

Malaisamy Ramamoorthy, PhD

Tel.: (202)806-6583 (W)

mramamoorthy@howard.edu; malaisamy@gmail.com (alt)

Current Position: Senior Research Associate (Laboratory Manager and Chemical Hygiene Officer)

Broad Areas of expertise:

Analytical Chemistry	Membrane fabrication
Environmental Science and Engineering	Membrane Surface modifications
Nanotechnology	Membrane Fouling
Polymer materials and blends	Molecularly Imprinted Membranes (MIPs)
Chemical and instrumental analysis	Micro, Ultra, Nano and RO filtrations

Highlights:

- Awardee of Alexander-von-Humboldt Postdoctoral fellowship (AvH) of Germany
- Expert reviewer for journals in ACS, RSC, Wiley Interscience, Elsevier, Marcel Dekker etc. publishers
- 14 years of post-PhD work experience in membrane separation processes, analytical instrumentation, environmental engineering and nanotechnology
- High impact publications: H-Index: 17; i-Index: 22. Citations: ~1171. Publications: 29; Conf. presentations: 50
- Expertise in the instrumentation of IC, EKA, SEM, Gonio-meter, AAS, TOC, Ellipsometer, ATR-FTIR, Surface Area Analyzer etc

Accomplishments:

2006 to present: Senior Research Associate, Howard University, Washington, District of Columbia, USA

- Worked on membrane surface modification techniques such as layer-by-layer, grafting, spin-coating.
- Worked on polymer, ceramic and stainless steel membranes on separations, various fouling and control strategies
- Worked on RO, NF, UF and MF membrane processes for water treatment and bio-separations
- In-charge of lab instruments/equipment setting, testing, training, trouble shooting and general lab management
- Taught physical-chemical process and water treatment for graduate and undergraduate students (limited period)
- Mentored and co-mentored graduate and undergraduate research projects
- Developed project plans, collaborated in proposal writing for external and internal funding.
- Established collaborations with other research groups: Eg.:University of Michigan; University of Houston; etc
- Worked on setting up new analytical/environmental laboratories and instruments
- Certified laboratory safety and chemical hygiene officer for the department

2004-2006: Research Associate, Michigan State University, East Lansing, MI, USA (Host: Dr.Merlin Bruening)

- Developed and characterized polyelectrolyte thin films by layer-by-layer surface modification for water treatment
- Designed and mentored graduate student projects on membrane surface modification for hardness control in water treatment
- Developed high flux thin film composite membranes for organic fouling control
- Involved in setting up new cross-flow nanofiltration set- ups
- In-charge of maintenance and trouble-shooting ion-chromatograph instrument
- In-charge of training students and other researchers on research experiments and equipment

2001-2004: Postdoctoral Research Fellow, University of Essen, Essen, Germany (Host: Dr.Mathias Ulbricht)

- Developed molecularly imprinted polymer (MIP) membranes by polymer blending and fabrication
- Established techniques to develop molecularly imprinted polymer membranes by phase inversion and casting
- Trained graduate and undergraduate students on membrane fabrication and on instruments

1996- 2001: Graduate Student for Ph.D, Anna University, Chennai, TN, India (Advisor: Dr.D.Mohan)

- Modified polysulfone polymer by chemical functionalization (sulfonation)
- Fabricated phase inversion membranes using polymer blends (cellulose acetate, sulfonated polysulfone, polyurethane)
- Achieved separation of heavy metals by ligand-complexation and ultrafiltration.
- Developed high flux membranes for the rejection of biomolecules (BSA, EA, pepsin and tripsin)

1994-1995: M.Phil Student, University of Madras, Chennai, India

- Synthesized polydithiocarbamate resin and separated Rh (III) and Ir (III) by complexation and ion exchange in column chromatography.

Education:

- Ph.D., Membrane Separation process (Chemistry), Department of Chemical Engineering, Anna University, Chennai, INDIA (2001). Dissertation: Studies on Cellulose acetate/Sulfonated polysulfone and Polyurethane/Sulfonated polysulfone blend ultrafiltration membranes”.
- M.Phil., Department of Analytical Chemistry, University of Madras, Chennai, INDIA. (1995)
- M.Sc., Department of Chemistry, Government Arts College, Coimbatore, INDIA. (1994)
- B.Sc., Department of Chemistry, Gobi Arts College, Gobi, INDIA (1992)
- PGDIM, Post-graduate diploma in Marketing Management, Indira Gandhi National Open University, New Delhi, India (2000).

Language skills:

- Working knowledge in German and Hindi

Awards and Honors

- **Alexander von Humboldt (AvH)** Postdoctoral Fellowship award in **Germany** (2003 – 2004)
- Senior Research Fellowship (**SRF**), award by **CSIR, India** (1997 – 2000).
- Research Associateship (**RA**), by **CSIR, India**, 2001 (fellowship not taken)
- Second Best Poster Award at *DECHEMA e.V Frankfurt, GERMANY* in 2002
- Best Presentation Award at the Environmental Chemistry Division of 239th ACS National meeting, 2010
- Division’s Best Poster Award, at Water Science & Research Division at ACE11-Washington DC by AWWA.
- Editorial Office’s recognition for Reviewing Activity, 2013(*Membranes* **2014**, 4, 79-80)
- MARQUIS’ Who’s Who in America – recognized in 2015

Professional Services and Synergistic Activities

- Departmental in-charge for instrumentation and lab safety
- External examiner for PhD theses and dissertations in environmental, analytical and chemical sciences
- Reviewer for ACS, RSC, Elsevier, Wiley-Interscience, Springer and other leading journal publishers
- NNIN REU Mentor – for the years 2008, 2009, 2010 and 2011
- Lead Guest Editor – Special issue in Journal of Chemistry 2016
- Judge and moderator – National scientific meetings and conferences
- Invited Author to write book chapters for RSC publishing -2016
- Member, Executive Committee, Research Week at Howard University, 2015

Affiliations with professional societies:

- Member, American Chemical Society (ACS), Since 2005
- AvH Honorary member , German Chemists Association (GDCh), 2003
- Member, North American Membrane Society (NAMS), - 2003-2010
- Member, Society for Molecular Imprinting (SMI), Since 2002.
- Honorary member, Society of Chemical Industry (SCI), - 2006 - 2007.
- Member, International Society for Environmental Information Sciences (ISEIS), Since 2016

Publication and Presentations (List attached separately)

- Total Number of peer-reviewed journal publications : 29
- Total number of conference presentations : 50
- Number of citing references (*as of May, 2016*) : 1171