

**Ildar F.
Akhmadullin**

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EDUCATION

- **PhD in Petroleum Engineering** **2012 - 2016**
Louisiana State University (LSU), Baton Rouge, LA, USA
- **Master of Science in Mechanical Engineering** **2010 - 2012**
University of Texas at San Antonio (UTSA), San Antonio, TX, USA
- **Bachelor of Science in Mechanical Engineering** **1991 - 1996**
Kama Polytechnic State Institute, Naberezhnye Chelny, Russia

TEACHING EXPERIENCE

Assistant Professor, College of Technology, Purdue University Northwest **2019-present**

- Teaching Heat Transfer and Thermodynamics courses
- Applying for internal and external grants
- Advising and mentoring students in Senior projects

Assistant Professor, Baton Rouge Community College **2016-2019**

- Taught five or six engineering courses per semester (Statics, Electric Circuits, Introduction to Engineering, Engineering Graphics, Physical Science laboratory, Physical Science lecture).
- Advised and mentored students, supervised student's Engineering Club.
- Managed undergraduate research in Engineering area, run laboratory activities, prepared students for conferences and presentations, applied for grants.
- Run a research in the topic of developing a porous concrete for Louisiana flooding applications in collaboration with Department of Transportation.

Research and Teaching Assistant, LSU **2012 -2016**

- Designed a new single wellbore energy system from the low-enthalpy water reservoirs. Proved economic sustainability. Wrote simulator. Explored heat transfer and fluid flow problems.
- Graded students' homework assignments and tests, proctored exams (Wellbore heat transfer, well completion design, Reservoir rock properties)
- Assisted and substituted professors in class lectures and exams;
- Run help sessions and recitations for the students; Mentored class projects.

Teaching Assistant, UTSA **2010 -2012**

- Designed laboratory experiments.
- Explored uncertainty propagation using regression analysis
- Provided laboratory and recitation sessions for senior students. Developed laboratory experiments. Substituted professors for the lectures. Graded homework assignments and tests.
- Managed Blackboard for the assigned courses. (Statics, Dynamics, Fluid Dynamics, Numerical Methods, Engineering Analysis, Thermo-fluid laboratory sessions)

Adjunct faculty, Kama Polytechnic Institute, Russia **1997 - 2002**

- Taught laboratory sessions and lectures for the students. (Internal combustion engines design, Thermodynamics, Numerical Analysis). Graded tests. Participated in student activities.

- Worked in collaboration with faculty professors on Russian Navy project. Tested the engine prototype.

MECHANICAL ENGINEERING EXPERIENCE

Chief Technology Officer

2018-2019

Eden GeoPower Inc., Somerville, MA

- Solved engineering problems related to thermo-fluid flows, heat transfer, and mass transfer using computational methods.
- Applied for NSF and DOE grants. Won \$250,000 grant for research in directional permeability increase using high voltage shock waves.
- Prepared technical documentations and reports.

Senior Mechanical Engineer

2002-2007

AVTOMALER ltd, Naberezhnye Chelny, Russia

- Solved engineering problems associated with exploitation, repair, and installation of HVAC (heating ventilation and air conditioning) systems and equipment. Investigated mechanical failures and carried responsibilities according to the company warranty service
- Educated and mentored of service workers, managing their work schedule and duties. Controlled quality and employee's safety. Developed interpersonal skills.

Engineering Department Head

1997-2002

Trial-Auto Company, Naberezhnye Chelny, Russia

- Supervised 25 employees, coordinated and scheduled daily activities of the technicians according to other departments of the company. Hired and trained personal. Resolved work routine problems.
- Performed quality control before submitting completed job to the customers. Prepared reports and calculated work costs. Negotiated work pricelist with customers. Managed \$100,000 company's budget.

