

SAYAVUR I. BAKHTIYAROV

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Mechanical Engineering Department
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PERSONAL DATA

Citizenship: US Citizen
Languages: Fluent in English, French, Russian, Turkish, Azeri

PRESENT POSITION Full Professor (tenured), New Mexico Institute of Mining and Technology (Hispanic Serving Institution), Socorro, NM, USA

EDUCATION RECORD

Sc. D. Mechanical Engineering, Azerbaijan National Academy of Sciences, Baku and The Birmingham University, UK 1992
Ph. D. Mechanical Engineering, Azerbaijan Institute of Oil and Chemistry, Baku and Institute of Thermophysics of Siberian Branch of Russian Academy of Sciences, Novosibirsk 1978
Eng Dipl. Petroleum Engineering Azerbaijan Institute of Oil and Chemistry, Baku 1974

ACADEMIC EXPERIENCE

04/2016 - Present Full Professor, Tenured, Mechanical Engineering Department, New Mexico Institute of Mining and Technology (Hispanic Serving Institution), Socorro, NM, USA

09/2017 – 01/2018 Senior Lecturer, Fulbright Program, Metallurgy and Materials Engineering Department, Mugla Sitki Kocman University, Turkey

01/2005 – 04/2016 Associate Professor, Mechanical Engineering Department, New Mexico Institute of Mining and Technology (Hispanic Serving Institution), Socorro, NM, USA

01/2011 – 01/2014 Chief Scientist (IPA), DOD, HQ Air Force Safety Center/SES, Space Safety Division, Kirtland Air Force Base, NM, USA

01/2011 – 01/2014 DOD Permanent Coordinator for Interagency Nuclear Safety Review Panel (INSRP), Pentagon, Washington, DC

01/2006 – 09/2009 Department Chair, Mechanical Engineering Department, New Mexico Institute of Mining and Technology, Socorro, NM, USA

12/1999 – 01/2005 Research Professor, Mechanical Engineering Department, Auburn University, AL

8/1995 – 12/1999 Senior Research Fellow, Space Power Institute, Auburn University, AL

2/1995- 8/1995 Visiting Professor, Mechanical Engineering Department, Auburn University, AL

9/1986 – 3/1987 Visiting Professor, Chemical Engineering Department East China University of Chemical Technology, Shanghai, China

9/1981 – 7/1982 Research Fellow, School of Chemical Engineering, Birmingham University, UK

2/1978 - 1/1995 Assistant Professor, Associate Professor, Professor, Chair, Mechanical Engineering Department, Azerbaijan State Oil Academy, Baku, Azerbaijan

3/1975 – 1/1978 Research Assistant Institute of Thermophysics of Siberian Branch of Russian Academy of Sciences, Novosibirsk

8/1974 – 2/1975 Research Fellow, Institute of Petroleum, Azerbaijan Academy of Sciences, Baku

INDUSTRIAL PROJECTS EXPERIENCE

Research and Development for the following companies:

- ECLIPSE Aviation, Albuquerque, NM (Flaps Design)
- Arena-Flow, LLC, Albuquerque, NM (Sand Flow Simulations)
- Ashland Chemical Co., Columbus, OH (Rheology of Resin Binders)
- Bendix Commercial Vehicle Systems LLC, Elyria, OH (Prototype Casting)
- CITATION Foam Casting Co., Columbiana, AL (Counter-Gravity Lost Foam Casting)
- CMI Novacast, Inc., Elk Grove Village, IL (Refractory Coatings)
- ECK Industries, Inc., Manitowoc, WI (Magnesium Lost Foam and V-Process Castings)
- Energy Reclamation, LLC, Tulsa, OK(Enhanced Oil Recovery)
- Ford Motor Co., Dearborn, MI (Transport Properties of Resin Bonded Sand)
- FOSECO, Inc., Cleveland, OH (Exothermic Risers)
- FOSECO-MORVAL, Inc., Guelph, ON, Canada(Lost Foam Coating)
- General Motors Corp., Milford, NH (Lost Foam Casting)
- Global Technology Transfer, Inc., Tulsa, OK (Chief Technology Officer and Chairman of the Scientific Advisory Board)
- GM Powertrain, Defiance, OH (Sand Core Making)
- Goldens' Foundry & Machine Co., Columbus, GA (Computer Modeling and Process Design)
- Harmony Castings LLC, Harmony, PA (Vacuum Sealed Molding)
- INTERMET Inc., Columbus, GA (Sand Coremaking Process)
- Space Age Enterprise, Inc., Lawrenceville, GA (Magnesium V-Process)
- LAEMPE+REICH CO., Trussville, AL (Sand Coremaking Process)
- LPD Energy Company LLC, Muskogee, OK (ISGGT EOR Technology)
- Material & Process Consultancy, Morton, IL (Fiber Reinforced Alloys)
- NEPTUNE Technology Group LLC, Tallassee, AL (Sand Core Properties)
- Southern Aluminum Castings, CITATION Co., Bay Minette, AL (Sand Core Hot Distortion)
- Southeastern Foundry Products, Inc., Birmingham, AL (Refractory Coatings)

- Southern Foundry Resins, Inc., Pelham, AL (Development of New Resin Binders and Refractory Coatings)
- Vulcan Engineering, Pelham, AL (Sand Compaction)
- UNIMIN Corp., Pittsburgh, PA (Sand Core Hot Distortion)
- US Silica, Berkeley Springs, WV (Sand Core Hot Distortion)
- Wise Alloys LLC, Muscle Shoals, AL (Reclamation)
- PETROSUN International, Inc., USA (Advanced Physico-Chemical Methods of Oil Extraction from Micropores)
- ZEEFAX Ltd., UK (Development of New Type of Magnetic Flowmeter)
- Exxon, UK (Development of Oil Lubricants with Polymeric Additives)
- Major state companies of the former USSR and Eastern Europe countries

PATENTS

- SU (11) 1681072 A 1. Device to Prevent the Hydraulic Pressure Losses in Sudden Contraction Sections of Pipelines , 1991.
- SU (11) 1629640 A 1. Drag Reducing Device in Pipelines , 1990.

AWARDS AND RECOGNITION

- International Exchange Alumni, US Department of State, Bureau of Education and Cultural Affairs, 2018-Present
- Fulbright Scholarship Award, Muğla Sıtkı Koçman University, Mugla, Turkey, 2017-2018.
- Certificate of Appreciation as a Session Organizer for the 2016 ASME International Mechanical Engineering Congress & Exposition (Phoenix, AZ)
- US Department of Homeland Security Summer Fellowship, Kingstown, RI, 2016
- NASA Glenn Research Center Summer Fellowship, Cleveland, OH, 2015
- Academician of Russian Academy of Natural Sciences named by Vernadsky, 2014
- Certificate of Appreciation, United State Air Force, Kurt F. Neubauer, Maj. General USAF Commander (Pentagon, Washington DC), 2013
- NASA Headquarters' Certificate of Appreciation for contribution to the Mars Science Laboratory Inter-Agency Nuclear Safety Review Panel as a DoD Coordinator (Washington, DC), 2012
- Certificate of Appreciation as a Topic Organizer for the 2012
- ASME International Mechanical Engineering Congress & Exposition (Houston, TX), 2012
- Intergovernmental Personnel Act Fellow, DoD HQ U.S. Air Force, Kirtland, NM, 2011-2014
- NASA Glenn Research Center Summer Fellowship, Cleveland, OH, 2010
- ASME Materials Division Award for organizing "Rheology and Fluid Mechanics of Nonlinear Materials" Symposium at the 2008 International Mechanical Engineering Congress & Exposition (Boston, MA), 2008
- ASME Materials Division Award for organizing "Advances in Materials Processing Science" Symposium at the 2008 International Mechanical Engineering Congress & Exposition (Boston, MA), 2008
- Top 20% Reviewer of Metallurgical and Materials Transactions, 2008
- 2007 Academician of International Ecoenergy Academy (Scientific Council of IEA, 12.24.2007, Protocol No. 068, Certificate IEA No. 85)

