Ali Bozorgzadeh Mechanical Engineer

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Գ Personal Website
♣ Google Scholar
Գ ResearchGate

EDUCATION

2022-present | Research Assistant, Babol Noshirvani University of Technology*

2018-2022

M.Sc. in Mechanical Engineering, Babol Noshirvani University of Technology,

- > THESIS TOPIC: Numerical Investigation of the Effect of Flow Pulsation and Increased Discharged Voltage on Desalination and Energy Usage of Capacitive Deionization
- > Supervisor : Dr. Abas Ramiar
- > CGPA: 3.4

Capacitive Deionization | Electrical Double Layer | Modified Donnan | OpenFOAM

2013–2018 | B.Sc. in Mechanical Engineering, BABOL NOSHIRVANI UNIVERSITY OF TECHNOLOGY

* Ranked 140^{th} university in the world in engineering by the US news ranking (2022)

P RESEARCH INTERESTS

COMPUTATIONAL FLUID DYNAMICS: Numerical Methods, Programming, Machine Learning

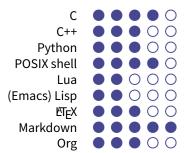
ELECTROKINETIC: Dielectrophoresis

Publications

- Numerical investigation of continuous-flow ternary separation of particles in a microchannel with a wall-mounted obstacle using Dielectrophoresis (*Under review by the supervisor*)
 - > The idea is to place a trapezoidal obstacle in the channel to create a gradient in momentum (in the lateral direction) so that in regions closer to the obstacle, mid-size particles experience greater drag force and pass over the planar-angled electrode pair.
 - > We assumed that the fluid flow influences the motion of the particles, but the particles have a negligible effect on the fluid flow (one-way coupling).
 - > We extend the OpenFOAM solvers, icoUncoupledKinematicParcelFoam and simpleFoam, to solve for discrete and continuous phase, respectively. Further, the Dielectro-phoretic force on particles has been implemented, by deriving from the abstract base class template ParticleForces (especifically, the calcNonCoupled member function).
 - > The code code is validated by performing experimental tests using a microdevice previously fabricated in our lab.
- Outokesh, Masoud, Seyed Soheil Mousavi Ajarostaghi, *Ali Bozorgzadeh*, and Kurosh Sedighi. "Numerical evaluation of the effect of utilizing twisted tape with curved profile as a turbulator on heat transfer enhancement in a pipe." Journal of Thermal Analysis and Calorimetry 140, no. 3 (2020): 1537-1553. (link)

</> PROGRAMMING & MARKUP LANGUAGES





- > EDITORS: (Neo)VIM, ed, GNU Emacs
- > VERSION CONTROL: Git
- > COREUTILS: find, sed, awk, xargs, ...
- > Build, Test & Analyze:
 - > make, CMake
 - > Google Test, Catch2
 - > gdb, lldb, valgrind, clang sanitizers, clangd, clang-tidy, clang-format, bear, ctags, etags
- > Misc.
 - > tmux, ssh, RegEx, Docker, Doxygen

LIBRARIES & FRAMEWORKS

- > Python
 - > NumPy
 - > Matplotlib
 - > Pandas
- **>** C++
 - > OpenFOAM
 - > Armadillo
 - > Open-MPI

OPEN SOURCE PROJECTS & CONTRIBUTIONS

STDMAN 2021-PRESENT

github.com/jeaye/stdman

Formatted C++20 stdlib man pages (cppreference)

Man pages C++ Standard Library

CITLE 2022

github.com/reverseila/citle

Get citation info (BibTeX file and DOI) by providing a title

Python BibTeX DOI

PRONUNCIATION.SH 2022

Github Gist

A simple (POSIX-compliant) shell script that downloads the pronunciation of English words from the Cambridge Online Dictionary Shell Scripting Pronunciation

LANGUAGES



66 References

Dr. Abas Ramiar

Associate Professor, Babol Noshirvani University of Technology

- @ aramiar@nit.ac.ir
- Google Scholar