Neda AMANAT

Educations

Nov.2017-May2021 **PhD in Chemical Engineering**, Sapienza University of Rome, Rome, Italy

Oct.2011-Jul.2014 **M.Sc. in Petroleum Engineering**, Polytechnic University of Turin, Turin, Italy

Sep.2005-Jun.2009 **B.Sc. in Chemical Engineering**, Shiraz University, Shiraz, Iran

Work Experiences

Aug. 2019-July 2021 **Research Fellow (Assegno di Ricerca)**
Laboratory of Chemistry Department, Sapienza University of Rome, Rome, Italy
Project: Materiali innovativi nella bonifica di falde acquifere contaminate: caratterizzazione, reattività e ipotesi di implementazione tecnologica

May 2018-Apr.2019 **Research Fellow (Assegno di Ricerca)**
Laboratory of Chemistry Department, Sapienza University of Rome, Rome, Italy
Project: Development of effective technologies for the remediation of soil and groundwater contaminated by Non-Aqueous Phase Liquids (NAPLs)

Apr.2017-July 2017 **Stage, Researcher**
KiteGen, Turin, Italy

- Working in R&D as a part of a team dealing with a new technology for the transformation of high-altitude wind energy into electricity
- Applying CAPEX & OPEX for the operating expenses

Sep. 2010-Dec.2010 **Trainee, Chemical Engineer**
PIDEC (Petrochemical Industries Design and Engineering Company), Shiraz, Iran

- Preparation of engineering documents for safety engineering
- Performing HAZID, HAZOP and safe handling of hazardous Material
- Reviewing supplier drawings for information relative to design of facilities
- Knowledge of PFD, P&ID, UDD, vendor drawings, process data sheets
- Familiarity of ASME and API standards and specifications

Research Projects

Nov.2017 **PhD Research Project**

Jan.2020 **Thesis title:** Physical-Chemical and Biological Remediation Processes for Groundwater Contaminated by Light and Dense Non-Aqueous Phase Liquids
Supervisor: Prof. Marco Petrangeli Papini
Summary:

The research was focus on development and modeling of effectual technologies for the remediation of soil and groundwater contaminated by NAPLs, both denser and lighter than water, by applying several experimental studies and using the biological and chemical/physical remediation processes. The possible remediation methods that will be more cost-effective and more durable than conventional methods, especially in the case of

Oct.2013 **Master Research Project**
Jul.2014 **Thesis:** Applying numerical simulation to evaluate the effectiveness of gas and water injection in different cases
Supervisor: Dr. Dario Viberti **Summary:**
The main objective of the study was to review part of the available technical literature, to discuss some of the technical aspects and to perform a comparative simulation study by using ECLIPSE 100 simulator to evaluate the effectiveness of gas injection and water injection as EOR methods.

May2008- **Bachelor Research Project**
Jun.2009 **Thesis:** Measurement of wax and asphaltene in crude oil by a simple laboratory method
Supervisor: Dr. Fereidoun Esmaeilzadeh
"aged" secondary sources and in which the residual mass is located in areas characterized by very limited permeability.

1st project: Dealing with innovative source of electron donors for biological reductive dechlorination process as a part of the European Project RES URBIS, financed by the Horizon 2020 programme.

2nd project: Investigating a novel method for surfactant's selection in enhancing bioavailability of NAPLs contamination for the SEAR remediation technology.

Summary:
The research project was collaborated with Ahvaz Refinery in order to investigate the effect of the operating conditions on the precipitation of wax and asphaltene in pipelines. **Peer-Reviewed Publications**

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1) Rossi M.M.**,** Dell'Armi E., Lorini L., **Amanat N.**, Zeppilli M., Villano M., Petrangeli Papini M. (2021). "Combined Strategies to Prompt the Biological Reduction of Chlorinated Aliphatic Hydrocarbons: New Sustainable Options for Bioremediation Applications", Bioengineering, 8(8), 109.
2) **Amanat N.,** Matturro B., Rossi M. M., Valentino F., Villano M., Petrangeli Papini M. (2021). "Assessment of Long-Term Fermentability of PHA-Based Materials from Pure and Mixed Microbial Cultures for Potential Environmental Applications", Water, 13(7), 897, I.F. 3.103.

