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## Work Experience

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- December 2017- May 2018 Junior researcher of wastewater treatment.  
**Institut National Polytechnique (INP), Toulouse, France.**
- 2010-2014 Senior expert of wastewater treatment plants.  
**Parsjooyab Consulting Engineering Company, Isfahan, Iran.**

## Education

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- 2014 –18 June 2018 **PhD., Environmental Engineering, Membrane Science and Technology**  
Membrane Science and Technology (MST group), University of Twente, the Netherlands.
- PhD., Process and Environmental Engineering**  
Laboratory of Chemical Engineering (LGC group), University of Toulouse, France.
- June 2017–Jan 2018 **Visiting scholar., Micropollutants removal by nanofiltration membranes**  
Membrane Technology Group (COK group), University of KU Leuven, Belgium.
- 2006 - 2009 **M.Sc., Civil-Environmental Engineering,**  
University of Tehran, Iran.  
GPA: 18.76 out of 20.
- 2001 - 2005 **B.Sc., Agricultural Engineering (Food industries &Technology),**  
Khorasgan Branch, Azad University, Isfahan, Iran.  
GPA: 16.40 out of 20.
- 2000 - 2001 **Pre-University completion (Experimental Sciences),**  
Isfahan University of Technology, Isfahan, Iran.  
GPA: 17.94 out of 20.

## Doctoral Research

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- University of Toulouse** **Micropollutants (MPs) removal from secondary-treated municipal wastewater using bioaugmented-moving bed biofilm reactors (MBBRs):** Over the last few years, a great concern has been highlighted regarding the occurrence of MPs in aquatic resources and the subsequent effects on humans and the environment. Tertiary MBBRs, filled with newly-introduced Z-carriers and bioaugmented by a selected bacterium, were comprehensively investigated to find the abiotic and biotic removal mechanisms of four MPs including Diclofenac, Naproxen, 4n-Nonylphenol and 17 $\beta$ -Estradiol.
- University of Twente** **MPs removal using nanofiltration (NF) membranes:** The removal of target MPs (Ibuprofen, Diclofenac, Naproxen, and 4n-Nonylphenol) was assessed using hollow-fiber NF membranes, surface-modified by layer by layer (LbL) assembly of weak polyelectrolytes. Unique membranes were eventually obtained with a great potential in MPs removal combined with low salts removal from secondary-treated wastewater. This capability would allow us to have a low-saline concentrate stream which is more favorable for biological treatment, compared to the available commercial membranes found in the market.
- University of KU Leuven** **The capability of annealed polyelectrolyte multilayer (PEM)-based NF membranes in MPs removal:** PEMs-based NF membranes were post-treated by applying thermal and salt annealing processes. A quite high removal of MPs next to the easy cleaning of both PEMs and foulants (sacrificial approach) were observed without employing any physical force in annealed PEMs membranes, making them a promising technology for advanced wastewater treatment.

## Recently-Submitted Paper

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- **S. Mehran Abtahi**, Maike Petermann, Agathe Juppeau Flambard, Sandra Beaufort, Fanny Terrisse, Thierry Trotoin, Claire Joannis Cassan, Claire Albasi; "Evaluating the influence of bioaugmentation on the performance of tertiary moving bed biofilm reactors (MBBRs) for micropollutants removal." Submitted to the journal of *Science of the Total Environment.*, 2018.

