

ANTON TROFIMOV

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EDUCATION:

M.Sc. in Mechanical Engineering **August 2016**
New Mexico State University, Las Cruces, New Mexico
GPA: 3.95/4.0

M.Sc. in Material Science **June 2013**
Saint Petersburg State Polytechnic University, Saint Petersburg, Russia
Thesis: "Isomers of fullerene C₆₀"
GPA: 3.95/4.0

B.Sc. in Applied Mechanics **June 2011**
Saint Petersburg State Polytechnic University, Saint-Petersburg, Russia
Thesis: "Modified sol-gel method for thin film deposition"
GPA: 3.62/4.0

WORK EXPERIENCE:

Research assistant **August 2013 – August 2016**
Mechanical and Aerospace Engineering, New Mexico State University, Las Cruces, New Mexico

- Analyzed problems related to continuum mechanics, fracture mechanics and thermo-mechanics
- Translated actual problem to Finite Element Analysis (FEA) model using custom written codes and CAD software
- Performed linear and non-linear FEA, interpret results and select best solution
- Created test plans to perform experimental validation of numerical results

Teaching assistant **August 2014 – May 2016**
Mechanical and Aerospace Engineering, New Mexico State University, Las Cruces, New Mexico, USA

- ME 234 /237, Mechanics – Dynamics/Engineering Mechanics II (~85 students)
- ME 518 Finite Element Analysis (40 students)

Research assistant **September 2010 – June 2013**
Saint Petersburg State Polytechnic University, Saint Petersburg, Russia

- Modeled 3D structures of fullerene C₆₀ isomers and calculated formation energies
- Participated in manufacturing process of isomers of fullerene C₆₀ using high-performance liquid chromatography
- Analyzed experimental data and provided with the best physically possible structure
- Deposited thin films on different substrates (glass, aluminum and steel)
- Performed material characterization using X-ray diffraction and Four point resistivity methods

SUMMARY OF QUALIFICATIONS:

- Solid Mechanics and Materials. Physics of Strength and Plasticity. Modeling of Mechanical systems
- Computational solid mechanics. Finite elements analysis (FEA)
- Experimental techniques: Mechanical testing on universal testing machines with strain measurement techniques, X-ray diffraction method, High-performance liquid chromatography
- Software: Matlab, MSC Marc/Mentat, Nastran/Patran, Autodesk 3ds Max, DFMA, Solidworks, Pro/E, Hypermesh, basic Python and Fortran experience, Meshlab, Avogadro, Gaussian 09W, Microsoft Office
- Bilingual: English and Russian

PUBLICATIONS AND CONFERENCE PROCEEDINGS:

- **A.Trofimov**, B.Drach, I.Sevostianov, 2016, «Effect of polyhedral particle shapes on overall elastic properties of particle-reinforced composites». In Preparation
- B.Drach, A.Drach, **A.Trofimov**, I.Tsukrov, 2016, «Modeling of progressive damage during cooling after curing of 3D woven composites». In Preparation
- **A.Trofimov**, B.Drach, M.Kachanov, I.Sevostianov, 2016 «Compliance and resistivity contribution tensors of a circular crack with the island of partial contact of arbitrary location», Mechanics of Materials. Accepted
- B.Drach, I.Tsukrov, **A.Trofimov**, 2016 «Comparison of full field and single pore approaches to homogenization of linearly elastic materials with pores of regular and irregular shapes», International Journal of Solids and Structures
- **A.Trofimov**, B.Drach, I.Tsukrov, 2015. «Elastic Homogenization via Single Inclusion and Full Field Approaches, and Modeling of Progressive Failure in Porous RTM6 Epoxy», 52nd Society of Engineering Science, Texas A&M University
- I.Tsukrov, B.Drach, **A.Trofimov**, 2014. «Comparison of Full Field and Single Inclusion Approaches to Homogenization of Composites with Non-Ellipsoidal Pores».13th International Conference on Fracture and Damage Mechanics
- V. Gerasimov, **A. Trofimov**, O. Proskurina, 2014. «Isomers of fullerene C₆₀». Fifteenth International Workshop on NanoDesign, Technology, and Computer Simulations
- **A.Trofimov**, V.Gerasimov, 2012. «Physical and chemical properties of fullerenes structures». All-Russian Conference Week of Science at Polytechnic University

HONORS AND AWARD:

- Southwestern New Mexico Regional Science and Engineering Fair Certificate of Appreciation for Volunteering to Judge, 2014,2015
- Dean's list, Saint Petersburg State Polytechnic University, Saint Petersburg, Russia 2010

ADDITIONAL INFORMATION:

- Solid analytical and problem solving skills
- Motivated self-starter
- Able to collaborate and work in team environment
- Strong verbal and written communication skills