, Z.Q., Wang, S.B., Kimura, T., Ok, Y.S., Yamauchi, Y., Chen, A.Z., Wu, K.C.W. (2020). Nanoarchitected Structure and Surface Biofunctionality of Mesoporous Silica Nanoparticles. *Advanced Materials*, 32(23): 1907035
66. Zhang, P., O'Connor, D., Wang, Y., Jiang, L., Xia, T., Wang, L., Tsang, D.C.W., Ok, Y.S., Hou, D. (2020). A green biochar/iron oxide composite for methylene blue removal. *Journal of Hazardous Materials*, 384: 121286.
67. Yang, X., Tsibart, A., Nam, H., Hur, J., El-Naggar, A., Tack, F.M.G., Wang, C.H., Lee, Y.H., Tsang, D.C.W., Ok, Y.S. (2019). Effect of gasification biochar application on soil quality: Trace metal behavior, microbial community, and soil dissolved organic matter. *Journal of Hazardous Materials*, 365: 684-694
68. Lam, S.S, Mahari, W.A.W., Ok, Y.S., Peng, W., Chong, C.T., Ma, N.L., Chase, H.A., Liew, Z., Yusup, S., Kwon, E.K., Tsang, D.C.W. (2019). Microwave vacuum pyrolysis of waste plastic and used cooking oil for simultaneous waste reduction and sustainable energy conversion: Recovery of cleaner liquid fuel and techno-economic analysis. *Renewable and Sustainable Energy Reviews*, 115: 109359.
69. Palansooriya, K.N., Ok, Y.S., Awad, Y.M., Lee, S.S., Sung, J-K., Koutsospyros, A. and Moon D.H. (2019). Impacts of biochar application on upland agriculture: A review. *Journal of Environmental Management*, 234: 52-64
70. Wang L., Hou D., Cao Y., Ok Y.S., Tack F.M.G., Rinklebe J., O'Connor D. (2020). Remediation of mercury contaminated soil, water, and air: A review of emerging materials and innovative technologies. *Environment International*. 134: 105281.
71. Mao, QM; Zhou, YY; Yang, YA; Zhang, JC; Liang, LF; Wang, HL; Luo, S; Luo, L; Jeyakumar, P; Ok, YS; Rizwan, M. Experimental and theoretical aspects of biochar-supported nanoscale zero-valent iron activating H<sub>2</sub>O<sub>2</sub> for ciprofloxacin removal from aqueous solution. *Journal of Hazardous Materials*. 380: 120848

72. Xiang W., Zhang X., Chen J., Zou W., He F., Hu X., Tsang D.C.W., Ok Y.S., Gao B. (2020). Biochar technology in wastewater treatment: A critical review. *Chemosphere*, 252:126539
73. Khan, A., Szulejko, J.E., Samaddar, P., Kim, K-H., Liu, B., Maitlo, H.A., Yang, X. and Ok, Y.S.\* (2019). The potential of biochar as sorptive media for removal of hazardous benzene in air. *Chemical Engineering Journal*, 361: 1576–1585 (\*Corresponding Author)
74. El-Naggar, A., Lee, M.H., Hur, J., Lee, Y.H., Igalavithana, A.D., Shaheen, S.M., Ryu, C., Rinklebe, J., Tsang, D.C.W., Ok, Y.S. (2020) Biochar-induced metal immobilization and soil biogeochemical process: An integrated mechanistic approach. *Science of the Total Environment*, 698: 134112
75. Khan, A., Szulejko, J.E., Kim, K.H., Samaddar, P., Lee, S.S., Yang, X.X. and Ok, Y.S. (2019) A comparison of figure of merit (FOM) for various materials in adsorptive removal of benzene under ambient temperature and pressure. *Environmental Research*, 168: 96-108.
76. D., Xiang W., Zhang X., Chen K., Fang J., He F., Hu X., Tsang D.C.W., Ok Y.S., Gao B. (2020). Enhanced adsorption performance and governing mechanisms of ball-milled biochar for the removal of volatile organic compounds (VOCs). *Chemical Engineering Journal*, 385: 123842
77. Wang, L.W., Ok, Y.S., Tsang, D.C.W., Alessi, D.S., Rinklebe, J., Wang, H.L., Masek, O., Hou, R.J., O'Connor, D., Hou, D.Y. (2020). New trends in biochar pyrolysis and modification strategies: feedstock, pyrolysis conditions, sustainability concerns and implications for soil amendment. *Soil Use and Management*, 36(3): 358-386
78. Soltanian S., Aghbashlo M., Almasi F., Hosseinzadeh-Bandbafha H., Nizami A.-S., Ok Y.S., Lam S.S., Tabatabaei M. (2020). A critical review of the effects of pretreatment methods on the exergetic aspects of lignocellulosic biofuels. *Energy Conversion and Management*, 212:112792
79. Mukhopadhyay, R., Bhaduri, D., Sarkar, B., Rusmin, R., Hou, D., Khanam, R., Sarkar, S., Biswas, J.K., Vithanage, M., Bhatnagar, A., Ok, Y.S. (2020). Clay-polymer nanocomposites: Progress and challenges for use in sustainable water treatment, *Journal of Hazardous Materials*, 383: 121125
80. Lam S.S., Yek P.N.Y., Ok Y.S., Chong C.C., Liew R.K., Tsang D.C.W., Park Y.-K., Liu Z., Wong C.S., Peng W. (2020). Engineering pyrolysis biochar via single-step microwave steam activation for hazardous landfill leachate treatment. *Journal of Hazardous Materials*, 390:121649
81. Dissanayake, P.D., You, S., Igalavithana, A.D., Xia, Y., Bhatnagar, A., Gupta, S., Kua, H.W., Kim, S., Kwon, J.H., Tsang, D.C.W., and Ok, Y.S.\* (2020). Biochar-based adsorbents for carbon dioxide capture: A critical review. *Renewable and Sustainable Energy Reviews*, 119: 109582. (\*Corresponding Author)
82. Hou, D.Y., O'Connor, D., Igalavithana, A.D., Alessi, D.S., Luo, J., Tsang, D.C.W., Sparks, D.L., Yamauchi, Y., Rinklebe, J., Ok, Y.S. (2020). Metal contamination and bioremediation of agricultural soils for food safety and sustainability. *Nature Reviews Earth & Environment*, 1(7): 366-381.

83. Wang L., Chen L., Tsang D.C.W., Guo B., Yang J., Shen Z., Hou D., Ok Y.S., Poon C.S. (2020). Biochar as green additives in cement-based composites with carbon dioxide curing. *Journal of Cleaner Production*, 258:120678
84. Wu Y., Xia Y., Jing X., Cai P., Igalavithana A.D., Tang C., Tsang D.C.W., Ok Y.S. (2020). Recent advances in mitigating membrane biofouling using carbon-based materials. *Journal of Hazardous Materials*, 382. *Journal of Hazardous Materials*, 382: 120976.
85. Krasucka, P., Pan, B., Ok, Y.S., Mohan, D., Sarkar, B., Oleszczuk, P. (2021). Engineered biochar - A sustainable solution for the removal of antibiotics from water. *Chemosphere*, 405: 126926

**Hot papers** (Data from Essential Science Indicators. These hot papers were published in the last year and received enough citations in 29<sup>th</sup> July 2021 to place it in the top 0.1% of papers in the academic fields of Environment/Ecology and Engineering)

1. Yang, X., Wan, Y., Zheng, Y., He, F., Yu, Z., Huang, J., Wang, H., Ok, Y., Jiang, Y. and Gao, B. (2019). Surface functional groups of carbon-based adsorbents and their roles in the removal of heavy metals from aqueous solutions: A critical review. *Chemical Engineering Journal*, 366:608-621
2. Palansooriya K.N., Shaheen S.M., Chen S.S., Tsang D.C.W., Hashimoto Y., Hou D., Bolan N.S., Rinklebe J., Ok Y.S. (2020). Soil amendments for immobilization of potentially toxic elements in contaminated soils: A critical review. *Environment International*. 134: 105046. (\*Corresponding Author)
3. Zhang, P., O'Connor, D., Wang, Y., Jiang, L., Xia, T., Wang, L., Tsang, D.C.W., Ok, Y.S., Hou, D. (2020). A green biochar/iron oxide composite for methylene blue removal. *Journal of Hazardous Materials*, 384: 121286.

### Year 2021 (Selected)

1. Yuan, X., Bank, M.S., Sonne, C., Ok, Y.S\*. (2021). Dual closed-loop chemical recycling support sustainable mitigation of plastic pollution. *Matter*, 4 (4): 1095-1097 (\*Corresponding Author)
2. Bolan, N., Hoang, S.A., Beiyuan, J., Gupta, S., Hou, D., Karakoti, A., Joseph, S., Jung, S., Kim, K-H., Kirkham, M.B., Kua, H.W., Kumar, M., Kwon, E.E., Ok, Y.S., Perera, V., Rinklebe, J., Shaheen, S.M., Sarkar, B., Sarmah, A.K., Singh, B.P., Singh, G., Tsang, D. C. W., Vikrant, K., Vithanage, M., Vinu, A., Wang, H., Wijesekara, H., Yan, Y., Younis, S.A., Zwieter, L.V. (2021). Multifunctional applications of biochar beyond carbon storage, *International Materials Reviews*, Published online: 07 May 2021
3. Shen M., Zhu X., Shang H., Feng F., Ok Y.S., Zhang S. (2021). Molecular characterization and environmental impacts of water-soluble organic compounds of bio-oil from the thermochemical treatment of domestic sewage. *Science of the Total Environment*, 756: 144050
4. Godlewska P., Ok Y.S., Oleszczuk P. (2021). The Dark Side of Black Gold: Ecotoxicological aspects of biochar and biochar-amended soils. *Journal of Hazardous Materials*, 403:123833

5. Weerasundara L., Ok Y.-S., Bundschuh J. (2021). Selective removal of arsenic in water: A critical review. *Environmental Pollution*, 268: 115668(\*Corresponding Author)
6. Li J., Zhu X., Li Y., Tong Y.W., Ok Y.S., Wang X. (2021). Multi-task prediction and optimization of hydrochar properties from high-moisture municipal solid waste: Application of machine learning on waste-to-resource. *Journal of Cleaner Production*, 278: 123928
7. Kumarathilaka P., Bundschuh J., Seneweera S., Ok Y.S. (2021). Rice genotype's responses to arsenic stress and cancer risk: The effects of integrated birnessite-modified rice hull biochar-water management applications. *Science of the Total Environment*, 768: 144531
8. Chen W.-H., Cheng C.-L., Lee K.-T., Lam S.S., Ong H.C., Ok Y.S., Saeidi S., Sharma A.K., Hsieh T.-H. (2021). Catalytic level identification of ZSM-5 on biomass pyrolysis and aromatic hydrocarbon formation. *Chemosphere*, 271: 129510
9. Hu Q., Jung J., Chen D., Leong K., Song S., Li F., Mohan B.C., Yao Z., Prabhakar A.K., Lin X.H., Lim E.Y., Zhang L., Souradeep G., Ok Y.S., Kua H.W., Li S.F.Y., Tan H.T.W., Dai Y., Tong Y.W., Peng Y., Joseph S., Wang C.-H. (2021). Biochar industry to circular economy. *Science of the Total Environment*, 757: 143820
10. Bolan N., Sarkar B., Yan Y., Li Q., Wijesekara H., Kannan K., Tsang D.C.W., Schauerte M., Bosch J., Noll H., Ok Y.S., Scheckel K., Kumpiene J., Gobindlal K., Kah M., Sperry J., Kirkham M.B., Wang H., Tsang Y.F., Hou D., Rinklebe J. (2021). Remediation of poly- and perfluoroalkyl substances (PFAS) contaminated soils – To mobilize or to immobilize or to degrade?. *Journal of Hazardous Materials*. 401: 123892
11. Hussain M.M., Bibi I., Niazi N.K., Shahid M., Iqbal J., Shakoor M.B., Ahmad A., Shah N.S., Bhattacharya P., Mao K., Bundschuh J., Ok Y.S., Zhang H. 2021. Arsenic biogeochemical cycling in paddy soil-rice system: Interaction with various factors, amendments and mineral nutrients. *Science of the Total Environment*, 773: 145040
12. Yang F., Xu Z., Huang Y., Tsang D.C.W., Ok Y.S., Zhao L., Qiu H., Xu X., Cao X. 2021. Stabilization of dissolvable biochar by soil minerals: Release reduction and organo-mineral complexes formation. *Journal of Hazardous Materials*, 412: 125213
13. Chen W.-H., Cheng C.-L., Lee K.-T., Lam S.S., Ong H.C., Ok, Y.S., Saeidi S., Sharma A.K., Hsieh T.-H. 2021. Catalytic level identification of ZSM-5 on biomass pyrolysis and aromatic hydrocarbon formation. *Chemosphere*, 271: 129510
14. Choi D.W., Roh Y.J., Kim S., Lee H.M., Kim M., Shin D., Park J.H., Cho Y., Park H.H., Ok Y.S., Kang D., Kim J.-H., Tarrago L., Danial N.N., Gladyshev V.N., Min P.-K., Lee B.C. 2021. Development of a novel fluorescent biosensor for dynamic monitoring of metabolic methionine redox status in cells and tissues. *Biosensors and Bioelectronics*, 178:113031
15. Wijesekara H., Colyvas K., Rippon P., Hoang S.A., Bolan N.S., Manna M.C., Thangavel R., Seshadri B., Vithanage M., Awad Y.M., Surapaneni A., Saint C., Tian G., Torri S., Ok Y.S., Kirkham M.B. 2021. Carbon sequestration value of biosolids applied to soil: A global meta-analysis. *Journal of Environmental Management*, 284: 112008
16. Wang Y., Zhang Y., Ok Y.S., Jiang T., Liu P., Shu R., Wang D., Cao X., Zhong H. 2021. Biochar-impacted sulfur cycling affects methylmercury phytoavailability in soils under different redox conditions. *Journal of Hazardous Materials*, 407:124307
17. Atugoda T., Vithanage M., Wijesekara H., Bolan N., Sarmah A.K., Bank M.S., You S., Ok Y.S. 2021. Interactions between microplastics, pharmaceuticals and personal care products: Implications for vmukhoector transport. *Environment International*, 149:106367(\*Corresponding Author)

18. Peng Y., Sun Y., Hanif A., Shang J., Shen Z., Hou D., Zhou Y., Chen Q., Ok Y.S., Tsang D.C.W. 2021. Design and fabrication of exfoliated Mg/Al layered double hydroxides on biochar support. *Journal of Cleaner Production*, 289: 125142
19. Daneshvar, E., Ok, Y.S., Tavakoli, S., Sarkar, B., Shaheen, S.M., Hong, H., Luo, Y.K., Rinklebe, J., Song, H., Bhatnagar, A. (2021). Insights into upstream processing of microalgae: A review. *Bioresource Technology*, 329: 124870
20. Palansooriya K.N., Kim S., Igalavithana A.D., Hashimoto Y., Choi Y.-E., Mukhopadhyay R., Sarkar B., Ok Y.S\*. (2021). Fe(III) loaded chitosan-biochar composite fibers for the removal of phosphate from water. *Journal of Hazardous Materials*, 415:125464 (\*Corresponding Author)
21. Mukhopadhyay R., Sarkar B., Khan E., Alessi D.S., Biswas J.K., Manjaiah K.M., Eguchi M., Wu K.C.W., Yamauchi Y., Ok Y.S. (2021). Nanomaterials for sustainable remediation of chemical contaminants in water and soil, *Critical Reviews in Environmental Science and Technology*, Published online: 25 February 2021(\*Corresponding Author)
22. Bank M.S., Ok Y.S., Swarzenski P.W. (2021). Seafood safety data support the United Nations Sustainable Development Goals. *Chemosphere*, 277:130221
23. Shang H., Wang Q., Ok Y.S., Zhang S., Zhu X. (2021). Magnetic biochar production alters the molecular characteristics and biological response of pyrolysis volatile-derived water-soluble organic matter, *Science of the Total Environment*, 778:146142
24. Krasucka, P., Pan, B., Ok, Y.S., Mohan, D., Sarkar, B., Oleszczuk, P. (2021). Engineered biochar - A sustainable solution for the removal of antibiotics from water. *Chemosphere*, 405: 126926
25. Lee, J.T.E., Ok, Y.S., Song, S., Dissanayake, P.D., Tian, H.L., Tio, Z.K., Cui, R.F., Lim, E.Y., Jong, M.C., Hoy, S.H., Lum, T.Q.H., Tsui, T.H., San Yoon, C., Dai, Y.J., Wang, C.H., Tan, H.T.W., Tong, Y.W. (2021). Biochar utilisation in the anaerobic digestion of food waste for the creation of a circular economy via biogas upgrading and digestate treatment. *Bioresource Technology*, 333: 125190
26. Chen, W.H., Chiu, G.L., Ong, H.C., Lam, S.S., Lim, S., Ok, Y.S., Kwon, E.E. (2021). Optimization and analysis of syngas production from methane and CO<sub>2</sub> via Taguchi approach, response surface methodology (RSM) and analysis of variance (ANOVA). *Fuel*, 296: 120642
27. He, M.J., Xiong, X.N., Wang, L., Hou, D.Y., Bolan, N.S., Ok, Y.S., Rinklebe, J., Tsang, D.C.W. (2021). A critical review on performance indicators for evaluating soil biota and soil health of biochar-amended soils. *Journal of Hazardous Materials*, 414: 125378
28. Islam, M.S., Kwak, J.H., Nzediegwu, C., Wang, S.Y., Palansuriya, K., Kwon, E.E., Naeth, M.A., El-Din, M.G., Ok, Y.S., Chang, S.X. (2021). Biochar heavy metal removal in aqueous solution depends on feedstock type and pyrolysis purging gas. *Environmental Pollution*, 281: 117094
29. Lam, S.S., Foong, S.Y., Lee, B.H.K., Low, F., Alstrup, A.K.O., Ok, Y.S., Peng, W.X., Sonne, C. (2021). Set sustainable goals for the Arctic gateway coordinated international governance is required to resist yet another tipping point. *Science of the Total Environment*, 776: 146003
30. El-Naggar, A., Shaheen, S.M., Chang, S.X., Hou, D.Y., Ok, Y.S., Rinklebe, J. (2021) Biochar Surface Functionality Plays a Vital Role in (Im)Mobilization and Phytoavailability of Soil Vanadium. *ACS Sustainable Chemistry & Engineering*, 9(19): 6864-6874
31. Yuan, X., Dissanayake, P.D., Gao, B., Liu, W. J., Lee, K. B., Ok, Y.S.\* Upgrading Organic Waste to Carbon Materials for Energy and Environmental Applications: A Critical Review.

- Journal of Environmental Management*. DOI: 10.1021/acs.est.1c01849 (\*Corresponding Author)
32. Huang, R., Yuan, X.Z., Yan, L.J., Han, L.N., Bao, W.R., Chang, L.P., Liu, J., Wang, J.C., Ok, Y.S. (2021). Carbon precursors in coal tar: Extraction and preparation of carbon materials. *Science of the Total Environment*. 788, 147697
  33. Li, Q.Y., Zhang, S., Gholizadeh, M., Hu, X., Yuan, X.Z., Sarkar, B., Vithanage, M., Masek, O., Ok, Y.S. (2021). Co-hydrothermal carbonization of swine and chicken manure: Influence of cross-interaction on hydrochar and liquid characteristics. *Science of the Total Environment*. 786: 147381
  34. Jedruchniewicz, K., Ok, Y.S., Oleszczuk, P. (2021). COVID-19 discarded disposable gloves as a source and a vector of pollutants in the environment. *Journal of Hazardous Materials*. 417: 125938
  35. Wang, J., Jiang, J.C., Sun, Y.J., Wang, X.B., Li, M., Pang, S.S., Ruan, R., Ragauskas, A.J., Ok, Y.S., Tsang, D.C.W. (2021) Catalytic degradation of waste rubbers and plastics over zeolites to produce aromatic hydrocarbons. *Journal of Cleaner Production*. 309: 127469
  36. Cuong, D.V., Matsagar, B.M., Lee, M.S., Hossain, M.S.A., Yamauchi, Y., Vithanage, M., Sarkar, B., Ok, Y.S.\*, Wu, K.C.W., Hou, C.H. (2021) A critical review on biochar-based engineered hierarchical porous carbon for capacitive charge storage. *Renewable & Sustainable Energy Reviews*. 145: 111029 (\*Corresponding Author)
  37. Wang, L.W., Ok, Y.S., Tsang, D.C.W., Alessi, D.S., Rinklebe, J., Masek, O., Bolan, N.S., Hou, D.Y. (2021) Biochar composites: Emerging trends, field successes and sustainability implications. *Soil Use and Management*.
  38. Ashiq, A., Vithanage, M., Sarkar, B., Kumar, M., Bhatnagar, A., Khan, E., Xi, Y.F., Ok, Y.S. (2021). Carbon-based adsorbents for fluoroquinolone removal from water and wastewater: A critical review. *Environmental Research*. 197: 111091
  39. Lee, X.J., Ong, H.C., Gao, W., Ok, Y.S., Chen, W.H., Goh, B.H.H., Chong, C.T. (2021). Solid biofuel production from spent coffee ground wastes: Process optimisation, characterisation and kinetic studies. *Fuel*, 292: 120309
  40. Ma, L.Q., Letcher, R.J., Coulon, F., Juhasz, A., Rinklebe, J., Ok, Y.S., Bradford, S. (2021) New measures in 2021 to increase the quality and reputation of the Critical Review in Environmental Science and Technology (CREST) journal. *Critical Reviews in Environmental Science and Technology*. 51 (13): 1303-1305
  41. Bank, M.S., Swarzenski, P.W., Bianchi, G., Metian, M., Ok, Y.S., Duarte, C.M. (2021) Reimagining aquaculture in the Global South. *Science*. 372(6539): 247-248
  42. Wang, X.L., de Souza, M.F., Li, H.C., Tack, F.M.G., Ok, Y.S., Meers, E. (2021). Zn phytoextraction and recycling of alfalfa biomass as potential Zn-biofortified feed crop. *Science of The Total Environment*. 760: 143424
  43. Jien, S.H., Kuo, Y.L., Liao, C.S., Wu, Y.T., Igalavithana, A.D., Tsang, D.C.W., Ok, Y.S.\* (2021). Effects of field scale in situ biochar incorporation on soil environment in a tropical highly weathered soil. *Environmental Pollution*. 272: 116009 (\*Corresponding Author)
  44. Matsagar, B.M., Yang, R.X., Dutta, S., Ok, Y.S., Wu, K.C.W. (2021). Recent progress in the development of biomass-derived nitrogen-doped porous carbon. *Journal of Materials Chemistry A*. 9(7): 3703-3728
  45. Mukhopadhyay, R., Sarkar, B., Khan, E., Alessi, D.S., Biswas, J.K., Manjaiah, K.M., Eguchi, M., Wu, K.C.W., Yamauchi, Y., Ok, Y.S. (2021) Nanomaterials for sustainable remediation of chemical contaminants in water and soil. *Critical Reviews in Environmental Science and Technology*



46. Yang, X.R., Chen, Z., Zhao, W., Liu, C.X., Qian, X.X., Zhang, M., Wei, G.Y., Khan, E., Ng, Y.H., Ok, Y.S. (2021). Recent advances in photodegradation of antibiotic residues in water. *Chemical Engineering Journal*. 405: 126806
47. Zhang, Y.H., Alessi, D.S., Chen, N., Luo, M.N., Hao, W.D., Alam, M.S., Konhauser, K.O., Ok, Y.S., Al-Tabbaa, A. (2021). Spectroscopic and Modeling Investigation of Sorption of Pb(II) to ZSM-5 Zeolites. *ACS ES&T Water*. 1(1): 108-116
48. Johnravindar, D., Patria, R.D., Lee, J.T.E., Zhang, L., Tong, Y.W., Wang, C.H., Ok, Y.S., Kaur, G. (2021). Syntrophic interactions in anaerobic digestion: how biochar properties affect them?. *Sustainable Environment*. 7(1): 1945282
49. Yuan, X., Suvarna, M., Low, S., Dissanayake, P.D., Lee, K.B., Li, J., Wang, X., Ok, Y.S. (2021). Applied Machine Learning for Prediction of CO<sub>2</sub> Adsorption on Biomass Waste-Derived Porous Carbons, *Environmental Science & Technology*, Published online 21 July 2021.
50. Kumar, A. N.K., Dissanayake, P.D., Masek, O., Priya, A., Lin, C. S. K., Ok, Y.S.\*, Kim, S-H. (2021). Recent Trends in biochar integration with anaerobic fermentation: Win-win strategies in a closed-loop. *Renewable and Sustainable Energy Reviews*. 149: 111371 (\*Corresponding Author)