## Published Papers

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- **S. Mehran Abtahi**, Shazia Ilyas, Claire Joannis Cassan, Claire Albasi, Wiebe M. de Vos; "Micropollutant removal from secondary-treated municipal wastewater using weak polyelectrolyte multilayer based nanofiltration membranes." *Journal of Membrane Science.*, 2018, Vol. 548, 654-666.
- **S. Mehran Abtahi**, Maike Petermann, Agathe Juppeau Flambard, Sandra Beaufort, Fanny Terrisse, Thierry Trotoin, Claire Joannis Cassan, Claire Albasi; "Micropollutants removal in tertiary moving bed biofilm reactors (MBBRs): Contribution of the biofilm and suspended biomass." *Science of the Total Environment.*, 2018, Vol. 643, 1464-1480.
- **S. Mehran Abtahi**, Lisendra Marbelia, Abaynesh Yihdego Gebreyohannes, Claire Joannis Cassan, Claire Albasi, Wiebe M. de Vos, Ivo Vankelecom; "Micropollutants rejection of annealed polyelectrolyte multilayers polyacrylonitrile-based nanofiltration membranes for treatment of conventionally-treated municipal wastewater." *Separation and Purification Technology.*, 2019, Vol. 209, 470-481.
- Shazia Ilyas, **S. Mehran Abtahi.**, Namik Akkiloglu, H.D.W. Roesink, Wiebe M. de Vos; "Weak polyelectrolyte multilayers as tunable separation layers for micro-pollutant removal by hollow fiber nanofiltration membranes". *Journal of Membrane Science.*, 2017, Vol. 537, 220-228.
- Zahra Derakhshan, Amir Hossein Mahvi, Mohammad Hassan Ehrampoush, Seyed Mohammad Mazloomi, Mohammad Faramarzian, Mansooreh Dehghani, Saeed Yousefinejad, Mohammad Taghi Ghaneian, **S. Mehran Abtahi**; "Studies on influence of process parameters on simultaneous biodegradation of atrazine and nutrients in aquatic environments by a membrane photobioreactor". *Journal of Environmental Research.*, 2018, Vol. 161,599-608.
- **S. Mehran Abtahi**, Amin Mohammad Mehdi, Nateghi Roya, Vosoogh Ali, Dooranmahaleh Mehdi Gholizadeh; "Prediction of effluent COD concentration of UASB reactor using kinetic models of Monod, Contois, Second-Order Grau and modified Stover-Kincannon". *International Journal of Environmental Health Engineering.*, 2013, Vol. 1, Issue 8, 2-12.
- **S. Mehran Abtahi**, Ali Torabian, Ali Vosoogh, Babak Jafari, Mehdi Gholizadeh Dooranmahaleh; "Comparison of the Monod and Kincannon-Stover models for kinetic evaluation in an Anaerobic Baffled Reactor (ABR)". *Environmental Sciences.*, 2011, Vol. 6, No.4, 55-66.
- Torabian Ali, **S. Mehran Abtahi**, Amin Mohammad Mehdi, Momeni Seyyed Alireza; "Treatment of Low-Strength Industrial Wastewater Using an Anaerobic Baffled Reactor (ABR)." *Journal of Environmental Health, Science and Engineering.*, 2010, Vol. 7, No. 3, 229-240.
- Torabian Ali, **S. Mehran Abtahi**, Amin Mohammad Mehdi, Momeni Seyyed Alireza; "Operation of an Anaerobic Baffled Reactor for Sulfate Removal of Amirkabir Industrial Estate Wastewater". *The Journal of Water and Wastewater* (in Persian language), 2010, No.2 (74), Vol. 21, 19-26.
- Torabian Ali, **S. Mehran Abtahi**, Ali Vosoogh, Mohamad Reza Shams; "Start-up and evaluation of UASB reactor operation in the Amirkabir industrial estate wastewater treatment plant". *Environmental Technology and Sciences* (in Persian language), 2009, 39-53.
- Torabian Ali, **S. Mehran Abtahi**, Ali Vosoogh, Mohamad Reza Shams; "Start-up and evaluation of UASB reactor operation in the Amirkabir industrial estate wastewater treatment plant". *Environmental Technology and Sciences* (in Persian language), 2009, 39-53.

## Published Book

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- Gholamreza Nabi Bidhendi, Ali Vosoogh, Mehdi Gholizadeh, **S. Mehran Abtahi**; Translation of a book named: "*Wastewater Bacteria*", written by Gerardi Micheal H, into the Persian language; Printed by Tehran University Publications, 2011 (ISBN: 978-964-03-6213-6).

