

Pejman Sanaei

CONTACT INFORMATION

New York Institute of Technology
Department of Mathematics
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RESEARCH INTERESTS

Mathematical Modeling, Fluid Dynamics, Industrial Mathematics, Filtration, Erosion, Biological Fluid Dynamics.

EDUCATION

- **New Jersey Institute of Technology (NJIT),**
 - Ph.D. in Mathematical Sciences (2013-2017, **GPA 4.0**).
 - * Dissertation Topic: Mathematical Modeling of Membrane Filtration.
 - * Advisor: **Professor Linda J. Cummings.**
 - M.S. in Applied Statistics (2016-2017, **GPA 4.0**).
- **Shiraz University, Iran,**
 - M.S. in Pure Mathematics, September 2009.
 - * Dissertation Topic: Geometric and Manifold for Independent Component Analysis.
 - B.S. in Mechanical Engineering, June 2006.
 - * Dissertation Topic: Modeling of Tall Buildings in Wind by Fluent.

ACADEMIC POSITIONS

- **New York Institute of Technology (NYIT),**
 - Assistant Professor, Department of Mathematics (September 2019-present).
- **Courant Institute of Mathematical Sciences (CIMS), New York University (NYU),**
 - Assistant Professor/Courant Instructor (September 2017-August 2019).
- **Mathematical Institute, University of Oxford,**
 - Visiting Scientist (August 2018).
- **Courant Institute of Mathematical Sciences, New York University,**
 - Adjunct Professor (July-August 2017).

ACCEPTED ARTICLES

- *Modeling and Design Optimization for Pleated Membrane Filters*, Y. Sun, **P. Sanaei**, L. Kondic, L.J. Cummings, Physical Review Fluids, In press (2020).
- *Membrane Filtration with Multiple Fouling Mechanisms*, **P. Sanaei**, L.J. Cummings, Physical Review Fluids, 4(12), 124301 (2019).
- *On Optimizing the Wave Energy Converters Configuration in a Farm*, H. Behzad, **P. Sanaei**, Fluid Mechanics Research Journal, 1(1) (2019).
- *Curvature- and Fluid Stress-Driven Tissue Growth in a Tissue-Engineering Scaffold Pore*, **P. Sanaei**, L.J. Cummings, S.L. Waters, I.M. Griffiths, Biomechanics and Modeling in Mechanobiology, 18 (3), 589-605 (2019).

- *Membrane Filtration with Complex Branching Pore Morphology*,
P. Sanaei, L.J. Cummings,
Physical Review Fluids (PRF), 3(9), 094305 (2018).
- *Mathematical Modeling of Membrane Filtration*,
P. Sanaei,
Ph.D. Thesis (2017).
- *Flow and Fouling in Membrane Filters: Effects of Membrane Morphology*,
P. Sanaei, L.J. Cummings,
Journal of Fluid Mechanics (JFM), 818, 744-771 (2017).
- *Flow and Fouling in a Pleated Membrane Filter*,
P. Sanaei, G.W. Richardson, T. Witelski, L.J. Cummings,
Journal of Fluid Mechanics, 795, 36-59 (2016).
- *Using Firefly Algorithm to Solve Resource Constrained Project Scheduling Problem*,
P. Sanaei, V. Zeighami, R. Akbari, S. Shams,
Proceedings of Seventh International Conference on Bio-Inspired Computing: Theories and Applications (BIC-TA 2012).
- *Bee Algorithm for Solving Resource Constrained Project Scheduling Problem*,
P. Sanaei, V. Zeighami, R. Akbari, S. Shams,
8th International Project Management Conference, Tehran, Iran (2012).

UNDER REVIEW ARTICLES

- *On the Influence of Pore Connectivity on Performance of Membrane Filters*,
B. Gu, D.L. Renaud, **P. Sanaei**, L. Kondic, L.J. Cummings,
Under review at Journal of Fluid Mechanics (2019).
- *On the Performance of Multilayered Membrane Filters*,
D. Fong, L.J. Cummings, S.J. Chapman, **P. Sanaei**,
Under review at Proceedings of the Royal Society A (2019).
- *Flight Stability of Wedges*,
P. Sanaei, G. Sun, H. Li, C. S. Peskin, L. Ristroph,
Under review at Journal of Fluids and Structures (2020).
- *Diffusion Effects on Filtration Process*,
Z. Chen, S.Y. Liu, **P. Sanaei**,
Under review at Physical Review Fluids (2020).

ARTICLES IN PREPARATION

- *Characterizing the Effects of Pleat Packing Density in Pleated Membrane Filters Performance*,
D. Fong, **P. Sanaei** (Preprint).
- *Meteorites with Stable Descending Orientation*,
P. Sanaei, M.J. Shelley, L. Ristroph (Preprint).
- *Stochastic Approach to Model Fouling in Membrane Filters with Complex Pore Morphology*,
P. Sanaei, B. Gu, L. Kondic, L.J. Cummings (Preprint).
- *Effects of Nutrient Depletion on Tissue Growth in a Tissue-Engineering Scaffold Pore*,
X. Li, Z. Zong, **P. Sanaei** (Preprint).
- *Flow and Fouling in Elastic Membrane Filters with Complex Pore Morphology*,
S.Y. Liu, Z. Chen, **P. Sanaei** (Preprint).
- *Cell Migration in Microfluidic Mazes*,
W. Choi, **P. Sanaei** (Manuscript in preparation).