

Valentina Biagioni

Curriculum vitae et studiorum

Education

- 11/2019-in course **PhD Student in Chemical Processes for Industry and Environment.**
Sapienza Università di Roma
Research Topics: "Transport of diluted suspensions in laminar flows with an application to size-based separation of biological samples in microfluidic and Lab-On-a-Chip devices".
- 02/2020 **Licensed Industrial Engineer**
- 12/2016-05/2019 **Master Degree Process Chemical Engineering**
Sapienza Università di Roma
Major: Civil and Industrial Engineering
Final Grade: 110/110
Thesis: Three-dimensional effects sized-based on separation mesoscopic particles in Deterministic Lateral Displacement microfluidic devices.
Relevant Courses: Mathematical Methods for engineering, Chemical Reactors, Advanced Thermodynamics, Wastewater Treatment Processes, Applied Process Design, Theory of Research and development in Chemical Processes.
- 10/2013-12/2016 **Bachelor Degree Process Chemical Engineering**
Sapienza Università di Roma
Major: Civil and Industrial Engineering
Thesis: "Ispezione basata sul rischio di giunti saldati."
- 09/2008-06/2013 **Liceo Scientifico G. Chelli- Grosseto(GR), Italy**
Diploma

Academic activity

Teaching activity :

- 2020-2021 Tutor di Termodinamica per l'Ingegneria Chimica I (ING-IND/24)

Co-supervisor master thesis :

Valutazione di un numero di Sherwood modificato per la modellizzazione di reattori a membrana: applicazione al caso del reforming del metano. Rocchetti Chiara (AA 2019-2020)

Co-supervisor bachelor thesis :

Ottimizzazione della geometria di un micro-canale per la separazione in base alla dimensione di particelle e colloidii micrometrici. Carboni Valerio (AA 2019-2020)

Analisi della performance di separazione di una sospensione multidispersa di particelle in microcanali a trappola entropica. Gabriele Alessandro (AA 2020-2021)

Separazione per dimensione di particelle diluite in microcanali a setaccio Browniano. Aurora Salari(AA 2020-2021)

Analisi della velocità media di sospensioni diluite in microcanali a setaccio Browniano. Michela Magliocchetti (AA 2020-2021)

Effetto di moti convettivi trasversali sull'efficienza di separazione di sospensioni diluite mediante tecniche di cromatografia idrodinamica. Anass El Idrissi (AA 2020-2021)

Publications

- 12/2021 *Biagioni, V; Sow L,A; Fagiolo, A,G; Adrover, A.; Cerbelli, S.* Brownian sieving enhancement of microcapillary hydrodynamic chromatography. Analysis of the separation performance based on Brenner's macro-transport theory. Journal of Chromatography A 1659, 462652
- 03/2021 *Biagioni, V.; Sow L,A, ; Adrover, A.; Cerbelli, S.* Brownian Sieving Effect for Boosting the Performance of Microcapillary Hydrodynamic Chromatography. Proof of Concept. Analytical Chemistry 93 (17), 6808-6816
- 09/2020 *Biagioni, V.; Balestrieri, G.; Adrover, A.; Cerbelli, S.* Combining Electrostatic, Hindrance and Diffusive Effects for Predicting Particle Transport and Separation Efficiency in Deterministic Lateral Displacement Microfluidic Devices. Biosensors 2020, 10, 126.
- 08/2019 *Biagioni, V; Adrover, A; Cerbelli, S* On the Three-Dimensional Structure of the Flow through Deterministic Lateral Displacement Devices and Its Effects on Particle Separation. Processes, MDPI.
- 05/2019 *Murmura, M,A; Biagioni, V, Cerbelli, S* Numbering-up Strategies for Microfluidics-Assisted Water Treatment Processes: Deterministic Lateral Displacement for the Removal of Bacteria and Parasites as a Case Study. Chemical Engineering Transactions 73:199, May 2019.

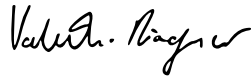
Training Experiences

- 04/2018-05/2018 APS Spa Internship: Development of Design basis, Process Flow Diagram, Datasheet and P&ID of a Naphtha Stabilization Unit.
- 06/2012 INFN-LNF Summer Internship: Quantum mechanics, theoretical and experimental activity.

Languages: Italian(Native speaker), English(B2).

IT skills: Matlab, Gnuplot, Fortran 90, LaTeX.

Computer Software: COMSOL Multiphysics, PRO/II, Microsoft Office Suite.



Roma, 14/02/2022