Dr. Sunil Paul Mathew Menacherry, M.Sc, Ph.D
Scientist, Section II 3.3, German Environment Agency (UBA),
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Education

2011 – 2016 **Ph. D. in *Chemistry (Environmental and Analytical Chemistry)***
Mahatma Gandhi University, India.

2006 – 2008 **M. Sc. in *Chemistry (Pharmaceutical Chemistry)***
Mahatma Gandhi University, India.

2003 – 2006 **B. Sc. in *Chemistry***
Mahatma Gandhi University, India.

Professional Experience

May 2024 – Current **Scientist**
(***Umweltbundesamt - German Environment Agency, Germany)***
- *Analysis of pharmaceuticals in aquatic environment.*

Aug 2023 – Apr 2024 **Scientific Assistant**
(***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)***
- *Research focusing the investigation of the behavior 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)***
- *Investigated the transformation of environmentally relevant chemical processes in ice phase. Examples include the dissolution of iron oxide in ice phase, which is largely affected by the presence of various environmentally important organic and inorganic ligands, pH etc.*

May 2014 - April 2015 **Visiting Student**
(***Division of Environmental Science and Engineering (DESE), Pohang University of Science and Technology (POSTECH), Republic of Korea)***
- *Extensively studied the dissolution of Lead(IV) oxide in ice phase which is found to induce lead poisoning in the polar and other regions covered under snow/ice and thus receives extreme environmental relevance.*

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)

In International Journals

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 Shibin, 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, DW.; 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, photo-designing, 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

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References

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Mahatma Gandhi University, Kottayam, India.
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