

Dr. Sunil Paul Mathew Menacherry, M.Sc, Ph.D

Scientist, Section II 3.3, German Environment Agency (UBA),
Schichauweg 58, 12307 Berlin, Germany

Email: Sunil.Menacherry@uba.de, Alt.: sunil.kde@gmail.com

Mobile: +49 176 30412713



Education

2011 – 2016	Ph. D. in Chemistry (Environmental and Analytical Chemistry) <i>Mahatma Gandhi University, India.</i>
2006 – 2008	M. Sc. in Chemistry (Pharmaceutical Chemistry) <i>Mahatma Gandhi University, India.</i>
2003 – 2006	B. Sc. in Chemistry <i>Mahatma Gandhi University, India.</i>

Professional Experience

Aug. 2023 – Current	Scientist (Umweltbundesamt - German Environment Agency, Germany) ➤ Analysis of pharmaceuticals in aquatic environment.
Oct. 2019 – June 2023	Postdoctoral Researcher (Department of Soil Science and Soil Protection, Czech University of Life Sciences Prague, Czech Republic) ➤ Fate of organic pollutants (pharmaceuticals, pesticides etc.) in soil.
Sept. 2015 – June 2019	Postdoctoral Researcher (Division of Environmental Science and Engineering (DESE), Pohang University of Science and Technology (POSTECH), Republic of Korea) ➤ Chemical reactions in ice phase.
May 2014 - April 2015	Visiting Student (Division of Environmental Science and Engineering (DESE), Pohang University of Science and Technology (POSTECH), Republic of Korea) ➤ Chemical reactions in ice phase.
Sept. 2008 – Oct. 2009	Analyst (Quality Evaluation laboratory, Spices Board, Govt. of India) ➤ Responsibilities includes the analysis of various spices and spice products for different quality parameters.

Research Interests

- ❖ Environmental chemistry
- ❖ Analytical chemistry
- ❖ Wastewater treatment
- ❖ Advanced oxidation processes
- ❖ Environmental monitoring
- ❖ Emerging organic pollutants
- ❖ Free-radical chemistry

Summary of Academic Achievements (Selected)

- Research articles published in SCI journals: **25** (First Author: **11**, Corresponding Author: **4**)
- Review articles published in SCI journals: **2**, Book chapters: **2**
- Google Scholar citation > **640**, **H-index: 15** (updated on Dec. 27, 2025)
- Guest Editor of a special issue “**Novel Methods for the Remediation of Emerging Organic Pollutants from the Environment, Vol. II**” in *ChemEngineering* (ISSN 2305-7084); 2023
- Co-Guest Editor of a special issue “**Air Pollution from Wastewater Management**” in *Atmosphere* (ISSN 2073-4433); 2022
- Guest Editor of a special issue “**Novel Methods for the Remediation of Emerging Organic Pollutants from the Environment**” in *ChemEngineering* (ISSN 2305-7084); 2022
- Guest Editor of a special issue “**Analytical Methods to Monitor Emerging Organic Contaminants in the Environment**” in *Analytica* (ISSN 2673-4532); 2022
- Reviewer, *Catalysis Today* (Elsevier); 2016 –
- Reviewer, *Environmental Science and Pollution Research* (Springer); 2017 –
- Reviewer, *Environmental Monitoring and Assessment* (Springer); 2021 –
- Reviewer, *Catalysts* (MDPI); 2022 –
- Reviewer, *Nanomaterials* (MDPI); 2023 –
- Reviewer, *Sustainability* (MDPI); 2023 –
- Coordinator, Organizing Committee, *International Conference on Frontiers of Mass Spectrometry* (ICMS 2013), Kottayam, India
- Member, Local Organizing Committee, *Second International Conference on Membranes* (ICM-2013), Kottayam, India
- Member, Local Organizing Committee, *Second International Conference on Advanced Oxidation Processes* (AOP-2012), Kottayam, India
- Member, Local Organizing Committee, *International Conference on Membrane* (ICM-2011), Kottayam, India
- Member, Local Organizing Committee, *International Conference on Advanced Oxidation Processes* (AOP-2010), Kottayam, India
- Member, Local Organizing Committee, *International Conference on Climate Change and Developing Countries* (CCDC-2010), Kottayam, India