- ASME Materials Division Award for organizing “Advances in Materials Processing Science” Symposium at the 2007 International Mechanical Engineering Congress & Exposition (Seattle, WA), 2007
- NASA Certificate of Recognition, 2007
- Best Paper Award of the South American Electrochemical Society (SIBAE), 2006
- NASA Certificate of Recognition, 2006
- ASME Materials Division Award for organizing “Advances in Materials Processing Science” Symposium at the 2006 International Mechanical Engineering Congress & Exposition (Chicago, IL) 2006
- ASME International Mechanical Engineering Congress and Exposition Award, 2003
- Best Paper Award of the American Foundry Society, 2001
- International Medal for Scientific Excellence, 2001
- Granted permanent residency in the US as a Scientist of Extraordinary Ability, 1996
- USSR National Economy Achievements Award, 1987
- Recipient of the Oil Academy’s Outstanding Young Faculty Award, 1982
- Outstanding Student Doctoral Award of the USSR Ministry of Education, 1972

WORKSHOPS AND PROFESSIONAL COURSES

- MSIPP Technical Workshop, North Carolina A&T State University, March 21-25, 2016.
- Nuclear Safety Life Cycle Review Milestone Criteria Workshop, NASA Jet Propulsion Laboratory, Pasadena, CA, October 25, 2013.
- 1st Workshop on Development of a Tool for Aviation Risk Assessment due to Space Debris and Meteoroids, 45th Space Wing, Patrick Air Force Base, FL, October 9-11, 2013.
- NASA’s Mars 2020 Mission’s Science Definition Team (SDT) Report, Washington DC, July 8, 2013.
- Safety Design for Space Operations, Air Force Safety Center, Kirtland AFB, NM, June-August, 2013.
- International Workshop on Instrumentation for Planetary Missions (IPM-2012), NASA Goddard Space Flight Center, Greenbelt, Maryland, October 10-12, 2012.
- 4th IAASS Workshop on Launch and Re-entry Safety, NASA Wallops Flight Facility, Virginia, USA, September 18-20, 2012
- 5th Georgian-German School and Workshop in Basic Science GGSWBS’12, Tbilisi-Batumi, Republic of Georgia, August 5-18, 2012
- 3rd IAASS Workshop on Launch and Re-entry Safety, Paris, France, October 12-14, 2011
- Academic Programs in Space and Aerospace Safety conference/workshop organized by International Association for the Advancement of Space Safety (IAASS) and International Space Safety Foundation (ISSF), Intelsat Headquarters (Washington, DC), March 31, 2011
- The Joint Army-Navy-NASA-Air Force (JANNAF) 58th JANNAF Propulsion Meeting / 44th Combustion / 32nd Airbreathing Propulsion / 32nd Exhaust Plume and Signatures / 26th Propulsion Systems Hazards Joint Subcommittee Meeting, Arlington, VA, April 18-22, 2011
- Theory and Practical Applications of Global Imaging – Particle Image Velocimetry (PIV), Stereoscopic Particle Image Velocimetry (Stereo PIV), and Planar Laser-Induced Fluorescence (PLIF), TSI, Inc., Minneapolis, MN, October 2009
- Southwestern Petroleum Short Course, Petroleum Industry of West Texas & Texas Tech University, Lubbock, TX, April 22-23, 2009
- Self-Healing Materials Workshop, BOEING, Seattle, WA, January 20-21, 2009

- Canadian Institute’s Enhanced Oil Recovery Conference, Calgary, Alberta, Canada, April 30 – May 2, 2008
- Southwestern Petroleum Short Course, Petroleum Industry of West Texas & Texas Tech University, Lubbock, TX, April 21-24, 2008
- Workshop “Improved Oil Recovery”, Society of Petroleum Engineers, Tulsa, OK, April 22-26, 2006
- Workshop “PTTC DOE CO2 Enhanced Oil Recovery”, U.S. Department of Energy, Houston, TX, February 22, 2006
- Workshop “NSF/NM EPSCOR”, Albuquerque, NM, 2006
- Workshop “Magnetically Levitated Trains (MAGLEV) in New Mexico”, Los Alamos National Laboratory, Los Alamos, NM, 2006
- Professional Course “Design and Production of Magnesium Castings”, AFS/Cast Metals Institute, Inc., Livonia, MI
- Conference-Workshop “Strategic Research to Enable NASA’s Exploration Missions”, NASA, Cleveland, OH
- Workshop “Electric and Magnetic Phenomena in Micro- and Nano-Scale Systems”, ASME, New Orleans, LA
- CFD Workshop, ASME, Charlotte, NC
- Professional Course “FLOW-3D”, Flow Science, Inc., Los Alamos, NM ☐ Showcasing the Process - “Lost Foam”, AFS International Conference, Birmingham, AL
- Professional Course “Core-making Materials and Methods”, Cast Metal Institute, Inc., Des Plaines, IL
- Professional Course “SOLARTRON”, ZEEFAX Ltd., Moscow, USSR
- Workshop “Continua Mechanics”, Academy of Sciences of USSR, Perm, USSR
- Workshop “Thermophysical Properties of Crude Oil in Reservoir”, State Oil Company, Kiev, Ukraine
- Workshop “Rheology of Oil”, Exxon Co., Shell Co., Imperial College, London, UK

TEACHING EXPERIENCE

2017-2018 Muğla Sıtkı Koçman University, Mugla, Turkey

- Mechanical Behavior of Materials

2005 to present New Mexico Institute of Mining and Technology, Socorro, NM

Courses taught

- AE 415 - Aerodynamics II
- AE 414 - Aerospace Structure
- AE 489 - Aerospace Safety
- ES 201 – Statics
- ES 216 - Engineering Fluid Mechanics
- ES 302 - Mechanics of Materials
- ES302L - Mechanics of Materials Lab
- ES 303 - Engineering Dynamics
- ES 489 - Compressible Fluid Flow
- MENG 351L - Fluid & Thermal Sciences Lab
- MENG 451 - Design of Machine Elements
- MENG 489 - Machining & Metalworking Technology

- MENG 556 - Advanced Compressible Fluid Flow
- MENG 558 - Non-Newtonian Fluid Mechanics
- MENG 577a - Multiphase Flow
- MENG 577b - Advanced Fluid Mechanics
- MENG 589 - Graduate-Faculty Seminar
- EM 581 - Non-Newtonian Fluid Flow

1995 to 2004 Auburn University, AL, USA

Courses taught:

- MECH 3130 - Mechanics of Materials
- MECH 2110 - Statics and Dynamics
- ENGR 2010 - Thermodynamics
- MECH 3030 - Fluid Mechanics
- MECH 6016 - Compressible Fluid Flow (Gas Dynamics)

1978 to 1995 State Oil Academy, Baku, USSR

Undergraduate Courses Taught:

- Computer Design of Polymer Processing
- Computational Fluid Dynamics
- Heat and Mass Transfer
- Materials and Properties
- Dynamics: Kinematics and Statics

Graduate Courses Taught:

- Process Modeling and Optimization
- Compressible Fluid Flow
- Computational Fluid Dynamics (advanced)
- Turbulence
- Boundary Layer Theory
- Biorheology and Applications
- Non-Newtonian Fluid Mechanics
- Polymer Technology

1993 to 1995 Professor, Khazar University, Baku, Azerbaijan

- Mechanics of Materials & Environmental Fluid Mechanics

1986 to 1987 Chemical Engineering Department, East China University of Chemical Technology, Shanghai, China

- Fluid Mechanics
- Polymer Technology
- Heat Transfer

1981 - 1982 School of Chemical Engineering, Birmingham University, Birmingham, UK