#### Year 2020 (Selected)

1. Bank, M.S., Ok, Y.S., Swarzenski, P.W. (2020). Microplastic's role in antibiotic resistance. *Science*, 369 (6509): 1315
2. You, S., Sonne, C., Ok, Y.S.\* (2020). COVID-19's unsustainable waste management. *Science*. 368 (6498): 1438. (\*Corresponding Author)
3. Hou, D., O'Connor, D., Igalavithana, A.D., Alessi, D.S., Luo, J., Tsang, D.C.W., Sparks, D.L., Yamauchi, Y., Rinklebe, J., Ok, Y.S.\* (2020). Metal contamination and bioremediation of agricultural soils for food safety and sustainability. *Nature Reviews Earth & Environment*, 1: 366-381 (\*Corresponding Author)
4. H. Lim, K. Kani, J. Henzie, T. Nagaura, A. S. Nugraha, M. Iqbal, Y. S. Ok, Md. S. A. Hossain, Y. Bando, K. Wu, H.-J. Kim, A. E. Rowan, J. Na., Yamauchi, Y. (2020). A Universal Approach for the Synthesis of Mesoporous Gold, Palladium and Platinum Films for Applications in Electrocatalysis. *Nature Protocols*, 15:2980-3008
5. O'Connor, Hou, D., Ok, Y.S., Lanphear, B. P. (2020). The effects of iniquitous lead exposure on health. *Nature Sustainability* 3, 77-79.
6. Cao, L., Dai, P., Tang, J., Li, D., Chen, R., Liu, D., Gu, X., Li, L., Bando, Y., Ok, Y.S., Zhao, X. (2020). Spherical Superstructure of Boron Nitride Nanosheets Derived from Boron-Containing Metal-Organic Framework. *Journal of American Chemical Society*, 142 (19):8755-8762.
7. Dissanayake, P.D., Choi, S.W., Igalavithana, A.D., Yang, X., Tsang, D.C.W., Wang, C.H., Kua, H.W., Lee, K.B., Ok, Y.S.\* (2020) Sustainable gasification biochar as a high efficiency adsorbent for CO<sub>2</sub> capture: A facile method to designer biochar fabrication. *Renewable and Sustainable Energy Reviews*, 124:109785 (\*Corresponding Author)
8. Dissanayake, P.D., You, S., Igalavithana, A.D., Xia, Y., Bhatnagar, A., Gupta, S., Kua, H.W., Kim, S., Kwon, J.H., Tsang, D.C.W., and Ok, Y.S.\* (2020). Biochar-based adsorbents for

- carbon dioxide capture: A critical review. *Renewable and Sustainable Energy Reviews*, 119: 109582. (\*Corresponding Author)
9. Zhang M., Song G., Gelardi D.L., Huang L., Khan E., Mašek O., Parikh S.J., Ok Y.S.\* (2020). Evaluating biochar and its modifications for the removal of ammonium, nitrate, and phosphate in water. *Water Research*, 186: 116303 (\*Corresponding Author)
  10. Zhao W., Chen Z., Yang X., Qian X., Liu C., Zhou D., Sun T., Zhang M., Wei G., Dissanayake P.D., Ok Y.S.\* (2020). Recent advances in photocatalytic hydrogen evolution with high-performance catalysts without precious metals. *Renewable and Sustainable Energy Reviews*, 132: 110040 (\*Corresponding Author)
  11. D., Xiang W., Zhang X., Chen K., Fang J., He F., Hu X., Tsang D.C.W., Ok Y.S., Gao B. (2020). Enhanced adsorption performance and governing mechanisms of ball-milled biochar for the removal of volatile organic compounds (VOCs). *Chemical Engineering Journal*, 385: 123842
  12. Wang L., Hou D., Cao Y., Ok Y.S., Tack F.M.G., Rinklebe J., O'Connor D. (2020). Remediation of mercury contaminated soil, water, and air: A review of emerging materials and innovative technologies. *Environment International*. 134: 105281.
  13. He C., Lin H., Dai L., Qiu R., Tang Y., Wang Y., Duan P.-G., Ok Y.S. (2020). Waste shrimp shell-derived hydrochar as an emergent material for methyl orange removal in aqueous solutions. *Environment International*. 134: 105340
  14. Palansooriya K.N., Shaheen S.M., Chen S.S., Tsang D.C.W., Hashimoto Y., Hou D., Bolan N.S., Rinklebe J., Ok Y.S. (2020). Soil amendments for immobilization of potentially toxic elements in contaminated soils: A critical review. *Environment International*. 134: 105046. (\*Corresponding Author)
  15. Yu, I.K.M., Hanif, A., Tsang, D.C.W., Shang, J., Su Z., Song, H., Ok, Y.S., Poon C.S. (2020). Tuneable functionalities in layered double hydroxide catalysts for thermochemical conversion of biomass-derived glucose to fructose. *Chemical Engineering Journal*, 383, 122914
  16. Kumarathilaka P., Seneweera S., Ok Y.S., Meharg A.A., Bundschuh J. (2020). Mitigation of arsenic accumulation in rice: An agronomical, physico-chemical, and biological approach—A critical review. *Critical Reviews in Environmental Science and Technology*. 50 (1): 31-71.
  17. Wu Y., Xia Y., Jing X., Cai P., Igalavithana A.D., Tang C., Tsang D.C.W., Ok Y.S. (2020). Recent advances in mitigating membrane biofouling using carbon-based materials. *Journal of Hazardous Materials*, 382. *Journal of Hazardous Materials*, 382: 120976.
  18. Al-Wabel M.I., Ahmad M., Usman A.R.A., Sallam A.S., Hussain Q., Binyameen R.B., Shehu M.R., Ok Y.S. (2020). Evaluating the efficiency of different natural clay sediments for the removal of chlortetracycline from aqueous solutions. *Journal of Hazardous Materials*, 384: 121500.
  19. Sun Y., Chen S.S., Lau A.Y.T., Tsang D.C.W., Mohanty S.K., Bhatnagar A., Rinklebe J., Lin K.-Y.A., Ok Y.S. Waste-derived compost and biochar amendments for stormwater

- treatment in bioretention column: Co-transport of metals and colloids. *Journal of Hazardous Materials*, 383:121243.
20. Jeon, C., Solis, K.L., An, H.-R., Hong, Y., Igalavithana, A.D., Ok, Y.S. (2020). Sustainable removal of Hg(II) by sulfur-modified pine-needle biochar. *Journal of Hazardous Materials*, 388: 122048.
  21. Ramanayaka, S., Sarkar, B., Cooray, A.T., Ok, Y.S., Vithanage, M. (2020). Halloysite nanoclay supported adsorptive removal of oxytetracycline antibiotic from aqueous media. *Journal of Hazardous Materials*, 384: 121301 (\*Corresponding Author)
  22. Zhang, P., O'Connor, D., Wang, Y., Jiang, L., Xia, T., Wang, L., Tsang, D.C.W., Ok, Y.S., Hou, D. (2020). A green biochar/iron oxide composite for methylene blue removal. *Journal of Hazardous Materials*, 384: 121286.
  23. Mukhopadhyay, R., Bhaduri, D., Sarkar, B., Rusmin, R., Hou, D., Khanam, R., Sarkar, S., Kumar Biswas, J., Vithanage, M., Bhatnagar, A., Ok, Y.S. (2020). Clay–polymer nanocomposites: Progress and challenges for use in sustainable water treatment. *Journal of Hazardous Materials*, 383: 121125.
  24. Palansooriya, K.N., Yang, Y., Tsang, Y.F., Sarkar, B., Hou, D., Cao, X., Meers, E., Rinklebe, J., Kim, K.-H., Ok, Y.S. (2020). Occurrence of contaminants in drinking water sources and the potential of biochar for water quality improvement: A review. *Critical Reviews in Environmental Science and Technology*. 50(6): 549-611 (\*Corresponding Author)
  25. Fang, Z., Gao, Y., Wu, X., Xu, X., Sarmah, A.K., Bolan, N., Gao, B., Shaheen, S.M., Rinklebe, J., Ok, Y.S., Xu, S., Wang, H. (2020). A critical review on remediation of bisphenol S (BPS) contaminated water: Efficacy and mechanisms. *Critical Reviews in Environmental Science and Technology*, 50(5):476-522
  26. Xu, X., Xu, Z., Gao, B., Zhao, L., Zheng, Y., Huang, J., Tsang, D.C.W., Ok, Y.S., Cao, X. (2020). New insights into CO<sub>2</sub> sorption on biochar/Fe oxyhydroxide composites: Kinetics, mechanisms, and in situ characterization. *Chemical Engineering Journal*, 384: 123289.
  27. Beiyuan, J., Awad, Y.M., Beckers, F., Wang, J., Tsang, D.C.W., Ok, Y.S.\*, Wang, S.-L., Wang, H., Rinklebe, J. (2020). (Im)mobilization and speciation of lead under dynamic redox conditions in a contaminated soil amended with pine sawdust biochar. *Environment International* (135): 105376 (\*Corresponding Author)
  28. Xia, Y.F., Zhang, M., Tsang, D.C.W., Geng, N., Lu, D., Zhu, L., Igalavithana, A.D., Dissanayake, P.D., Rinkebe, J., Kim, K.H., Ok, Y.S. (2020). Recent advances in control technologies for nutrient pollution from agricultural runoff: current practices and future prospects. *Applied Biological Chemistry*, 63 (1): 8 (\*Corresponding Author)
  29. Keerthan S., Bhatnagar A., Mahatantila K., Jayasinghe C., Ok Y.S.\*, Vithanage M. (2020). Engineered tea-waste biochar for the removal of caffeine, a model compound in pharmaceuticals and personal care products (PPCPs), from aqueous media. *Environmental Technology and Innovation*, 19:100847. (\*Corresponding Author)
  30. Xiang W., Zhang X., Chen J., Zou W., He F., Hu X., Tsang D.C.W., Ok Y.S., Gao B. (2020). Biochar technology in wastewater treatment: A critical review. *Chemosphere*, 252:126539

31. Hong N., Guan Y., Yang B., Zhong J., Zhu P., Ok Y.S., Hou D., Tsang D.C.W., Guan Y., Liu A. (2020). Quantitative source tracking of heavy metals contained in urban road deposited sediments. *Journal of Hazardous Materials*, 393:122362
32. Kończak M., Pan B., Ok Y.S., Oleszczuk P. (2020). Carbon dioxide as a carrier gas and mixed feedstock pyrolysis decreased toxicity of sewage sludge biochar. *Science of the Total Environment*, 723:137796
33. Wang C.-H., Ok Y.S., You S., Wang X. (2020). The research and development of waste-to-hydrogen technologies and systems. *Applied Energy*, 268:115015
34. Tomczyk B., Siatecka A., Gao Y., Ok Y.S., Bogusz A., Oleszczuk P. (2020). The conversion of sewage sludge to biochar as a sustainable tool of PAHs exposure reduction during agricultural utilization of sewage sludges. *Journal of Hazardous Materials*, 392:122416
35. Goyal N., Gao P., Wang Z., Cheng S., Ok Y.S., Li G., Liu L. (2020). Nanostructured chitosan/molecular sieve-4A an emergent material for the synergistic adsorption of radioactive major pollutants cesium and strontium. *Journal of Hazardous Materials*, 392:122494
36. Wang L., Chen L., Tsang D.C.W., Guo B., Yang J., Shen Z., Hou D., Ok Y.S., Poon C.S. (2020). Biochar as green additives in cement-based composites with carbon dioxide curing. *Journal of Cleaner Production*, 258:120678
37. Lee J.-C., Lee B., Ok Y.S.\*, Lim H. (2020). Preliminary techno-economic analysis of biodiesel production over solid-biochar. *Bioresource Technology*, 306:123086 (\*Corresponding Author)
38. Sonne C., Lam S.S., Kim K.-H., Rinklebe J., Ok Y.S. (2020). Be cautious applying carbon-fluorine bonds in drug delivery. *Chemosphere*, 248:125971
39. Lee J.E., Ok Y.S., Tsang D.C.W., Song J., Jung S.-C., Park Y.-K. (2020). Recent advances in volatile organic compounds abatement by catalysis and catalytic hybrid processes: A critical review. *Science of the Total Environment*, 719:137405
40. Lee M.-H., Han S.-J., Lee Y.K., Ike I.A., Ok Y.S., Hur J. (2020). Enhancing copper binding property of compost-derived humic substances by biochar amendment: Further insight from two-dimensional correlation spectroscopy. *Journal of Hazardous Materials*, 390: 121128
41. Soltanian S., Aghbashlo M., Almasi F., Hosseinzadeh-Bandbafha H., Nizami A.-S., Ok Y.S., Lam S.S., Tabatabaei M. (2020). A critical review of the effects of pretreatment methods on the exergetic aspects of lignocellulosic biofuels. *Energy Conversion and Management*, 212:112792
42. Lam S.S., Yek P.N.Y., Ok Y.S., Chong C.C., Liew R.K., Tsang D.C.W., Park Y.-K., Liu Z., Wong C.S., Peng W. (2020). Engineering pyrolysis biochar via single-step microwave steam activation for hazardous landfill leachate treatment. *Journal of Hazardous Materials*, 390:121649
43. Li F., Chen J., Hu X., He F., Bean E., Tsang D.C.W., Ok Y.S., Gao B. (2020). Applications of carbonaceous adsorbents in the remediation of polycyclic aromatic hydrocarbon-contaminated sediments: A review. *Journal of Cleaner Production*, 255:120263

44. Li J., Wang S.-L., Zhang J., Zheng L., Chen D., Shaheen S.M., Rinklebe J., Ok Y.S., Wang H., Wu W. (2020). Coconut-fiber biochar reduced the bioavailability of lead but increased its translocation rate in rice plants: Elucidation of immobilization mechanisms and significance of iron plaque barrier on roots using spectroscopic techniques. *Journal of Hazardous Materials*, 389:121117.
45. Sonne C., Ok Y.S., Lam S.S., Rinklebe J., Alstrup A.K.O., Kim K.-H. (2020). First predatory journals, now conferences: The need to establish lists of fake conferences. *Science of the Total Environment*, 715:136990
46. Wei L., Huang Y., Huang L., Li Y., Huang Q., Xu G., Müller K., Wang H., Ok Y.S., Liu Z. (2020). The ratio of H/C is a useful parameter to predict adsorption of the herbicide metolachlor to biochars. *Environmental Research*, 184:109324
47. Li Z., Wang L., Wu J., Xu Y., Wang F., Tang X., Xu J., Ok Y.S., Meng J., Liu X. (2020). Zeolite-supported nanoscale zero-valent iron for immobilization of cadmium, lead, and arsenic in farmland soils: Encapsulation mechanisms and indigenous microbial responses. *Environmental Pollution*, 260:114098.
48. Zhang L., Lim E.Y., Loh K.-C., Ok Y.S., Lee J.T.E., Shen Y., Wang C.-H., Dai Y., Tong Y.W. (2020). Biochar enhanced thermophilic anaerobic digestion of food waste: Focusing on biochar particle size, microbial community analysis and pilot-scale application. *Energy Conversion and Management*, 209:112654
49. Song, S., Arora, S., Laserna, A.K.C., Shen, Y., Thian, B.W.Y., Cheong, J.C., Tan, J.K.N., Chiam, Z., Fong, S.L., Ghosh, S., Ok, Y.S., Li, S.F.Y., Tan, H.T.W., Dai, Y., Wang, C.-H. (2020). Biochar for urban agriculture: Impacts on soil chemical characteristics and on Brassica rapa growth, nutrient content and metabolism over multiple growth cycles. *Science of the Total Environment*, 727: 138742
50. Chen, S.S., Cao, Y., Tsang, D.C.W., Tessonnier, J.P., Shang, J., Hou, D.Y., Shen, Z.T., Zhang, S.C., Ok, Y.S., Wu, K.C.W. (2020). Effective Dispersion of MgO Nanostructure on Biochar Support as a Basic Catalyst for Glucose Isomerization. *ACS Sustainable Chemistry & Engineering*, 8 (18): 6990-7001.
51. Rinklebe, J., Shaheen, S., El-Naggar, A., Wang, H., Laing, G.D., Alessi, D., Ok, Y.S. (2020). Redox-induced mobilization of Ag, Sb, Sn, and Tl in the dissolved, colloidal and solid phase of a biochar-treated and un-treated mining soil. *Environment International*, 140: 105754
52. Ge S., Ma N.L., Jiang S., Ok Y.S., Lam S.S., Li C., Shi S.Q., Nie X., Qiu Y., Li D., Wu Q., Tsang D.C.W., Peng W., Sonne C. (2020). Processed Bamboo as a Novel Formaldehyde-Free High-Performance Furniture Biocomposite. *ACS applied materials & interfaces*, 12 (27):30824-30832.
53. Wang C., Xian Z., Jin X., Liang S., Chen Z., Pan B., Wu B., Ok Y.S., Gu C. (2020). Photo-aging of polyvinyl chloride microplastic in the presence of natural organic acids. *Water Research*, 183: 116082.
54. Yang X., Yu I.K.M., Tsang D.C.W., Budarin V.L., Clark J.H., Wu K.C.-W., Yip A.C.K., Gao B., Lam S.S., Ok Y.S.\* (2020). Ball-milled, solvent-free Sn-functionalisation of wood

- waste biochar for sugar conversion in food waste valorization. *Journal of Cleaner Production*, 268: 122300 (\*Corresponding Author)
55. Xiong X., Yu I.K.M., Tsang D.C.W., Chen L., Su Z., Hu C., Luo G., Zhang S., Ok Y.S., Clark J.H. (2020). Study of glucose isomerisation to fructose over three heterogeneous carbon-based aluminium-impregnated catalysts. *Journal of Cleaner Production*, 268: 122378
  56. Weerasundara L., Gabriele B., Figoli A., Ok Y.-S., Bundschuh J. (2020). Hydrogels: Novel materials for contaminant removal in water- A review. *Critical Reviews in Environmental Science and Technology*, 1776055
  57. Zhang M., Igalavithana A.D., Xu L., Sarkar B., Hou D., Zhang M., Bhatnagar A., Cho W.C., Ok Y.S.\* (2020). Engineered/designer hierarchical porous carbon materials for organic pollutant removal from water and wastewater: A critical review. *Critical Reviews in Environmental Science and Technology*, 1780102. (\*Corresponding Author)
  58. Igalavithana, A.D., Choi, S.W., Dissanayake, P.D., Shang, J., Wang, C.H., Yang, X., Kim, S., Tsang, D.C.W., Lee, K.B., Ok, Y.S. (2020). Gasification biochar from biowaste (food waste and wood waste) for effective CO<sub>2</sub> adsorption, *Journal of Hazardous Materials*. 391: 121147
  59. Abbas, Q., Yousaf, B., Ullah, H., Ali, M.U., Ok, Y.S., Rinklebe, J. (2020). Environmental transformation and nano-toxicity of engineered nano-particles (ENPs) in aquatic and terrestrial organisms. *Critical Reviews in Environmental Science and Technology*, 241 50(23): 2523-2581
  60. Herath, I., Zhao, F.J., Bundschuh, J., Wang, P., Wang, J., Ok, Y.S., Palansooriya, K.N., Vithanage, M. (2020). Microbe mediated immobilization of arsenic in the rice rhizosphere after incorporation of silica impregnated biochar composites. *Journal of Hazardous Materials*, 398: 123096
  61. Ngigi, A.N., Ok, Y.S., Thiele-Bruhn, S. (2020). Biochar affects the dissipation of antibiotics and abundance of antibiotic resistance genes in pig manure. *Bioresource Technology*, 315: 123782
  62. Vigneshwaran, S., Jun, B.M., Prabhu, S.M., Elanchezhyan, S.S., Ok, Y.S., Meenakshi, S., Park, C.M. (2020). Enhanced sonophotocatalytic degradation of bisphenol A using bimetal sulfide-intercalated MXenes, 2D/2D. nanocomposite. *Separation and Purification Technology*, 250: 117178
  63. Wan, Z.H., Sun, Y.Q., Tsang, D.C.W., Khan, E., Yip, A.C.K., Ng, Y.H., Rinklebe, J., Ok, Y.S. (2020). Customised fabrication of nitrogen-doped biochar for environmental and energy applications. *Chemical Engineering Journal*, 401: 126136
  64. Kumar, M., Xiong, X.N., He, M.J., Tsang, D.C.W., Gupta, J., Khan, E., Harrad, S., Hou, D.Y., Ok, Y.S., Bolan, N.S. (2020). Microplastics as pollutants in agricultural soils. *Environmental Pollution*, 265: 114980
  65. Dutta, S., Yu, I.K.M., Tsang, D.C.W., Su, Z.S., Hu, C.W., Wu, K.C.W. Yip, A.C.K., Ok, Y.S., Poon, C.S. (2020). Influence of green solvent on levulinic acid production from lignocellulosic paper waste. *Bioresource Technology*, 298: 122544

66. Wang, L., Chen, L., Guo, B.L., Tsang, D.C.W., Huang, L.B., Ok, Y.S, Mechtcherine, V. (2020). Red mud-enhanced magnesium phosphate cement for remediation of Pb and As contaminated soil. *Journal of Hazardous Materials*, 400: 123317
67. Wu, H., Chung, H.Y., Tsang, D.C.W., Huang, N.M., Xie, Z.R., Lim, H.N., Ok, Y.S., Ng, Y.H. (2020). Scavenger-free and self-powered photocathodic sensing system for aqueous hydrogen peroxide monitoring by CuO/ZnO nanostructure. *Chemical Engineering Science*, 226: 115886
68. Igalavithana, A.D., Choi, S.W., Shang, J., Hanif, A., Dissanayake, P.D., Tsang, D.C.W., Kwon, J.H., Lee, K.B., Ok, Y.S.\* (2020). Carbon dioxide capture in biochar produced from pine sawdust and paper mill sludge: Effect of porous structure and surface chemistry, *Science of The Total Environment*, 739: 139845 (\*Corresponding Author)
69. Masrura, S.U., Dissanayake, P., Sun, Y.Q., Ok, Y.S., Tsang, D.C.W., Khan, E. (2020) Sustainable use of biochar for resource recovery and pharmaceutical removal from human urine: A critical review. *Critical Reviews in Environmental Science and Technology*. Published online: 12 September 2020
70. Zhong, Y.C., Igalavithana, A.D., Zhang, M, Li, X.D., Rinklebe, J., Hou, D.Y., Tack, F.M.G., Alessi, D.S., Tsang, D.C.W., Ok, Y.S. (2020). Effects of aging and weathering on immobilization of trace metals/metalloids in soils amended with biochar. *Environmental Science-Processes & Impacts*, 9: 1790-1808
71. Kumar, M., Xiong, X.N., Wan, Z.H., Sun, Y.Q., Tsang, D.C.W., Gupta, J., Gao, B., Cao, X.D., Tang, J.C., Ok, Y.S. (2020). Ball milling as a mechanochemical technology for fabrication of novel biochar nanomaterials. *Bioresource Technology*, 312: 123613.
72. Chen, GR; Yan, YX; Wang, J; Ok, YS; Zhong, GY; Guan, BY; Yamauchi, Y. (2020). General Formation of Macro-/Mesoporous Nanoshells from Interfacial Assembly of Irregular Mesostructured Nanounits. *Angewandte Chemie-International Edition*, Published online: 09 July 2020
73. Rizwan, M., Ali, S., Rehman, M.Z.U., Rinklebe, J., Tsang, D.C.W., Tack, F.M.G., Abbasi, G.H., Hussain, A., Igalavithana, A.D., Lee, B.C., Ok, Y.S.\* (2020). Effects of selenium on the uptake of toxic trace elements by crop plants: A review. *Critical Reviews in Environmental Science and Technology*, Published online: 07 August 2020. (\*Corresponding Author)
74. Xiang, W., Zhang, X.Y., Chen, J.J., Zou, W.X., He, F., Hu, X., Tsang, D.C.W., Ok, Y.S., Gao, B. (2020). Biochar technology in wastewater treatment: A critical review, *Chemosphere*, 252: 126539
75. Wang, T.Q., Wang, Y.F., Sun, M.Z., Hanif, A., Wu, H., Gu, Q.F., Ok, Y.S., Tsang, D.C.W., Li, J.Y., Yu, J.H., Shang, J. (2020). Thermally treated zeolitic imidazolate framework-8 (ZIF-8) for visible light photocatalytic degradation of gaseous formaldehyde. *Chemical Science*, 11(26): 6670-6681
76. Cao, L.C., Yu, I.K.M., Xiong, X.N., Tsang, D.C.W., Zhang, S.C., Clark, J.H., Hu, C.W., Ng, Y.H., Shang, J., Ok, Y.S. (2020). Biorenewable hydrogen production through biomass gasification: A review and future prospects, *Environmental Research*, 186: 109547

