

CURRICULUM VITAE

FORMATO EUROPEO/EUROPEAN
FORMAT

PERSONAL INFORMATION

Name Surname Alberto Figoli
Place and Date of birth La Spezia, 26/12/1970
Address Via San Lorenzo 15, 87050 Lappano CS, (Italy)
Telephone 0039 3458191054
E-mail a.figoli@itm.cnr.it ; alberto.figoli@cnr.it
Actual Position Director of the Institute on Membrane Technology, CNR-ITM (*since 1 March 2019*)

ACADEMIC AND RESEARCH ACTIVITIES

15 March 1996 Degree in Food Science and Technology at the Agriculture University of Milan. Title of thesis "oil extraction from vegetal matrixes through the use of supercritical CO₂".

1 May – 20 Dec. 1996 Working experience at Quest International Nederland B.V. (ICI), Naarden (NL), Process Research Group: Setting of a pilot plant for aromatic compounds extraction using the pervaporation membrane technology.

20 May 1997
- 26 Oct 2001 PhD in Chemical Technologies at Membrane Technology Group, University of Twente, Enschede (NL). Title of the thesis on "Synthesis of nanostructured mixed matrix membranes for facilitated gas separation".

19 Dec 2001
- 28 Feb 2019 Researcher at the Institute on Membrane Technology (CNR-ITM)

14 June -24 July 2005 Stage at "Environmental Protection Agency of United States (USEPA)" presso "Sustainable Technology Division, Cincinnati (USA)" on "Volatile Organic Compounds (VOCs) removal using a novel asymmetric membrane by pervaporation" nell'ambito dello "Short Term Mobility Programme" funded CNR.

01-28 February 2004 Stage at "Environmental Protection Agency of United States (USEPA)" at Sustainable Technology Division, Cincinnati (USA) on "Aroma removal using a novel ceramic-polymeric membrane material by pervaporation" within "Short Term Mobility Programme" funded by CNR

1 Oct. -1 Dec. 2010 "Secondment at GVS, SpA in Bologna, within the EU project "Implementation of Membrane Technology to Industry (IMETI). Work on "Preparazione e caratterizzazione di membrane innovative per la rimozione di Composti Organici Volatili (VOCs)".

1 Sept-5 Nov. 2011 "Secondment at GVS, SpA a Bologna, within the EU project "Implementation of Membrane Technology to Industry (IMETI). Work on "Preparazione e caratterizzazione di membrane ibride per la rimozione di Composti Organici Volatili (VOCs)".

1 Feb 2015-1Feb 2019 Elected as Member of European Membrane Society (EMS), Awards and Price Responsible; EMS Secretary.

Research-related Alberto Figoli is expert in the field of membrane technology, particularly in *membrane preparation and characterisation and application in environmental field*. He is working on the preparation and characterisation

skills

of novel elastomeric and glassy membranes, both in flat and hollowfiber configuration, which are applied to the removal of VOC from water by pervaporation or water treatment by membrane contactors. Furthermore, he is also involved on polymeric capsules preparation by membrane process which aim to tailor their morphology to the release of the species of interest for food packaging, chemical and environmental applications. He is also working on pervaporation applied to the removal of contaminants (i.e. VOC) from water and aroma recovery from natural matric (fruit or vegetables).

