Saman Seifi

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EXPERTIES

Computational mechanics, solid mechanics, finite element methods, material systems with moving interfaces, electric field induced instability on soft materials

EDUCATION

Boston University, Boston, MA
Ph.D, Mechanical Engineering, expected on August 2019

University at Buffalo–SUNY, Amherst, NY
M.Sc, Mechanical Engineering, August 2014

University of Tehran, Tehran, IRAN
B.Sc, Materials Science and Engineering, September 2010

PUBLICATION

Seifi, S., Park, Harold S., 2016. Computational modeling of electro-elasto-capillary phenomena in dielectric elastomers. *International Journal of Solids and Structures* 87, 236–244.

Seifi, S., Wang, Q., Park, Harold S., 2016. Surface Tension Effects on Surface Instabilities of Dielectric Elastomers. *In preparation*

Seifi. S., Salac, D., 2016. Phase-field modeling of electric field induced poration of lipid membranes. *In preparation*

CONTRIBUTED TALK

Seifi, S., Salac, D., 2013. Phase-Field Modeling of Lipid Vesicles With Pores. American Physical Society Division of Fluid Dynamics annual meeting at Pittsburgh, PA on November 2013

RESEARCH EXPERIENCE

Research Assistant Feb 2015-present
Boston University, Department of Mechanical Engineering

- Studying the effect of surface tension on instability of dielectric elastomers under electrical and mechanical loading.
- Developing theoretical model and finite element formulation for systems under mechanical loading along with mechanical stretch and surface tension.
- Implementing electro-elasto-capillary model in C++ into Tahoe, a research oriented finite element solver.

Research Assistant Sep 2013-Aug 2014
University at Buffalo, Department of Mechanical and Aerospace Engineering

- Developed a phase transition based model for electrically induced poration of a lipid membrane.
- Implementing phase-field model in FORTRAN and MATLAB simulating the electroporation of a lipid membrane.

TEACHING EXPERIENCE

Teaching Assistant Fellow Feb 2015-present
Boston University, Department of Mechanical Engineering

- Mechanics of Materials (ME 305)
- Introduction to Finite Element Analysis (ME 538)

Teaching Assistant 2013-2014
University at Buffalo–SUNY, Department of Mechanical and Aerospace Engineering
- Thermodynamics 1 (MAE 204)

INDUSTRIAL EXPERIENCE

Manufacturing Engineer, Azarakhsh Co. 2009-2011
Provide engineering support for projects in various stages of design, estimating and manufacturing.

QC Engineer Intern, MAPNA (PARS) Generator Co. Summer 2008
MAPNA (PARS) Generator is the leading company in IRAN that is involved in the manufacture and design of generators for power plants.
- Performed quality control inspection for welding (TIG and MIG) according to PQR and WPS documents.
- Applying DIN 292-2(1995-06) for safety of machining process for a newly established machining shop.

LEADERSHIP EXPERIENCE

Chief Operating Officer, TUKA Co. 2010-2011
This company offers HRD solutions, training and recruitment according to MBTI® for institutions, universities and companies in IRAN. My responsibilities included:
- Holding meetings with our customers team of leaderships.
- Planning workshop routines and requirements.
- Logistics management.
- Workshop sessions facilitator.

COMPUTER SKILLS

Programming Language: C++/C, Python, FORTRAN, MATLAB, julia (my github)
FE Packages: COMSOL Multiphysics, ANSYS, ADINA
Other(familiar): MPI, PETSc, FEniCS (finite element solver), OpenFOAM (finite volume solver), FiPy (finite volume solver for Python)

DEVELOPING EXPERIENCE

Tahoe: A research-oriented, open-source, version-controlled, parallel execution, modularized, highly flexible finite element C++ code

AWARDS AND HONORS

Dean's fellowship, 2015
SUNY Research Foundation financial aid, 2013
Bronze medal in Iranian national mathematics Olympiad, 2003

PROFESSIONAL MEMBERSHIP

APS, ASME, SIAM

LANGUAGE

English(fluent), Farsi(Mother tongue)

OTHER INTERESTS

Political economy, Quantitative finance, Chess, Swimming, Playing Harmonica