## Presentations at conferences

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- **S. Mehran Abtahi**, Shazia Ilyas, Claire Joannis Cassan, Claire Albasi, Wiebe M. de Vos; "Tertiary treatment of micropollutants using layer by layer-made nanofiltration membranes". 11<sup>th</sup> International Congress on Membranes and Membrane Processes (ICOM2017), July 29<sup>th</sup> - August 5<sup>th</sup> 2017, San Francisco, California, U.S.A.
- **S. Mehran Abtahi**, Maïke Petermann, Agathe Juppeau Flambard, Sandra Beaufort, Fanny Terrisse, Thierry Trotouin, Claire Joannis Cassan, Claire Albasi; "The performance of tertiary moving bed biofilm reactors (MBBRs) in micropollutants (MPs) removal". 10<sup>th</sup> Micropol & Ecohazard Conference, 17-20 September 2017, Vienna, Austria.
- **S. Mehran Abtahi**; "Micropollutants removal from secondary-treated wastewater using weak polyelectrolyte multilayer based NF membrane". 6<sup>th</sup> Scientific annual conference of the EUDIME program, 13-15 September 2017, Prague, Czech Republic.
- **S. Mehran Abtahi**, Maïke Petermann, Agathe Juppeau Flambard, Sandra Beaufort, Fanny Terrisse, Thierry Trotouin, Claire Joannis Cassan, Claire Albasi; "Abiotic and biotic removal of micropollutants in tertiary moving bed biofilm reactors". 6<sup>th</sup> international congress on Green Process Engineering (GPE), 3-6 June 2018, Toulouse, France.
- **S. Mehran Abtahi**, Shazia Ilyas, Claire Joannis Cassan, Wiebe M. de Vos, Claire Albasi; "Tertiary treatment of micropollutants (MPs) using layer by layer-made nanofiltration membranes". IWA MTC - 8<sup>th</sup> IWA Specialist Conference on Membrane Technology for Water and Wastewater Treatment, 2-7 September 2017, Singapore.
- **S. Mehran Abtahi**, Omid Yazdani, Iraj Hoshyari, Ehsan Mani; "Kinetic Analysis of Sulfate Removal in an Anaerobic Baffled Reactor (ABR)". "Proceedings of International Conference on Environmental Engineering and Technology (ICEET), World Academy of Science, Engineering and Technology 78, pp. 1396-1416, 2011, Amsterdam, Netherlands.
- Torabian Ali, **Abtahi S. Mehran**, Amin Mohammad Mehdi, Vosoogh Ali; "Comparison of Monod and Kincannon-Stover models for kinetic evaluation in an Anaerobic Baffled Reactor". the 2<sup>nd</sup> International Conference on Water and Wastewater Treatment (ICWWT), April 21-22, 2010, Isfahan, Iran.

## Presentations at seminars

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- **S. Mehran Abtahi**; "Application of polyelectrolyte multilayer-based nanofiltration membranes for micropollutants removal from wastewater", the COK seminar., September 26, 2017., Membrane Technology Group., KU Leuven, Leuven, Belgium.
- **S. Mehran Abtahi**; "Tertiary treatment of micropollutants using a coupled Nanofiltration-bioaugmented MBBR system", the MST seminar., February 29, 2016., the group Membrane Science and Technology (MST), the University of Twente, the Netherlands.
- **S. Mehran Abtahi**; "Tertiary treatment of target micropollutants using a coupled Nanofiltration-MBBR reactor bioaugmented with *Pseudomonas fluorescens*, *Bacillus amyloliquefaciens* and *Yarrowia lipolytica*". Toulouse Annual Doctoral Day (JDD), November 11, 2015, Laboratory of Chemical Engineering (LGC)., the University of Toulouse, Toulouse, France.

## Attendance at colloquiums

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- 16<sup>th</sup> Dutch Polymer Days, March 7-8, 2016, Westhofflaan 2, 6741 KH Lunteren, the Netherlands.
- 15<sup>th</sup> Poster Day Membrane Technology, June 28, 2016, Apeldoorn, the Netherlands.