Recent projects

- International project, NEWMEM, Development of anti-wetting and anti-fouling membranes for membrane distillation and membrane crystallizer applications: treatment of RO brine and produced water, Funding Board: Ministry of Education, Kingdom of Saudi Arabia, Period: 2020-2023, Position in the project: "ITM Scientific Responsible".
- Bilateral Project Italy-France, University Rennes – ITM, Funding Board: Bando GALILEO - MIUR, Italy, Period: 2020-2021, Position in the project: "ITM Scientific Responsible".
- Research Project between ITM-CNR and SAES SPA for the research on "development of innovative products". Period December 2019-December 2020. Position in the project: "ITM Scientific Responsible".
- Research Project among ITM-CNR, DeltaMEM, Bracco Imaging SPA for the research on "Innovative membrane processes". Period November 2019- March 2020. Position in the project: "ITM Scientific Responsible".
- National Project PON, TARANTO (Tecnologie e processi per l'Abbattimento di inquinanti e la bonifica di siti contaminati con Recupero di mAterie prime e produzioNe di energia TOTally green), Funding Board: PON 2014-2020 Ricerca e Innovazione. Period: 2018 – 2021, Position in the project: "ITM Scientific Responsible".
- Regional Project POR, AsSE (SEparazione dell'ArSenico dalle acque mediante processi a membrana), Funding Board: POR CALABRIA FESR-FSE2014-2020, Period 2017 – 2020, Position in the project: "Scientific Project Responsible".
- European Project (Horizon2020) for the research of "Integrated aquaculture based on sustainable water recirculating system for the Victoria Lake Basin". Period: June 2016– June 2019, Position in the project: "ITM Scientific Responsible".
- Research Project Agreement between ITM-CNR and Solvay Specialty Polymer for the research: "Hydrophobic flat membrane preparation for membrane contactors and pervaporation application". Period: november 2012- December 2016. Position in the project: "Scientific Coordinator".
- European Project (FP7) for the research of "Nanotechnology Application in Water Deasalisation (NAWADES)". Period: September 2012– September 2016, Position in the project: "ITM Scientific Responsible".
- Research project Agreement between ITM-CNR and IPM-filtri for the research: "Membrane preparation for water treatment". Period: november May 2012- May 2013. Position in the project: "Scientific Coordinator".
- European Project (FP7) for the research of "Biotechnology for Africa's sustainable water supply (WATERBIOTECH)". Period: September 2011– September 2013, Position in the project: "ITM Scientific Responsible".
- European Project (FP7) for the research of "Development of the next generation membrane bioreactor system (BIONEXGEN)". Period: September 2010 – May 2014, Position in the project: "ITM Scientific Responsible".
- European Project (FP7): Marie Curie People for the research of "Preparation of ionic liquid microcapsule membranes loaded and their application in NMVOCs removal". Period: July 2010 – July 2012 Position in the project: "Scientific Coordinator".
- Agreement between ITM-CNR and Chemical Engineering School in Baghdad (Iraq), "Memorandum of Understanding". Period: Starting in July 2010. Position in the project: "Scientific

Coordinator”.

- Agreement between ITM-CNR and Dipartimento di Scienze Farmaceutiche dell'Università della Calabria (Prof. Bartolo Gabriele) for research: “Study on synthesis and characterisation of polymerisable surfactants”. Period of the project: March 2011 - March 2012. Position in the project: “Scientific Coordinator”.
- European Project (FP7) Erasmus Mundus External Cooperation Window, Lot 13: “EURINDIA”. Period: September 2009 – September 2013 Position in the project: “ITM Scientific responsible”. Period: September 2010- September 2014.
- Agreement between ITM-CNR e King Abdulaziz City for Science and Technology (KACST) for the research: “Hydrophobic membrane preparation for membrane contactors application”. Period: Spetmber 2009 – September 2012. Position in the project: “Key expert”.
- Agreement between ITM-CNR and Alteco Srl for the research: “Applicazioni di contattori a membrana nel settore medicale”. Period December 2006-December 2007. Position in the project: “key expert”.
- European Project FP7: “Membrane-based desalination: an integrated approach (MEDINA)”. Period of the project: October 2006 – January 2010. Period of the project : October 2006 – January 2010. Position in the project: Participant.
- European Project (FP7): “Promotion and focussing of current research activities of Membrane Technology in Water Treatment in the Mediterranean Region (PROMEMBRANE)”. Period of the project: August 2006- August 2008. Position in the project: “key expert”.
- European Project (FP6),Asia Pro Eco programme: “Innovative Water Treatment (INNOWA)”. Period of the project: April 2005- April 2007. Position in the project: “principal investigator”.
- Network of excellence “Nano-technologies and nano-sciences, knowledge-based multifunctional materials, and new production processes and devices (Nanomempro)”, European Project in FP6. Period of the project: September 2004- August 2008. Position in the network: WP7 ITM-CNR responsible “Characterisation of membrane function”,

SCIENTIFIC ACITIVITY

h-index 32 (Scopus); 36 (Google scholar)

Articles Alberto Figoli published more than 180 peer-review papers on Membrane Science and Technology
Some selected newest articles:

1. Z. K. Sun, Y. Zhou, Y. Jiao, X. Q. Cheng, Y. Zhang, P. Wang, H. Liang, X. Yang, E. Drioli, A. Figoli, J. Ma, L. Shao, Multi-hydrophilic functional network enables porous membranes excellent anti-fouling performance for highly efficient water remediation, *Journal of Membrane Science*, 608 (2020) 118191
2. F. Russo, C. Ursino, E. Avruscio, G. Desiderio, A. Perrone, S. Santoro, Francesco Galiano, A. Figoli, Innovative Poly (Vinylidene Fluoride) (PVDF) Electrospun Nanofiber Membrane Preparation Using DMSO as a Low Toxicity Solvent, *Membranes*, (10)3 (2020) 36
3. C. Ursino, F. Russo, R Ferraro, MP De Santo, E. Di Nicolò, T. He, F Galiano, A. Figoli, Polyethersulfone hollow fiber membranes prepared with Polarclean® as a more sustainable solvent, *Journal of Membrane Science*, 608 (2020) 118216
4. G Grasso, F Galiano, MJ Yoo, R Mancuso, HB Park, B Gabriele, A Figoli, E Drioli, Development of Graphene-PVDF Composite Membranes for Membrane Distillation, *Journal of Membrane Science*, 604

(2020) 118017

5. E Gukelberger, T Atiye, JA Mamo, K Hoevenaars, F Galiano, A Figoli, B Gabriele, R Mancuso, P Nakyewa, F Akello, R Otim, B Mbilingi, SC Adhiambo, D Lanta, M Musambya, J Hoinkis, Membrane Bioreactor (MBR) treated domestic wastewater for sustainable reuse in the Lake Victoria region, Integrated Environmental Assessment and Management, 2020, doi: 10.1002/ieam.4281
6. F. H. Al-Ani, Q. F. Alsahy, R. S. Raheem, K. T. Rashid, A. Figoli, Experimental Investigation of the Effect of Implanting TiO₂-NPs on PVC for Long-Term UF Membrane Performance to Treat Refinery Wastewater 10(4) (2020) 77
7. Z. Wang, F. He, J. Guo, S. Peng, X. Cheng, Y. Zhang, E. Drioli, Alberto Figoli, Y. Li, L. Shao, The stability of graphene oxide (GO) nanofiltration (NF) membrane in aqueous environment: Progress and challenges, Materials Advances, DOI: 10.1039/D0MA00191K
8. N. A. M. Ameen, S. S. Ibrahim, Q. F. Alsahy, A. Figoli, Highly Saline Water Desalination Using Direct Contact Membrane Distillation (DCMD): Experimental and Simulation Study, Water, 12 (2020) 1575
9. I Fuoco, A Figoli, A Criscuoli, G Brozzo, R De Rosa, B Gabriele, C Apollaro, Geochemical modeling of chromium release in natural waters and treatment by RO/NF membrane processes, Chemosphere, 254 (2020) 126696
10. W Xie, A Tiraferri, B Liu, P Tang, F Wang, S Chen, A Figoli, L-Y Chu, First Exploration on a Poly (vinyl chloride) Ultrafiltration Membrane Prepared by Using the Sustainable Green Solvent PolarClean, ACS Sustainable Chemistry & Engineering, 8 (2020) 91-101
11. F Russo, F Galiano, F Pedace, F Aricò, A Figoli, Dimethyl Isosorbide As a Green Solvent for Sustainable Ultrafiltration and Microfiltration Membrane Preparation, ACS Sustainable Chemistry & Engineering 8 (1) (2020) 659-668
12. H Semghouni, S Bey, A Figoli, A Criscuoli, M Benamor, E Drioli. Chromium (VI) removal by Aliquat-336 in a novel multiframe flat sheet membrane contactor, Chemical Engineering and Processing-Process Intensification 147 (2020) 107765
13. A Figoli, I Fuoco, C Apollaro, M Chabane, R Mancuso, B Gabriele, R De Rosa, G Vespasiano, D Barca, A Criscuoli, Arsenic-contaminated groundwaters remediation by nanofiltration, Separation and Purification Technology 238 (2020) 116461
14. A. Figoli, C. Ursino, S. Santoro, I. O. Jalila Chekir, A. Hafiane, E. Ferjani, Cellulose Acetate Nanofiltration Membranes for Cadmium Remediation, Journal of Membrane Science and Research, 6 (2020) 226-234
15. MY Ghadhbani, H S Majdi, K T Rashid, Q F Alsahy, D S Lakshmi, I K Salih, A Figoli, Removal of Dye from a Leather Tanning Factory by Flat-Sheet Blend Ultrafiltration (UF) Membrane, Membranes 10 (2020) 47
16. V M Morittu, V Mastellone, R Tundis, M R Loizzo, R Tudisco, A Figoli, A Cassano, N Musco, D Britti, F Infascelli, P Lombardi, Antioxidant, Biochemical, and In-Life Effects of Punica granatum L. Natural Juice vs. Clarified Juice by Polyvinylidene Fluoride Membrane, Foods, 9 (2020) 242
17. R. Castro-Muñoz, F. Galiano, Ó. de la Iglesia, V. Fíla, C. Téllez, J. Coronas, A. Figoli, Graphene oxide-Filled polyimide membranes in pervaporative separation of azeotropic methanol–MTBE mixtures Journal of Membrane Science, 224 (2019) 265-272
18. C. Ursino, E. Di Nicolò, B. Gabriele, A. Criscuoli, A. Figoli, Development of a novel perfluoropolyether (PFPE) hydrophobic/hydrophilic coated membranes for water treatment, Journal of Membrane Science, 581 (2019) 58-71
19. T. Marino, F. Galiano, A. Molino, A. Figoli, New frontiers in sustainable membrane preparation: Cyrene™ as green bioderived solvent, Journal of Membrane Science, 580 (2019) 224-23
20. R. Castro-Muñoz, J. Buera-González, Ó. de la Iglesia, F. Galiano, V. Fíla, M. Malankowska, C. Rubio, A. Figoli, C. Téllez, J. Coronas, Towards the dehydration of ethanol using pervaporation cross-linked poly(vinyl alcohol)/graphene oxide membranes, Journal of membrane science 582 (2019) 423-434
21. C. Ursino, E. Di Nicolò, B. Gabriele, A. Criscuoli, A. Figoli, Development of a novel perfluoropolyether