- Polymer Rheology
- Rheology of Crude Oil

26 GRADUATE STUDENTS THESIS COMMITTEE MEMBER

SUPERVISION OF GRADUATE STUDENTS

- 21 MS Students
- 4 PhD students

PROFESSIONAL ACTIVITIES

- Topic co-organizer of “The 26th Symposium on Fluid Mechanics and Rheology of Non-Linear Materials and Complex Fluids”, ASME International Mechanical Engineering Congress and Exposition, Salt Lake City, UT, November 8-14, 2018
- Topic co-organizer of “The 17th Symposium on Electric, Magnetic and Thermal Phenomena in Micro and Nano-Scale Systems”, ASME International Mechanical Engineering Congress and Exposition, Salt Lake City, UT, November 8-14, 2018
- Topic co-organizer of “The 25th Symposium on Fluid Mechanics and Rheology of Non-Linear Materials and Complex Fluids”, ASME International Mechanical Engineering Congress and Exposition, Pittsburgh, PA, November 9-15, 2018
- Topic co-organizer of “The 24th Symposium on Fluid Mechanics and Rheology of Non-linear Materials and Complex Fluids”, ASME International Mechanical Engineering Congress and Exposition, Tampa, FL, November 3-9, 2017
- Topic co-organizer of “The 16th Symposium on Advances in Materials Processing Science and Manufacturing”, ASME International Mechanical Engineering Congress and Exposition, Tampa, FL, November 3-9, 2017
- Topic co-organizer of “The 23rd Symposium on Fluid Mechanics and Rheology of Non-linear Materials and Complex Fluids”, ASME International Mechanical Engineering Congress and Exposition, Phoenix, AZ, November 11-17, 2016
- Topic co-organizer of “The 15th Symposium on Advances in Materials Processing Science and Manufacturing”, ASME International Mechanical Engineering Congress and Exposition, Phoenix, AZ, November 11-17, 2016
- Reviewer of ASME 2016 Summer Heat Transfer Conference, 5th Joint USEuropean Fluids Engineering Summer Meeting, and 14th International Conference on Nanochannels, Microchannels, and Minichannels HTFEICNMM2016 July 10-14, 2016, Washington, DC, USA
- Advisory committee member for Inventive Research Organization (IRO), India (2016-present)
- Member of the Asian Council of Science Editors (2015-present)
- Topic co-organizer of “The 22nd Symposium on Fluid Mechanics and Rheology of Non-linear Materials and Complex Fluids”, ASME International Mechanical Engineering Congress and Exposition, Houston, TX, November 13-19, 2015
- Topic co-organizer of “The 14th Symposium on Advances in Materials Processing Science and Manufacturing”, ASME International Mechanical Engineering Congress and Exposition, Houston, TX, November 13-19, 2015
- Governing Council Member at Albuquerque School of Excellence (ASE), 2011present □ Editorial Board Member of the Journal of Space Safety Engineering (JSSE)
- Editorial Board Member of the Proceedings of the National Academy of Sciences of Azerbaijan (Science: Physics and Mathematics series)
- Editorial Board Member of the Proceedings of the Institute of Mathematics and Mechanics, National Academy of Sciences of Azerbaijan (PIMM), Journal of Mechanics.

- Topic co-organizer of “The 20th Symposium on Fluid Mechanics and Rheology of Non-linear Materials and Complex Fluids”, ASME International Mechanical Engineering Congress and Exposition, San Diego, CA, November 15-21, 2013
- Judge at the NM Mathematics, Engineering, Science, Achievements (MESA) Competition, 25th Annual MESA Day, Albuquerque, NM, February 5, 2013
- Program Committee member of the 6th IAASS International Space Safety Conference "Safety is Not an Option", Montreal, Canada, May 21-23, 2013
- Topic co-organizer of “The 19th Symposium on Fluid Mechanics and Rheology of Nonlinear Materials and Complex Fluids”, ASME International Mechanical Engineering Congress and Exposition, Houston, TX, November 9-15, 2012
- Topic co-organizer of “the 13th Symposium on Advances in Materials Processing Science and Manufacturing”, ASME International Mechanical Engineering Congress and Exposition, Houston, TX, November 9-15, 2012
- Member of MILSATCOM System Safety Group (SSG)
- Topic co-organizer of “Symposium on Transport Phenomena in Manufacturing Processes”, ASME Fluids Engineering Division Summer Meeting, Puerto Rico, USA, July 8-12, 2012
- Co-organizer of “3rd IAASS Workshop on Launch and Re-entry Safety”, Paris, France, October 12-14, 2011
- Topic co-organizer of 18th Symposium on “Fluid Mechanics and Rheology of Nonlinear Materials and Complex Fluids”, ASME International Mechanical Engineering Congress and Exposition, Denver, CO, November 11-17, 2011
- Coaching Socorro High School’s Renewable Energy design Project team for New Mexico Mathematics, Engineering, Sciences, Achievement (MESA) competition (May – June, 2011)
- Topic co-organizer of “10th Symposium on Transport Phenomena in Materials Processing and Manufacturing Processes”, ASME-JSME-KSME Joint Fluids Engineering Conference, Hamamatsu, Japan, July 24-29, 2011.
- Topic co-organizer of “11th Symposium on Advances in Materials Processing Science”, ASME International Mechanical Engineering Congress and Exposition, Vancouver, BC, Canada, November 12-18, 2010
- Topic co-organizer of “17th Symposium on the Fluid Mechanics and Rheology of Complex Fluids and Nonlinear Materials”, ASME International Mechanical Engineering Congress and Exposition, Vancouver, BC, Canada, November 12-18, 2010
- Topic co-organizer of “10th Symposium on Advances in Materials Processing Science”, ASME International Mechanical Engineering Congress and Exposition, Lake Buena Vista, FL, 2009
- Topic co-organizer of “16th Symposium on the Fluid Mechanics and Rheology of Complex Fluids and Nonlinear Materials”, ASME International Mechanical Engineering Congress and Exposition, Lake Buena Vista, FL, 2009
- Coordinator of “8th Symposium on Transport Phenomena in Manufacturing Processes”, ASME Fluids Engineering Division Summer Meeting, Vail, CO, August 2-5, 2009
- Panel Reviewer, National Science Foundation, Washington DC, February 18-19, 2010.
- Panel Reviewer, National Science Foundation, Washington DC, January 15-17, 2009.
- Panel Reviewer, National Science Foundation, Washington DC, January 10-12, 2009.
- Topic co-organizer of “9th Symposium on Advances in Materials Processing Science”, ASME International Mechanical Engineering Congress and Exposition, Boston, MA, 2008
- Topic co-organizer of “15th Symposium on the Fluid Mechanics and Rheology of Complex Fluids”, ASME International Mechanical Engineering Congress and Exposition, Boston, MA, 2008

- Topic co-organizer of “7th Symposium on Transport Phenomena in Manufacturing Processes”, ASME Fluids Engineering Division Summer Conference, Jacksonville, FL, 2008
- Topic co-organizer of “Advances in Materials Processing Science” Symposium, ASME International Mechanical Engineering Congress and Exposition, Seattle, WA, 2007
- Topical co-organizer of “Rheology and Fluid Mechanics of Nonlinear Materials” Symposium, ASME International Mechanical Engineering Congress and Exposition, Seattle, WA, 2007
- Symposium coordinator of “Flows in Manufacturing Processes” Symposium, ASME Joint U.S.-European Fluids Engineering Summer Meeting, Miami, FL, 2006
- Organizer of workshop “Remotely Accessible Lab”, Socorro, NM, December 6, 2006
- Topic co-organizer of “Advances in Materials Processing Science” Symposium, ASME International Mechanical Engineering Congress and Exposition, Chicago, IL, 2006
- Topical co-organizer of “Rheology and Fluid Mechanics of Nonlinear Materials” Symposium, ASME International Mechanical Engineering Congress and Exposition, Chicago, IL, 2006
- Editorial Board Member of International Journal of Recent Advances in Mechanical Engineering (IJMECH)
- Editorial Board Member of Journal of Advances in Materials (JAM)
- Editorial Board Member of Journal of Space Safety Engineering (JSSE)
- Editorial Advisory Board Member of Asian Review of Mechanical Engineering (ARME)
- Editorial Board Member of International Journal of Robotics Research, Applications and Automation(IJRA)
- Editorial Board Member of i-manager's Journal on Engineering and Technology (IJET)
- Editorial Board Member of i-manager's Journal on Future Engineering and Technology (IJFET)
- Editor in Chief of the International Journal of Manufacturing Science and Technology (IJMS&T)
- Editor in Chief of the International Journal of Mechanics and Solids (IJM&S)
- Editorial Board Member of Journal of Mathematics Applied in Science and Technology (MAST)
- Editorial Board Member of International Journal of Applied Engineering Research (IJAER)
- Editorial Board Member of International Journal of Dynamics of Fluids (IJDF)
- Editorial Board Member of Far-East Journal of Mathematics (FEJM)
- Member of Professional Societies:
 - Society of Petroleum Engineers (SPE) □ Air Force Association
 - The British Society of Rheology (BSR)
 - Russian Society of Rheology (RSR)
 - American Institute of Chemical Engineers (AIChE)
 - American Society of Mechanical Engineers (ASME)
 - American Foundry Society (AFS)
 - The Society of Rheology of the American Institute of Physics (SR AIP)
 - New York Academy of Sciences (NY AS)
 - The American Association for the Advancement of Science (AAAS)
- Lead organizer of “Flows in Manufacturing Processes” Symposium, ASME Fluid Engineering Summer Conference, Houston, TX, 2005
- Lead organizer of “Advances in Materials Processing Science” Symposium, ASME International Mechanical Engineering Congress and Exposition, Anaheim, CA, 2004
- Lead organizer of “Rheology and Fluid Mechanics of Nonlinear Materials” Symposium, ASME International Mechanical Engineering Congress and Exposition, Anaheim, CA, 2004
- Lead organizer of “Flows in Manufacturing Processes” Symposium, ASME Heat Transfer/Fluid Engineering Summer Conference, Charlotte, NC, 2004