Design Engineer

1996 - 1997

Kamaz ltd. Scientific and Technical Center (R&D), Naberezhnye Chelny, Russia

- Worked in a team of research and development in the area of diesel engine fuel injection processes. Designed a new head of the engine model, tested the prototype, and reported the results to the head of department
- Collaborated a project with a research team at Bosch R&D department (Germany) and Cummins Inc. (USA)
- Investigated research in methods of reducing inlet resistance of engine air intake and exhaust system in order to reduce pollution of exhaust gases.

PROFESSIONAL SKILLS

Computer/Technical Literacy

- Computer-literate performer with proficiency in following programming languages and softwares applications: SolidWorks, Matlab/Simulink, Microsoft Word, Excel, PowerPoint, ANSYS (Fluent), Workbench, OLGA, LabVIEW, FORTRAN, AUTOCAD, Finite Element Analysis.

Leadership/Management

- Motivated team leader able to manage productive teamwork under the pressure of tight deadline.
- Organized several successful startups. Organized engineering department in Trial-Auto Company (2002) and Technical support division in AVTOMALER (2007).

Communication skills

- Exceptional listener and communicator who effectively conveys information verbally and in writing.

Analytical/Research skills

- Highly analytical and critical thinking professional able to resolving complex work processes under the tight deadlines.

CERTIFICATES DuPont Refinish training certificate **03/2008**
Engineer-in-trainer certificate Association of Professional Engineers
and Geoscientists Saskatchewan (Canada). **12/2015**

LANGUAGES Russian (native); English (advanced)

MEMBERSHIP

American Society of Mechanical Engineers **04/12 – Present**
American Society of Petroleum Engineers **08/12 – Present**

RESEARCH GRANTS NSF SBIR grant, Directional Permeability Enhancement Using Impulse Electric Power Discharge, \$250,000, 07/2018

Tran-SET grant, Investigation of Physical and Dynamic Properties of High Porous Concrete, \$20,000, 03/2018

Board of Regents of Louisiana grant, Investigation of vibrational motion through the solid medium, \$56,000, 03/2019

College of Technology internal grant, Investigation of Solar Panel Cooling Methods Using Phase Change Materials, \$4,000, 10/2019

PENDING INTELLECTUAL PROPERTY APPLICATIONS

System and method for pulsed electrical reservoir stimulation, Eden Geopower, 2018

CONFERENCE PARTICIPATIONS

ASME Early Career Technical Conference, March 2012, Baton Rouge, LA

ASME International Mechanical Engineering Congress & Exposition, November 2012, Houston, TX
18-th Annual Gulf of Mexico Deepwater Technical Symposium, August 2014, New Orleans, LA

World Academy of Science, Engineering and Technology conference, June 2014, New York, NY
Judged the engineering competition at 7-th annual undergraduate student's research conference, LSU, Sept.2015.

SPE Health, Safety, Security, Environment & Social Responsibility Conference-North America, New Orleans, Louisiana, USA, 18—20 April 2017.

RECENT PUBLICATIONS (<https://scholar.google.com/citations?user=unwwSQ8AAAAJ&hl=en>)

Ildar F. Akhmadullin, Randall D. Manteufel, 2012, “Experimental Uncertainty Analysis for Single-Phase Liquid CPU Cooling Heat Sinks”, ASME ECTC, Baton Rouge, LA.

Ildar F. Akhmadullin, Randall D. Manteufel, 2012, “Thermal Performance of High-Flow Single-Phase Liquid-Cooled Heat Sinks”, Proceedings of the ASME International Mechanical Engineering Congress & Exposition, Houston, TX.

Ildar F. Akhmadullin, Mayank Tyagi, 2014, “Design and Analysis of Electric Power Production Unit for Low Enthalpy Geothermal Reservoir Applications”, WASET International Science Index Vol:8, No:6, 2014 waset.org/Publication/9998570

Ildar F. Akhmadullin, Mayank Tyagi, 2017, Numerical analysis of downhole heat exchanger designed for geothermal energy production, Geothermal Energy 5 (1), 13.