3) Rossi M. M., Silvani L., **Amanat N.**, Petrangeli Papini M. (2021). "Biochar from Pine Wood, Rice Husks and Iron-Eupatorium Shrubs for Remediation Applications: Surface Characterization and Experimental Tests for Trichloroethylene Removal", Materials, 4(7), 1776, I.F. 3.623.

4) **Amanat N**., Novello C., Rossi M.M., Bellagamba M., Buccolini M., Petrangeli Papini M. (2021), "Valutazione di tensioattivi sintetici e naturali per applicazione in Surfactant- Enhanced Aquifer Remediation (SEAR)", Conference Book SiCon 2021, ISBN 88-7850-025-9.

5) Rossi M.M., Andreini F., Caruso P., **Amanat N.**, Petrangeli Papini M. (2021), "Rimozione di Tricloroetilene (TCE) attraverso Declorazione Biologica Riduttiva (BRD su Biochar: studio preliminare e scale-up con donatore di elettroni alternativo, Conference Book SiCon 2021, ISBN 88-7850-025-9.

6) **Amanat N**., Rossi M.M., Andreini F., Majone M., Petrangeli Papini M., (2020), "Poliidrossialcanoati (PHA) da Colture Microbiche Miste (MMC) a Supporto alla Declorazione Biologica Riduttiva", Conference Book SiCon 2020. Siti Contaminati. Esperienze negli interventi di risanamento, ISBN 88-7850-023-2.

7) Rossi M.M., **Amanat N**., Dell'Armi E.; Petrangeli Papini M. (2020), "Immobilizzazione di Tricloroetilene (TCE) su Biochar (BC) a sostegno della Declorazione Biologica Riduttiva (BRD)", Conference Book SiCon 2020. Siti Contaminati. Esperienze negli interventi di risanamento, ISBN 88- 7850-023-2.

8) Rossi M. M., **Amanat N.**, Hady A., Marconi E., Astolfi M. L., Silvani L., Petrangeli Papini M. (2018). "Adsorption of chlorinated solvents and heavy metals onto low-cost materials (biochars) in groundwater remediation", ISBN 978-618-81537-6-9, Abstract in 7th European Bioremediation Conference 11th International society for Environmental Biotechnology, Chania, Greece.

Presentations & Conferences

Sep. 2021 **Oral Presentation: Amanat N.**, Barbati B., Guerani W., Bellagamba M., Rossi M. M., Buccolini M., Petrangeli Papini M., "Characterization of Synthetic and Natural Surfactants for Mobilization of Contaminants in Environmental Matrices", RemTech Europe 2021.

Sep. 2021 **Oral Presentation:** Rossi M.M., Andreini F., Caruso P., **Amanat N.**, Petrangeli Papini M., "A Polyhydroxy butyrate (PHB)/Biochar bioreactor to remove Trichloroethylene from contaminated water: a Coupled Adsorption and Biodegradation approach", RemTech Europe 2021.

Sep. 2021 **Oral Presentation: Amanat N.**, Andreini F., Rossi M. M., Matturro B., Rossetti S., Majone M., Petrangeli Papini M., "PHA-based material from pure and mixed microbial culture as slow-release electron donor for sustainable in situ biological reductive dechlorination", DehaloCon III 2021.

Sep. 2021 **Oral Presentation: Amanat N.**, Matturro B., Rossetti S., Petrangeli Papini M., "A Coupled Adsorption and Biodegradation (CAB) process employing PHB and Biochar as bio-based materials for TCE contaminated groundwater in-situ bioremediation", Rossi M. M**,** Andreini F., Caruso P., DehaloCon III 2021.

Feb. 2021 **Oral Presentation: Amanat N.**, Novello C., Rossi M. M., Bellagamba M., Buccolini M., Petrangeli Papini M., "Evaluation of synthetic and natural surfactants for their application in Surfactant-Enhanced Aquifer Remediation (SEAR)", SiCon 2021, Digital edition.

Feb. 2021 **Oral Presentation:** Rossi M. M., Andreini F., Caruso P., **Amanat N.**, Petrangeli Papini M., "Removal of Trichlorethylene (TCE) through Reductive Biological Dechlorination (BRD) on Biochar: Preliminary Study and Scale-Up with Alternative Electron Donor", SiCon 2021, Digital edition.