- Lead organizer of “Advances in Materials Processing Science” Symposium, ASME International Mechanical Engineering Congress and Exposition, Washington, DC, 2003
- Lead organizer of “Rheology and Fluid Mechanics of Nonlinear Materials” Symposium, ASME International Mechanical Engineering Congress and Exposition, Washington, DC, 2003
- Lead organizer of “Poster Session”, 4th ASME - JSME International Mechanical Engineering Congress and Exposition, Washington, DC, 2003
- Lead organizer of 4th ASME/JSME Joint Fluids Engineering Conference, Honolulu, Hawaii, 2003
- Lead organizer of “Advances in Materials Processing Science” Symposium, ASME International Mechanical Engineering Congress and Exposition, New Orleans, LA, 2002
- Lead organizer of “Rheology and Fluid Mechanics of Nonlinear Materials” Symposium, ASME International Mechanical Engineering Congress and Exposition, New Orleans, LA, 2002
- Lead organizer of “Electric and Magnetic Phenomena in Micro- and Nano-Scale Systems” Workshop, ASME International Mechanical Engineering Congress and Exposition, New Orleans, LA, 2002
- Lead organizer of “Rheology and Fluid Mechanics of Nonlinear Materials” Symposium, ASME International Mechanical Engineering Congress and Exposition, New York, NY, 2001
- Member of ASME Fluid Engineering Technical Committee, 2000 to Present
- Member of AFS Magnesium Casting Division Committee, 2000 to Present
- Member of AFS Engineering Division Committee, 1999 to Present
- Member of ASME Fluid Applications and Systems Technical Committee, 1999 to Present
- Program Committee Member of ASME Petroleum Division ETCT’99 Conference & Exhibition, Houston, TX, 1999
- Program Committee Member of ASME Petroleum Division Energy Week’97 Conference & Exhibition, Houston, TX, 1997 □ Science & Technology Advisory Council of NASA, Huntsville, AL, 1997
- Program Committee Member of the Forum on Heat Transfer in Non-Newtonian Systems of Oil Production, USSR, 1989
- Program Committee Member of the Conference on Thermodynamics of Anomalous Systems, USSR, 1986
- Program Committee Member of the Forum on Rheology: Polymers and Oil, RSR Summer Annual Meeting, USSR, 1977

TECHNICAL SESSIONS CHAIRED

- The 15th Symposium on Advances in Materials Processing Science and Manufacturing”, ASME International Mechanical Engineering Congress and Exposition, Phoenix, AZ, November 11-17, 2016.
- 6th IAASS Conference “Safety is Not an Option”, Montreal, Canada, May 21-23, 2013. Session 17: Nuclear Safety for Space Systems.
- 18th Symposium on “Fluid Mechanics and Rheology of Nonlinear Materials and Complex Fluids”, ASME International Mechanical Engineering Congress and Exposition, Denver, CO, November 11-17, 2011.
- 12th Symposium on “Advances in Materials Processing Science and Manufacturing”, ASME International Mechanical Engineering Congress and Exposition, Denver, CO, November 11-17, 2011.
- “Symposium on Transport Phenomena in Manufacturing Processes”, ASME Fluids Engineering Division Summer Meeting, Vail, CO, August 2-5, 2009

- “9th Symposium on Advances in Materials Processing Science”, ASME International Mechanical Engineering Congress and Exposition, Boston, MA, 2008
- “15th Symposium on the Fluid Mechanics and Rheology of Complex Fluids”, ASME International Mechanical Engineering Congress and Exposition, Boston, MA, 2008
- 6th Symposium on Transport Phenomena in Manufacturing Processes, 5th Joint 2007 ASME/JSME Fluids Engineering Summer Meeting, San Diego, CA, July 30-August 2, 2007
- “Magnesium Division”, 109th Metalcasting Congress and CastExpo, St. Louis, MO, April 16-19, 2005
- “Advances in Materials Processing Science” Symposium, ASME International Mechanical Engineering Congress and Exposition, Anaheim, CA, 2004
- “Rheology and Fluid Mechanics of Nonlinear Materials” Symposium, ASME International Mechanical Engineering Congress and Exposition, Anaheim, CA, 2004
- “Advances in Materials Processing Science” Symposium, ASME International Mechanical Engineering Congress and Exposition, Washington, DC, 2003
- “Rheology and Fluid Mechanics of Nonlinear Materials” Symposium, ASME International Mechanical Engineering Congress and Exposition, Washington, DC, 2003
- “Flows in Manufacturing Processes” Symposium, 4th ASME/JSME Joint Fluids Engineering Conference, Honolulu, Hawaii, 2003
- “Advances in Materials Processing Science” Symposium, ASME International Mechanical Engineering Congress and Exposition, New Orleans, LA, 2002
- “Rheology and Fluid Mechanics of Nonlinear Materials” Symposium, ASME International Mechanical Engineering Congress and Exposition, New York, NY, 2001
- “Experiments in Fluid Mechanics” Symposium, 20th Southeastern Conference on Theoretical and Applied Mechanics, Pine Mountain, GA, 2000
- “Electro-Magneto-Hydrodynamics” Symposium, 3rd ASME/JSME Joint Fluids Engineering Conference and FED Summer Meeting, San Francisco, CA, 1999
- “Fluid Mechanics”, Second International Symposium on Mathematical and Computational Applications, Baku, Azerbaijan, 1999
- “Aeration Technology”, ASME Fluids Engineering Division, Summer Meeting, Washington DC, 1998
- “Drilling and Production Operations”, Energy Week Conference, Houston, Texas, 1996
- “Thermophysical Properties of Drilling Fluids”, International Conference on Mechanics of Drilling, Grozny, USSR, 1991
- “Heat Transfer Phenomena in Manufacturing”, International Conference on Relaxation Phenomena and Properties of Polymers, Voronezh, USSR, 1990
- “Polymer Rheology and Heat and Mass Transfer Phenomena”, IV National Conference on Mechanics of Anomalous Systems, Baku, USSR, 1986
- “Thermophysical Properties of Viscoelastic Lubricants”, National Conference on Wear of Machines and Methods of Protection, Bryansk, USSR, 1985

LIST OF PUBLICATIONS

a) Refereed Scholarly Journals

1. S. Mohammadi, M. Hassanalian, H. Arionfard, S. Bakhtiyarov, A. Mirzaeinia, 2019, “Optimal Design of Hydrokinetic Turbine Hydrofoil for Low-Speed Water Flow in Golden Gate Strait Using Particle Swarm Optimization”, Journal of Renewable Energy (submitted).