Publications

In Books

- 2 **Menacherry, S. P. M.**; Aravindakumar, C. T.; The Oxidative Degradation of Theophylline from Aquatic Environments: A Mechanistic Study. Book Chapter (Nova science publishers), 2023 (URL: <https://novapublishers.com/shop/advances-in-environmental-research-volume-96/>)
- 1 **Menacherry, S. P. M.**; Aravind, U. K.; Aravindakumar, C. T.; Transformation mechanism of organic CECs by photochemical oxidation processes: Insights from mass spectrometry. Book Chapter (RSC), 2023 (DOI: <https://doi.org/10.1039/9781839167355>)

- 28 Asiz, A. A.; Haritha, P. S.; Krishna, D.: **Menacherry, S. P. M.**; Mammen, P. C.; Sruthi S. N.; Shyleshchandran, M. S.; Warming Landscapes and Urban Imprints: A 24-Year Study of Land and Climate Change in Kollam, Southwest India, **Earth Syst. Environ.**, 2025 (DOI: <https://doi.org/10.1007/s41748-025-00746-4>)
- 27 Ranjbar, E.: **Menacherry, S. P. M.**; Pang, J.; Ruhl, A. S.; Direct oxidation of organic micropollutants by persulfate and hydrogen peroxide: A potentially misleading contribution in advanced oxidation processes, **Chem. Eng. J. Adv.**, 2025, 24, 100862
- 26 Junge, F.; Rückbeil, F. E.; Gnirss, R.; Haag, R.; Lorente, A.; Lorenz, F.; **Menacherry, S. P. M.**; Ruhl, A. S.; Sperlich, A.; Zidar, A.; Wagner, A.; Effect of Hydrophobic Cross-Linkers in Strong Base Gel-Type Resins on the Adsorption Kinetics and Capacity for Perfluoroalkyl Substances - **ACS ES&T Water**, 2025, 5, 4435–4447
- 25 Shyleshchandran, M. S.; Asiz, A. A.; Haritha, P. S.; Sruthi, S. N.; **Menacherry, S. P. M.**; Microplastic Contamination of the Aquatic Environment in the Indian Scenario: A Review. **Rev. Environ. Contam. Toxicol.**, 2025, 263, 7
- 24 **Menacherry, S. P. M.**; Kodešová, K.; Fedorova, G.; Sadchenko, A.; Kočárek, M.; Klement, A.; Fér, M.; Chroňáková, A.; Nikodem, A.; Grabic, R.; Dissipation of twelve organic micropollutants in three different soils: Effect of soil characteristics and microbial composition. **J. Hazard. Mater.** 2023 (DOI: <https://doi.org/10.1016/j.jhazmat.2023.132143>).
- 23 **Menacherry, S. P. M.**; Kodešová, K.; Švecová, H.; Klement, A.; Fér, M.; Nikodem, A.; Grabic, R.; Selective accumulation of pharmaceutical residues from 6 different soils by plants: A comparative study on onion, radish, and spinach. **Environ. Sci. & Pollut. Res.** 2023, 30, 54160–54176
- 22 Moorchilot, V. S.; Aravind, U. K.; **Menacherry, S. P. M.**; Aravindakumar, C. T.; Single-Particle Analysis of Atmospheric Aerosols: Applications of Raman Spectroscopy. **Atmosphere**, 2022, 13, 1779
- 21 Shubin, N. B.; **Menacherry, S. P. M.**; Sreekanth, R.; Nguyen, T. P.; Pramod, G.; Aravind, U. K.; Aravindakumar, C. T.; Exploring the oxidation chemistry of hydroxy naphthoic acid: An experimental and theoretical study. **J. Phys. Org. Chem.**, 2022 (DOI: <https://doi.org/10.1002/poc.4416>)
- 20 **Menacherry, S. P. M.**; Aravind, U. K.; Aravindakumar, C. T.; Critical review on the role of mass spectrometry in the AOP based degradation of contaminants of emerging concern (CECs) in water. **J. Environ. Chem. Eng.**, 2022, 10, 108155
- 19 **Menacherry, S. P. M.**; Aravind, U. K.; Aravindakumar, C. T.; Oxidative degradation of pharmaceutical waste, theophylline, from natural environment. **Atmosphere**, 2022, 13, 835
- 18 Sreekanth, R.: **Menacherry, S. P. M.**; Renjith, S.; Manojkumar, T.K.; Aravind, U. K.; Aravindakumar, C. T.; Oxidation reactions of carbaryl in aqueous solutions. **Chem. Phys.** 2021, 544, 111427
- 17 **Menacherry, S. P. M.**; Kočárek, M.; Kacerova, T.; Kotíková, T.; Kačer, P.; Kodešová, R.; The impact of initial concentration of selected pharmaceuticals on their early stage of dissipation in soils. **J. Soils Sediments.** 2021, 22, 522-535
- 16 Thomas, S.; Rayaroth, M. P.; **Menacherry, S. P. M.**; Aravind, U. K.; Aravindakumar, C. T.; Sonochemical degradation of benzenesulfonic acid in aqueous medium. **Chemosphere**, 2020, 10, 108155