77. You, S.M., Sonne, C., Ok, Y.S.\* (2020). COVID-19: Resource recovery from plastic waste against plastic pollution. *Cogent Environmental Science*, 6 (1): 1801220. (\*Corresponding Author)
78. Wang, L.W., Ok, Y.S., Tsang, D.C.W., Alessi, D.S., Rinklebe, J., Wang, H.L., Masek, O., Hou, R.J., O'Connor, D., Hou, D.Y. (2020). New trends in biochar pyrolysis and modification strategies: feedstock, pyrolysis conditions, sustainability concerns and implications for soil amendment. *Soil Use and Management*, 36(3): 358-386
79. Sun, T., Beiyuan, J., Gielen, G., Mao, X.L, Song, Z.L., Xu, S., Ok, Y.S., Rinklebe, J., Liu, D., Hou, D.Y., Wong, J.W.C., Wang, H.L. (2020). Optimizing extraction procedures for better removal of potentially toxic elements during EDTA-assisted soil washing. *Journal of Soils and Sediments*, 20(9): 3417-3426
80. Wan, Z.H., Sun, Y.Q., Tsang, D.C.W., Hou, D.Y., Cao, X.D., Zhang, S.C., Gao, B., Ok, Y.S. (2020). Sustainable remediation with an electroactive biochar system: mechanisms and perspectives. *Green Chemistry*, 22(9): 2688-2711
81. Zhang, Y., Roh, Y.J., Han, S.J., Park, I., Lee, H.M., Ok, Y.S., Lee, B.C., Lee, S.R. (2020). Role of Selenoproteins in Redox Regulation of Signaling and the Antioxidant System: A Review. *Antioxidants*, 9(5): 383
82. Vikrant, K., Kim, K.H., Peng, W.X., Ge, S.B., Ok, Y.S. (2020). Adsorption performance of standard biochar materials against volatile organic compounds in air: A case study using benzene and methyl ethyl ketone. *Chemical Engineering Journal*, 387: 123943
83. Kankala, R.K., Han, Y.H., Na, J., Lee, C.H., Sun, Z.Q., Wang, S.B., Kimura, T., Ok, Y.S., Yamauchi, Y., Chen, A.Z., Wu, K.C.W. (2020). Nanoarchitected Structure and Surface Biofunctionality of Mesoporous Silica Nanoparticles. *Advanced Materials*, 32(23): 1907035
84. Wang, L; Sarkar, B; Sonne, C; Ok, YS; Tsang, DCW. (2020). Soil and geologic formations as antidotes for CO<sub>2</sub> sequestration?. *Soil Use and Management*, 36(3): 355-357
85. Zhang, J.Z., Hou, D.Y., Shen, Z.T., Jin, F., O'Connor, D., Pan, S.Z., Ok, Y.S., Tsang, D.C.W., Bolan, N.S., Alessi, D.S. (2020). Effects of excessive impregnation, magnesium content, and pyrolysis temperature on MgO-coated watermelon rind biochar and its lead removal capacity, *Environmental Research*, 183: 109152
86. Zhang, X.Y., Xiang, W., Wang, B., Fang, J., Zou, W.X., He, F., Li, Y.C., Tsang, D.C.W., Ok, Y.S., Gao, B. (2020). Adsorption of acetone and cyclohexane onto CO<sub>2</sub> activated hydrochars. *Chemosphere*, 245: 125664
87. Lin, J.Y., Ghanbari, F., Ok, Y.S., Lisak, G., Lin, K.Y.A., Chang, F.C. (2020). Selective Aerobic Upgrading of Lignin-Derived Compound Using a Recyclable Dual-Functional TPO-Loaded Cu-BTC Catalyst. *Waste and Biomass Valorization*. Published online: 16 March 2020.
88. Truong, H.B., Ike, I.A., Ok, Y.S., Hur, J. (2020). Polyethyleneimine modification of activated fly ash and biochar for enhanced removal of natural organic matter from water via adsorption. *Chemosphere*, 243: 125454



## Year 2019 (Selected)

1. Sonne, C., Alstrup, A.K.O., Ok, Y.S., Dietz, R., Kanstrup, N. (2019). Time to ban lead hunting accumulation. *Science*, 366 (6468): 961-962.
2. Hou, D., O'Connor, D., Sonne, C., Ok, Y.S.\* (2019). Trade war threatens sustainability. *Science*, 364 (6447): 1242-1243. (\*Corresponding Author)
3. Hou, D. and Ok, Y.S.\* (2019). Mapping global soil pollution. *Nature*, 566: 455. (\*Corresponding Author)
4. Wang, S., Zhao, M., Zhou, M., Zhao, Y., Li, Y.C., Gao, B., Feng, K., Ying, W. and Ok, Y.S.\* (2019). Biomass facilitated phase transformation of natural hematite at high temperatures and sorption of  $Cd^{2+}$  and  $Cu^{2+}$ . *Environment International*. 124: 473-481 (\*Corresponding Author)
5. Sun, Y., Yu, I.K.M., Tsang, D.C.W., Cao, X., Lin, D., Wang, L., Graham, N.J.D., Alessi, D.S., Komarek, M., Ok, Y.S.\*, Feng, Y. and Li, X.D. (2019). Multifunctional iron-biochar composites for the removal of potentially toxic elements, inherent cations, and heterochloride from hydraulic fracturing wastewater. *Environment International*. 124:521-532 (\*Corresponding Author)
6. Shaheen, S.M., Alessi, D.S., Tack, F.M.G., Ok, Y.S., Kim, K.H., Gustafsson, J.P., Sparks, D.L. and Rinklebe, J. (2019). Redox chemistry of vanadium in soils and sediments: Interactions with colloidal materials, mobilization, speciation, and relevant environmental implications - A review. *Advances in Colloid and Interface Science*, 265:1-13
7. Kim, K., Wang, C.H., Ok, Y.S. and Lee, S.E. (2019). Heart developmental toxicity by carbon black waste generated from oil refinery on zebrafish embryos (*Danio rerio*): Combined toxicity on heart function by nickel and vanadium, *Journal of Hazardous Materials*. 363: 127-137.
8. Tack, F.M.G., Rinklebe, J. and Ok, Y.S. (2019). Interactions between biochar and trace elements in the environment. (Editorial) *Science of The Total Environment*, 649: 792
9. Khan, A., Szulejko, J.E., Kim, K.H., Sammadar, P., Lee, S.S., Yang, X.X. and Ok, Y.S. (2019) A comparison of figure of merit (FOM) for various materials in adsorptive removal of benzene under ambient temperature and pressure. *Environmental Research*, 168: 96-108.
10. Yang, X., Tsibart, A., Nam, H., Hur, J., El-Naggar, A., Tack, F.M.G., Wang, C.H., Han Lee, Y., Tsang, D.C.W. and Ok, Y.S.\* (2019). Effect of gasification biochar application on soil quality: trace metal behavior, microbial community, and soil dissolved organic matter. *Journal of Hazardous Materials*. 365: 684-694 (\*Corresponding author).
11. El-Naggar, A', Lee, S.S., Rinklebe, J., Farooq, M., Song, H., Sarmah, A.K., Zimmerman, A.R., Ahmad, M., Shaheen, S.M. and Ok, Y.S.\* (2019) Biochar application to low fertility soils: A review of current status, and future prospects. *Geoderma*, 337: 536-554. (\*Corresponding author).
12. Yang, F.Zhang, S., Sun, Y., Tsang, D.C.W., Cheng, K. and Ok, Y.S. (2019). Assembling biochar with various layered double hydroxides for enhancement of phosphorus recovery. *Journal of Hazardous Materials*. 365: 665-673

13. Ngigi, A.N., Ok, Y.S. and Thiele-Bruhn, S., (2019). Biochar-mediated sorption of antibiotics in pig manure. *Journal of Hazardous Materials*. 364: 663-670.
14. Cao, L. Yu, I.K.M., Cho, D-W., Tsang, D.C.W., Zhang, S., Ding, S., Wang, L., Ok, Y.S. (2019). Microwave-assisted low-temperature hydrothermal treatment of red seaweed (*Gracilaria lemaneiformis*) for production of levulinic acid and algae hydrochar. *Bioresource Technology*. 273: 251-258.
15. Zou, W., Gao, B., Ok, Y.S. and Dong, L. (2019). Integrated adsorption and photocatalytic degradation of volatile organic compounds (VOCs) using carbon-based nanocomposites: A critical review. *Chemosphere*. 218. 845-859.
16. Shen, Z., Zhang, J., Hou, D., Tsang, D.C.W., Ok, Y.S., Alessi, D.S. (2019). Synthesis of MgO-coated corncob biochar and its application in lead stabilization in a soil washing residue. *Environment International*. 122:357-362.
17. Chowdhury, S., Kim, G., Ok, Y.S. and Bolan, N. (2019). Effect of carbon and nitrogen mobilization from livestock mortalities on nitrogen dynamics in soil. *Process Safety and Environmental Protection*. 122:153-160.
18. El-Naggar, A., Shaheen, S.M., Hseu Z.Y., Wang, S., Ok, Y.S.\* and Rinklebe, J. (2019). Release dynamics of As, Co, and Mo in a biochar treated soil under pre-definite redox conditions. *Science of the Total Environment* 657: 686–695. (\*Corresponding Author)
19. Yang Y., Ng, W., Wong, B.S.E., Baeg, G.H., Wang, C.H. and Ok. Y.S\*. (2019). Characterization of ecotoxicological investigation of biochar produced via slow pyrolysis: effect of feedstock composition and pyrolysis conditions. *Journal of Hazardous Materials* 365: 178-185. (\*Corresponding author)
20. Ahmed, N., Ok, Y.S., Jeon, B.H., Kim, J.R., Chae, K.J. and Oh, S.E. (2019). Assessment of benzene, toluene, ethyl-benzene and xylene (BTEX) toxicity in soil using sulfur oxidizing bacterial (SOB) bioassay. *Chemosphere*, 220:651-657
21. Jin, Y., O'Connor, D., Ok, Y.S., Tsang, D.C.W., Liu, A. and Hou, D. (2019). Assessment of sources of heavy metals in soil and dust at children's playgrounds in Beijing using GIS and multivariate statistical analysis. *Environment International*. 124: 320-328.
22. Rajapaksha, A.U., Ok, Y.S., El-Naggar, A., Kim, H., Song, F., Kang, S. and Tsang, Y.F. (2019). Dissolved organic matter characterization of biochars produced from different feedstock materials. *Journal of Environmental Management*, 233:393-399
23. Wang, L., Chen, S.S., Sun, Y., Tsang, D.C.W., Yip, A.C.K., Ding, S., Hou, D., Baek, K. and Ok, Y.S. (2019). Efficacy and limitations of low-cost adsorbents for in-situ stabilisation of contaminated marine sediment. *Journal of Cleaner Production*, 212, 420-427
24. Deng, Y., Ok, Y.S., Mohan, D., Pittman, C.U. and Dou, X. (2019). Carbamazepine removal from water by carbon dot-modified magnetic carbon nanotubes. *Environmental Research*, 169: 434-444.
25. Shakoob, M.B., Niazi, N.K., Bibi, I., Shahid, M., Saqib, Z.A., Nawaz, M.F., Shaheen, S.M., Wang, H., Tsang, D.C.W., Bundschuh, J., Ok, Y.S. and Rinklebe, J. (2019). Exploring the arsenic removal potential of various biosorbents from water. *Environment International*. 123:567-579.

26. Yu, I.K.M., Attard, T.M., Chen, S.S., Tsang, D.C.W., Hunt, A.J. Jerome, F., Ok, Y.S. and Poon, C.S. (2019). Supercritical Carbon Dioxide Extraction of Value-Added Products and Thermochemical Synthesis of Platform Chemicals from Food Waste. *ACS Sustainable Chemistry and Engineering*. 7: 2821-2829.
27. Yu, I.K.M., Tsang, D.C.W., Yip, A.C.K., Su, Z., De oliveira Vigier, K., Jerome, F., Poon, C.S. and Ok, Y.S. (2019). Organic Acid-Regulated Lewis Acidity for Selective Catalytic Hydroxymethylfurfural Production from Rice Waste: An Experimental-Computational Study. *ACS Sustainable Chemistry and Engineering*. 7 (1): 1437-1446 (\*Corresponding Author)
28. Xia, S., Song, Z., Jeyakumar, P., Shaheen, S.M., Rinklebe, J., Ok, Y.S., Bolan, N. and Wang, H. (2019). A critical review on bioremediation technologies for Cr (VI)-contaminated soils and wastewater. *Critical Reviews in Environmental Science and Technology*, 49(12):1028-1078
29. Khan, A., Szulejko, J.E., Samaddar, P., Kim, K-H., Liu, B., Maitlo, H.A., Yang, X. and Ok, Y.S.\* (2019). The potential of biochar as sorptive media for removal of hazardous benzene in air. *Chemical Engineering Journal*, 361: 1576–1585 (\*Corresponding Author)
30. Palansooriya, K.N., Ok, Y.S., Awad, Y.M., Lee, S.S., Sung, J-K., Koutsospyros, A. and Moon D.H. (2019). Impacts of biochar application on upland agriculture: A review. *Journal of Environmental Management*, 234: 52-64
31. Wei, J., Tu, C., Yuan, G., Bi, D., Xiao, L., Theng, B.K.G., Wang, H. and Ok, Y.S. (2019). Carbon-coated montmorillonite nanocomposite for the removal of chromium (VI) from aqueous solutions. *Journal of Hazardous Materials*, 368: 541–549
32. Yang, X., Wan, Y., Zheng, Y., He, F., Yu, Z., Huang, J., Wang, H., Ok, Y., Jiang, Y. and Gao, B. (2019). Surface functional groups of carbon-based adsorbents and their roles in the removal of heavy metals from aqueous solutions: A critical review. *Chemical Engineering Journal*, 366:608-621
33. Xu, Y., Seshadri, B., Bolan, N., Sarkar, B., Ok, Y.S., Zhang, Y., Rumpel, C., Sparks, D., Farrell, M., Hall, T. and Dong, Z. (2019). Microbial functional diversity and carbon use feedback in soils as affected by heavy metals. *Environment International*, 125: 478–488
34. Ashiq, A., Adassooriya, N.M., Sarkar, B., Rajapaksha, A.U., Ok, Y.S., Vithanage, M. (2019). Municipal solid waste biochar-bentonite composite for the removal of antibiotic ciprofloxacin from aqueous media. *Journal of Environmental Management*, 236: 428–435.
35. Yang, X., Yu, I.K.M., Cho, D., Chen, S.S., Tsang, D.C.W., Shang, J., Yip, A.C.K., Wang, L. and Ok, Y.S.\* (2019). Tin-functionalized Wood Biochar as a Sustainable Solid Catalyst for Glucose Isomerization in Biorefinery. *ACS Sustainable Chemistry and Engineering*. 7: 2821-2829. (\*Corresponding Author)
36. Bottlinger, M., Schulz, E., Leandro, W.M., De Oliveira, S.B., Filho, A.M.A., El-Naggar, A., Bolan, N., Wang, H., Ok, Y.S. and Rinklebe, J. (2019). Management of biosolids-derived hydrochar (Sewchar): Effect on plant germination, and farmers' acceptance. *Journal of Environmental Management*, 237:200-214. (\*Corresponding author).

37. Wang, S., Zhao, M., Zhou, M., Li, Y.C., Wang, J., Gao, B., Feng, K., Igalavithana, I.D., Oleszczuk, P., Wang, X., Ok, Y.S.\* (2019). Biochar-Supported nZVI (nZVI/BC) for Contaminant Removal from Soil and Water: A Critical Review. *Journal of Hazardous Materials*, 373: 820-834 (\*Corresponding author).
38. Shang, S., Hanif, A., Sun, M., Tian, Y., Ok, Y.S., Yu, I.K.M., Tsang, D.C.W., Gu, Q., Shang, J. (2019). Novel M (Mg/ Ni/ Cu)-Al-CO<sub>3</sub> layered double hydroxides synthesized by aqueous miscible organic solvent treatment (AMOST) method for CO<sub>2</sub> capture. *Journal of Hazardous Materials*, 373: 285-293
39. Wu, P., Cui, P., Alves, M.E., Peijnenburg, W.J.G.M., Liu, C., Zhou, D., Wang, H., Ok, Y.S., Wang, Y. (2019). Interactive effects of rice straw biochar and  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> on immobilization of Zn. *Journal of Hazardous Materials*, 373: 250-257.
40. O'Connor, D., Hou, D., Ok, Y.S., Mulder, J., Duan, L., Wu, Q., Wang, S., Tack, F.M.G., Rinklebe, J. (2019). Mercury speciation, transformation and transportation in soils, atmospheric flux, and implications for risk management: A critical review, *Environment International*, 126:747-761
41. Yang, X., Wan, Y., Zheng, Y., He, F., Yu, Z., Huang, J., Wang, H., Ok, Y.S., Jiang, Y., Gao, B. (2019). Surface functional groups of carbon-based adsorbents and their roles in the removal of heavy metals from aqueous solutions: A critical review. *Chemical Engineering Journal*, 366: 608-621
42. Igalavithana, A.D., Kwon, E.E., Vithanage, M., Rinklebe, J., Moon, D.H., Meers, E, Tsang, D.C.W., Ok, Y.S.\* (2019) Soil lead immobilization by biochars in short-term laboratory incubation studies, *Environment International*, 127:190-198 (\*Corresponding author).
43. Al-Wabal, M., Elfaki, J., Usman, A., Hussain, Q., Ok, Y.S. (2019). Performance of dry water- and porous carbon-based sorbents for carbon dioxide capture, *Environmental Research*, 174: 69-79
44. Premarathna, K.D.S., Rajapaksha, A.U., Sarkar, B., Kwon, E.E., Bhatnagar, A., Ok, Y.S., Vithanage, M. (2019). Biochar-based engineered composites for sorptive decontamination of water: A review, *Chemical Engineering Journal*, 372:536-550
45. Hanif, A., Sun, M., Shang, S., Tian, Y., Yip, A.C.K., Ok, Y.S., Yu, I.K.M., Tsang, D.C.W., gu, Q., Shang, J. (2019). Exfoliated Ni-Al LDH 2D nanosheets for intermediate temperature CO<sub>2</sub> capture. *Journal of Hazardous Materials*, 374:365
46. Feizi, M., Jalali, M., Antoniadis, V., Shaheen, S.M., Ok, Y.S., Rinklebe, J., Geo-and nano-materials affect the mono-metal and competitive sorption of Cd, Cu, Ni, and Zn in a sewage sludge-treated alkaline soil, *Journal of Hazardous Materials*
47. Kumarathilaka, P., Seneweera, S., Ok, Y.S., Meharg, A., Bundschuh, J. (2019). Arsenic in cooked rice foods: Assessing health risks and mitigation options. *Journal of Hazardous Materials*, 127:584-591
48. Palansooriya, K.N., Wong, J.T.F., Hashimoto, Y., Huang, L., Rinklebe, J., Chang, S.X., Bolan, N., Wang, H., Ok, Y.S.\* (2019). Response of microbial communities to biochar-amended soils: a critical review, *Biochar*, 1-20. (\*Corresponding Author)
49. El-Naggar, A., El-Naggar, A.H., Shaheen, S.M., Sarkar, B., Chang, S.X., Tsang, D.C.W., Rinklebe, J., Ok, Y.S.\* (2019). Biochar composition-dependent impacts on soil nutrient

- release, carbon mineralization, and potential environmental risk: A review, *Journal of Environmental Management*, 234: 52-64 (\*Corresponding Author)
50. Tsang, Y.F., Kumar, V., Smadar, P., Yang, Yi., Lee, J., Ok, Y.S., Song, H., Kim, Ki-Hyun, Kwon, E.E., Jeon, Y.J. (2019). Production of bioplastic through food waste valorization. *Environment International*. 119, 1-19
  51. Singh, M., Sarkar, B., Bolan, N.S., Ok, Y.S., Churchman, G.J. (2019). Decomposition of soil organic matter as affected by clay types, pedogenic oxides and plant residue addition rates. *Journal of Hazardous Materials*, 347: 11-19
  52. Zhang, M., Zhao, C., Li, J., Xu, L., Wei, F., Hou, D., Sarkar, B., Ok, Y.S. (2019) Organolayered double hydroxides for the removal of polycyclic aromatic hydrocarbons from soil washing effluents containing high concentrations of surfactants, *Journal of Hazardous Materials*, 373: 678-686.
  53. Jia, X., O'Connor, D., Hou, D., Yuanliang, J., Li, G., Zheng, C., Ok, Y.S., Tsang, D.C.W., Luo, J. (2019). Groundwater depletion and contamination: Spatial distribution of groundwater resources sustainability in China. *Science of the Total Environment*, 672: 551-562
  54. Li, J., Zheng, L., Wang, S.-L., Wu, Z., Wu, W., Niazi, N.K., Shaheen, S.M., Rinklebe, J., Bolan, N., Ok, Y.S., Wang, H. (2019). Sorption mechanisms of lead on silicon-rich biochar in aqueous solution: Spectroscopic investigation. *Science of the Total Environment*, 672: 572-582
  55. Beckers, F., Awad, Y.M., Beiyuan, J., Abridata, J., Mothes, S., Tsang, D.C.W., Ok, Y.S., Rinklebe, J. (2019). Impact of biochar on mobilization, methylation, and ethylation of mercury under dynamic redox conditions in a contaminated floodplain soil. *Environment International*, 127: 276-290
  56. Premarathna, K.S.D., Rajapaksha, A.U., Adassoriya, N., Sarkar, B., Sirimuthu, N.M.S., Cooray, A., Ok, Y.S., Vithanage, M. (2019). Clay-biochar composites for sorptive removal of tetracycline antibiotic in aqueous media. *Journal of Environmental Management*, 238: 315-322
  57. Jeon, J., Park, J.H., Wi, S., Yang, S., Ok, Y.S., Kim, S. (2019) Latent heat storage biocomposites of phase change material-biochar as feasible eco-friendly building materials. *Environmental Research*, 172: 637-648
  58. Igalavithana, A.D., Kim, K.-H., Jung, J.-M., Heo, H.-S., Kwon, E.E., tack, F.M.G., Tsang, D.C.W., Jeon, Y.J., Ok, Y.S.\* (2019). Effect of biochars pyrolyzed in N<sub>2</sub> and CO<sub>2</sub>, and feedstock on microbial community in metal(loid)s contaminated soils. *Environment International*. 126: 791-801 (\*Corresponding author).
  59. Wang, L., Cho, D.-W., Tsang, D.C.W., Cao, X., Hou, D., Shen, Z., Alessi, D.S., Ok, Y.S., Poon, C.S. (2019). Green remediation of As and Pb contaminated soil using cement-free clay-based stabilization/solidification. *Environment International*. 126:336-345
  60. Sun, Y., Wang, D., Tsang, D.C., Wang, L., Ok, Y.S. and Feng, Y., (2019). A critical review of risks, characteristics, and treatment strategies for potentially toxic elements in wastewater from shale gas extraction. *Environment International*. 126:336-345

61. Yu, I.K.M., Xiong, X., Tsang, D.C.W., Ng, Y.H., Clark, J.H., Fan, J., Zhang, S., Hu, C., Ok, Y.S. (2019). Graphite oxide- and graphene oxide-supported catalysts for microwave-assisted glucose isomerisation in water. *Green Chemistry*, 21: 4341-4353
62. Vithanage, M., Kumarathilaka, P., Oze, C., Karunatilake, S., Seneviratne, M., Hseu Z.Y., Gunarathne, V., Dassanayake, M., Ok, Y.S.\*, Rinklebe, J. (2019). Occurrence and cycling of trace elements in ultramafic soils and their impacts on human health: A critical review. *Environment International*. 131: 104974 (\*Corresponding author)
63. Zhu, Y.G., Zhao, Y., Zhu, Z., Gillings, M., Penuelas, J., Ok, Y.S., Capon, A., Banwart, S. (2019). Soil biota, antimicrobial resistance and planetary health. *Environment International*. 131: 104-974
64. Lam, S.S, Mahari, W.A.W., Ok, Y.S., Peng, W., Chong, C.T., Ma, N.L., Chase, H.A., Liew, Z., Yusup, S., Kwon, E.K., Tsang, D.C.W. (2019). Microwave vacuum pyrolysis of waste plastic and used cooking oil for simultaneous waste reduction and sustainable energy conversion: Recovery of cleaner liquid fuel and techno-economic analysis. *Renewable and Sustainable Energy Reviews*, 115: 109359.
65. Luo, J., Yang, G., Igalavithana, A.D., He, W., Gao, B., Tsang, D.C.W., Ok, Y.S.\* (2019). Effects of elevated CO<sub>2</sub> on the phytoremediation efficiency of *Noccaea caerulea*. *Environmental Pollution*. 255:113169 (\*Corresponding author)
66. Sonne, C., Alstrup, A.K.O., Dietz, R., Ok, Y.S., Ciesielski, T.M., Jenssen, B.M. (2019). Aviation, melting sea-ice and polar bears. *Environment International*, 133: 105279
67. Bradney, L., Wijesekara, H., Palansooriya, K.N., Obadamudalige, N., Bolan, N.S., Ok, Y.S., Rinklebe, J., Kim, K. H., Kirkham, M.B. (2019). Particulate plastics as a vector for toxic trace-element uptake by aquatic and terrestrial organisms and human health risk. *Environment international*, 131: 104937