2. E. R. Kutelia and S. I. Bakhtiyarov, 2019, "Self-healing Metallic Composite", International Advanced Research and Engineering Journal (submitted).
3. E. R. Kutelia, G. Sh. Darsavelidze, T. A. Dzigrashvili, T. G. Kukava, L. N. Rukhadze, L. D. Gventsadze, O. O. Tsurtsunia, L. V. Nadaraia, I. R. Kurashvili and S. I. Bakhtiyarov, 2018, "Internal Friction in PTFE-Based Nanocomposite Materials Filled with Fe Cluster-Doped CNTs", Georgian Engineering News, No. 3, pp. 5-13.
4. S. I. Bakhtiyarov, J. C. Oxley, J. L. Smith and P. M. Baldovi, 2018, "Rheological Studies of Functional Polyurethane Composite: Part 1. Rheology of Polyurethane Composite, Its Compounds with and without Solid Additives (Aluminum Flakes)", Journal of Elastomers and Plastics, Vol. 50, No. 3, pp. 222-240.
5. E. R. Kutelia, S. I. Bakhtiyarov, M. N. Okrosashvili, O. O. Tsurtsunia, A. S. Bakhtiyarov and B. G. Eristavi, 2018, "A Novel Self-Repaired Iron Based High Temperature Coating Alloy", i-Manager Journal on Future Engineering & Technology, Vol. 13, No. 2, pp. 33-48.
6. J. C. Oxley, J. L. Smith, S. I. Bakhtiyarov and P. M. Baldovi, 2018, Rheological Studies of Functional Polyurethane Composite: Part 2. Rheology of Polyurethane Composite with Solid Additives (Calcium Iodate Particles and Aluminum Flakes)", Journal of Elastomers and Plastics, Vol. 50, No. 4, pp. 312-324.
7. J. C. Oxley, J. L. Smith, S. I. Bakhtiyarov and P. M. Baldovi, 2017, "A Complex Variable Method to Predict a Range of Arbitrary Shape Ballistic Projectiles", Journal of Applied Nonlinear Dynamics, Vol. 6, No.4, pp. 521-530.
8. G. M. Panakhov, E. M. Abbasov, T. S. Gadjiev and S. I. Bakhtiyarov, 2017, "Rheological Features of Structural-Forming Disperse Systems", i-manager's Journal on Mechanical Engineering, Vol. 7, No. 3, May-July issue, pp. 1-9.
9. G. M. Panakhov, E. M. Abbasov, S. I. Bakhtiyarov and D. A. Siginer, 2017, "A Note on the Two-Phase Gas-Oil Flow in a Pipeline" the Journal of Energy Resources Technology (JERT), #16-1393 (submitted).
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b) Books and Chapters in Books

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165. S. I. Bakhtiyarov, 1990, "Magnetized Polymer Solution Flow in Porous Media", Proceedings, 3rd European Rheology Conference and Golden Jubilee Meeting of British Society of Rheology, D. R. Oliver, ed., Elsevier Applied Science Publication, Edinburgh, UK, pp. 25-27.
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167. S. I. Bakhtiyarov, 1984, "Rheological Properties of Viscoelastic Systems Used in Pumping and Separation", Proceedings: Advances in Rheology, 9th International Congress on Rheology, D. Mena, ed., Acapulco, Mexico, Vol. 2 - Fluids, p. 469.

d) Articles in Professional Magazines

1. F. A. Allahdadi and S. I. Bakhtiyarov, 2011, "Safety of Nuclear Powered Missions, Space Safety Magazine, Issue 1, Fall 2011, pp. 24-27.
2. "AFS Magnesium Division Meets in Auburn", Auburn MEssenger, Vol. 13, No. 2, 2004, p. 3.
3. "108th Metalcasting Congress Report: Magnesium", Modern Casting, Vol. 94, No. 7, 2004, p. 52.

4. "First Magnesium Casting Utilizing Vacuum Sealed Molding Process Produced at Auburn University", *Modern Casting*, Vol. 93, No. 8, 2003, p. 18.
5. "First Magnesium Casting Utilizing V-Process Produced at Auburn University", *Engineered Casting Solutions*, Vol. 5, No. 3, 2003, p. 13.
6. "Magnesium V-Process Casting", *Auburn Messenger*, Vol. 13, No. 1, 2003, p. 10. 7. S. I. Bakhtiyarov, Editorial Article, *i-manager's Journal on Future Engineering and Technology*, Vol 12, No. 4.

PRESENTATIONS AT CONFERENCES AND SYMPOSIA

1. 4th Thermal and Fluids Engineering Conference (TFEC 2019), organized by the American Society of Thermal and Fluids Engineers (ASTFE), Las Vegas, NV, USA, April 14-17, 2019:
 - a. "Rheological Studies of Ionic Liquid Lubricants for Space Applications"
2. AIAA Aviation and Aeronautics Forum and Exposition, Dallas, TX, June 17-21, 2019:
 - a. "Surface Temperature Effects of Solar Panels of Fixed Wing Unmanned Aerial Vehicles on Flight Performance", (extended abstract # 3130779 accepted)
 - b. "Insight into the Thermal Effects of Aquatic Animal Colors on their Skin Friction Drag", (extended abstract # 3131236 accepted)
3. AAAPM 2019 Conference. Symposium 2: Functional Composite Materials (FCM), Los Angeles, CA, USA, August 9-13, 2019:
 - a. "A Novel Functional Self-Healing Metallic Composite" (accepted)
4. 2019 TMS Annual Meeting & Exhibition, Symposium: Characterization of Minerals, Metals, and Materials, San Antonio, TX, March 10-14, 2019:
 - a. "Viscosity Measurements of Ionic Liquid Lubricants for Space Applications"
5. 15th International Conference and Exhibition on Materials Science and Engineering (2533rd of Conference Series LLC Ltd), Atlanta, Georgia, November 7 - 8, 2018:
 - a. "Microstructure and High Temperature Properties of Al Rich Diffusion Zone on the Surface of 9% Cr Steel P92"
6. 3rd Thermal and Fluids Engineering Conference (TFEC), Fort Lauderdale, FL, March 4-7, 2018:
 - a. "Rheological Studies of New Class Ionic Liquid Nanolubricant for Space Applications".
7. Seminar presentation at NMT, February 6, 2018:
 - a. "Bio-Inspired Materials Design"
8. International Conference on Integrated Innovative Development of Zarafshan Region: Achievements, Challenges and Prospects, Navoi, Uzbekistan, October 26-27, 2017:
 - a. "A Novel Functional Nanocomposite: Self-healing Metallic Composite"
 - b. "A Novel Technology of Enhanced Oil Recovery"
9. Seminar presentation at Muğla Sıtkı Koçman University, Mugla, Turkey, November 1, 2017:
 - a. "Bio-Inspired Engineering: Self-Healing Materials"
10. International Advanced Researches & Engineering Congress-2017, Osmaniye, Turkey, November 16-18, 2017:
 - a. "Self-healing Metallic Composite"
11. The 16th Symposium on Advances in Materials Processing Science and Manufacturing, ASME International Mechanical Engineering Congress and Exposition, Tampa, FL, November 3-9, 2017:
 - a. "Rheometric Studies of New Class Ionic Liquid Nanolubricants"
 - b. "Rheometric Studies of Functional Polyurethane Foam Composite"
12. 43rd Annual Conference on Explosives & Blasting Technique, Orlando, FL, January 29 – February 1, 2017:
 - a. "Complex Variable Method to Predict Aerodynamics of Arbitrary Shape Fragmentation"