## Honors and Awards

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- 2014**                      The winner of the award of “EUDIME Fellowship”, on behalf of the European Commission - Education, Audiovisual and Culture Executive Agency (EACEA) in 2014 (Doctoral contracts No. 2014-122).

## Attendance at workshops

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- “Membranes for Water Treatment and Reuse”, International Congress on Membranes and Membrane Processes (ICOM 2017), June 29-30, 2017, San Francisco, USA.
- “MOF-mixed matrix membranes: preparation strategies and plasticization performance”, Belgian Membrane Group (BMG), August 30, 2017, Leuven, Belgium.
- “Forward osmosis: applications and scale-up”, Belgian Membrane Group (BMG), August 31, 2017, Leuven, Belgium.

## Scientific training courses

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- “Working procedure of the Scanning Electron Microscope (SEM)”, Department of ENSIACET, November 9<sup>th</sup>, 2016, University of Toulouse, France.
- “Working procedure of the Epifluorescence Microscope (EPM)”, Department of ENSIACET, December 13<sup>th</sup>, 2016, University of Toulouse, France.
- “Working procedure of the Spectroscopic Ellipsometry”, Faculty of Bioscience Engineering, July 10<sup>th</sup>, 2017, KU Leuven, Leuven, Belgium.
- “Attenuated Total Reflectance (ATR)-Fourier Transform Infrared Spectroscopy (FTIR)”, Membrane Technology Group (COK), November 29<sup>th</sup>, 2017, KU Leuven, Leuven, Belgium.

## Daily supervision of MSc students

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- Maike Petermann., “Bio-augmentation of moving bed biofilm reactor for micropollutants removal from wastewater”., Department of ENSIACET, University of Toulouse, France.
- Léa Marchandau., Tracking of bacterial strains bio-augmented in the moving bed biofilm reactor., Department of ENSIACET, University of Toulouse, France.

## Editorial board

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- Member of the editorial board of the “Journal of Environmental Health and Sustainable Development”, which covers studies related to environmental issues (<http://jehsd.ssu.ac.ir>).

## Journals' reviewer

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- Reviewer of the journal of “ACS Sustainable Chemistry & Engineering” (<http://pubs.acs.org/journal/ascecg>).
- Reviewer of the journal of “Process biochemistry” (<https://www.journals.elsevier.com/process-biochemistry>).

## Skills

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- **Experimental** Proficient in laboratorial experiments related to water and wastewater treatment.  
  
Able to work with membrane casting machine, water filtration set-ups, scanning electron microscope, epifluorescence microscope, confocal microscope, DNA extraction and qPCR, spectroscopic ellipsometer, reflectometer, optical density instrument, contact angle instrument, etc.
- **Computer** Engineering: BIOWIN (Simulation of activated sludge systems).  
Others: Microsoft Office, Adobe programs.
- **Language** English: Full professional proficiency  
French: In progress.  
Persian: Native

## References

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- Claire Albasi, Research Director, INP-ENSIACET, CNRS, Laboratoire de Génie Chimique, Université de Toulouse, Toulouse, France.  
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- Wiebe M. De Vos, Associate professor, Membrane Science and Technology, Faculty of Science and Technology, University of Twente, the Netherlands.  
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- Ivo Vankelecom, Professor, Membrane Technology Group, the University of KU Leuven, Leuven, Belgium.  
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- Erik Roesink, Professor, Membrane Science and Technology, Faculty of Science and Technology, University of Twente, the Netherlands.  
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- Claire Joannis Cassan, Assistant Professor, INP-ENSIACET, CNRS, Laboratoire de Génie Chimique, Université de Toulouse, Toulouse, France.  
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- Thierry Trotouin, Expertise Marchés industriels et tertiaires, Veolia water technologies, Toulouse, France.  
[thierry.trotouin@veolia.com](mailto:thierry.trotouin@veolia.com) +33603680790
- Sandra Beaufort, Assistant Professor, INP-ENSIACET, CNRS, Laboratoire de Génie Chimique, Université de Toulouse, Toulouse, France.  
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