Feb. 2020 **Oral Presentation: Amanat N.**, Rossi M. M., Andreini F., Majone M., Petrangeli Papini M., "Assessment of Polyhydroxyalkanates (PHA) Obtained by MMC for Supporting Biological Reductive Dechlorination", SiCon 2020, Rome, Italy.

July 2019 **Poster Presentation: Amanat N.**, Rossi M. M., Petrangeli Papini M., "Surfactants-based remediation as an effective approach for removal of environmental pollutants", GRICU 2019, Mondello-Palermo, Italy.

June 2019 **Oral Presentation: Amanat N.**, Rossi M. M., Lorini L., Chronopoulou L., Majone M., Petrangeli Papini M., "Comparative Evaluation of Polyhydroxyalkanates (PHA) Fermentability for Bioremediation Application", CGR 2019, Rome, Italy.

May 2019 **Oral Presentation: Amanat N.**, Rossi M. M., Barbati B., Lorini L., Chronopoulou L., Zeppilli M., Majone M., Petrangeli Papini M., "Comparative Evaluation of the Polyhydroxyalkanates (PHA) Fermentability from Different Sources for Bioremediation Applications", 15th International Conference of Sustainable Use and Management of Soil, Sediment and Water Resources: AquaConSoil 2019, Antwerp, Belgium.

May 2019 **Poster Presentation: Amanat N.**, Rossi M. M., Petrangeli Papini M., "Evaluation of surfactant as a useful tool for Groundwater Remediation", 15th International Conference of Sustainable Use and Management of Soil, Sediment and Water Resources: AquaConSoil 2019, Antwerp, Belgium.

May 2019 **Poster Presentation:** Rossi M. M., **Amanat N.**, Arduini G., Astolfi M.L., Silvani L., Petrangeli Papini M.**,** "Can Biochar be used as an alternative low-cost/cost effective sorbent for groundwater remediation?", 15th International Conference of Sustainable Use and Management of Soil, Sediment and Water Resources: AquaConSoil 2019, Antwerp, Belgium.

May 2019 **Poster Presentation:** Rossi M.M., **Amanat N.**, Ostakh S.V., Kusheeva V.S., Masalevich A.I., Astolfi M.L., Silvani L., Petrangeli Papini M., "Adsorption of contaminants onto a char obtained by pyrolysis of used tyres and rubber wastes: a possible low-cost alternative in the groundwater remediation technologies", 15th International Conference of Sustainable Use and Management of Soil, Sediment and Water Resources: AquaConSoil 2019, Antwerp, Belgium.

June 2018 **Poster Presentation:** Rossi M. M., **Amanat N.**, Hady A., Marconi E., Astolfi M. L., Silvani L., Petrangeli Papini M., "Adsorption of chlorinated solvents and heavy metals onto low-cost materials (biochars) in groundwater remediation", 7th European Bioremediation Conference 11th International society for Environmental Biotechnology, Chania, Greece.

Skills

Laboratory Skills	Expert of laboratory analyses such as gas chromatograph, ion chromatograph, HPLC, Mass Spectrophotometer, Total Organic Carbon (TOC) analyser
Computer Skills	MATLAB, HYSYS, ASPEN, ECLIPSE, PETREL, AUTOCAD, GIS software, SigmaPlot software, Microsoft Office™ tools, Microsoft Windows
Language Skills	Persian: Native, Mother Tongue English: Fluent

Italian: Fluent

Other Skills Groundwater sampling

Certificates

July 2017 **Specialization in Environment, Energy and Safety**, Euroqualità Soc, Turin, Italy

July 2017 **Specialization in Eco-management and Environmental Audit**, Euroqualità Soc, Turin, Italy

Honours and Awards

Aug. 2019- Winner of **Assegno di Ricerca** position from Department of Chemistry at Sapienza **July.2021** University of Rome (Italy)

June 2018 Winner of **Assegno di Ricerca** position from Department of Chemistry at Sapienza University of Rome (Italy)

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n.196 "codice in materia di protezione dei dati personali"