13. World Congress on Advances in Structural Engineering and Mechanics (ASEM17), Seoul, Korea, August 28-September 1, 2017:
 - a. "Electrokinetic Effects during Fluid Flow in Clay-Bearing Porous Media".
14. TechConnect World Innovation Conference, Washington, DC, May 14-17, 2017:
 - a. "Thermo-Rheometric Studies of Newly Developed Nanolubricants for Space Applications"
15. Defense Innovation: Technology Acceleration Challenges, Austin, TX, November 29 - December 1, 2016:
 - a. "High-Temperature Self-Healing Metallic Composite"
16. The 15th Symposium on Advances in Materials Processing Science and Manufacturing", ASME International Mechanical Engineering Congress and Exposition, Phoenix, AZ, November 11-17, 2016:
 - a. "Bio-Inspired Engineering: Self-Healing Materials" (invited lecture)
 - b. "Thermometric Studies of Newly Developed Nanolubricants" c
 - c. "The Effect of Gas Evolution on Hydraulic Characteristics of Fluid Flow in Pipeline"
17. International Scientific Conference Devoted to the 85th Anniversary of Academician Azad Khalil oglu Mirzajanzadeh, Baku, Azerbaijan, November 21-22, 2013: a. "Self-Healing Materials: Reality or Myth?"
18. Seminar presentations at Mevlana University, Konya, Turkey, September 17-19, 2013:
 - a. "Self-Healing Composite Materials"
19. 1st Workshop on Development of a Tool for Aviation Risk Assessment due to Space Debris and Meteoroids, 45th Space Wing, Patrick Air Force Base, FL, October 9-11, 2013:
 - a. "US Air Force safety Center's Expectations"
20. "Safety Design for Space Operations" Seminars, Space Safety Center, Kirtland AFB, NM, September-December 2013.
21. Nuclear and Emerging Technologies for Space 2013 (NETS 2013), Albuquerque, NM, February 25-28, 2013:
 - a. "A Nanocomposite Material for Space Exploration"(Paper # 6768 submitted)
22. 6th IAASS Conference "Safety is Not an Option", Montreal, Canada, May 21-23, 2013:
 - a. "A Complex Variable Method to Predict an Aerodynamics of Arbitrary Shape Debris"
23. 44th Lunar and Planetary science Conference, The Woodlands, TX, March 18-22, 2013:
 - a. "Mars Science Laboratory Interagency Nuclear Safety Review Panel: History and Independent Risk Analysis Process" (Abstract No. 1716).
24. Briefing to Maj General Margaret H. Woodward, Kirtland AFB, NM, January 8, 2013:
 - a. "Mars Science Lab Interagency Nuclear Safety Review Panel"
25. 5th Georgian-German School and Workshop in Basic Science GGSWBS'12, Tbilisi-Batumi, Republic of Georgia, August 5-18, 2012:
 - a. "Mars Science Laboratory Mission: Safety Review" b. "Self-Healing Materials: Myth or Reality?"
26. Third Conference on Early Mars: Geologic, Hydrologic, and Climatic Evolution and the Implications for Life, Lake Tahoe, Nevada, May 21-25, 2012:
 - a. "Controlling Viscous Anomaly in Heterogeneous Carbohydrate Compositions"(Abstract # 7003)
27. Concepts and Approaches for Mars Exploration, Houston, TX, June 12-14, 2012:
 - a. "High-Temperature Self-Repairing Coating Material for Sample Return Space Capsules (SRSC) for Earth Entry" (Abstract # 4030)
28. Nuclear and Emerging Technologies for Space, The Woodlands, TX, March 21-23, 2012:

- a. "A Novel Radiation Shielding Nano-Composite Material for Space Exploration" (Paper # 3018).
- 29. Space and Cyber Safety Council, Kirtland Air Force Base, NM, March 6-8, 2012:
 - a. "Interagency Nuclear safety review Panel and Active Debris Removal"
- 30. Thermal and Materials Nanoscience and Nanotechnology Conference, Antalya, Turkey, May 29 – June 3, 2011:
 - a. "A Novel Technology of Synthesizing Carbon Nanoparticle Doped with Ferromagnetic Iron Oxide and Clusters of Cobalt Atoms"
- 31. The 5th International Association for the Advancement of Space Safety (IAASS) Conference "A Safer Space for a Safer World", Versailles, Paris, France, October 17-19, 2011:
 - a. "High Temperature Self-Healing Metallic Composite"
 - b. "A Novel High Temperature resistant Electromagnetic/Radiation Shielding Material for Space Exploration"
 - c. "Modeling the Behavior of Radioactive Materials in Combined-Phenomenology Environments"
- 32. BIT's 2nd Annual World Congress on Well Stimulation & Enhanced Oil Recovery (WSEOR-2011), Dalian, China, May 22-25, 2011:
 - a. "Multicellular Signaling Mechanism in Microbial Enhanced Oil Recovery"
 - b. "A Novel HSGAP EOR Technology"
- 33. ASME ES FuelCell 2011
 - a. "Computational Investigation of the Aerodynamic Effects of Gurney Flaps and Trailing Edge Devices for HAWT Blades" (paper # 54066)
- 34. 63rd Annual Meeting of the APS Division of Fluid Dynamics, Long Beach, California, November 21-23, 2010:
 - a. "Thermo-Rheometric Studies of New Class Ionic Liquid Lubricants"
- 35. ASME International Mechanical Engineering Congress and Exposition, Vancouver, BC, Canada, November 12-18, 2010:
 - a. "Development of Novel Magnetic Carbon Nanopowders"
 - b. "Polymer Adsorption Phenomena in Porous Media Filtration Problems"
- 36. Annual Meeting, Stripper Well Consortium, Canandaigua, NY, June 22-24, 2010:
 - a. "Pilot Tests of Hybrid System of Gas-Acid-Polymer (HSGAP) New Stimulation Technology to Improve Low Permeable Well-Bore Zone Characteristics and Enhance Oil Recovery in Osage County, OK Stripper Wells"
- 37. 2010 TMS Annual Meeting & Exhibition, Symposium: Global Innovations in Manufacturing of Aerospace Materials: The 11th MPMD Global Innovations Symposium, Seattle, WA, February 14-18, 2010:
 - a. "A Self-healing Metal/Metal/Ceramic High Temperature Coating Systems for Aerospace Structures"
- 38. NACE Corrosion 2010 International Conference and Expo, San Antonio, TX, March 14-18, 2010:
 - a. "Relatively Simple and Low Cost Technique of New Metal-Ceramic Medical Implants on the Basis of Fe-Cr-Al-RE Alloy"
- 39. 2009 New Mexico Water Research Symposium, Socorro, NM, August 10-11, 2009:
 - a. "A Beneficial Effect of Polydisperse Nanoparticles on Membrane Desalination"
- 40. ASME International Mechanical Engineering Congress and Exposition, Lake Buena Vista, FL, November 13-19, 2009:
 - a. "Rheological Studies on Viscoelastic Nanolubricants"
- 41. ASME Fluids Engineering Division Summer Meeting, Symposium on Transport Phenomena in Manufacturing Processes, Vail, CO, August 2-5, 2009:

- a. "High-Temperature Self-Healing Metallic Coating: Concepts and First Results"
 - b. "Core Flood Tests of In-Situ CO₂ Generation Technology"
 - c. "Polymer Adsorption Phenomena in Porous Media Filtration Problems"
 - d. "Rheological Studies of Lubricants with Nanocarbon Additives"
42. Gordon Research Conference on High Temperature Corrosion, Colby Sawyer College, New London, NH, USA, July 26-31, 2009:
- a. "The Overview of Up to Date Investigation Results of High Chromium Fe-Cr-Al-La Alloy"
43. ACI's Optimizing EOR Strategy Summit, London, UK, March 11-12, 2009:
- a. "EOR Game Changer: In-Situ CO₂ Generation Technology" (invited speaker)
44. NACE Corrosion 2009 Conference, Atlanta, GA, March 22-26, 2009:
- a. "Development of High-Temperature Corrosion and Creep Resistant Nb, Mo and Cr-Based Compositions with Protective Self-Healing Coating of Fe-45%Cr4%Al-1%Ni-0.3%La Alloy" (Paper # 09272)
45. ASME International Mechanical Engineering Congress and Exposition, Boston, MA, October 31 - November 6, 2008:
- a. "A Novel Self-Healing Materials Concept"
46. 17th International Corrosion Congress, Las Vegas, NV, October 6-10, 2008:
- a. "On the Role of Entropy-Excited Surface Layers in the Formation of High Temperature Corrosion Resistant Barrier Oxide Scale on Fe-Cr-Al-La Alloy"
47. ASME Fluids Engineering Division Summer Conference, Jacksonville, FL, August 10-14, 2008
- a. "On Negative Pressure Waves in Geological and Geophysical Processes"
 - b. "Foam Stability in In-Situ CO₂ Enhanced Oil Recovery Technology"
48. 2008 New Mexico Water Research Symposium, Socorro, NM, August 12, 2008:
- a. "A Beneficial Effect of Polydisperse Nanoparticles on Membrane Desalination"
49. Canadian Institute's Enhanced Oil Recovery Conference, Calgary, Alberta, Canada, April 30 – May 2, 2008:
- a. "In-Situ CO₂ Flood Technology"
50. Petroleum Short Course, Petroleum Industry of West Texas & Texas Tech University, Lubbock, TX, April 21-24, 2008:
- a. "A New Technology to Prevent VOC Emissions in Tank Batteries"
51. Corrosion 2008 NACE International Conference & Expo, New Orleans, LA, March 16-20, 2008:
- a. "New Deformable Austempered Ductile Irons (DADI) as an Efficient Material for Substitution of Critical Parts of Oil Well Equipment"
52. 7th Scientific and Practical Conference "Geology and Development of Oilfields with Hard to Recover Reserves", Gelsenjik, Russia, September 25-27, 2007:
- a. "Novel Rheogazochemical Technologies of Enhanced Oil Recovery"
53. 19th Annual Rio Grande Symposium on Advanced Materials, Albuquerque, NM, October 9, 2007:
- a. "Concentration Polarization Effects in Membrane Technology"
 - b. "Slim Tube Studies of New CO₂ Enhanced Oil Recovery Technology"
54. 6th Symposium on Transport Phenomena in Manufacturing Processes, 5th Joint 2007 ASME/JSME Fluids Engineering Summer Meeting, San Diego, CA, July 30-August 2, 2007:
- a. "Polymer/Surfactant Effects on Generated Volume and Pressure of CO₂ in EOR Technology"
 - b. "Energy Saving Technology Based on Negative Pressure Phenomenon"
55. The International Conference BALTRIB 2007, Kaunas, Lithuania, November 21-23, 2007:
- a. "Investigation of Beilby Layer and Its Role in the Formation of Functional Surfaces on Fe-Cr-Al-La Alloys"

56. 54th Southwestern Petroleum Short Course, Lubbock, TX, April 25-26, 2007:
 - a. "A Novel Enhanced Oil Recovery Technology: In-Situ CO₂ Generation"
57. SPE Production and Operation Symposium, Oklahoma City, OK, March 31 – April 3, 2007:
 - a. "Effect of Surfactant on Volume and Pressure of Generated CO₂ Gas"
58. 2nd Conference of Center for Energetic Materials and Energetic Devices (CEMED), Socorro, NM, February 27, 2006:
 - a. "Explosives Engineering Program at New Mexico Tech: Past, Present and Future" (featured speaker)
59. SAMSON Technical Meeting, Midland, TX, February 21, 2007:
 - a. "In-Situ CO₂ Generation Technology"
60. Trans-Pecos SPE Meeting, Odessa, TX, November 14, 2006:
 - a. "Reenergizing Reservoir"
61. International Metallurgical and Materials Congress, Turkey, October 9-11, 2006:
 - a. "Thermo-Mechanical and Isothermal Treatments Influence on the Wear of ADI during Dry Friction"
62. Engineers' Society of Tulsa, Tulsa, OK, October 2, 2006:
 - a. "Directing Unrecovered Oil to a Desired Destiny"
63. 6th International Scientific Practical Conference XAZARNEFTGASYATAG2006, Baku, Azerbaijan, October 12-14, 2006:
 - a. "Experimental Study of Salinity Effect on CO₂ Flood"
64. SPE Enhanced Oil Recovery Forum, Broomfield, CO, June 25-30, 2006:
 - a. "Enhanced Oil Recovery by In-Situ Generated CO₂ Gas: Volume and Pressure Measurements"
65. 12th International Conference on Mathematics and Mechanics, Baku, Azerbaijan, June 2006:
 - a. "Kinetics of Gas-Generation Processes in Liquid Solutions"
66. 13th International Metallurgy-Materials Congress (IMMC 2006), Istanbul, Turkey, November 9-11, 2006:
 - a. "Thermo-Mechanical and Isothermal Treatments Influence on the Wear of ADI during Dry Friction"
67. ASME Joint U.S.-European Fluids Engineering Summer Meeting, Miami, FL, July 17-20, 2006:
 - a. "Oil Recovery by In-Situ Gas Generation: Volume and Pressure Measurements"
68. Junior Euromat 2006, Lausanne, Switzerland, September 4-8, 2006:
 - a. "Structure and Elemental Distribution in Beilby Layer on the Surface of Fe-Cr-Al Alloy"
69. ASME International Mechanical Engineering Congress and Exposition, Chicago, IL, November 5-10, 2006:
 - a. "The Effect of Salinity on In-Situ Generated CO₂ Gas: Simulations and Experiments"
 - b. "In-Situ Carbon Dioxide Generation for Oil Recovery: Experimental Study of Pressure and Temperature Variations during Stoichiometric Reaction"
70. International Conference on Plasma Surface Engineering, Proceedings, Garmish, Germany, September 10-15, 2006:
 - a. "Obtaining the Self-Organizing Thin Protective Thermal-Barrier and Tribological Coatings on the Surface of Fe-44%Cr-4%Al-0.3%La Alloy"
71. 9th International Fatigue Congress, Atlanta, GA, May 14-19, 2006:
 - a. "Effect of High-Temperature Thermo-Mechanical Treatments and Multistep Austempering Processes on LCF of ADI"
72. XVII Congress of South American Electrochemical Society (SIBAE), La Plata, Argentina, April 3-7, 2006:

- a. "Electrochemical Characterization Study of Corrosion of Magnesium Based Alloy AZ91E Obtained by Addition of Nucleants under Induction Magnetic Field"
- 73. 110th Metalcasting Congress and CastExpo, Columbus, OH, April 18-21, 2006:
 - a. "CFD Simulations in Magnesium Fluidized Bed Heat Treatment Process", Paper No. 06-126
- 74. TMS Annual Meeting and Exhibition, San Antonio, TX, March 13-16, 2006:
 - a. "Numerical Simulations of Radiative Heat Transfer between Electronic Devices and Fluidized Nanobed"
- 75. 23rd Heat Treating Society Conference and Exposition, Pittsburgh, PA, September 25-28, 2005:
 - a. "Radiative Heat Transfer Simulations in Fluidized Bed Heat Treatment Process"
- 76. 3rd Eurographics Symposium on Geometry Processing in Cooperation with ACM SIGGRAPH, Vienna, Austria, July 4-6, 2005:
 - a. "A Shape Prediction of Electromagnetically Levitated Liquid Metal Droplet"
- 77. ASME International Mechanical Engineering Congress and Exposition, Orlando, FL, November 5-11, 2005:
 - a. "Rheological Measurements on Viscoelastic Nanolubricants"
 - b. "Degradation Phenomena in Viscoelastic Composites Used in Oil Industry"
- 78. ASME Fluids Engineering Summer Conference, Houston, TX, June 19-23, 2005:
 - a. "Synergistic Effects of Self-Recovering Viscoelastic Tribological Nanosystems"
 - b. "Rheological Property Measurements on Viscoelastic Tribological Nanosystems"
 - c. "Rheological Measurements on Viscoelastic Self-Healing Composites Used in Oil Industry"
- 79. 3rd International Conference on Computational Methods in Multiphase Flow, Portland, Maine, October 31 – November 2, 2005:
 - a. "Numerical Simulations of Radiative Heat Transfer in Fluidized Bed Heat Treatment Process"
- 80. International Conference on Mathematics and Mechanics, Baku, Azerbaijan, May 11-13, 2005:
 - a. "Estimation and Regulation of Strength Properties of Cross-Linked Polymer Compositions".
- 81. 28th International Thermal Conductivity Conference and 16th International Thermal Expansion Symposium, New Brunswick, Canada, June 26-29, 2005:
 - a. "Electrical and Thermal Conductivity of Fiber Reinforced Aluminum Alloy A356"
 - b. "Thermal Expansion Measurements on Fiber Reinforced Sand Core Composites"
 - c. "Thermal Expansion Measurements on Molten Metals: Shape Recovery of Electromagnetically Levitated Aspherical Droplet"
- 82. 109th Metalcasting Congress and CastExpo, St. Louis, MO, April 16-19, 2005:
 - a. "Hot Core Distortion Studies during Magnesium Casting" (Paper No. 05-050)
 - b. "Design and V-Process Production of Cast Magnesium Component" (Paper No. 05-051)
- 83. TMS Annual Meeting and Exhibition, San Francisco, CA, February 13-17, 2005:
 - a. "Rheological Characterization of Viscoelastic Composite Systems Used in Oil Industry"
 - b. "Numerical Simulations and Experimental Study of Hot Core Distortion Phenomenon in Magnesium Casting"
 - c. "Numerical Simulations of Radiative Heat Transfer between High-Temperature Fluidized Beds and Magnesium Castings"
- 84. 6th International Symposium on MEMS and Nanotechnology, SEM Annual Conference and Exposition on Experimental and Applied Mechanics, Portland, OR, June 7-9, 2005:
 - a. "Heat Transfer Studies on Nanofluids under Turbulent Flow Conditions"
 - b. "Rheological Characterization of Nanofluids"