#### **Year 2018 (Selected)**

1. Jeong, K.H., Choi, D.H., Lee, D.J., Kim, J.K., Kim, H., Ok, Y.S. and Kwon, E.E. (2018) CO<sub>2</sub>-looping in pyrolysis of horse manure using CaCO<sub>3</sub>. *Journal of Cleaner Production*, 174, 616-624.
2. Cao, L., Yu, I.K.M., Chen, S.S., Tsang, D.C.W., Wang, L., Xiong, X., Zhang, S., Ok, Y.S., Kwon, E.E., Song, H. and Poon, C.S. (2018) Production of 5-hydroxymethylfurfural from starch-rich food waste catalyzed by sulfonated biochar. *Bioresource Technology*, 252, 76-82.
3. El-Naggar, Ali, Shaheen, S.M., Ok, Y.S.\* and Rinklebe, J. (2018) Biochar affects the dissolved and colloidal concentrations of Cd, Cu, Ni, and Zn and their phytoavailability and potential mobility in a mining soil under dynamic redox-conditions. *Science of The Total Environment*, 624, 1059-1071 (\*Corresponding author)
4. Kumarathilaka, P., Ahmad, M., Herath, I., Mahatantila, K., Athapattu, B.C.L., Rinklebe, J., Ok, Y.S., Usman, A., Al-Wabel, M.I., Abduljabbar, A. and Vithanage, M. (2018) Influence

- of bioenergy waste biochar on proton-and ligand-promoted release of Pb and Cu in a shooting range soil. *Science of The Total Environment* (\*Corresponding author)
5. Awad, Y.M., Ok, Y.S.\*, Abridgata, J., Beiyuan, J., Beckers, F., Tsang, D.C.W. and Rinklebe, J. (2018) Pine sawdust biomass and biochars at different pyrolysis temperatures change soil redox processes. *Science of The Total Environment*, 625:147-154 (\*Corresponding author)
  6. He, L., Fan, S., Müller K., Wang, H., Che, L., Xu, S., Song, Z., Yuan, G., Rinklebe, J., Tsang, D.C.W., Ok, Y.S. and Bolan, N.S. (2018) Comparative analysis biochar and compost-induced degradation of di-(2-ethylhexyl) phthalate in soils. *Science of The Total Environment*, 65:987-993
  7. Rajapaksha, A.U., Alam, M.S., Chen, N., Alessi, D.S. and Ok, Y.S.\* (2018) Pine sawdust biochar reduces GHG emission by decreasing microbial and enzyme activities in forest and grassland soils in a laboratory experiment. *Science of The Total Environment*, 625: 1247-1256 (\*Corresponding author)
  8. Pokharel, P., Kwak, J.H., Ok, Y.S.\*, and Chang, S.X. (2018) Pine sawdust biochar reduces GHG emission by decreasing microbial and enzyme activities in forest and grassland soils in a laboratory experiment. *Science of The Total Environment*, 625:1247-1256 (\*Corresponding author)
  9. Shen, Z., Hou, D., Zhao, B., Xu, W., Ok, Y.S., Bolan, N.S. and Alessi, D.S. (2018) Stability of heavy metals in soil washing residue with and without biochar addition under accelerated ageing. *Science of The Total Environment*, 619-620, 410-418
  10. Kang, S., Jung, J., Choe, J.K., Ok, Y.S. and Choi, Y. (2018) Effect of biochar particle size on hydrophobic organic compound sorption kinetics: Applicability of using representative size. *Science of The Total Environment*, 619-620, 410-418
  11. Poulouse, A.M., Elnour, A.Y., Anis, A., Shaikh, H., Al-Zahrani, S.M., George, J., Al-Wabel, M.I., Usman, A.R., Ok, Y.S., Tsang, D.C.W. and Sarmah, A.K. (2018) Date palm biochar-polymer composites: An investigation of electrical, mechanical, thermal and rheological characteristics. *Science of The Total Environment*, 619-620, 311-318
  12. Sun, Y., Lei, C., Khan, E., Chen, S.S., Tsang, D.C., Ok, Y.S., Lin, D., Feng, Y. and Li, X.D. (2018) Aging effects on chemical transformation and metal (loid) removal by entrapped nanoscale zero-valent iron for hydraulic fracturing wastewater treatment. *Science of The Total Environment*, 615, 498-507
  13. Beiyuan, J., Lau, A.Y.T., Tsang, D.C.W., Zhang, W., Kao, C.M., Baek, K., Ok, Y.S. and Li, X.D. (2018) Chelant-enhanced washing of CCA-contaminated soil: Coupled with selective dissolution or soil stabilization. *Science of the Total Environment*, 612:1463-1472
  14. Sarkar, B., Mandal, S., Tsang, Y.F., Kumar, P., Kim, K.H. and Ok, Y.S.\* (2018) Designer carbon nanotubes for contaminant removal in water and wastewater: A critical review. *Science of the Total Environment*, 612:561-581 (\*Corresponding author)
  15. Cho, D.W., Jeong, K.H., Kim, S., Tsang, D.C.W., Ok, Y.S. and Song, H. (2018) Synthesis of cobalt-impregnated carbon composite derived from a renewable resource: Characterization and catalytic performance evaluation. *Science of the Total Environment*, 612:103-110
  16. Thangarajan, R., Bolan, N.S., Kunhikrishnan, A., Wijesekara, H., Xu, Y., Tsang, D.C.W., Song, H., Ok, Y.S. and Hou, D. (2018) The potential value of biochar in the mitigation of gaseous emission of nitrogen. *Science of the Total Environment*, 612:257-268
  17. Rajapaksha, A. U., Alam, M.S., Chen N., Alessi D. S., Igalavithana, A.D., Tsang, D.C.W., Ok, Y.S.\* (2018) Removal of hexavalent chromium in aqueous solutions using biochar:

- Chemical and spectroscopic investigations. *Science of the Total Environment*, 612:103-110  
(\*Corresponding author)
18. He L., Fan S., Müller K., Wang H., Che L., Xu S., Song Z., Yuan G., Rinklebe J., Tsang, D.C.W., Ok, Y.S., Bolan N. S. (2018) Comparative analysis biochar and compost-induced degradation of di-(2-ethylhexyl) phthalate in soils. *Science of the Total Environment*, 612:257-268
  19. Lee C. H., Wang C., Lin H., Lee S. S., Tsang, D.C.W., Jien S., Ok, Y.S.\* (2018) In-situ biochar application conserves nutrients while simultaneously mitigating runoff and erosion of an Fe-oxide-enriched tropical soil. *Science of the Total Environment*, 612:103-110  
(\*Corresponding author)
  20. Awad, Y.M., Wang, J., Igalavithana, A.D., Tsang, D.C.W., Kim, K.H., Lee, S.S. and Ok, Y.S.\* (2018) Biochar Effects on Rice Paddy: Meta-analysis. *Advances in Agronomy*, 148: 1-32 (\*Corresponding author)
  21. Buruga, K., Kalathi, J.T., Kim, K.H., Ok, Y.S. and Danil, B. (2018) Polystyrene-halloysite nano tube membranes for water purification. *Journal of Industrial and Engineering Chemistry*, 61:169-180
  22. Cheng, L., Sun, Y., Khan, E., Chen, S.S., Tsang, D.C.W., Graham, N.J.D., Ok, Y.S., Yang, X., Lin, D., Feng, Y. and Li, X.D. (2018) Removal of chlorinated organic solvents from hydraulic fracturing wastewater by bare and entrapped nanoscale zero-valent iron. *Chemosphere*, 196, 9-17
  23. Awad, Y.M., Lee, S.S., Kim, K.H., Ok, Y.S., and Kuzyakov, Y. (2018). Carbon and nitrogen mineralization and enzyme activities in soil aggregate-size classes: Effects of biochar, oyster shells, and polymers. *Chemosphere*, 198: 40-48
  24. Kim, K., Jeon, H.J., Choi, S.D., Tsang, D.C.W., Oleszczuk, P., Ok, Y.S., Lee, H.S. and Lee, S.E. (2018) Combined toxicity of endosulfan and phenanthrene mixtures and induced molecular changes in adult Zebrafish (*Danio rerio*). *Chemosphere*, 194:30-41
  25. Rai, P.K., Lee, J., Kailasa, S.K., Kwon, E.E., Tsang, Y.F., Ok, Y.S. and Kim, K.H. (2018) A critical review of ferrate (VI)-based remediation of soil and groundwater. *Environmental Research*, 160, 420-448
  26. Park, J.H., Wang, J.J., Kim, S.H., Kang, S.W., Cho, J.S., Delaune, R.D., Ok, Y.S. and Seo, D.C. (2018) Lead sorption characteristics of various chicken bone part-derived chars. *Environmental Geochemistry and Health*, 41: 1675-1685
  27. Rai, P.K., Kumar, V., Lee, S., Raza, N., Kim, K.H., Ok, Y.S. and Tsang, D.C., (2018) Nanoparticle-plant interaction: Implications in energy, environment, and agriculture. *Environment international*, 119, 1-19
  28. Cho, D.W., Kim, S., Tsang, D.C., Bolan, N.S., Kim, T., Kwon, E.E., Ok, Y.S. and Song, H., (2018) Contribution of pyrolytic gas medium to the fabrication of co-impregnated biochar. *Journal of CO<sub>2</sub> Utilization*, 26, 476-486.
  29. Idrees, M., Batool, S., Ullah, H., Hussain, Q., Al-Wabel, M.I., Ahmad, M., Hussain, A., Riaz, M., Ok, Y.S. and Kong, J., (2018). Adsorption and thermodynamic mechanisms of manganese removal from aqueous media by biowaste-derived biochars. *Journal of Molecular Liquids*. 266: 373-380
  30. Shaheen, S.M., Niazi, N.K., Hassan, N.E., Bibi, I., Wang, H., Tsang, D.C., Ok, Y.S., Bolan, N. and Rinklebe, J., (2018). Wood-based biochar for the removal of potentially toxic elements in water and wastewater: a critical review. *International Materials Reviews*, 64(4): 216-247



31. Samaddar, P., Ok, Y.S., Kim, K.H., Kwon, E.E. and Tsang, D.C., 2018. Synthesis of nanomaterials from various wastes and their new age applications. *Journal of Cleaner Production*. 197, 1190-1209
32. El-Naggar, A., Awad, Y.M., Tang, X.Y., Liu, C., Niazi, N.K., Jien, S.H., Tsang, D.C., Song, H., Ok, Y.S.\* and Lee, S.S., (2018). Biochar influences soil carbon pools and facilitates interactions with soil: A field investigation. *Land Degradation & Development*. 1-10 (\*Corresponding author)
33. Cao, L., Iris, K.M., Tsang, D.C., Zhang, S., Ok, Y.S., Kwon, E.E., Song, H. and Poon, C.S., 2018. Phosphoric acid-activated wood biochar for catalytic conversion of starch-rich food waste into glucose and 5-hydroxymethylfurfural. *Bioresource Technology*, 267: 242-248
34. Liu, B., Vellingiri, K., Jo, S.H., Kumar, P., Ok, Y.S.\* and Kim, K.H. (2018). Recent advances in controlled modification of the size and morphology of metal-organic frameworks. *Nano Research*, 11(9): 4441–4467 (\*Corresponding author)
35. O'Connor, D., Hou, D., Ye, J., Zhang, Y., Ok, Y.S., Song, Y., Coulon, F., Peng, T., Tian, Li. (2018). Lead-based paint remains a major public health concern: A critical review of global production, trade, use, exposure, health risk, and implications. *Environment International* 121; 85–101.
36. Yang, X., Igalavithana, A.D., Oh, S.E., Nam, H., Zhang, M., Wang, C.H., Kwon, E.E., Tsang, D.C.W., Ok, Y.S.\* (2018). Characterization of bioenergy biochar and its utilization for metal/metalloid immobilization in contaminated soil. *Science of the Total Environment*, 640-641:704-713 (\*Corresponding author)
37. Shakoor, M.B., Niazi, N.K., Bibi, I., Shahid, M., Sharif, F., Bashir, S., Shaheen, S.M., Wang, H., Tsang, D.C.W., Ok, Y.S., Rinklebe, J. (2018). Arsenic removal by natural and chemically modified water melon rind in aqueous solutions and groundwater. *Science of the Total Environment*, 645: 1444-1455.
38. El-Naggar, A., Leed, S.S., Awad, Y.M., Yang, X., Ryu, C., Rizwang, M., Rinklebe, J., Tsang, D.C.W., Ok, Y.S.\* (2018). Influence of soil properties and feedstocks on biochar potential for carbon mineralization and improvement of infertile soils. *Geoderma*, 332: 100-108. (\*Corresponding author).
39. Xiong, X., Iris, K.M., Chen, S.S., Tsang, D.C., Cao, L., Song, H., Kwon, E.E., Ok, Y.S., Zhang, S. and Poon, C.S., (2018). Sulfonated biochar as acid catalyst for sugar hydrolysis and dehydration. *Catalysis Today*, 314: 52-61.
40. Yu, I.K.M., Tsang, D.C.W., Yip, A.C.K., Hunt, A.J., Sherwood, J., Shang, J., Song, H., Ok, Y.S.\*, and Poon, C.S. (2018). Propylene carbonate and  $\gamma$ -valerolactone as green solvents enhance Sn (IV)-catalysed hydroxymethylfurfural (HMF) production from bread waste. *Green Chemistry*, 20: 2064-2074. (\*Corresponding author).
41. Yu, I.K.M., Xiong, X., Tsang, D.C.W., Wang, L., Hunt, A.J., Song, H., Shang, J., Ok, Y.S. and Poon, C.S. (2018). Aluminium-Biochar Composites as Sustainable Heterogeneous Catalysts for Glucose Isomerisation in a Biorefinery. *Green Chemistry*, 21: 1267-1281

**Year 2017 (Selected)**

1. Al-Wabel, M.I., Hussain, Q., Usman, A.R., Ahmad, M., Abduljabbar, A., Abdulazeam, S. and Ok, Y.S. (2017) Impact of Biochar Properties on Soil Conditions and Agricultural Sustainability: A Review. *Land Degradation & Development*, 29: 2124-2161 (\*Corresponding author)
2. Walekar, L., Dutta, T., Kumar, P., Ok, Y. S., Pawar, S., Deep, A. and Kim, K. H. (2017) Functionalized fluorescent nanomaterials for sensing pollutants in the environment: A critical review. *TrAC Trends in Analytical Chemistry*, 97: 458-467
3. Cho, D., Kwon, G., Ok, Y.S., Kwon, E.E. and Song, H. (2017) Reduction of bromate by cobalt-impregnated biochar fabricated via pyrolysis of lignin using CO<sub>2</sub> as a reaction medium. *ACS Applied Materials & Interfaces*, 9(15):13142-13150
4. Lee, J., Yang, X., Cho, S.H., Kim, J.K., Lee, S.S., Tsang, D.C.W., Ok, Y.S.\* and Kwon, E.E. (2017) Pyrolysis process of agricultural waste using CO<sub>2</sub> for waste management, energy recovery, and biochar fabrication. *Applied Energy*, 185:214-222 (\*Corresponding Author)
5. Bolan, S., Kunhikrishnan, A., Seshadri, B., Choppala, G., Naidu, R., Bolan, N.S., Ok, Y.S., Zhang, M., Li, C.G., Li, F., Noller, B. and Kirkham, M.B. (2017) Sources, distribution, bioavailability, toxicity, and risk assessment of heavy metal(loid)s in complementary medicines. *Environment International*, 108:103-118
6. Antoniadis, V., Levizou, E., Shaheen, S.M., Ok, Y.S., Sebastian, A., Baum, C., Prasad, M.N., Wenzel, W.W. and Rinklebe, J. (2017) Trace elements in the soil-plant interface: Phytoavailability, translocation, and phytoremediation—A review. *Earth-Science Reviews*, 171:621-645
7. Vithanage, M., Herath, I., Joseph, S., Bundschuh, J., Bolan, N., Ok, Y.S., Kirkham, M.B. and Rinklebe, J. (2017) Interaction of arsenic with biochar in soil and water: A critical review. *Carbon*, 113:219-230
8. Chen, S.S., Maneerung, T., Tsang, D.C.W., Ok, Y.S and Wang, C.H. (2017) Valorization of biomass to hydroxymethylfurfural, levulinic acid, and fatty acid methyl ester by heterogeneous catalysts. *Chemical Engineering Journal*, 328: 246-273
9. Chen, S.S., Yu, I.K.M., Tsang, D.C.W., Yip, A.C.K., Khan, E., Wang, L., Ok, Y.S\* and Poon, C.S. (2017) Valorization of cellulosic food waste into levulinic acid catalyzed by heterogeneous Brønsted acids: Temperature and solvent effects. *Chemical Engineering Journal*, 327:328-335 (\*Corresponding Author)
10. Hashimoto, Y., Takeuchi, S., Mitsunobu, S. and Ok, Y.S. (2017) Chemical speciation of silver (Ag) in soils under aerobic and anaerobic conditions: Ag nanoparticles vs. ionic Ag. *Journal of Hazardous Materials*, 322: 318-324
11. Lien, H.L., Shih, Y., Yan, W. and Ok, Y.S. (2017) Preface: Environmental nanotechnol. *Journal of Hazardous Materials*, 322: 1
12. Rizwan, M., Ali, S., Qayyum, M.F., Ok, Y.S., Adrees, M., Ibrahim, M, Zia-ur-Rehman, M., Farid, M. and Abbas, F. (2017) Effect of metal and metal oxide nanoparticles on growth and physiology of globally important food crops: A critical review. *Journal of Hazardous Materials*, 322: 2-16
13. Qi, F., Kuppusamy, S., Naidu, R., Bolan, N.S., Ok, Y.S., Lamb, D., Li, Y., Yu, L., Semple, K.T. and Wang, H. (2017) Pyrogenic carbon and its role in contaminant immobilization in soils. *Critical Reviews in Environmental Science and Technology*, 47(10): 795-876
14. Lee, J., Choi, D., Ok, Y. S., Lee, S. R. and Kwon, E. E. (2017) Enhancement of energy recovery from chicken manure by pyrolysis in carbon dioxide. *Journal of Cleaner Production*, 164:146-152

15. Lee, T., Lee, J., Ok, Y.S., Oh, J.I., Lee, S.R., Rinklebe, J. and Kwon, E.E. (2017) Utilizing CO<sub>2</sub> to suppress the generation of harmful chemicals from thermal degradation of polyvinyl chloride. *Journal of Cleaner Production*, 162: 1465-1471
16. Awad, Y.M., Lee, S.E., Ahmed, M.B.M., Vu, N.T., Farooq, M., Kim, S.I., Kim, H.S., Vithanage, M., Usman, A.R.A., Al-Wabel, M., Meers, E., Kwon, E.E. and Ok, Y.S.\* (2017) Biochar, a potential hydroponic growth substrate, enhances the nutritional status and growth of leafy vegetables. *Journal of Cleaner Production*, 156: 581-588 (\*Corresponding Author)
17. Sanroman, M.A., Lee, D.J., Khanal, S. and Ok, Y.S. (2017) Special issue on biochar: Production, characterization and application-Beyond soil application. *Bioresource Technology*, 236:1
18. Chen, S.S., Wang, L., Yu, I.K.M., Tsang, D.C.W., Hunt, A.J., Jérôme, F., Zhang, S., Ok, Y.S. and Poon, C.S. (2017) Valorization of lignocellulosic fibres of paper waste into levulinic acid using solid and aqueous Brønsted Acid, *Bioresource Technology*, 247: 387-394
19. Yu, I.K.M., Tsang, D.C.W., Chen, S.S., Wang, L., Hunt, A.J., Sherwood, J., De Oliveira Vigier, K., Jérôme, F., Ok, Y.S. and Poon, C.S. (2017). Polar Aprotic Solvent-Water Mixture as the Medium for Catalytic Production of Hydroxymethylfurfural (HMF) from Bread Waste, *Bioresource Technology*, 245: 456-462
20. Godlewska, P., Schmidt, H.P., Ok, Y.S., and Oleszczuk, P. (2017) Biochar for composting improvement and contaminants reduction. A review. *Bioresource Technology*, 246: 193-202
21. Mandal, S., Sarkar, B., Igalavithana, A.D., Ok, Y.S., Yang, X., Lombi, E. and Bolan, N. (2017) Mechanistic insights of 2,4-D sorption onto biochar: Influence of feedstock materials and biochar properties. *Bioresource Technology*, 246: 160-167
22. Qi, F., Yan, Y., Lamb, D., Naidu, R., Bolan, N.S., Liu, Y., Ok, Y.S., Donne, S.W. and Semple, K.T. (2017) Thermal stability of biochar and its effects on cadmium sorption capacity. *Bioresource Technology*, 246: 48-56
23. You, S., Ok, Y.S., Chen, S.S., Tsang, D.C.W., Kwon, E.E., Lee, J. and Wang, C.H. (2017) A critical review on sustainable biochar system through gasification: Energy and environmental applications. *Bioresource Technology*, 246: 242-253
24. Xiong, X., Yu, I.K.M., Cao, L., Tsang, D.C.W., Zhang, S. and Ok, Y.S. (2017) A review of biochar-based catalysts for chemical synthesis, biofuel production, and pollution control. *Bioresource Technology*, 246: 254-270
25. Yuan, Y., Bolan, N., PrévotEAU, A., Vithanage, M., Biswas, J. K., Ok, Y. S. and Wang, H. (2017) Applications of biochar in redox-mediated reactions. *Bioresource Technology*, 246: 271-281
26. Lee, J., Jung, J.M., Oh, J.I., Ok, Y.S. and Kwon, E.E. (2017) Establishing a green platform for biodiesel synthesis via strategic utilization of biochar and dimethyl carbonate. *Bioresource Technology*, 241:1178-1181
27. Lee, J., Kim, J., Ok, Y.S. and Kwon, E.E. (2017) Rapid biodiesel synthesis from waste pepper seeds without lipid isolation step. *Bioresource Technology*, 239:17-20
28. Gunten, K., Alam, Samrat, A., Hubmann, M., Ok, Y.S., Konhauser, K.O. and Alessi, D.S. (2017) Modified sequential extraction for biochar and petroleum coke: metal release potential and its environmental implications. *Bioresource Technology*, 236:106-110
29. Lee, J., Jung, J.M., Oh, J.I., Ok, Y.S., Lee, S.R. and Kwon, E.E. (2017) Evaluating the effectiveness of various biochars as porous media for biodiesel synthesis via pseudo-catalytic transesterification. *Bioresource Technology*, 231:59-64

30. Iris, K.M., Tsang, D.C., Yip, A.C., Chen, S.S., Wang, L., Ok, Y.S. and Poon, C.S. (2017) Catalytic valorization of starch-rich food waste into hydroxymethylfurfural (HMF): Controlling relative kinetics for high productivity. *Bioresource Technology*, 237:222-230
31. Cho, D.W., Kwon, G., Yoon, K., Tsang, Y.F., Ok, Y.S., Kwon, E.E. and Song, H. (2017) Simultaneous production of syngas and magnetic biochar via pyrolysis of paper mill sludge using CO<sub>2</sub> as reaction medium. *Energy Conversion and Management*, 145:1-9
32. Kameda, K., Hashimoto, Y. and Ok, Y.S. (2017) Stabilization of arsenic and lead by magnesium oxide (MgO) in different seawater concentrations. *Environmental Pollution*, 233: 952-959
33. Niazi, N.K., Bibi, I., Shahid, M., Ok, Y.S., Burton, E.D., Wang, H., Shaheen, S.M., Rinklebe, J. and Lüttge, A. (2017) Arsenic removal by perilla leaf biochar in aqueous solutions and groundwater: An integrated spectroscopic and microscopic examination. *Environmental Pollution*, 232: 31-41
34. Chen, S.S., Sun, Y., Tsang, D.C., Graham, N.J., Ok, Y.S., Feng, Y. and Li, X.D. (2017) Insights into the subsurface transport of As(V) and Se (VI) in produced water from hydraulic fracturing using soil samples from Qingshankou Formation, Songliao Basin, China. *Environmental Pollution*, 222:449-456
35. Yoo, J.C., Beiyuan, J., Wang, L., Tsang, D.C.W., Baek, K., Bolan, N.S., Ok, Y.S. and Li, X.D. (2017) A combination of ferric nitrate/EDDS-enhanced washing and sludge-derived biochar stabilization of metal-contaminated soils. *Science of The Total Environment*, 616-617: 572-582
36. Vikrant, K., Kim, K.H., Ok, Y.S.\*, Tsang, D.C.W., Tsang, Y.F., Giri, B.S. and Singh, R.S. (2017) Engineered/designer biochar for the removal of phosphate in water and wastewater. *Science of The Total Environment*, 616-617: 1242-1260 (\*Corresponding Author)
37. Niazi, N.K., Bibi, I., Shahid, M., Ok, Y.S., Shaheen, S.M., Rinklebe, J., Wang, H., Murtaza, B., Islam, E., Nawaz, M.F. and Lüttge, A. (2017) Arsenic removal by Japanese oak wood biochar in aqueous solutions and well water: Investigating arsenic fate using integrated spectroscopic and microscopic techniques. *Science of the Total Environment*, 621: 1642-1651
38. Yang, Y., Ok, Y.S., Kim, K.H., Kwon, E.E. and Tsang, Y.F. (2017) Occurrences and removal of pharmaceuticals and personal care products (PPCPs) in drinking water and water/sewage treatment plants: A review. *Science of the Total Environment*, 596-597:303-320
39. Chen, S.S., Sun, Y., Tsang, D.C.W., Graham, N.J.D., Ok, Y.S., Feng, Y. and Li, X.D. (2017) Potential impact of flowback water from hydraulic fracturing on agricultural soil quality: Metal/metalloid bioaccessibility, Microtox bioassay, and enzyme activities. *Science of the Total Environment*, 579:1419-1426
40. Lee, J., Choi, D., Kwon, E.E. and Ok, Y.S.\* (2017) Functional modification of hydrothermal liquefaction products of microalgal biomass using CO<sub>2</sub>. *Energy*, 137: 412-418
41. Lee, J., Oh, J.I., Ok, Y.S.\* and Kwon, E.E. (2017) Study on susceptibility of CO<sub>2</sub>-assisted pyrolysis of various biomass to CO<sub>2</sub>. *Energy*, 137: 510-517 (\*Corresponding Author)
42. Lee, J., Yang, X., Song, H., Ok, Y.S.\* and Kwon, E.E. (2017) Effects of carbon dioxide on pyrolysis of peat. *Energy*, 120:929-936 (\*Corresponding Author)
43. Fang, J., Zhan, L., Ok, Y.S. and Gao, B. (2017) Minireview of potential applications of hydrochar derived from hydrothermal carbonization of biomass. *Journal of Industrial and Engineering Chemistry*, 57: 15-21