- 15 **Menacherry, S. P. M.**; Min, D.W.; Daun, J.; Aravindakumar, C. T.; Lee, W.; Choi, W.; Halide-induced dissolution of lead(IV) oxide in frozen solution. **J. Hazard. Mater.** 2020, 384, 121298
- 14 Kim, K.; **Menacherry, S. P. M.**; Daun, J.; Saiz-Lopez, A.; Choi, W.; Simultaneous and synergic production of bioavailable iron and reactive iodine species in ice. **Environ. Sci. Technol.** 2019, 53, 7355-7362
- 13 Blaž, C.; Naglič, P.; **Menacherry, S. P. M.**; Pernuš, F.; Likar, B.; Poor optical stability of molecular dyes when used as absorbers in water-based tissue-simulating phantoms. **Proc. SPIE, Vol. 10870**, 2019 (*doi: 10.1117/12.2506977*)
- 12 **Menacherry, S. P. M.**; Kim, K.; Lee, W.; Choi, C. H.; Choi, W.; Ligand-specific dissolution of iron oxides in frozen solutions. **Environ. Sci. Technol.** 2018, 52, 13766-13773
- 11 **Menacherry, S. P. M.**; Nguyen, T. P.; Aravind, U. K.; Pramod, G.; Aravindakumar, C. T.; Exploring the mechanism of diphenylmethanol oxidation: A combined experimental and theoretical approach. **Chem. Phys.** 2018, 513, 201-208
- 10 Oturan, N.; Aravindakumar, C.T.; Olvera-Vargas, H.; **Menacherry, S. P. M.**; Oturan, M. A.; Electro-Fenton oxidation of para-aminosalicylic acid: degradation kinetics and mineralization pathway using Pt/carbon-felt and BDD/carbon-felt cells. **Environ. Sci. & Pollut. Res.** 2017, 24, 969-978
- 9 Sruthi, S. N.; Shylesh Chandran, M. S.; **Menacherry, S. P. M.**; Ramasamy, E. V.; Multiresidue analysis of organochlorine pesticides (OCPs) in soil samples of Kuttanad agro-ecosystem-a tropical wetland of peninsular India. **Environ. Sci. & Pollut. Res.** 2017, 24, 969–978
- 8 **Menacherry, S. P. M.**; Sreekanth, R.; Aravind, U. K.; Pramod, G.; Aravindakumar, C. T.; Transformation reactions of radicals from the oxidation of diphenhydramine: Pulse radiolysis and mass spectrometric studies. **ChemistrySelect**, 2016, 5, 924-933
- 7 **Menacherry, S. P. M.**; Laprévote, O.; Nguyen, T. P.; Aravind, U. K.; Pramod, G.; Aravindakumar, C. T.; Identification of position isomers by energy-resolved mass spectrometry. **J. Mass Spectrom.**, 2015, 50, 944–950
- 6 Pramod, G.; Swathy, V.; Luke, T. L.; **Menacherry, S. P. M.**; Aravindakumar, C. T.; Degradation of dyestuff pollutant sudan I using advanced oxidation process. **J. Water Resource Prot.**, 2014, 6, 1276-1283
- 5 **Menacherry, S. P. M.**; Aravind, U. K.; Saha, A.; Pramod, G.; Aravindakumar, C. T.; Hydroxyl radical induced oxidation of theophylline in water: A kinetic and mechanistic study. **Org. Biomol. Chem.** 2014, 12, 5611-5620
- 4 Olvera-Vargas, H.; Oturan, N.; Aravindakumar, C. T.; **Menacherry, S. P. M.**; Sharma, V. K.; Oturan, M. A.; Electro-oxidation of the dye azure B: Kinetics, mechanism, and by-products. **Environ. Sci. & Pollut. Res.** 2014, 21, 8379–8386
- 3 Sreekanth, R.; **Menacherry, S. P. M.**; Aravind, U. K.; Marignier, J. L.; Belloni, J.; Aravindakumar, C. T.; Oxidation reactions of hydroxy naphthoquinones: Mechanistic investigation by LC-Q-TOF-MS analysis. **International Journal of Radiation Biology**. 2014, 90, 495-502
- 2 Sreekanth, R.; Prasanthkumar, K. P.; **Menacherry, S. P. M.**; Aravind, U. K.; Aravindakumar, C. T.; Oxidation reactions of 1- and 2-naphthols: An experimental and theoretical study. **J. Phys. Chem. A**, 2013, 117, 11261–11270
- 1 **Menacherry, S. P. M.**; Aravind, U. K.; Pramod, G.; Aravindakumar, C. T., Oxidative degradation of fensulfothion by hydroxyl radical in aqueous medium. **Chemosphere** 2013, 91, 295-301