- (PFPE) hydrophobic/hydrophilic coated membranes for water treatment, *Journal of Membrane Science*, 581 (2019) 58-71
22. G. Bagnato, A. Figoli, C. Ursino, F. Galiano, A. Sanna, A novel Ru–polyethersulfone (PES) catalytic membrane for highly efficient and selective hydrogenation of furfural to furfuryl alcohol, *Journal of Materials Chemistry A* 6 (12) (2018) 4955-4965
 23. F. Galiano, I. Friha, S. A. Deowan, J. Hoinkis, Y. Xiaoyun, D. Johnson, R. Mancuso, N. Hilal, B. Gabriele, S. Sayadi, A. Figoli, Novel low-fouling membranes from lab to pilot application in textile wastewater treatment, *Journal of Colloid and Interface Science*, 515 (2018) 208–220
 24. S. A. Deowan, F. Galiano, J. Hoinkis, D. Johnson, S.A. Altinkaya B. Gabriele, N. Hilal, E. Drioli, A. Figoli, Novel low-fouling membrane bioreactor (MBR) for industrial wastewater treatment, *Journal of Membrane Science*, 510 (2016) 524-532
 25. A. Figoli, C. Ursino, F. Galiano, E. Di Nicolò, P. Campanelli, M.C. Carnevale, A. Criscuoli, Innovative hydrophobic coating of perfluoropolyether (PFPE) on commercial hydrophilic membranes for DCMD application, *Journal of Membrane Science* 522 (2017) 192-201
 26. F. Galiano, A. Figoli, S. A. Deowan, D. Johnson, S. A. Altinkaya, L. Veltri, G. De Luca, R. Mancuso, N. Hilal, B. Gabriele, J. Hoinkis, A step forward to a more efficient wastewater treatment by membrane surface modification via polymerizable bicontinuous microemulsion, *Journal of Membrane Science* 482 (2015) 103-114

Patents

- S. Sikdar, K. Dutta, J. Burkle, A. Figoli, E.Drioli, Fabrication of an asymmetric membrane constructed of a hydrophobic elastomeric polymer for separation applications, US filed in Nov. 2006 and published in the United States of America, May 2008. Requested extension in Europe, 13th November 2007, US 07425717.1
- A. Figoli, J. Hoinkis, B. Gabriele, De Luca Giorgio, F. Galiano, S. Deowan, Bicontinuous Microemulsion Polymerized Coating For Water Treatment, Patent filed on 27/09/2013; WO2014/EP070603, 2014.
- A. Figoli, F. Galiano, G. Barbieri, A. Brunetti, L. Giorno, B. Gabriele, R. Mancuso, C. S. Pomelli, C. Chiappe, Y. Itami, Innovative polymerised ionic liquid membranes for gas separation, Patent n.: 102018000003374, filed on 08/03/2018. Extended to PCT on 08/03/2019, PCT/IT2019/050050