42. Hasan, Z., Cho, J., Rinklebe, J., Ok, Y.S., Cho, D.W. and Song, H. (2017) Metal organic framework derived Cu-carbon composite: An efficient non-noble metal catalyst for reduction of hexavalent chromium and pendimethalin. *Journal of Industrial and Engineering Chemistry*, 52:331-337
43. Oh, J.I., Lee, J., Lee, T., Ok, Y.S., Lee, S.R. and Kwon, E.E. (2017) Strategic CO<sub>2</sub> utilization for shifting carbon distribution from pyrolytic oil to syngas in pyrolysis of food waste. *Journal of CO<sub>2</sub> Utilization*, 20:150
44. Lee, J., Tsang, Y.F., Kim, S., Ok, Y.S.\* and Kwon, E.E. (2017) Energy density enhancement via pyrolysis of paper mill sludge using CO<sub>2</sub>. *Journal of CO<sub>2</sub> Utilization*, 17:305-311 (\*Corresponding Author)
44. Lee, J., Lee, T., Ok, Y.S., Oh, J.I. and Kwon, E.E. (2017) Using CO<sub>2</sub> to mitigate evolution of harmful chemical compounds during thermal degradation of printed circuit boards. *Journal of CO<sub>2</sub> Utilization*, 20:66-72
45. Li, X., Wang, X., Ok, Y.S., Elliott, J.A.W., Chang, S.X. and Chung, H.J. (2017) Flexible and Self-Healing Aqueous supercapacitors for low temperature applications: Polyampholyte gel electrolytes with biochar electrodes. *Scientific Reports*, 7:1685
46. Chen, X., Ok, Y.S., Mohan, D., Pittman, C.U., Jr. and Dou, X. (2017) The stability and removal of water-dispersed CdSe/CdS core-shell quantum dots from water. *Chemosphere*, 185:926-933
47. Tack, F.M.G., Rinklebe, J., Ok, Y.S. and Tsang, D.C.W. (2017) International Conference on Heavy Metals in the Environment (ICHMET). *Chemosphere*, 185:94-95
48. Yu, I.K.M., Tsang, D.C.W., Yip, A.C.K., Chen, S.S., Ok, Y.S. and Poon, C.S. (2017) Valorization of starchy, cellulosic, and sugary food waste into hydroxymethylfurfural by one-pot catalysis. *Chemosphere*, 184:1099-1107
49. Seshadri, B., Bolan, N.S., Choppala, G., Kunhikrishnan, A., Sanderson, P., Wang, H., Currie, L.D., Tsang, D., Ok, Y.S. and Kim, K. (2017) Potential value of phosphate compounds in enhancing immobilization and reducing bioavailability of mixed heavy metal contaminants in shooting range soil. *Chemosphere*, 184:197-206
50. Bolan, S., Kunhikrishnan, A., Chowdhury, S., Seshafri, B. and Ok, Y.S. (2017) Comparative analysis of speciation and bioaccessibility of arsenic in rice grains and complementary medicines. *Chemosphere*, 182:433-440
51. Rizwan, M., Ali, S., Adrees, M., Ibrahim, M., Tsang, D.C.W., Zia-ur-Rehman, M., Zahir, Z.A., Rinklebe, J., Tack, F.M.G. and Ok, Y.S.\* (2017) A critical review on effects, tolerance mechanisms and management of cadmium in vegetables. *Chemosphere*, 182:90-105 (\*Corresponding Author)
52. Meng, F., Yuan, G., Wei, J., Bi, D., Ok, Y.S. and Wang, H. (2017) Humic substances as a washing agent for Cd-contaminated soils. *Chemosphere*, 181:461-467
53. Shaheen, S.M., Kwon, E.E., Biswas, J.K., Tack, F.M.G., Ok, Y.S. and Rinklebe, J. (2017) Arsenic, chromium, molybdenum, and selenium: Geochemical fractions and potential mobilization in riverine soil profiles originating from Germany and Egypt. *Chemosphere*, 180:553-563
54. Qi F., Dong, Z., Naidu, R., Bolan, N.S., Lamb, D., Ok, Y.S., Liu, C., Khan, N., Johir, M.A.H. and Semple, K.T. (2017) Effects of acidic and neutral biochars on properties and cadmium retention of soils. *Chemosphere*, 180:564-573
55. Beiyuan, J., Awad, Y.M., Beckers, F., Tsang, D.C.W., Ok, Y.S. and Rinklebe, J. (2017) Mobility and phytoavailability of As and Pb in a contaminated soil using pine sawdust biochar under systematic change of redox conditions. *Chemosphere*, 178:110-118.

56. Igalavithana, A.D., Park, J., Ryu, C., Lee, Y.H., Hashimoto, Y., Huang, L., Kwon, E.E., Ok, Y.S. and Lee, S.S. (2017) Slow pyrolyzed biochars from crop residues for soil metal(loid) immobilization and microbial community abundance in contaminated agricultural soils. *Chemosphere*, 177:157-166.
57. Sun, Y., Lei, C., Khan, E., Chen, S.S., Tsang, D.C.W., Ok, Y.S., Lin, D., Feng, Y. and Li, X. (2017) Nanoscale zero-valent iron for metal/metalloid removal from model hydraulic fracturing wastewater. 176:315-323
58. Wang, S., Gao, B., Li, Y., Ok, Y.S., Shen, C. and Xue, S. (2017) Biochar provides a safe and value-added solution for hyperaccumulating plant disposal: A case study of *Phytolacca acinosa* Roxb. (*Phytolaccaceae*). *Chemosphere*, 178:59
59. Chen, S.S., Taylor, J.S., Baek, K., Khan, E., Tsang, D.C.W. and Ok, Y.S. (2017) Sustainability likelihood of remediation options for metal-contaminated soil/sediment. *Chemosphere*, 174:421-427
60. Lau, A.Y.T., Tsang D.C.W., Graham, N.J.D., Ok, Y.S., Yang, X. and Li, X.D. (2017) Surface-modified biochar in a bioretention system for *Escherichia coli* removal from stormwater. *Chemosphere*, 169:89-98
61. Igalavithana, A.D., Lee, S.E., Lee, Y.H., Tsang, D.C., Rinklebe, J., Kwon, E.E. and Ok, Y.S.\* (2017) Heavy metal immobilization and microbial community abundance by vegetable waste and pine cone biochar of agricultural soils. *Chemosphere*, 174:593-603 (\*Corresponding Author)
62. Sun, Y., Chen, S.S., Tsang, D.C., Graham, N.J., Ok, Y.S., Feng, Y. and Li, X.D. (2017) Zero-valent iron for the abatement of arsenate and selenate from flowback water of hydraulic fracturing. *Chemosphere*, 167:163-170
63. Qayyum, M.F., ur Rehman, M.Z., Ali, S., Rizwan, M., Naeem, A., Maqsood, M.A., Khalid, H., Rinklebe, J. and Ok, Y.S. (2017) Residual effects of monoammonium phosphate, gypsum and elemental sulfur on cadmium phytoavailability and translocation from soil to wheat in an effluent irrigated field. *Chemosphere*, 39(2):403-415
64. Bei yuan, J., Tsang, D.C.W., Valix, M., Zhang, W., Yang, X., Ok, Y.S. and Li, X.D. (2017) Selective dissolution followed by EDDS washing of an e-waste contaminated soil: Extraction efficiency, fate of residual metals, and impact on soil environment. *Chemosphere*, 166:489-496
65. Lu, K., Yang, X., Gielen, G., Bolan, N., Ok, Y.S., Niazi, N.K., Xu, S., Yuan, G., Chen, X., Zhang, X., Liu, D., Song, Z., Liu, X. and Wang, H. (2017) Effect of bamboo and rice straw biochars on the mobility and redistribution of heavy metals (Cd, Cu, Pb and Zn) in contaminated soil. *Journal of Environmental Management*, 186(2):285-292
66. Mandal, S., Sarkar, B., Bolan, N., Ok, Y.S. and Naidu, R. (2017) Enhancement of chromate reduction in soils by surface modified biochar. *Journal of Environmental Management*, 186(2):277-284
67. Rinklebe, J., Kumpiene, J., Du Laing, G. and Ok, Y.S. (2017) Biogeochemistry of trace elements in the environment-Editorial to the special issue. *Journal of Environmental Management*, 186:127-130
68. Seneviratne, M., Weerasundara, L., Ok, Y.S., Rinklebe, J. and Vithanage, M. (2017) Phytotoxicity attenuation in *Vigna radiata* under heavy metal stress at the presence of biochar and N fixing bacteria. *Journal of Environmental Management*, 186(2):293
69. Rehman, M.Z., Rizwan, M., Ali, S., Ok, Y.S., Ishaque, W., Saifullah, Nawaz, M.F., Akmal, F. and Waqar, M. (2017) Remediation of heavy metal contaminated soils by using *Solanum nigrum*: A review. *Ecotoxicology and Environmental Safety*, 143:236

70. Abbas, T., Rizwan, M., Ali, S., Zia-ur-Rehman, M., Qayyum, M.F., Abbas, F., Hannan, F., Rinklebe, J. and Ok, Y.S. (2017) Effect of biochar on cadmium bioavailability and uptake in wheat (*Triticum aestivum* L.) grown in a soil with aged contamination. *Ecotoxicology and Environmental Safety*, 140:37-47
71. Anastopoulos, I., Bhatnagar, A., Hameed, B.H., Ok, Y.S. and Omirou, M. (2017) A review on waste-derived adsorbents from sugar industry for pollutant removal in water and wastewater. *Journal of Molecular Liquids* 240:179-188
72. Kim, J., Lee, J., Kim, K.H., Ok, Y.S., Jeon, Y.J. and Kwon, E.E. (2017) Pyrolysis of wastes generated through saccharification of oak tree by using CO<sub>2</sub> as reaction medium. *Applied Thermal Engineering*, 110:335-345.
73. Hasan, Z., Ok, Y.S., Rinklebe, J., Tsang, Y.F., Cho, D.W. and Song, H. (2017) N doped cobalt-carbon composite for reduction of p-nitrophenol and pendimethaline. *Journal of Alloys and Compounds*, 703:118-124
74. Wang, H., Gao, B., Fang, J., Ok, Y. S., Xue, Y., Yang, K., and Cao, X. (2017) Engineered biochar derived from eggshell-treated biomass for removal of aqueous lead. *Ecological Engineering*, 121: 124-129
75. Shaheen, S.M., Tsadilas, C.D., Niazi, N.K., Hseu, Z.Y., Ok, Y.S., Selim, M. and Rinklebe, J. (2017) Impact of biosolid application rates on competitive sorption and distribution coefficients of Cd, Cu, Ni, Pb, and Zn in an Alfisol and an Entisol. *Process Safety and Environmental Protection*, 115: 38-48
76. Jien, S.H., Chen, W.C., Ok, Y.S., Awad, Y.M. and Liao, C.S. (2017) Short-term biochar application induced variations in C and N mineralization in a compost-amended tropical soil. *Environmental Science and Pollution Research*, 25(26): 25715-25725
77. Abbas, T., S., Rizwan, M., Ali,S., Adrees, M., Zia-ur-Rehman, M., Qayyum, M.F., Ok, Y.S. and Murtaza, G. (2017) Effect of biochar on alleviation of cadmium toxicity in wheat (*Triticum aestivum* L.) grown on Cd-contaminated saline soil. *Environmental Science and Pollution Research*, 25: 25668-25680
78. Ali, S., Rizwan, M., Qayyum, M.F., Ok, Y.S., Ibrahim, M., Riaz, M., Arif, M.S., Hafeez, F., Al-Wabel, M.I. and Shahzad, A.N. (2017) Biochar soil amendment on alleviation of drought and salt stress in plants: a critical review. *Environmental Science and Pollution Research*, 24(14):12700-12712
79. Wang, L., Chen, S.S., Tsang, D.C.W., Poon, C.S. and Ok, Y.S. (2017) Enhancing anti-microbial properties of wood-plastic composites produced from timber and plastic wastes. *Environmental Science and Pollution Research* 24:12227-12237
80. Yang, H. I., Lou, K., Rajapaksha, A. U., Ok, Y.S., Anyia, A. O. and Chang, S. X. (2017) Adsorption of ammonium in aqueous solutions by pine sawdust and wheat straw biochars. *Environmental Science and Pollution Research*, 25: 25638-25647
81. Kang, S.W., Park, J.H., Kim, S.H., Seo, D.C., Ok, Y.S., and Cho, J.S. (2017) Establishment of optimal barley straw biochar application conditions for rice cultivation in a paddy field. *Environmental Geochemistry and Health*, 41(4): 1793-1803
82. Igalavithana, A.D., Farooq, M., Kim, K.H., Lee, Y.H., Qayyum, M.F., Al-Wabel, M.I., Lee, S.S. and Ok, Y.S.\* (2017) Determining soil quality in urban agricultural regions by soil enzyme-based index. *Environmental Geochemistry and Health*, 39(6): 1531-1544 (\*Corresponding Author)
83. Seneviratne, M., Rajakaruna, N., Rizwan, M., Madawala, H.M.S.P., Ok, Y.S.\* and Vithanage M. (2017) Heavy metal-induced oxidative stress on seed germination and seedling

- development: a critical review. *Environmental Geochemistry and Health* 41: 1813-1831 (\*Corresponding Author)
84. Melo, T.M., Bottlinger, M., Schulz, E., Leandro, W.M., de Aguiar Filho, A.M., Ok, Y.S. and Rinklebe, J. (2017) Effect of biosolid hydrochar on toxicity to earthworms and brine shrimp. *Environmental Geochemistry and Health*, 39: 1351-1364
  85. Awad, Y.M., Vithanage, M., Niazi, N.K., Rizwan, M., Rinklebe, J., Yang, J.E., Ok, Y.S.\* and Lee, S.S. (2017) Potential toxicity of trace elements and nanomaterials to Chinese cabbage in arsenic- and lead-contaminated soil amended with biochars. *Environmental Geochemistry and Health*, 41: 1777-1791 (\*Corresponding Author)
  86. Zhang, Y., Fan, J., Fu, M., Ok, Y.S., Hou, Y. and Cai, C. (2017) Adsorption antagonism and synergy of arsenate(V) and cadmium(II) onto Fe-modified rice straw biochars. *Environmental Geochemistry and Health*, 41: 1755-1766
  87. Guan, Z., Tang, X.Y., Yang, J.E., Ok, Y.S., Xu, Z., Nishimura, T. and Reid, B.J. (2017) A review of source tracking techniques for fine sediment within a catchment. *Environmental Geochemistry and Health*, 39: 1221-1243
  88. Al-Wabel, M.I., Usman, A.R.A., Al-Farraj, A.S., Ok, Y.S., Abduljabbar, A., Al-Faraj, A.I. and Sallam, A.S. (2017) Date palm waste biochars alter a soil respiration, microbial biomass carbon, and heavy metal mobility in contaminated mined soil. *Environmental Geochemistry and Health*, 41: 1705-1722
  89. Sarkar, S.K., Mondal, P., Biswas, J.K., Kwon, E.E., Ok, Y.S. and Rinklebe, J. (2017) Trace elements in surface sediments of the Hooghly (Ganges) estuary: distribution and contamination risk assessment. *Environmental Geochemistry and Health*, 39: 1245-1258
  90. Vithanage, M., Seneviratne, M., Ahmad, M., Sarkar, B. and Ok, Y.S.\* (2017) Contrasting effects of engineered carbon nanotubes on plants: A review. *Environmental Geochemistry and Health*, 39: 1421-1439 (\*Corresponding Author)
  91. Vithanage, M., Herath, I., Almaroai, Y.A., Rajapaksha, A.U., Huang, L., Sung, J.K., Lee, S.S. and Ok, Y.S.\* (2017) Effects of carbon nanotube and biochar on bioavailability of Pb, Cu and Sb in multi-metal contaminated soil. *Environmental Geochemistry and Health*, 39: 1409-1420 (\*Corresponding Author)
  92. Ahmad, M., Ahmad, M., Usman, A.R.A., Al-Farraj, A.S., Abduljabbar, A., Ok, Y.S. and Al-Wabel, M.I. (2017) Date palm waste-derived biochar composites with silica and zeolite: synthesis, characterization and implication for carbon stability and recalcitrant potential. *Environmental Geochemistry and Health*, 41: 1687-1704
  93. Singh, M., Sarkar, B., Hussain, S., Ok, Y.S., Bolan, N.S. and Churchman, G.J. (2017) Influence of physico-chemical properties of soil clay fractions on the retention of dissolved organic carbon. *Environmental Geochemistry and Health*, 39: 1335-1350
  94. Shaheen, S.M., Antoniadis, V., Kwon, E.E., Biswas, J.K., Wang, H.L., Ok, Y.S. and Rinklebe, J. (2017) Biosolids application affects the competitive sorption and lability of cadmium, nickel, lead, and Zinc in fluvial and calcareous soils. *Environmental Geochemistry and Health*, 39: 1365-1379
  95. Nam, T.H., Kim, L., Jeon, H.J., Kim, K., Ok, Y.S., Choi, S.D. and Lee, S.E. (2017) Biomarkers indicate mixture toxicities of fluorene and phenanthrene with endosulfan toward earthworm (*Eisenia fetida*). *Environmental Geochemistry and Health*, 39:307-317
  96. Jiang, S., Nguyen, T.A.H., Rudolph, V., Yang, H., Zhang, D., Ok, Y.S. and Huang, L. (2017) Characterization of hard- and softwood biochars pyrolyzed at high temperature. *Environmental Geochemistry and Health*, 39:403-415



97. Bandara, T., Herath, I., Kumarathilaka, P., Hseu, Z.Y., Ok, Y.S. and Vithanage, M. (2017) Efficacy of woody biomass and biochar for alleviating heavy metal bioavailability in serpentine soil. *Environmental Geochemistry and Health*, 39:391-
98. Lim, J.E., Sung, J.K., Sarkar, B., Wang, H., Hashimoto, Y., Tsang, D.C.W. and Ok, Y.S. (2017) Impact of natural and calcined starfish (*Asterina pectinifera*) on the stabilization of Pb, Zn and As in contaminated agricultural soil. *Environmental Geochemistry and Health*, 39:431-441
99. Beiyuan, J., Tsang, D.C.W., Yip, A.C.X., Zhang, W., Ok, Y.S. and Li, X.D. (2017) Risk mitigation by waste-based permeable reactive barriers for groundwater pollution control at e-waste recycling sites. *Environmental Geochemistry and Health*, 39:75-88
100. Rizwan, M., Ali, S., Qayyum, M.F., Ok, Y.S., Zia-ur-Rehman, M., Abbas, Z. and Hannan, F. (2017) Use of Maize (*Zea mays* L.) for phytomanagement of Cd-contaminated soils: A critical review. *Environmental Geochemistry and Health*, 39:259-277
101. APoucke, R.V., Ainsworth, J., Maesele, M., Ok, Y.S., Meers, E. and Tack, F.M.G. (2017) Chemical stabilization of Cd-contaminated soil using biochar. *Applied Geochemistry*, 88: 122-130
102. Alam, M.S., Swaren, L., von Gunten, K., Cossio, M., Bishop, B., Robbins, L.J., Hou, D., Flynn, S.L., Ok, Y.S., Konhauser, K.O. and Alessi, D.S. (2017). Application of surface complexation modeling to trace metals uptake by biochar-amended agricultural soils. *Applied Geochemistry*, 88: 103-112
103. Alotaibi, H.S., Usman, A.R., Abduljabbar, A.S., Ok, Y.S., Al-Faraj, A.I., Sallam, A.S. and Al-Wabel, M.I. (2017) Carbon mineralization and biochemical effects of short-term wheat straw in crude oil contaminated sandy soil. *Applied Geochemistry*, 88: 276-287
104. Hussain, M., Farooq, M., Nawaz, A., Al-Sadi, A.M., Solaiman, Z.M., Alghamdi, S.S., Ammara, U., Ok, Y.S. and Siddique, K.H.M. (2017) Biochar for crop production: *Potential benefits and risks*. *Journal of Soils and Sediments*, 17:685-716
105. Ahmad M., Lee, S.S., Lee, S.E., Al-Wabel, M.I., Tsang, D.C.W. and Ok, Y.S.\* (2017) Biochar-induced changes in soil properties affected immobilization/mobilization of metals/metalloids in contaminated soils. *Journal of Soils and Sediments*, 17:717-730 (\*Corresponding Author)
106. Awad, Y.M., Lee, S.S., Ok, Y.S. and Kuzyakov, Y. (2017) Effects of biochar and polyacrylamide on decomposition of soil organic matter and <sup>14</sup>C-labeled alfalfa residues. *Journal of Soils and Sediments*, 17:611-620
107. Awad, Y.M., Pausch, J., Ok, Y.S.\* and Kuzyakov, Y. (2017) Interactive effects of biochar and polyacrylamide on decomposition of maize rhizodeposits: Implications from <sup>14</sup>C labeling and microbial metabolic quotient. *Journal of Soils and Sediments*, 17:621-631 (\*Corresponding Author)
108. Meier, S., Curaqueo, G., Khan, N., Bolan, N., Cea, M., Eugenia, G.M., Cornejo, P., Ok, Y.S. and Borie, F. (2017) Chicken-manure-derived biochar reduced bioavailability of copper in a contaminated soil. *Journal of Soils and Sediments*, 17:741-750
109. Herath, I., Iqbal, M.C.M., Al-Wabel, M.I., Abduljabbar, A., Ahmad, M., Usman, A.R.A., Ok, Y.S. and Vithanage, M. (2017) Bioenergy-derived waste biochar for reducing mobility, bioavailability and phytotoxicity of chromium in anthropized tannery soil. *Journal of Soils and Sediments*, 17:731-740
110. Bandara, T., Herath, I., Kumarathilaka, P., Seneviratne, M., Seneviratne, G., Rajakaruna, N., Vithanage, M and Ok, Y.S. (2017) Role of woody biochar and fungal-bacterial co-