Skills/Expertise

Expertise in Instruments

- **Mass Spectrometry** (Single Quadrupole - *Shimadzu*, Triple Quadrupole/Q-Trap - *Sciex*; Quadrupole -Time of Flight - *Waters*)
- **Chromatography** (HPLC - *Shimadzu*, *Dionex*, & *Agilent*; UPLC - *Waters*; Ion Chromatography - *Dionex*; GC - *Perkin Elmer* & *Shimadzu*)
- **Electron Accelerator** (Pulse Radiolysis)
- **Spectroscopy** (UV-Vis - *Shimadzu*, *Perkin Elmer*, & *Agilent*; Fluorescence - *Perkin Elmer*; ATR-FT-IR - *Shimadzu*)
- **Inductively Coupled Plasma–Optical Emission Spectrometer** (ICP-OES - *Thermo*)
- **Total Organic Carbon (TOC) Analyzer** (*Thermo*)
- **Atomic Absorption Spectrometer** (AAS - *Perkin Elmer*)

Technical Expertise

- **Operating Systems:** Windows, Linux & Android
- **Programming:** JAVA
- **Software:** ACD Chem Sketch, ChemOffice ChemDraw, Microcal Origin, Microsoft Office, Adobe Photoshop, etc.

Awards

- **Senior Research Fellowship (SRF)** from Council of Scientific and Industrial Research (CSIR), Govt. of India
- **Dr. Hari Mohan memorial award** for the best poster in Trombay Symposium on Radiation and Photochemistry (TSRP 2014) held on January 6-9, 2014, Mumbai, India.
- Selected as an “**International visiting student**” by Pohang University of Science and Technology (POSTECH), Pohang, Republic of Korea, for a period of one year (2014)

Other Interests

- Android app development
- Linux and open source
- Photography, traveling, and sports

Personal Information

Age: 39 years; **Date of Birth:** April 23,1986; **Gender:** Male;

Marital Status: Married; **Kids:** One

Languages Known: English, Malayalam, and Hindi; **Nationality:** Indian

Permanent Address: Menacherry, Alangad P. O., Aluva, Ernakulam, Kerala, India, 683511

References

Prof. C. T. Aravindakumar

Professor, School of Environmental Sciences & Vice Chancellor,
Mahatma Gandhi University, Kottayam, India.

Home page: <http://ctamgu.in/index.html>

Email: cta@mgu.ac.in

Mob: +919447391168

Prof. Wonyong Choi

Professor & Director, KENTECH Institute for Environmental & Climate Technology,
Korea Institute of Energy Technology (KENTECH)

200 Hyeoksin-ro, Naju, Korea 58330

Editor-in-Chief, ACS ES&T Engineering.

Email: wchoi@kentech.ac.kr

Prof. Radka Kodešová

Professor, Czech University of Life Sciences Prague,
Kamýcká 129, 16500, Prague 6, Czech Republic

Email: kodesova@af.czu.cz