Books

- A. Figoli, A. Basile, Yongdan Li, *Membrane in Environmental Applications, Current Trends and Future Developments on (Bio-) Membranes*, 1st Edition, Elsevier (2019) ISBN9780128173008
- A. Basile, A. Cassano, A. Figoli, *Renewable Energy Integrated with Membrane Operations, Current Trends and Future Developments on (Bio-) Membranes*, Elsevier (2018) 9780128135464
- A. Figoli, A. Cassano, A. Basile, *Membrane Technologies for Biorefineries*, 1st Edition, Woodhead Publishing, Elsevier (2016) ISBN9780081004517
- A. Basile, A. Figoli, M. Khayet, *Pervaporation, Vapour Permeation, Membrane Distillation: Principles and Applications*, Woodhead Publishing, Elsevier (2015) ISBN9781782422563
- A. Figoli, J. Hoinkis, J. Bundschuh, *Membrane Technologies for Water Treatment: Removal of Toxic Trace Elements with Emphasis on Arsenic, Fluoride and Uranium*, CRC Press, (2016) ISBN9781138027206
- A. Figoli, J. Hoinkis, S. Altinkaya, J. Bundschuh, *Application of Nanotechnology in Membranes for Water Treatment*, CRC Press, (2017) I 9781138896581
- A. Figoli, A. Criscuoli, *Sustainable Membrane Technology for Water and Wastewater Treatment*, Springer (2017) ISBN9789811056239

Book Chapters	More than 20 chapters have been published in International Books dealing with membrane science and Technology
Honours and awards	<ul style="list-style-type: none"> - Alberto Figoli, 1st price for the Scientific Productivity 2006 in “Food Packaging Research – GSICA Awards”, given by Prof. Piergiovanni, President of the Italian Scientific Group in Food Packaging, Catania, 22 June 2006. - Alberto Figoli, Best Article selected among 14000 scientific articles to represent at CNR headquarters the Environmental Section in the Highlights of CNR publications for the years 2010 and 2011 by CNR, July 2011 and 16 July 2012, CNR headquarter, Rome. Selected article: A. Figoli, A. Cassano, A. Criscuoli, S. Mozumder, T. Uddin, A. Islam, E. Drioli, Influence of operating parameters on the arsenic removal by nanofiltration, Water Research 44 (2010) 97-104. - Alberto Figoli, invited to present at CNR Headquarter in Rome, as representative of the macroarea “Environment”, the work selected within the Highlights of CNR for the years 2010/2011: A. Figoli, A. Cassano, A. Criscuoli, M. S. I. Mozumder, M. T. Uddin, M. A. Islam, E. Drioli, Influence of operating parameters on the arsenic removal by nanofiltration, Water Research 44 (2010) 97-104. Presentation at CNR, Sala Marconi, Piazzale Aldo Moro 7, Rome: July 2012. - Alberto Figoli, invited to present at CNR Headquarter in Rome, as representative of the macroarea “Water Sustainability”, the work selected within the Highlights of CNR for the years 2009/2010: A. Figoli, A. Cassano, A. Criscuoli, M. S. I. Mozumder, M. T. Uddin, M. A. Islam, E. Drioli, Influence of operating parameters on the arsenic removal by nanofiltration, Water Research 44 (2010) 97-104. Presentation at CNR, Sala Marconi, Piazzale Aldo Moro 7, Rome: 27 July 2011.
Referee activity	<p>Referee for several international journals: Water Research, Journal of Membrane Science, Hazardous Material Journal, J Phys Chemistry B, Separation Science and Technology, Desalination, Journal of Chemical Technology and Biotechnology, Separation and Purification, etc.</p> <p>Project Referee for different organisations: Romanian Government, National Council for Scientific Research, UEFISCDI, Romania; The Innovation and Technology Commission (ITC), Government of the Hong Kong Special Administrative Region; “CE21 Food, food systems” Evaluation committee of the French National Research Agency - Czech Science Foundation, GACR; Netherlands Organisation for Scientific Research, NWO, Domain TTW.</p>
Invited Chairman	Alberto Figoli has been invited as chairman in more than 10 Conferences
Supervising and mentoring activities	<p>Supervisor of more than 50 undergraduate and Master students in Italy and Europe (1998-2020)</p> <p>Supervisor of more than 10 PhD students in the field of Membrane Technology</p>
Conference proceedings	More than 100 conference proceedings including oral and poster presentations
Membership	- Member of the European Membrane Society (EMS).

Alberto Figoli