- inoculation on enzyme activity and metal immobilization in serpentine soil. *Journal of Soils and Sediments*, 17:665-673
111. Mehmood, T., Bibi, I., Shahid, M., Niazi, N.K., Murtaza, B., Wang, H., Ok, Y.S., Sarkar, B., Javed, M.T. and Murtaza, G. (2017) Effect of compost addition on arsenic uptake, morphological and physiological attributes of maize plants grown in contrasting soils. *Journal of Geochemical Exploration*, 178: 83-91
  112. Yang, X., Wang, H., Strong, P.J., Xu, S., Liu, S., Lu, K., Sheng, K., Guo, J., Che, L., He, L., Ok, Y.S., Yuan, G., Shen, Y. and Chen, X. (2017) Thermal properties of biochars derived from waste biomass generated by agricultural and forestry sectors. *Energies*, 10(4): 469
  113. Yang, J.E. and Ok, Y.S. (2017) Kinetics of Hg adsorption onto noncrystalline Al hydroxide as influenced by low-molecular-weight organic ligands. *Archives of Agronomy and Soil Science*, 63(1):124-135
  114. Ibrahim, A., Usman, A.R.A., Al-Wabel, M.I., Nadeem, M., Ok, Y.S. and Al-Omran, A. (2017) Effects of conocarpus biochar on hydraulic properties of calcareous sandy soil: Influence of particle size and application depth. *Archives of Agronomy and Soil Science*, 63(2):185-197
  115. Igalavithana, A.D., Lee, S.S., Niazi, N.K., Lee, Y.H., Kim, K.H., Park, J.H., Moon, D.H. and Ok, Y.S. (2017) Assessment of soil health in urban agriculture: Soil enzymes and microbial properties. *Sustainability*, 9:310 (\*Corresponding Author)
  116. Igalavithana, A.D., Ok, Y.S., Niazi, N.K., Rizwan, M., Al-Wabel, M.I., Usman, A.R.A., Moon, D.H. and Lee, S.S. (2017) Effect of corn residue biochar on the hydraulic properties of sandy loam soil. *Sustainability*, 9:266 (\*Corresponding Author)
  117. Sethupathi, S., Zhang, M., Rajapaksha, A.U., Lee, S.R., Mohamad Nor, N., Mohamed, A.R., Al-Wabel, M., Lee, S.S. and Ok, Y.S.\* (2017) Biochars as potential adsorbers of CH<sub>4</sub>, CO<sub>2</sub> and H<sub>2</sub>S. *Sustainability*, 9:121 (\*Corresponding Author)
  118. Niazi, N.K., Bibi, I., Fatimah, A., Shahid, M., Javed, M.T., Wang, H., Ok, Y.S., Bashir, S., Murtaza, B., Saqib, Z.A. and Shakoor, M.B. (2017) Phosphate-assisted phytoremediation of arsenic by *Brassica napus* and *Brassica juncea*: Morphological and physiological response. *International Journal of Phytoremediation* 19(7):670-678
  119. Ashraf, A., Bibi, I., Niazi, N.K., Ok, Y.S., Murtaza, G., Shahid, M., Kunhikrishnan, A., Li, D. and Mahmood, T. (2017) Chromium(VI) sorption efficiency of acid-activated banana peel over organo-montmorillonite in aqueous solutions. *International Journal of Phytoremediation*, 19(7):605-613
  120. Ahmad, M., Ahmad, M., Usman, A.R., Al-Faraj, A.S., Ok, Y.S., Hussain, Q., Abduljabbar, A. and Al-Wabel, M.I. (2017) An efficient phosphorus scavenging from aqueous solution using magnesiothermally modified bio-calcite. *Environmental Technology*, 33:1271-1278
  121. Kim, H.S., Kim, K.R., Yang, J.E., Ok, Y.S., Kim, W.I., Kunhikrishnan A. and Kim, K.H. (2017) Amelioration of horticultural growing media properties through rice hull biochar incorporation. *Waste and Biomass Valorization*, 8:483-492
  122. Karunanithi, R., Ok, Y.S., Dharmarajan, R., Ahmad, M., Seshadri, B., Bolan, N. and Naidu, R. (2017) Sorption, kinetics and thermodynamics of phosphate sorption onto soybean stover derived biochar. *Environmental Technology & Innovation*, 8:113-125.
  123. Igalavithana, A.D., Mandal, S., Niazi, N.K., Vithanage, M., Parikh, S.J., Mukome, F.N., Rizwan, M., Oleszczuk, P., Al-Wabel, M., Bolan, N. and Tsang, D.C., (2017). Advances and future directions of biochar characterization methods and applications. *Critical Reviews in Environmental Science and Technology*, 47(23), 2275-2330

## Year 2016 (Selected)

1. Stefaniuk, M., Oleszczuk, P. and Ok, Y.S. (2016) Review on nano zerovalent iron (nZVI): From synthesis to environmental applications. *Chemical Engineering Journal*, 287:618-632
2. Ahmad, M., Ok, Y.S.\*, Rajapaksha, A.U., Lim, J.E., Kim, B.Y., Ahn, J.H., Lee Y.H., Al-Wabel, M.I., Lee S.E. and Lee S.S. (2016) Lead and copper immobilization in a shooting range soil using soybean stover- and pine needle-derived biochars: Chemical, microbial and spectroscopic assessments. *Journal of Hazardous Materials*, 301:179-186
3. Inyang, M.I., Gao, B., Yao, Y., Xue, Y., Zimmerman, A., Mosa, A., Pullammanappallil, P., Ok, Y.S. and Cao, X. (2016) A review of biochar as a low-cost adsorbent for aqueous heavy metal removal. *Critical Reviews in Environmental Science and Technology*, 46(4):406-433
4. Rizwan, M., Ali, S., Rizvi, H., Rinklebe, J., Tsang, D.C.W., Meers, E., Ok, Y.S. and Ishaque, W. (2016) Phytomanagement of heavy metals in contaminated soils using sunflower-A review. *Critical Reviews in Environmental Science and Technology*, 46:1498-1528
5. Mandal, S., Sarkar, B., Bolan, N., Novak, J., Ok, Y.S., Zwieten, L.V., Singh, B.P., Kirkham, M.B., Choppala, G., Spokas, K. and Naidu, R. (2016) Designing advanced biochar products for maximizing greenhouse gas mitigation potential. *Critical Reviews in Environmental Science and Technology*, 46:1367-1401
6. Shakoor, M.B., Niazi, N.K., Bibi, I., Murtaza, G., Kunhikrishnan, A., Seshadri, B., Shahid, M., Ali, S., Bolan, N.S., Ok, Y.S., Abid, M. and Ali, F. (2016) Remediation of arsenic-contaminated water using agricultural wastes as biosorbents. *Critical Reviews in Environmental Science & Technology*, 46(5):467-499
7. Yu, I.K.M., Tsang, D.C.W., Yip, A.C.K., Chen, S.S., Ok, Y.S. and Poon, C.S. (2016) Valorization of food waste into hydroxymethylfurfural: Dual role of metal ions in successive conversion steps. *Bioresource Technology*, 219:338-347
8. Poucke, R.V., Nachenius, R.W., Agbo, K.E., Hensgen, F., Böhle, L., Wachendorf, M., Ok, Y.S., Tack, F.M.G., Prins, W., Ronsse, F. and Meers, E. (2016) Mild hydrothermal conditioning prior to torrefaction and slow pyrolysis of low-value biomass. *Bioresource Technology*, 217:104-112
9. Cho, D.W., Lee, J., Yoon, K., Ok, Y.S., Kwon, E.E. and Song, H. (2016) Pyrolysis of FeCl<sub>3</sub>-pretreated spent coffee grounds using CO<sub>2</sub> as a reaction medium. *Energy Conversion and Management*, 127:437-442
10. Bolan, S., Naidu, R., Kunhikrishnan, A., Seshadri, B., Ok, Y.S., Palanisami, T., Dong, M. and Clark, I. (2016) Speciation and bioavailability of lead in complementary medicines. *Science of the Total Environment*, 539:304-312
11. Yan, Y., Qi, F., Balaji, S., Xu, Y., Hou, J., Ok, Y.S., Dong, X., Li, Q., Sun, X., Wang, L. and Bolan, N. (2016) Utilization of phosphorus loaded alkaline residue to immobilize lead in a shooting range soil. *Chemosphere*, 162:315-323
12. Bei Yuan, J., Tsang, D.C.W., Ok, Y.S., Zhang, W., Yang, X., Baek, K. and Li, X.D. (2016) Integrating EDDS-enhanced washing with low-cost stabilization of metal-contaminated soil from an e-waste recycling site. *Chemosphere*, 159:426-432
13. Shih, Y., Lien, H.L., Yan, W. and Ok, Y.S. (2016) Special issue on thermodynamics and kinetics of emerging contaminants in the environment. *Chemosphere*, 155:257-258
14. Novak, J., Ro, K., Ok, Y.S., Sigua, G., Spokas, K., Uchimiya, S. and Bolan, N. (2016) Biochars multifunctional role as a novel technology in the agricultural, environmental, and industrial sectors. *Chemosphere*, 142:1-3

15. Jiang, S., Huang, L., Nguyen, T.A.H., Ok, Y.S., Rudolph, V., Yang, H. and Zhang, D. (2016) Copper and zinc adsorption by softwood and hardwood biochars under elevated sulphate-induced salinity and acidic pH conditions. *Chemosphere*, 142:64-71
16. Park, J.H., Ok, Y.S., Kim, S.H., Cho, J.S., Heo, J.S., Delaune, R.D. and Seo, D.C. (2016) Competitive adsorption of heavy metals onto sesame straw biochar in aqueous solutions. *Chemosphere*, 142:77-83
17. Mandal, S., Thangarajan, R., Bolan, N.S., Sarkar, B., Khan, N., Ok, Y.S. and Naidu, R. (2016) Biochar-induced concomitant decrease in ammonia volatilization and increase in nitrogen use efficiency by wheat. *Chemosphere*, 142:120
18. Kim, H.S., Kim, K.R., Yang, J.E., Ok, Y.S., Owens, G., Nehls, T., Wessolek, G. and Kim, K.H. (2016) Effect of biochar on reclaimed tidal land soil properties and maize (*Zea mays* L.) response. *Chemosphere*, 142:153-159
19. Mayakaduwa, S.S., Kumarathilake, P., Herath, I., Ahmad, M., Al-Wabel, M., Ok, Y.S., Usman, A., Abduljabbar, A. and Vithanage, M. (2016) Equilibrium and kinetic mechanisms of woody biochar on aqueous glyphosate removal. *Chemosphere*, 144:2516-2521
20. Rajapaksha, A.U., Chen, S.S., Tsang D.C.W., Zhang, M., Vithanage, M., Mandal, S., Gao, B., Bolan, N.S. and Ok, Y.S.\* (2016) Engineered/designer biochar for contaminant removal/immobilization from soil and water: Potential and implication of biochar modification. *Chemosphere*, 148:276- (\*Corresponding Author)
21. Vithanage, M., Mayakaduwa, S.S., Herath, I., Ok, Y.S. and Mohan, D. (2016) Kinetics, thermodynamics and mechanistic studies of carbofuran removal using biochars from tea waste and rice husks. *Chemosphere*, 150:781-789
22. Cho, D.W., Lee, J., Ok, Y.S., Kwon, E.E. and Song, H. (2016) Fabrication of a novel magnetic carbon nanocomposite adsorbent via pyrolysis of sugar. *Chemosphere*, 163:305-312
23. Chaney, R.L., Kim, W.I., Yang, J.E. and Ok, Y.S. (2016) Integrated management strategies for arsenic and cadmium in rice paddy environments. *Geoderma*, 270:1-2
24. Ahmad, M., Ok, Y.S.\*, Kim, B.Y., Ahn, J.H., Lee, Y.H., Zhang, M., Moon, D.H., Al-Wabel, M.I. and Lee, S.S. (2016) Impact of soybean stover- and pine needle-derived biochars on Pb and As mobility, microbial community, and carbon stability in a contaminated agricultural soil. *Journal of Environmental Management*, 166:131-139
25. Rehman, M.Z., Rizwan, M., Ali, S., Fatima, N., Yousaf, B., Naeem, A., Sabir, M., Ahmad, H.R. and Ok, Y.S. (2016) Contrasting effects of biochar, compost and farm manure on alleviation of nickel toxicity in maize (*Zea mays* L.) in relation to plant growth, photosynthesis and metal uptake. *Ecotoxicology and Environmental Safety*, 133:218-225
26. Rizwan, M., Ali, S., Abbas, T., Zia-ur-Rehman, M., Hannan, F., Keller, C., Al-Wabel, M.I. and Ok, Y.S. (2016) Cadmium minimization in wheat: A critical review. *Ecotoxicology and Environmental Safety*, 130:43-53
27. Oleszczuk, P., Cwikła-Bundyra, W., Bogusz, A., Skwarek, E. and Ok, Y.S. (2016) Characterization of nanoparticles of biochars from different biomass. *Journal of Analytical and Applied Pyrolysis*, 121:165-172
28. Park, J.H., Kim, S.H., Delaune, R.D., Kang, B.H., Kang, S.W., Cho, J.S., Ok, Y.S. and Seo, D.C. (2016) Enhancement of phosphorus removal with near-neutral pH utilizing steel and ferronickel slags for application of constructed wetlands. *Ecological Engineering*, 95:612-621

29. Cheng, Q., Huang, Q., Khan, S., Liu, Y., Liao, Z., Li, G. and Ok, Y.S. (2016) Adsorption of Cd by peanut husks and peanut husk biochar from aqueous solutions. *Ecological Engineering*, 87:240-245
30. Younis, U., Malik, S.A., Rizwan, M., Qayyum, M.F., Ok, Y.S., Shah, M.H.R., Rehman, R.A. and Ahmad, N. (2016) Biochar enhances the cadmium tolerance in spinach (*Spinacia oleracea*) through modification of Cd uptake and physiological and biochemical attributes. *Environmental Science and Pollution Research*, 23(21):21385
31. Wang, H. and Ok, Y.S.\* (2016) Contaminated Land, Ecological Assessment, and Remediation Conference Series (CLEAR 2014): Environmental remediation with advanced materials. *Environmental Science and Pollution Research*, 23:949-950 (\*Corresponding Author)
32. Liu, C., Wang, H., Tang, X., Guan, Z., Reid, B. J., Rajapaksha, A.U., Ok, Y.S. and Sun, H. (2016) Biochar increased water holding capacity but accelerated organic carbon leaching from a sloping farmland soil in China. *Environmental Science and Pollution Research*, 23:995-1006
33. Yong, S.K., Skinner, W.M., Bolan, N.S., Lombi, E., Kunhikrishnan, A. and Ok Y.S. (2016) Sulfur crosslinks from thermal degradation of chitosan dithiocarbamate derivatives and thermodynamic study for sorption of copper and cadmium from aqueous system. *Environmental Science and Pollution Research*, 23:1050-1059
34. Jeon, H.J., Lee, Y.H., Mo, H.H., Kim, M.J., Al-Wabel, M.I., Kim, Y., Cho, K., Kim, T.W., Ok, Y.S.\* and Lee, S.E. (2016) Chlorpyrifos-induced biomarkers in Japanese medaka (*Oryzias latipes*). *Environmental Science and Pollution Research*, 23:1071-1080 (\*Corresponding Author)
35. Kim, S.H., Cho, J.S., Park, J.H., Heo, J.S., Ok, Y.S., Delaune, R.D. and Seo, D.C. (2016) Long-term performance of vertical-flow and horizontal-flow constructed wetlands as affected by season, N load, and operating stage for treating nitrogen from domestic sewage. *Environmental Science and Pollution Research*, 23:1108-1119
36. Rizwan, M., Ali, S., Qayyum, M.F., Ibrahim, M., Zia-ur-Rehman, M., Abbas, T. and Ok, Y.S. (2016) Mechanisms of biochar-mediated alleviation of toxicity of trace elements in plants: A critical review. *Environmental Science and Pollution Research*, 23:2230-2248
37. Moon, D.H., Cheong, K.H., Koutsospyros, A., Chang Y.Y., Hyun, S., Ok, Y.S. and Park, J.H. (2016) Assessment of waste oyster shells and coal mine drainage sludge for the stabilization of As-, Pb-, and Cu-contaminated soil. *Environmental Science and Pollution Research*, 23:2362-2370
38. Wong, M.H., Ok, Y.S. and Naidu, R. (2016) Biological-waste as resource, with a focus on food waste. *Environmental Science and Pollution Research*, 23:7071-7073
39. Rizwan, M., Ali, S., Adrees, M., Rizvi., H., Zia-ur-Rehman., M., Hannan, F., Qayyum, M. F., Hafeez, F. and Ok, Y.S. (2016) Cadmium stress in rice: toxic effects, tolerance mechanisms, and management: A critical review. *Environmental Science and Pollution Research*, 23(18):17859-17879
40. Mayakaduwa, S.S., Herath, I., Ok, Y.S., Mohan, D. and Vithanage, M. (2016) Insights into aqueous carbofuran removal by modified and non-modified rice husk biochars. *Environmental Science and Pollution Research*
41. Usman, A.R.A., Ahmad, M., El-Mahrouky, M., Al-Omran, A., Ok, Y.S., Sh. Sallam, A., El-Naggar, A.H. and Al-Wabel, M.I. (2016) Chemically modified biochar produced from Conocarpus waste increases NO<sub>3</sub> removal from aqueous solutions. *Environmental Geochemistry and Health*, 38:511-521

42. Lou, K., Rajapaksha, A.U., Ok, Y.S. and Chang, S.X. (2016) Sorption of copper(II) from synthetic oil sands process-affected water (OSPW) by pine sawdust biochars: Effects of pyrolysis temperature and steam activation. *Journal of Soils and Sediments*, 8:2081-2089
43. Rajapaksha, A.U., Vithanage, M., Lee, S.S., Seo, D.C., Tsang, D.C.W. and Ok, Y.S.\* (2016) Steam activation of biochars facilitates kinetics and pH-resilience of sulfamethazine sorption. *Journal of Soils and Sediments*, 16:889-895 (\*Corresponding Author)
44. Park, J.H., Cho, J.S., Ok, Y.S., Kim, S.H., Heo, J.S., Delaune, R.D., Seo, D.C. (2016) Comparison of single and competitive metal adsorption by pepper stem biochar. *Archives of Agronomy and Soil Science*, 62(5):617-632
45. Chen, X., Dou, X., Mohan, D., Jr., C.U.P., Hu, M. and Ok, Y.S. (2016) Effects of surface iron hydroxyl group site densities on arsenate adsorption by iron oxide nanocomposites. *Nanoscience and Nanotechnology Letters*, 8:1020-1027
46. Abid, M., Niazi, N.K., Bibi, I., Farooqi, A., Ok, Y.S., Kunhikrishnan, A., Ali, F., Ali, S., Igalavithana, A.D. and Arshad, M. (2016) Arsenic(V) biosorption by charred orange peel in aqueous environments. *International Journal of Phytoremediation*, 18:442-449
47. Usman, A.R.A., Al-Wabel, M.I., Ok, Y.S., Al-Harbi, A., Wahb-Allah, M., El-Naggar, A. M., Ahmad, M., Al-Faraj, A. and Al-Omran, A. (2016) *Conocarpus* biochar induces changes in soil nutrient availability and tomato growth under saline irrigation. *Pedosphere*, 26:27-38
48. El-Naggar, A.H., Alzhrani, A.K.R., Ahmad, M., Usman, A.R.A., Mohan, D., Ok, Y.S. and Al-Wabel, M.I. (2016) Preparation of activated and non-activated carbon from *Conocarpus* pruning waste as low-cost adsorbent for removal of heavy metal ions from aqueous solution. *BioResources*, 11(1):1092-1107
49. Awad, Y.M., Ok, Y.S., Igalavithana, A.D., Lee, Y.H., Sonn, Y.K., Usman, A.R.A., Al-Wabel, M.I. and Lee, S.S. (2016) Sulphamethazine in poultry manure changes carbon and nitrogen mineralization in soils. *Chemistry and Ecology*, 32:899-918
50. Li, Y., Mohan, D., Pittman Jr., C.U., Ok, Y.S. and Dou, X. (2016) Removal of antimonate and antimonite from water by schwertmannite granules. *Desalination and Water Treatment*, 57:25639-25652
51. Kang, S.W., Park, J.W., Seo, D.C., Ok, Y.S., Park, K.D., Choi, I.W. and Cho, J.S. (2016) Effect of biochar application on rice yield and greenhouse gas emission under different nutrient conditions from paddy soil. *Journal of Environmental Engineering*, 142(10): 1-7
52. Park, J.H., Kim, S.H., Kang, S.W., Kang, B.H., Cho, J.S., Heo, J.S., Delaune, R. D., Ok, Y.S. and Seo, D.C. (2016) Adsorption of Cd, Cu and Zn from aqueous solutions onto ferronickel slag under different potentially toxic metal combination. *Water Science and Technology*, 73(5): 993-999
53. Mayakaduwa, S.S., Vithanage, M., Karunarathna, A., Mohan, D. and Ok, Y.S.\* (2016) Interface interactions between insecticide carbofuran and tea waste biochars produced at different pyrolysis temperatures. *Chemical Speciation & Bioavailability*, 28(1-4): 110-118 (\*Corresponding Author)
54. Jin, D.F., Xu, Y.Y., Zhang, M., Jung, Y.S. and Ok, Y.S.\* (2016) Comparative evaluation for the sorption capacity of four carbonaceous sorbents to phenol. *Chemical Speciation & Bioavailability*, 28(1-4):18-25 (\*Corresponding Author)
55. Lou, K., Rajapaksha, A.U., Ok, Y.S. and Chang, S.X. (2016) Pyrolysis temperature and steam activation effects on sorption of phosphate on pine sawdust biochars in aqueous solutions. *Chemical Speciation & Bioavailability*, 28(1-4):42-50

56. Moon, Y.S., Jeon, H.J., Nam, T.H., Choi, S.D., Park, B.J., Ok, Y.S. and Lee, S.E. (2016) Acute toxicity and gene responses induced by endosulfan in zebrafish (*Danio rerio*) embryos. *Chemical Speciation & Bioavailability*, 28(1-4):103-109
57. Zhang, M., Xu, L.H., Lee, S.S. and Ok, Y.S.\* (2016) Sorption of polycyclic aromatic hydrocarbons (PAHs) by dietary fiber extracted from wheat bran. *Chemical Speciation & Bioavailability*, 28(1-4):13-17 (\*Corresponding author)
58. Kang, S.W., Seo, D.C., Cheong, Y.H., Park, J.W., Park, J.H., Kang, H.W., Park, K.D., Ok, Y.S. and Cho, J.S. (2016) Effect of barley straw biochar application on greenhouse gas emissions from upland soil for Chinese cabbage cultivation in short-term laboratory experiments. *Journal of Mountain Science*, 13(4):693-702
59. Naeem, A., Saifullah, Rehman, M.Z., Akhtar, T., Ok, Y.S. and Rengel, Z. (2016) Genetic variation in cadmium accumulation and tolerance among wheat cultivars at seedling stage. *Communications in Soil Science and Plant Analysis*, 47(5):554-562
60. Alam, M.S., Cossio, M., Robinson, L., Wang, X., Kenney, J.P.L., Konhauser, K.O., MacKenzie, M.D., Ok, Y.S. and Alessi, D.S. (2016) Removal of organic acids from water using biochar and petroleum coke. *Environmental Technology & Innovation*, 6:141-154

#### **Year 2015 (Selected)**

1. Rajapaksha, A.U., Vithanage, M., Ahmad, M., Seo, D.C., Cho, J.S., Lee, S.E., Lee, S.S. and Ok, Y.S.\* (2015) Enhanced sulfamethazine removal by steam-activated invasive plant-derived biochar. *Journal of Hazardous Materials*, 290:43-50 (\*Corresponding Author)
2. Saderson, P., Naidu, R., Bolan, N., Lim, J.E. and Ok, Y.S. (2015) Chemical stabilisation of lead in shooting range soils with phosphate and magnesium oxide: Synchrotron investigation. *Journal of Hazardous Materials*, 299:395-403
3. Karunanithi, R., Szogi, A.A., Bolan, N., Naidu, R., Loganathan, P., Hunt, P.G., Vanotti, M.B., Saint, C.P., Ok, Y.S. and Krishnamoorthy, S. (2015) Phosphorus recovery and reuse from waste streams. *Advances in Agronomy*, 131:173-
4. Kim, J.H., Ok, Y.S., Choi, G.H. and Park, B.J. (2015) Residual perfluorochemicals in the biochar from sewage sludge. *Chemosphere*, 134:435-437
5. El-Naggar, A.H., Usman, A.R.A., Al-Omran, A., Ok, Y.S., Ahmad, M. and Al-Wabel, A.I. (2015) Carbon mineralization and nutrient availability in calcareous sandy soils amended with woody waste biochar. *Chemosphere*, 138:67-73
6. Vithanage, M., Rajapaksha, A.U., Ahmad, M., Uchimiya, M., Dou, X., Alessi, D.S. and Ok, Y.S.\* (2015) Mechanisms of antimony adsorption onto soybean stover-derived biochar in aqueous solutions. *Journal of Environmental Management*, 151:443-449 (\*Corresponding Author)
7. Lehmann, J., Kuzyakov, Y., Pan, G and Ok Y.S. (2015) Biochars and the plant-soil interface. *Plant and Soil*, 395:1-5
8. Usman, A.R.A., Abduljabbar, A., Vithanage, M., Ok, Y.S., Ahmad, M., Ahmad, M., Elfaki, J., Abdulazeem, S.S. and Al-Wabel, M.I. (2015) Biochar production from date palm waste: Charring temperature induced changes in composition and surface chemistry. *Journal of Analytical and Applied Pyrolysis*, 115:392-400
9. Ahmed, M.B.M., Rajapaksha, A.U., Lim, J.E., Vu, N.T., Kim, I.S., Kang, H.M., Lee, S.S. and Ok, Y.S.\* (2015) Distribution and accumulative pattern of tetracyclines and

- sulfonamides in edible vegetables of cucumber, tomato, and lettuce. *Journal of Agricultural and Food Chemistry*, 63(2):398-405 (\*Corresponding Author)
10. Vithanage, M., Rajapaksha, A.U., Zhang, M., Thiele-Bruhn, S., Lee, S.S. and Ok, Y.S.\* (2015) Acid-activated biochar increased sulfamethazine retention in soils. *Environmental Science and Pollution Research*, 22:2175-2186 (\*Corresponding Author)
  11. Moon, D.H., Wazne, M., Cheong, K.H., Chang, Y.Y., Baek, K., Ok, Y.S. and Park, J.H. (2015) Stabilization of As-, Pb-, and Cu-contaminated soil using calcined oyster shells and steel slag. *Environmental Science and Pollution Research*, 22:11162-11169
  12. Park, J.H., Kim, S.H., Delaune, R.D., Cho, J.S., Heo, J.S., Ok, Y.S. and Seo, D.C. (2015) Enhancement of nitrate removal in constructed wetlands utilizing a combined autotrophic and heterotrophic denitrification technology for treating hydroponic wastewater containing high nitrate and low organic carbon concentrations. *Agricultural Water Management*, 162:1-14
  13. Jung, K.W., Hwang, M.J., Ahn, K.H., and Ok, Y.S. (2015) Kinetic study on phosphate removal from aqueous solution by biochar derived from peanut shell as renewable adsorptive media. *International Journal of Environmental Science and Technology*, 12:3363-3372
  14. Rajapaksha, A.U., Ahmad, M., Vithanage, M., Kim, K.R., Chang, J. Y., Lee, S.S. and Ok, Y.S.\* (2015) The role of biochar, natural iron oxides, and nanomaterials as soil amendments for immobilizing metals in shooting range soil. *Environmental Geochemistry and Health*, 37:931-942 (\*Corresponding Author)
  15. Nam, T.H., Jeon, H.J., Mo, H.H., Cho, K., Ok, Y.S.\* and Lee, S.E. (2015) Determination of biomarkers for polycyclic aromatic hydrocarbons (PAHs) toxicity to earthworm (*Eisenia fetida*). *Environmental Geochemistry and Health*, 37:943-951 (\*Corresponding Author)
  16. Park, J.H., Ok, Y.S., Kim, S.H., Cho, J.S., Heo, J.S., Delaune, R.D. and Seo, D.C. (2015) Evaluation of phosphorus adsorption capacity of sesame straw biochar on aqueous solution: Influence of activation methods and pyrolysis temperatures. *Environmental Geochemistry and Health*, 37:969-983
  17. Qambrani, N.A., Jung, Y.S., Yang, J.E., Ok, Y.S. and Oh, S.E. (2015) Application of half-order kinetics to sulfur-utilizing autotrophic denitrification for groundwater remediation. *Environmental Earth Sciences*, 73:3445-3450
  18. Kim, H.S., Kim, K.R., Kim, H.J., Yoon, J.H., Yang, J.E., Ok, Y.S., Owens, G. and Kim, K.H. (2015) Effect of biochar on heavy metal immobilization and uptake by lettuce (*Lactuca sativa* L.) in agricultural soil. *Environmental Earth Sciences*, 74:1249-
  19. Lee, S.S., Shah, H.S., Awad, Y., Kumar, S. and Ok, Y.S.\* (2015) Synergy effects of biochar and polyacrylamide on plants growth and soil erosion control. *Environmental Earth Sciences*, 74:2463-2473 (\*Corresponding Author)
  20. Awad, Y.M., Kim, K.R., Kim, S.C., Kim, K., Lee, S.R., Lee, S.S. and Ok, Y.S.\* (2015) Monitoring antibiotic residues and corresponding antibiotic resistance genes in an agroecosystem. *Journal of Chemistry* 2015:Article ID 974843 (\*Corresponding Author)
  21. Zhang, M., Ahmad, M., Al-Wabel, M.I., Vithanage, M., Rajapaksha, A.U., Kim, H.S., Lee, S.S. and Ok, Y.S.\* (2015) Adsorptive removal of trichloroethylene in water by crop residue biochars pyrolyzed at contrasting temperatures: Continuous fixed-bed experiments. *Journal of Chemistry*, 10:1434-1435 (\*Corresponding Author)
  22. Fontanals, N., James, R.A., Ok, Y.S., Balakrishnan, M. and Efirid, J.T. (2015) Occurrence and remediation of pollutants in the environment. *Journal of Chemistry*, 1:1-2 (\*Corresponding Author)



23. Park, J.H., Ok, Y.S., Kim, S.H., Kang, S.W., Cho, J.S., Heo, J.S., Delaune, R.D. and Seo, D.C. (2015) Characteristics of biochars derived from fruit tree pruning wastes and their effects on lead adsorption. *Journal of the Korean Society for Applied Biological Chemistry*, 58:751-760
24. Ok, Y.S., Chang, S.X., Gao, B. and Chung, H.J. (2015) SMART biochar technology-A shifting paradigm towards advanced materials and healthcare research. *Environmental Technology & Innovation*, 4:206-209

#### **Year 2014 (Selected)**

1. Zhao, X., Dou, X., Mohan, D., Pittman, C.U., Ok, Y.S. and Jin, X. (2014) Antimonate and antimonite adsorption by a polyvinyl alcohol-stabilized granular adsorbent containing nanoscale zero-valent iron. *Chemical Engineering Journal*, 247:250-
2. Mohan, D., Sarswat, A., Ok, Y.S. and Pittman, C.U. (2014) Organic and inorganic contaminants removal from water with biochar, a renewable, low cost and sustainable adsorbent-A critical review. *Bioresource Technology*, 160:191-202
3. Rajapaksha, A.U., Vithanage, M., Zhang, M., Ahmad, M., Mohan, D., Chang, S.X. and Ok, Y.S.\* (2014) Pyrolysis condition affected sulfamethazine sorption by tea waste biochars. *Bioresource Technology*, 166:303-308 (\*Corresponding Author)
4. Wong, J.W.C., Nelles, M., Ok, Y.S. and Kumar, S. (2014) Special issue on advance biological treatment technologies for sustainable waste management: Selected papers from "International Conference on Solid Waste-Innovation in Technology and Management (ICSWHK2013)", 5-9 May 2013, Hong Kong Convention and Exhibition Centre, Hong Kong SAR. *Bioresource Technology*, 168:1
5. Choppala, G., Saifullah, Bolan, N., Bibi, S., Iqbal, M., Rengel, Z., Kunhikrishnan, A., Ashwath, N. and Ok, Y.S. (2014) Cellular mechanisms in higher plants governing tolerance to cadmium toxicity. *Critical Reviews in Plant Sciences*, 33:374-391 (IF 6.162)
6. Ok, Y.S. and Jeon, C. (2014) Selective adsorption of the gold-cyanide complex from waste rinse water using Dowex 21K XLT resin. *Journal of Industrial and Engineering Chemistry*, 25:1308-1312
7. Ahmad, M., Rajapaksha, A.U., Lim, J.E., Zhang, M., Bolan, N., Mohan, D., Vithanage, M., Lee, S.S. and Ok, Y.S.\* (2014) Biochar as a sorbent for contaminant management in soil and water: A review. *Chemosphere*, 99:19-33 (\*Corresponding Author)
8. Rajapaksha, A.U., Vithanage, M., Lim, J.E., Ahmed, M.B.M., Zhang, M., Lee, S.S. and Ok, Y.S.\* (2014) Invasive plant-derived biochar inhibits sulfamethazine uptake by lettuce in soil. *Chemosphere*, 111:500-504 (\*Corresponding Author)
9. Ahmad, M., Lee, S.S., Lim, J.E., Lee, S.E., Cho, J.S., Moon, D.H., Hashimoto, Y. and Ok, Y.S.\* (2014) Speciation and phytoavailability of lead and antimony in a small arms range soil amended with mussel shell, cow bone and biochar: EXAFS spectroscopy and chemical extractions. *Chemosphere*, 95:433-441 (\*Corresponding Author)
10. Arnhold, S., Lindner, S., Lee, B., Martin, E., Kettering, J., Nguyen, T.T., Koellner, T., Ok, Y.S. and Huwe, B. (2014) Conventional and organic farming: Soil erosion and conservation potential for row crop cultivation. *Geoderma*, 219-220:89-105
11. Vithanage, M., Rajapaksha, A.U., Tang, X., Thiele-Bruhn, S., Kim, K.H., Lee, S.E. and Ok, Y.S.\* (2014) Sorption and transport of sulfamethazine in agricultural soils amended with

- invasive-plant-derived biochar. *Journal of Environmental Management*, 141:95-103 (\*Corresponding Author)
12. Shope, C.L., Maharjan, G.R., Tenhunen, J., Seo, B., Kim, K., Riley, J., Arnhold, S., Koellner, T., Ok, Y.S., Peiffer, S., Kim, B., Park, J.H. and Huwe, B. (2014) Using the SWAT model to improve process descriptions and define hydrologic partitioning in South Korea. *Hydrology and Earth System Sciences*, 18:539-557
  13. Lim, S.D., Hwang, J.G., Han, A.R., Han, A.R., Park, Y.C., Lee, C., Ok, Y.S. and Jang, C.S. (2014) Positive regulation of rice RING E3 ligase OsHIR1 in arsenic and cadmium uptakes. *Plant Molecular Biology*, 85:4-5
  14. Hassan, S.H.A., Gad El-Rab, S.M.F., Rahimnejad, M., Ghasemi, M., Joo, J.H., Sik-Ok, Y., Kim, I.S., Oh, S.E. (2014) Electricity generation from rice straw using a microbial fuel cell. *International Journal of Hydrogen Energy*, 39:9490-9496
  15. Ahmad, M., Moon, D.H., Vithanage, M., Koutsospyros, A., Lee, S.S., Yang, J.E., Jeon, C. and Ok, Y.S.\* (2014) Production and use of biochar from buffalo-weed (*Ambrosia trifida* L.) for trichloroethylene removal from water. *Journal of Chemical Technology and Biotechnology*, 89:150-157 (\*Corresponding Author)
  16. Moon, D.H., Yang, J.E., Cheong, K.H., Koutsospyros, A., Park, J.H, Lim, K.J., Kim, S.C., Kim, R.Y. and Ok, Y.S. (2014) Assessment of natural and calcined starfish for the amelioration of acidic soil. *Environmental Science and Pollution Research*, 21:9931-9938
  17. Moon, D.H., Chang, Y.Y., Ok, Y.S., Cheong, K.H., Koutsospyros, A. and Park, J.H. (2014) Amelioration of acidic soil using various renewable waste resources. *Environmental Science and Pollution Research*, 21:774-780
  18. Zhang, M. and Ok, Y.S. (2014) Biochar soil amendment for sustainable agriculture with carbon and contaminant sequestration. *Carbon Management*, 5(3):255-257
  19. Awad, Y.M., Kim, S.C., Abd El-Azeem, S.A.M., Kim, K.H, Kim, K.R., Kim, K., Jeon, C., Lee, S.S. and Ok, Y.S.\* (2014) Veterinary antibiotics contamination in water, sediment, and soil near a swine manure composting facility. *Environmental Earth Sciences*, 71:1433-1440 (\*Corresponding Author)
  20. Saifullah, Sarwar, N., Bibi, S., Ahmad, M. and Ok, Y.S. (2014) Effectiveness of zinc application to minimize cadmium toxicity and accumulation in wheat (*Triticum aestivum* L.). *Environmental Earth Sciences*, 71:1663-1672 (IF 1.569) (JCR Top 25% (Q1), Environmental Science: 144/229)
  21. Almaroai, Y.A., Usman, A.R.A., Ahmad, M., Moon, D.H., Cho, J.S., Joo, Y.K., Jeon, C., Lee, S.S. and Ok, Y.S.\* (2014) Effects of biochar, cow bone, and eggshell on Pb availability to maize in contaminated soil irrigated with saline water. *Environmental Earth Sciences*, 71:1289-1296 (\*Corresponding Author)
  22. Vithanage, M., Rajapaksha, A.U., Wijesekara, H., Weerathne, N. and Ok, Y.S.\* (2014) Effects of soil type and fertilizer on As speciation in rice paddy contaminated with As-containing pesticide. *Environmental Earth Sciences*, 71:837-847 (\*Corresponding Author)
  23. Almaroai, Y.A., Vithanage, M., Rajapaksha, A.U., Lee, S.S., Dou, X., Lee, Y.H., Sung, J.K. and Ok, Y.S.\* (2014) Natural and synthesised iron-rich amendments for As and Pb immobilisation in agricultural soil. *Chemistry and Ecology*, 30:267-279 (\*Corresponding Author)
  24. Zhang, M., Ahmad, M., Lee, S.S., Xu, L.H. and Ok, Y.S.\* (2014) Sorption of polycyclic aromatic hydrocarbons (PAHs) to lignin: Effects of hydrophobicity and temperature. *Bulletin of Environmental Contamination and Toxicology*, 93:84-88 (\*Corresponding Author)

25. Choi, B., Lim, J.E., Sung, J.K., Jeon, W.T., Lee, S.S., Oh, S.E., Yang, J.E. and Ok, Y.S.\* (2014) Effect of rapeseed green manure amendment on soil properties and rice productivity. *Communications in Soil Science and Plant Analysis*, 45:751-764 (\*Corresponding Author)

### Year 2013 (Selected)

1. Usman, A.R.A., Almaroai, Y.A., Ahmad, M., Vithanage, M. and Ok, Y.S.\* (2013) Toxicity of synthetic chelators and metal availability in poultry manure amended Cd, Pb and As contaminated agricultural soil. *Journal of Hazardous Materials*, 262:1022-1030 (\*Corresponding Author)
2. Ahmad, M., Lee, S.S., Rajapaksha, A.U., Vithanage, M., Zhang, M., Cho, J.S., Lee, S.E. and Ok, Y.S.\* (2013) Trichloroethylene adsorption by pine needle biochars produced at various pyrolysis temperatures. *Bioresource Technology*, 143:615-622 (\*Corresponding Author)
3. Rajapaksha, A.U., Vithanage, M., Ok, Y.S. and Oze, C. (2013) Cr(VI) formation related to Cr(III)-muscovite and birnessite interactions in ultramafic environments. *Environmental Science & Technology*, 47:9722-9729
4. Vithanage, M., Rajapaksha, A.U., Dou, X., Bolan, N.S., Yang, J.E. and Ok, Y.S.\* (2013) Surface complexation modeling and spectroscopic evidence of antimony adsorption on iron-oxide-rich red earth soils. *Journal of Colloid and Interface Science*, 406:217-224 (\*Corresponding Author)
5. Moon, D.H., Cheong, K.H., Khim, J., Wazne, M., Hyun, S., Park, J.H., Chang, Y.Y. and Ok, Y.S. (2013) Stabilization of Pb<sup>2+</sup> and Cu<sup>2+</sup> contaminated firing range soil using calcined oyster shells and waste cow bones. *Chemosphere*, 91:1349
6. Jung, K., Chang, S.X., Ok, Y.S. and Arshad, M.A. (2013) Critical loads and H<sup>+</sup> budgets of forest soils affected by air pollution from oil sands mining in Alberta, Canada. *Atmospheric Environment*, 69:56-64
7. Shope, C.L., Bartsch, S., Kim, K., Kim, B., Tenhunen, J., Peiffer, S., Park, J.H., Ok, Y.S., Fleckenstein, J. and Koellner, T. (2013) A weighted, multi-method approach for accurate basin-wide streamflow estimation in an ungauged watershed. *Journal of Hydrology*, 494:72-82
8. Awad, Y.M., Blagodatskaya, E., Ok, Y.S.\* and Kuzyakov, Y. (2013) Effects of polyacrylamide, biopolymer and biochar on the decomposition of <sup>14</sup>C-labeled maize residues and on their stabilization in soil aggregates. *European Journal of Soil Science*, 64:488-499 (\*Corresponding Author)
9. Ahmad, M., Lee, S.S., Oh, S.E., Mohan, D., Moon, D.H., Lee, Y.H. and Ok, Y.S.\* (2013) Modeling adsorption kinetics of trichloroethylene onto biochars derived from soybean stover and peanut shell wastes. *Environmental Science and Pollution Research*, 20:8364-8373 (\*Corresponding Author)
10. Moon, D.H., Park, J.W., Chang, Y.Y., Ok, Y.S., Lee, S.S., Ahmad, M., Koutsospyros, A., Park, J.H. and Baek, K. (2013) Immobilization of lead in contaminated firing range soil using biochar. *Environmental Science and Pollution Research*, 20:8464-8471
11. Lee, S.S., Lim, J.E., Abd El-Azeem, S.A.M., Choi, B., Oh, S.E., Moon, D.H. and Ok, Y.S.\* (2013) Heavy metal immobilization in soil near abandoned mines using eggshell waste and rapeseed residue. *Environmental Science and Pollution Research*, 20:1719-1726 (\*Corresponding Author)

12. Qambrani, N.A., Jung, S.H., Ok, Y.S., Kim, Y.S. and Oh, S.E. (2013) Nitrate-contaminated groundwater remediation by combined autotrophic and heterotrophic denitrification for sulfate and pH control: Batch tests. *Environmental Science and Pollution Research*, 20:9084-9091
13. Yang, J.E., Skogley, E.O., Ahmad, M., Lee, S.S. and Ok, Y.S.\* (2013) Carbonaceous resin capsule for vapor-phase monitoring of volatile hydrocarbons in soil: Partitioning and kinetic model verification. *Environmental Geochemistry and Health*, 35:715-725 (\*Corresponding Author)
14. Moon, D.H., Park, J.W., Cheong, K.H., Hyun, S., Koutsospyros, A., Park, J.H. and Ok, Y.S. (2013) Stabilization of lead and copper contaminated firing range soil using calcined oyster shells and fly ash. *Environmental Geochemistry and Health*, 35:705-714
15. Almaroai, Y.A., Usman, A.R.A., Ahmad, M., Kim, K.R., Vithanage, M. and Ok, Y.S.\* (2013) Role of chelating agents on release kinetics of metals and their uptake by maize from chromated copper arsenate-contaminated soil. *Environmental Technology*, 34:747-755 (\*Corresponding Author)
16. Lee, K.Y., Moon, D.H., Lee, S.H., Kim, K.W., Cheong, K.H., Park, J.H., Ok, Y.S. and Chang, Y.Y. (2013) Simultaneous stabilization of arsenic, lead, and copper in contaminated soil using mixed waste resources. *Environmental Earth Sciences*, 69:1813-1820
17. Lim, J.E., Ahmad, M., Usman, A.R.A., Lee, S.S., Jeon, W.T., Oh, S.E., Yang, J.E. and Ok, Y.S.\* (2013) Effects of natural and calcined poultry waste on Cd, Pb and As mobility in contaminated soil. *Environmental Earth Sciences*, 69:11-20 (\*Corresponding Author)
18. Abd El-Azeem, S.A.M., Ahmad, M., Usman, A.R.A., Kim, K.R., Oh, S.E., Lee, S.S., Ok, Y.S.\* (2013) Changes of biochemical properties and heavy metal bioavailability in soil treated with natural liming materials. *Environmental Earth Sciences*, 70:3411-3420 (\*Corresponding Author)
19. Kettering, J., Ruidisch, M., Gaviria, C., Ok, Y.S. and Kuzyakov, Y. (2013) Fate of fertilizer <sup>15</sup>N in intensive ridge cultivation with plastic mulching under a monsoon climate. *Nutrient Cycling in Agroecosystems*, 95:57-72
20. Lee, S.S., Abd El-Azeem, S.A.M., Lim, J.E., Rajapaksha, A.U., Kim, K.R., Lee, Y.H., Lee, Y.B., Chang, Y.Y. and Ok, Y.S.\* (2013) Efficacy of rapeseed residue and eggshell waste on enzyme activity and soil quality in rice paddy. *Chemistry and Ecology*, 29:501-510 (\*Corresponding Author)
21. Lee, S.S., Chang, S.X., Chang, Y.Y., Ok, Y.S.\* (2013) Commercial versus synthesized polymers for soil erosion control and growth of Chinese cabbage. *SpringerPlus*, 2:534 (IF 1.130) (JCR (Q2), Multidisciplinary Science: 30/64) (\*Corresponding Author)
22. Ahmad, M., Moon, D.H., Wazne, M., Kim, H.J., Lee, Y.H. and Ok, Y.S.\* (2013) Effects of natural and calcined oyster shells on antimony solubility in shooting range soil. *Journal of the Korean Society for Applied Biological Chemistry*, 56:461-464 (\*Corresponding Author)
23. Oh, S.J., Yun, H.S., Oh, S.M., Kim, S.C., Kim, R.Y., Seo, Y.H., Lee, K.S., Ok, Y.S. and Yang, J.E. (2013) Effect of fly ash fertilizer on paddy soil quality and rice growth. *Journal of Applied Biological Chemistry*, 56(4):229-234
24. Choi, I.W., Seo, D.C., Han, M.J., Delaune, R.D., Ok, Y.S., Jeon, W.T., Lim, B.J., Cheong, Y.H., Kang, H.W. and Cho, J.S. (2013) Accumulation and toxicity of germanium in cucumber under different types of germaniums. *Communications in Soil Science and Plant Analysis*, 44:3006-3019

## Year 2012 (Selected)

1. Ahmad, M., Lee, S.S., Dou, X., Mohan, D., Sung, J.K., Yang, J.E. and Ok, Y.S.\* (2012) Effects of pyrolysis temperature on soybean stover- and peanut shell-derived biochar properties and TCE adsorption in water. *Bioresource Technology*, 118:536-544 (\*Corresponding Author)
2. Ahmad, M., Usman, A.R.A., Lee, S.S., Kim, S.C., Joo, J.H., Yang, J.E. and Ok, Y.S.\* (2012) Eggshell and coral wastes as low cost sorbents for the removal of Pb<sup>2+</sup>, Cd<sup>2+</sup> and Cu<sup>2+</sup> from aqueous solutions. *Journal of Industrial and Engineering Chemistry*, 18:198-204 (\*Corresponding Author) (12<sup>th</sup> Hottest Article, January to December 2012 full year)
3. Usman, A.R.A., Lee, S.S., Awad, Y.M., Lim, K.J., Yang, J.E. and Ok, Y.S.\* (2012) Soil pollution assessment and identification of hyperaccumulating plants in chromated copper arsenate (CCA) contaminated sites, Korea. *Chemosphere*, 87:872-878 (\*Corresponding Author)
4. Kim, K.R., Owens, G., Ok, Y.S., Park, W.K., Lee, D.B. and Kwon, S.I. (2012) Decline in extractable antibiotics in manure-based composts during composting. *Waste Management*, 32(1):110-116
5. Ahmad, M., Lee, S.S., Yang, J.E., Ro, H.M., Lee, Y.H. and Ok, Y.S.\* (2012) Effects of soil dilution and amendments (mussel shell, cow bone, and biochar) on Pb availability and phytotoxicity in military shooting range soil. *Ecotoxicology and Environmental Safety*, 79:225-231 (\*Corresponding Author)
6. Wu, L., Ok, Y.S., Xu, L.X. and Kuzyakov, Y. (2012) Effects of anionic polyacrylamide on maize growth: A short term <sup>14</sup>C labeling study. *Plant and Soil*, 350:311-322
7. Awad, Y.M., Blagodatskaya, E., Ok, Y.S.\* and Kuzyakov, Y. (2012) Effects of polyacrylamide, biopolymer and biochar on decomposition of soil organic matter and plant residues as determined by <sup>14</sup>C and enzyme activities. *European Journal of Soil Biology*, 48:1-10 (\*Corresponding Author)
8. Ahmad, M., Moon, D.H., Lim, K.J., Shope, C.L., Lee, S.S., Usman, A.R.A., Kim, K.R., Park, J.H., Hur, S.O., Yang, J.E. and Ok, Y.S.\* (2012) An assessment of the utilization of waste resources for the immobilization of Pb and Cu in the soil from a Korean military shooting range. *Environmental Earth Sciences*, 67:1023-1031 (\*Corresponding Author)
9. Ahmed, Z., Kim, S.M., Kim, I.S., Bum, M.S., Chae, K.J., Joo, J.H., Ok, Y.S. and Oh, S.E. (2012) Nitrification and denitrification using biofilters packed with sulfur and limestone at a pilot-scale municipal wastewater treatment plant. *Environmental Technology*, 33:1271-1278
10. Kim, J., Kim, M., Hyun, S., Kim, J.G. and Ok, Y.S. (2012) Sorption of acidic organic solute onto kaolinitic soils from methanol-water mixtures. *Journal of Environmental Science and Health, Part B*, 47:22-29
11. Almaroai, Y.A., Usman, A.R.A., Ahmad, M., Kim, K.R., Moon, D.H., Lee, S.S. and Ok, Y.S.\* (2012) Effects of synthetic chelators and low-molecular-weight organic acids on chromium, copper, and arsenic uptake and translocation in maize (*Zea mays* L.). *Soil Science*, 177:655-663 (\*Corresponding Author)
12. Abd El-Azeem, S.A.M., Elwan, M.W.M., Sung, J.K. and Ok, Y.S.\* (2012) Alleviation of salt stress in eggplant (*Solanum melongena* L.) by plant-growth promoting rhizobacteria. *Communications in Soil Science and Plant Analysis*, 43:1303-1315 (\*Corresponding Author)

### Year 2011 (Selected)

1. Van Ginkel, S.W., Hassan, S.H.A., Ok, Y.S., Yang, J.E., Kim, Y.S. and Oh, S.E. (2011) Detection of oxidized contaminants in water using sulfur-oxidizing bacteria. *Environmental Science & Technology*, 45:3739-3745
2. Ok, Y.S.\*, Usman, A.R.A., Lee, S.S., Abd El-Azeem, S.A.M., Choi, B., Hashimoto, Y. and Yang, J.E. (2011) Effects of rapeseed residue on lead and cadmium availability and uptake by rice plants in heavy metal contaminated paddy soil. *Chemosphere*, 85:677-682 (\*Corresponding Author)
3. Jung, K., OK, Y.S.\* and Chang, S.X. (2011) Sulfate adsorption properties of acid-sensitive soils in Athabasca oil sands region in Alberta, Canada. *Chemosphere*, 84:457-463 (\*Corresponding Author) (\*Co-first author)
4. Kwon, S.I., Owens, G., Ok, Y.S., Lee, D.B., Jeon, W.T., Kim, J.G. and Kim, K.R. (2011) Applicability of the Charm II system for monitoring antibiotic residues in manure-based composts. *Waste Management*, 31:39-44
5. Ok, Y.S., Lim, J.E. and Moon, D.H. (2011) Stabilization of Pb and Cd contaminated soils and soil quality improvements using waste oyster shells. *Environmental Geochemistry and Health*, 33:83-91
6. Ok, Y.S., Lee, S.S., Jeon, W.T., Oh, S.E., Usman, A.R.A. and Moon, D.H. (2011) Application of eggshell waste for the immobilization of cadmium and lead in a contaminated soil. *Environmental Geochemistry and Health*, 33:31-39
7. Ok, Y.S., Kim, S.C., Kim, D.K., Skousen, J.G., Lee, J.S., Cheong, Y.W., Kim, S.J. and Yang, J.E. (2011) Ameliorants to immobilize Cd in rice paddy soils contaminated by abandoned metal mines in Korea. *Environmental Geochemistry and Health*, 33:23-30
8. Ok, Y.S.\*, Kim, S.C., Kim, K.R., Lee, S.S., Moon, D.H., Lim, K.J., Sung, J.K., Hur, S.O. and Yang, J.E. (2011) Monitoring of selected veterinary antibiotics in environmental compartments near a composting facility in Gangwon Province, Korea. *Environmental Monitoring and Assessment*, 174:693-701 (\*Corresponding Author)
9. Moon, D.H., Kim, K.W., Yoon, I.H., Grubb, D.G., Shin, D.Y., Cheong, K.H., Choi, H.II., Ok, Y.S. and Park, J.H. (2011) Stabilization of arsenic-contaminated mine tailings using natural and calcined oyster shells. *Environmental Earth Sciences*, 64:597-605
10. Yang, J.E., Skogley, E.O., Ok, Y.S. (2011) Carbonaceous resin capsule for vapor-phase monitoring of volatile monoaromatic hydrocarbons in soil. *Soil and Sediment Contamination*, 20(2):205-220

### Year 2010 (Selected)

1. Ok, Y.S.\*, Oh, S.E., Ahmad, M., Hyun, S., Kim, K.R., Moon, D.H., Lee, S.S., Lim, K.J., Jeon, W.T. and Yang, J.E. (2010) Effects of natural and calcined oyster shells on Cd and Pb immobilization in contaminated soils. *Environmental Earth Sciences*, 61:1301-1308 (\*Corresponding Author)
2. Kim, S.C., Yang, J.E., Ok, Y.S., Skousen, J., Kim, D.G. and Joo, J.H. (2010) Accelerated metolachlor degradation in soil by zerovalent iron and compost amendments. *Bulletin of Environmental Contamination and Toxicology*, 84:459-464

3. Kim, S.C., Yang, J.E., Ok, Y.S. and Carlson, K. (2010) Dissolved and colloidal fraction transport of antibiotics in soil under biotic and abiotic conditions. *Water Quality Research Journal of Canada*, 45(3):275-285

#### **Year 2009 (Selected)**

1. Yang, J.E., Ok, Y.S., Lee, W.Y. and Skousen, J. (2009) Soil nutrient bioavailability and nutrient content of pine trees (*Pinus thunbergii*) in areas impacted by acid deposition in Korea. *Environmental Monitoring and Assessment*, 157:43-50

#### **Year 2007 (Selected)**

1. Ok, Y.S., Chang, S.X. and Feng, Y.S. (2007) Sensitivity to acidification of forest soils in two watersheds with contrasting hydrological regimes in the oil sands region of Alberta. *Pedosphere*, 17(6):747-757
2. Ok, Y.S., Yang, J.E., Zhang, Y.S., Kim, S.J. and Chung, D.Y. (2007) Heavy metal adsorption by a formulated zeolite-Portland cement mixture. *Journal of Hazardous Materials*, 147:91-96
3. Yang, J.E., Kim, J.S., Ok, Y.S. and Yoo, K.R. (2007) Mechanistic evidence and efficiency of the Cr(VI) reduction in water by different sources of zerovalent irons. *Water Science and Technology*, 55:197-202
4. Yang, J.E., Kim, H.J., Ok, Y.S., Lee, J.Y. and Park, J. (2007) Treatment of abandoned coal mine discharged waters using lime wastes. *Geosciences Journal*, 11(2):111-114

#### **Year 2006 (Selected)**

1. Yang, J.E., Kim, J.S., Ok, Y.S., Kim, S.J. and Yoo, K.Y. (2006) Capacity of Cr(VI) reduction in an aqueous solution using different sources of zerovalent irons. *Korean Journal of Chemical Engineering*, 23(6):935-939
2. Yang, J.E., Skousen, J.G., Ok, Y.S., Yoo, K.Y. and Kim, H.J. (2006) Reclamation of abandoned coal mine waste in Korea using lime cake by-products. *Mine Water and the Environment*, 25(4):227-232

#### **Year 2005 (Selected)**

1. Lee, S.E., Campbell, B.C., Ok, Y.S., Kim, J.H., Park, B.S. and Liu, N. (2005) Biochemical changes in dehydrogenase, hydroxylase and tyrosinase of a permethrin-resistant strain of housefly larvae, *Musca domestica* L. *Environmental Toxicology and Pharmacology*, 20:258-263

#### **Year 2004 (Selected)**

1. Chung, H.H., Choi, S.W., Ok, Y.S. and Jung, J. (2004) EPR characterization of the catalytic activity of clays for PCE removal by gamma-radiation induced by acid and thermal treatments. *Chemosphere*, 57:1383-1387
2. Jung, J., Joo, H.J., Lee, S.M., Ok, Y.S. and Kim, J.G. (2004) Enhancement of biodegradability of EDTA by gamma-ray treatment. *Journal of Radioanalytical and Nuclear Chemistry*, 262(2):371-374
3. Yoon, Y., Ok, Y.S., Kim, D.Y. and Kim, J.G. (2004) Agricultural recycling of the by-product concentrate of livestock wastewater treatment plant processed with VSEP RO and bio-ceramic SBR. *Water Science and Technology*, 49:405-412

## Books

### Year 2020

1. Ok, Y.S., Rinklebe, J., Hou, D., Tsang, D.C.W., Tack, F.M.G. (Eds.) (2020). Soil and Groundwater Remediation Technologies: A Practical Guide. CRC Press. ISBN: 9780367337407
2. Bolan, N., Kirkham, M.B., Halsband, C., Nugegoda, D., Ok, Y.S., (Eds.) (2020). Particulate Plastics in Terrestrial and Aquatic Environments. CRC Press. ISBN: 978-1138543928
3. Palansoriya, K.N., Wijesekara, H., Bradney, L., Kumarathilaka, P., Bunschuh, J., Bolan, N.S., Rocha-Santos, T., Gu, C., Ok, Y.S. (2020). Characteristics of Particulate Plastics in terrestrial Ecosystems. In: Bolan, N., Kirkham, M.B., Halsband, C., Nugegoda, D., Ok, Y.S., (Eds.). Particulate Plastics in Terrestrial and Aquatic Environments. CRC Press. ISBN: 978-1138543928
4. Yan, Y., Li, Q., Bolan, S.S., Bolan, N.S., Ok, Y.S., Kirkham, M.B., Kwon, E.E. (2020). Interaction of Dissolved Organic Matter with Particulate Plastics. In: Bolan, N., Kirkham, M.B., Halsband, C., Nugegoda, D., Ok, Y.S., (Eds.). Particulate Plastics in Terrestrial and Aquatic Environments. CRC Press. ISBN: 978-1138543928
5. Amen, R., Bashir, H., Bibi, I., Hussain, M.M., Shaheen, S.M.S., Shahid, M., Shakoor, M.B., Hina, K., Wang, H., Bundschuh, J., Ok, Y.S., Rinklebe, J., Niazi, N.K. (2020). Arsenic Removal from Water Using Biochar based Sorbents: Production, Characterization and Sequestration Mechanisms. In: Ok, Y.S., Rinklebe, J., Hou, D., Tsang, D.C.W., Tack, F.M.G. (Eds.). Soil and Groundwater Remediation Technologies: A Practical Guide. CRC Press. ISBN: 9780367337407
6. Lu, D., Xia, Y., Geng, N., Lee, S.S., Bundschuh, J., Ok, Y.S. (2020). Determination of the Unsaturated Hydraulic Conductivity of Soil: Theoretical and In Situ Approaches. In: Ok, Y.S., Rinklebe, J., Hou, D., Tsang, D.C.W., Tack, F.M.G. (Eds.). Soil and Groundwater Remediation Technologies: A Practical Guide. CRC Press. ISBN: 9780367337407
7. Lu, D., Zhang, C., Sarmah, A.K., Xia, Y., Geng, N., Wong, J. T. F., Bundschuh, J., Ok, Y.S. (2020). Electrical resistivity Tomography Monitoring and Modelling of Preferential Flow in Unsaturated Soils. In: Ok, Y.S., Rinklebe, J., Hou, D., Tsang, D.C.W., Tack, F.M.G. (Eds.). Soil and Groundwater Remediation Technologies: A Practical Guide. CRC Press. ISBN: 9780367337407



8. Palansooriya, K.N., Dou, X., Rinklebe, J., Bolan, N.S., Ok, Y.S. (2020). New Technologies for Monitoring Contaminated Soil and Groundwater. In: Ok, Y.S., Rinklebe, J., Hou, D., Tsang, D.C.W., Tack, F.M.G. (Eds.). *Soil and Groundwater Remediation Technologies: A Practical Guide*. CRC Press. ISBN: 9780367337407

### **Year 2018**

1. Ok, Y.S., Tsang, D.C., Bolan, N. and Novak, J.M. (Eds.) (2018). *Biochar from Biomass and Waste: Fundamentals and Applications*. Elsevier. ISBN: 9780128117309
2. Shaheen, S.M., El-Naggar, A., Wang, J., Hassan, N.E., Niazi, N.K., Wang, H., Tsang, D.C., Ok, Y.S., Bolan, N. and Rinklebe, J. (2018). Biochar as an (Im) mobilizing Agent for the Potentially Toxic Elements in Contaminated Soils. In: Ok, Y.S., Tsang, D.C., Bolan, N. and Novak, J.M. (Eds.). *Biochar from Biomass and Waste: Fundamentals and Applications*. Elsevier. ISBN: 9780128117309
3. Xu, Y., Yan, Y., Obadamudalige, N.L., Ok, Y.S., Bolan, N. and Li, Q., (2018). Redox-Mediated Biochar-Contaminant Interactions in Soil. In: Ok, Y.S., Tsang, D.C., Bolan, N. and Novak, J.M. (Eds.). *Biochar from Biomass and Waste: Fundamentals and Applications*. Elsevier. ISBN: 9780128117309

### **Year 2017**

1. Xiong, X., Tsang, D.C.W. and Ok, Y.S. (2017) Chemical characterization of mine sites. In: Bolan, N.S., Kirkham, M.B., Ok, Y.S. (Ed.), *Spoil to soil: Mine Site Rehabilitation and Revegetation*, CRC Press Press, Taylor & Francis Group. ISBN: 9781498767613
2. Wijesekara, H., Bolan, N.S., Colyvas, K., Seshadri, B., Ok, Y.S., Awad, Y.M., Xu, Y., Thangavel, R., Surapaneni, A., Saint, C. and Vithanage, M. (2017) Use of biowaste for mine site rehabilitation: A meta-analysis on soil carbon dynamics. In: Bolan, N.S., Kirkham, M.B., Ok, Y.S. (Ed.), *Spoil to soil: Mine Site Rehabilitation and Revegetation*, CRC Press Press, Taylor & Francis Group. ISBN: 9781498767613

### **Year 2016**

1. Wijesekara, H., Bolan, N.S., Vithanage, M., Xu, Y., Mandal, S., Brown, S.L., Hettiarachchi, G.M., Pierzynski, G.M., Huang, L., Ok, Y.S., Kirkham, M. B., Saint, C. and Surapaneni, A. (2016) Utilization of biowaste for mine spoil rehabilitation. In: Sparks, D.L. (Ed.), *Advances in Agronomy*, pp. 97-177, Academic Press, Elsevier. ISBN: 9780128046913
2. Karunanithi, R., Szogi, A.A., Bolan, N., Naidu, R., Ok, Y., Krishnamurthy, S., Seshadri, B. 2016. Phosphorus recovery from wastes. In: Prasad, M.N.V., Shih, K. (Ed.), *Environmental Materials and Waste: Resource Recovery and Pollution Prevention*, pp. 687-705, Academic Press, Elsevier. ISBN: 9780128038376
3. Vithanage, M., Rajapaksha, A.U., Ahmad, M., Shinogi, Y., Kim, K.H., Kim, G. and Ok, Y.S. (2016) Biochar for waste management and environmental sustainability. In: Wong, J.W.C., Surampalli, R.Y., Zhang, T.C., Tyagi, R.D., Selvam, A. (Ed.), *Sustainable Solid Waste Management*. American Society of Civil Engineers. ISBN: 9780784414101

4. Shaheen, S.M., Tsadilas, C.D., Ok, Y.S. and Rinklebe, J. (2016) Potential mobility, bioavailability, and plant uptake of toxic elements in temporary flooded soils. In: Rinklebe, J., Knox, A., Paller, M. (Ed.), Trace Elements in Waterlogged Soils and Sediments, pp. 287-312, CRC Press, Taylor and Francis Group. ISBN: 9781482240511

#### **Year 2015**

1. Igalavithana, A.D., Shaheen, S.M., Park, J.N., Lee, S.S and Ok, Y.S.\* (2015) Potentially toxic element contamination and its impact on soil biological quality in urban agriculture: A critical review. In: Sherameti, I., Varma, A. (Ed.), Heavy Metal Contamination of Soils, pp. 81-101, Springer. ISBN: 9783319145259 (\*Corresponding Author)
2. Rajapaksha, A.U., Mohan, D., Igalavithana, A.D., Lee, S.S. and Ok, Y.S.\* (2015) Definitions and fundamentals of biochar. In: Ok, Y.S., Uchimiya, S.M., Chang, S.X., Bolan, N., Biochar: Production, Characterization, and Applications. CRC Press, Taylor and Francis Group. ISBN: 9781482242294 (\*Corresponding Author)
3. Kunhikrishnan, A., Bibi, I., Bolan, N., Seshadri, B., Choppala, G., Niazi, N.K., Kim, W. and Ok, Y.S. (2015) Biochar for Inorganic Contaminant Management in Waste and Wastewater. In: Ok, Y.S., Uchimiya, S.M., Chang, S.X., Bolan, N., Biochar: Production, Characterization, and Applications. CRC Press, Taylor and Francis Group. ISBN: 9781482242294
4. Igalavithana, A.D., Ok, Y.S.\*, Usman, A.R.A., Al-Wabel, M.I., Oleszczuk, P. and Lee, S.S. (2015) The effect of biochar amendment on soil fertility. In: Guo, M., He, Z., Uchimiya, S.M. (Ed.), Agricultural and Environmental Applications of Biochar: Advances and Barriers. SSSA Special Publication 63, pp. 101-122, Soil Science Society of America, Inc. ISBN: 9780891189640 (\*Co-first Author)

#### **Year 2014**

1. Vithanage, M., Wijesekara, S.S.R.M.D.H.R., Siriwardana, A.R., Mayakaduwa, S.S. and Ok, Y.S.\* (2014) Management of municipal solid waste landfill leachate: A global environmental issue. In: Malik, A., Grohmann, E., Akhtar, R. (Ed.), Environmental Deterioration and Human Health, pp. 263-288. Springer. ISBN 9789400778900 (\*Corresponding Author)

#### **Year 2012**

1. Ahmad, M., Lee, S.S., Moon, D.H., Yang, J.E. and Ok, Y.S.\* (2012) A review of environmental contamination and remediation strategies for heavy metals at shooting range soils. In: Malik, A., Grohmann, E. (Ed.), Environmental Protection Strategies for Sustainable Development, pp. 437-451, Springer. ISBN: 9789400715905 (\*Corresponding Author)

### **Year 2009**

1. Ok, Y.S., Chang, S.X. and Feng, Y. (2009) The role of atmospheric N deposition in soil acidification in forest ecosystems. In: Muñoz, S.I. (Ed.), Ecology Research Progress, pp. 47-77. Nova Science Publishers, Inc. ISBN: 9781606925607

### **Year 2008**

1. Yang, J.E., Ok, Y.S., Kim, W.I. and Lee, J.S. (2008) Heavy metal pollution, risk assessment and remediation in paddy soil environment: Research experiences and perspectives in Korea. In: Sánchez, M.L. (Ed.), Causes and Effects of Heavy Metal Pollution, pp. 341-369. Nova Science Publishers. ISBN: 9781608762552

## **Teaching Experience**

### **Undergraduate**

Environmental remediation, soil conservation, environmental and ecological engineering, environmental contamination and remediation, environmental ecology, risk assessment, environment and bioenergy experiment, plant and environmental sciences, environmental stress and plant responses, agriculture and information, instrumental analysis, intellectual property right in agroindustry, introduction to biological environment, capstone design, career development skills, internship, advice on goal setting and career planning, soil and groundwater remediation, bio-based products engineering etc.

### **Graduate**

Environmental remediation, ecological engineering, bioremediation, soil pollution, special Topics on Environmental Remediation cycles of chemicals in soil, biogeochemistry, phytoremediation, environmental pollution assessment methodology, environmental pollution and plant response, risk assessment, current topics in environmental remediation, thesis advising, seminar, etc.

### **Supervision of Personnel**

Current postdoctoral fellows, visiting scientists, and graduate students: >10 persons.

Postdoctoral fellows and visiting scientists supervised: >10 persons.

Graduate students supervised: >15 persons.

Graduate supervisory committees served: >30 persons.

## Patents

### Pending Patents

1. Ok, Y.S., Vithanage, M., Rajapaksha, A., Lee, S.S., Park, J.N. and Chung, Y.S. (2016) Method of inhibiting transport of antibiotics in soil using biochars. 2016-0001832, Korea
2. Ok, Y.S., Rajapaksha, A., Lim, J.E., Zhang, M., Lee, S.S., Park, J.N. and Chung, Y.S. (2015) Method of inhibiting absorption of antibiotics in plants using biochars. 2015-0139152, Korea
3. Ok, Y.S., Vithanage, M., Rajapaksha, A., Lee, S.S. and Park, J.N. (2015) Method for biochar activating using by steam treatment, steam activated biochar for being settled steam treatment and manufacturing method thereof. 2015-0139145, Korea
4. Ok, Y.S., Park, J.N., Lim, J.E. and Ahn, J.H. (2014) Manufacturing method of biochar using sewage sludge and its effect on Pb immobilization in soil. 2014-0115019, Korea
5. Ok, Y.S., Lim, J.E., Seong, J.G., Lee H.Y. and Jeong, Y.S. (2010) Method for stabilization of heavy metals in soils using heat-treated livestock wastes and soil conditioner. 2010-0137227, Korea
6. Ok, Y.S., Lim, J.E., Lee, H.Y. and Kwon, O.G. (2010) Method for stabilization of heavy metals in soils using heat-treated livestock and fisheries wastes. 2010-0131266, Korea
7. Ok, Y.S., Yang, J.E. and Ju, J.H. (2010) Gold recovering method in solution by chestnut shell. 2010-0086816, Korea
8. Yang, J.E. and Ok, Y.S. (2010) Method for treating soils contaminated by heavy metals using *equisetum arvense* L. 2010-0034902, Korea
9. Ok, Y.S., Lim, J.E. and Yang, J.E. (2010) Method for treating soils contaminated by heavy metals using oystershell and soil treatment agent. 2010-0029410, Korea
10. Ok, Y.S., Lim, J.E. and Yang, J.E. (2010) Method for stabilization of heavy metals in soils using eggshell powder. 2010-0027395, Korea
11. Yang, J.E. and Ok, Y.S. (2008) Composition comprising zerovalent iron for remediation of rice paddy soils contaminated with heavy metals and a method using the same. 2008-0112753, Korea
12. Ok, Y.S., Lee, K.B., Kwon, J.H., Choi, S.W., Igalavithana, A.D., Dissanayake, D.M.P.D., Ura, C. (2020). Sustainable gasification biochar as a high efficiency adsorbent for CO<sub>2</sub> capture: A facile method to designer biochar fabrication. 10-2020-0066045, Korea
13. Ok, Y.S., Lee, K.B., Choi, S.W., Igalavithana, A.D., Dissanayake, D.M.P.D., Kwon, J.H., Ura, C. (2020). Sustainable gasification biochar: Method of preparing biochar using pine sawdust and paper mill sludge and method of adsorbing carbon dioxide using the same prepared thereby. 10-2020-0109560, Korea
14. Ok, Y. S., Cho, Y., Choi, Y. E., Palansooriya, K., Kim, S. (2020). Novel chitosan biochar composite fibers for the removal of phosphorus from water, method of manufacturing and adsorbent composition for removing phosphorus. 10-2021-0011291, Korea

## Registered Patents

1. Ok, Y.S., Zhang, M., Xu, L.H. and Lee, S.S. (2016) The dietary fiber extracted from wheat bran for adsorption of polycyclic aromatic hydrocarbons. 10-1681646. Korea
2. Ok, Y.S., Rajapaksha, A., Vithanage, M., Lee, S.S. and Park, J.N. (2016) Activation method of biochar using acid treatment, acid activated biochar and preparing method thereof. 10-1638822. Korea.
3. Seo, D.C., Park, J.H., Kim, S.H., Heo, J.S., Kang, S.W., Park, J.W., Joo, J.S. and Ok, Y.S. (2015) An apparatus and method of impregnating sulfur impregnated on biochar for wastewater processing. 10-1547430. Korea.
4. Ok, Y.S., Rajapaksha, A., Vithanage, M. and Lim, J.E. (2015) Method for removal of antibiotics in water using steam activated biochar derived from burcucumber (*Sicyos angulatus* L.). 10-1536937. Korea.
5. Kim, S.W. and Ok, Y.S. (2014) Installation case for laying a mine and installation method using it in winter. 10-1480222. Korea.
6. Ok, Y.S., and Jeong, S.H. (2014) Method for purifying veterinary antibiotics in water using biochar derived from burcucumber (*Sicyos angulatus* L.). 10-1428553. Korea.
7. Ok, Y.S., Jeong, S.H. and Lee, S.S. (2014) Method for reduction for carbon dioxide from soils using biochar derived from corn residue. 10-1428552. Korea.
8. Ok, Y.S. and Jeong, S.H. (2014) Method for purifying antibiotics in water using biochar derived from buffalo-weed (*Ambrosia trifida* L.). 10-1390454. Korea.
9. Ok, Y.S. (2014) The method of TCE adsorption using soybean stover or peanut shells carbonized at high temperature. 10-1376278. Korea.
10. Oh, S.E., Joo, J.H. and Ok, Y.S. (2011) The method and system for salt removal from vinyl house soil. 10-1064368. Korea.
11. Ok, Y.S., Lee, H.Y., Joo, J.H. and Yang, J.E. (2011) Chestnut shell contained absorbent and absorbing method of heavy metal ions from aqueous solution by using them. 10-1055661. Korea.
12. Ok, Y.S., Choi, B.S., Hur, S.O. and Ha, S.K. (2011) Waste nutrient solution Treatment and reuse for agriculture application. 10-1049202. Korea.
13. Kim, J.G., Cho, N.H., Kim, N.B., Cho, H.I, Yoon, Y.M., Ok, Y.S., Kim, D.Y. and Kim, S.H. (2005) New plant variety of *Artemisia princeps* var. *orientalis* 'Korea'. 10-0472095. Korea.
14. Kim, J.G., Cho, N.H., Kim, N.B., Cho, H.I, Yoon, Y.M., Ok, Y.S., Kim, D.Y. and Kim, S.H. (2004) Removing method for heavy metals of a coal mine soil using plants. 10-0465451. Korea.
15. Kim, J.G., Cho, N.H., Kim, N.B., Cho, H.I, Yoon, Y.M., Ok, Y.S., Kim, D.Y. and Kim, S.H. (2004) Method of biological remediation for heavy metal contaminated soil. 10-0465452. Korea.