85. International Conference on Transport Phenomena in Micro and Nanodevices, Kona Coast, HA, October 17-21, 2004:
 - a. "Numerical Simulations of Flow Phenomena in Fluidic Pumps"
86. ASME International Mechanical Engineering Congress and Exposition, Anaheim, CA, November 14-19, 2004:
 - a. "Magnesium V-Process Casting. Part I: CFD Simulations and Experimental Casting"
 - b. "Magnesium V-Process Casting. Part II: Electrochemical and SEM Analyses for Corrosion Testing"
87. TMS Annual Meeting and Exhibition, Charlotte, NC, March 14-18, 2004:
 - a. "First Magnesium V-Process Casting"
 - b. "Vacuum-Sealed Aluminum Step Casting"
88. ASME Heat Transfer/Fluids Engineering Summer Conference, Charlotte, NC, July 11-15, 2004:
 - a. "Numerical Simulations and Experimental Study of Hot Core Distortion Phenomenon in Aluminum Casting"
 - b. "Rheological Flows in Channels with Complex Geometry and Porous Medium"
89. 108th Metalcasting Congress, Rosemont, IL, June 12-15, 2004:
 - a. "Hot Distortion Studies in Phenolic Urethane Cold Box System" (Paper No. 04027)
 - b. "First V-Process Casting of Magnesium" (Paper No. 04-028)
90. 27th International Thermal Conductivity Conference and 15th International Thermal Expansion Symposium, Knoxville, TN, October 26-29, 2003:
 - a. "Electrical Conductivity Measurements on Light Metal Alloys"
 - b. "Thermophysical Bulk Properties of Mold Materials"
 - c. "Future Needs and Opportunities in Thermophysics from Materials Engineer's Perspective"
91. International Symposium on Physical Science in Space: Spacebound, Toronto, Canada, May 23-27, 2004:
 - a. "Thermophysical Properties Measurements Using Electromagnetic Levitation under Microgravity: Electrical Resistivity"
 - b. "Thermophysical Properties Measurements Using Electromagnetic Levitation under Microgravity: Thermal Expansion and Mass Density"
92. ASME International Mechanical Engineering Congress and Exposition, Washington, DC, November 16-21, 2003:
 - a. "CFD Simulation of Fluid Flow Through Porous Media: Application to Decomposed Gases Flow Through Foam Pattern in Lost Foam Casting"
 - b. "Numerical Simulation and Experimental Study of Suspension Flow with Deposition in Porous Media: Application to Sand Core Coating in Metalcasting Industry"
 - c. "Volume Computation of a Levitated Aspherical Droplet from 2-D Image Information"
93. Auburn Manufacturing Advisory Board Meeting, Auburn, Alabama, September 12, 2003:
 - a. "Effect of Sand and Core Shooting Parameters on Core Distortion in Aluminum Casting"
94. 4th ASME/JSME Joint Fluids Engineering Conference, Honolulu, Hawaii, July 6-10, 2003:
 - a. "Numerical Simulation and Experimental Study of Gas Flow Dynamics in Porous Media: Application in Cold Box Foundry Process"
 - b. "Computer Modeling and Experimental Verification of Mold Filling in Counter Gravity Lost Foam Casting Process"
95. 107th AFS Casting Congress, Milwaukee, WI, April 26-29, 2003:
 - a. "Electrical Resistivity and Thermal Conductivity of Magnesium Alloy AZ91E by Contactless Measurement Technique"

- b. "Numerical Simulations and Experimental Study of Gassing Cycle in Cold Box Sand Coremaking Process"
- 96. 3rd International Symposium on Food Rheology and Structure, Zurich, Switzerland, February 9-13, 2003:
 - a. "Bubble Formation Technique to Detect Bacteriologically Contaminated Foods"
 - b. "Capacitive Technique for Bacteria Prediction in Contaminated Food"
- 97. 15th Symposium on Thermophysical Properties, Boulder, CO, June 22-27, 2003:
 - a. "Thermophysical Property Measurements on Mold Materials"
- 98. TMS (The Minerals, Metals & Materials Society) Conference: Magnesium Technology, March, 2003:
 - a. "Vacuum-Sealed Molding Process for Magnesium Casting: Numerical Simulations and Design of Experiments"
 - b. "Electrical and Thermal Conductivity Measurements on Commercial Magnesium Alloys"
- 99. ASME International Mechanical Engineering Congress and Exposition, New Orleans, LA, November 17-22, 2002:
 - a. "Parametric Study of Mold Filling Process in Lost Foam Casting Dynamic Simulation"
 - b. "Stability of Mushy State in Magnetic Field During Electrical Conductivity Measurements Using Rotational Technique"
 - c. "Liquid Metal Stream Junction Defects in Aluminum Lost Foam Casting" □ "Cooling Rate Studies in Aluminum Counter Gravity Lost Foam Casting"
 - d. "Numerical Simulation and Thermometric measurements on Mold Filling Dynamics in Lost Foam Casting"
 - e. "Fraction Solid Measurements on A319 Aluminum Alloy"
 - f. "Dynamic Analysis of Airflow in Air-Jet Filling Insertion. Part I: Air Pressure Measurements"
 - g. "Dynamic Analysis of Airflow in Air-Jet Filling Insertion. Part II: Air Velocity Measurements"
- 100. ASME Joint US-European Fluids Engineering Conference, Montreal, Quebec, Canada, July 14-18, 2002:
 - a. "Fluid Flow Effect in Electrical Conductivity Measurements of Molten Metals by Inductive Technique"
 - b. "Numerical Simulation and Experimental Study of Heat and Mass Transfer Phenomena in Vacuum-Sealed Casting Process"
 - c. "CFD Simulations and Experimental Study of Two-Phase Flow in Sand Coremaking Process"
- 101. AFS Advanced Lost Foam Casting Technology Conference, Chicago, IL, June 20, 2002:
 - a. "Counter Gravity Lost Foam Casting"
- 102. 106th AFS Casting Congress, Kansas City, MO, May 4-7, 2002:
 - a. "Electrical Resistivity and Thermal Conductivity of Magnesium Alloy AE42"
 - b. "Experimental and Numerical Study of Bonded Sand/Air Two-Phase Flow in PUA Process"
 - c. "Thermophysical Properties of 201 Aluminum, Ductile Iron, and Sebiloy II"
- 103. ASME International Mechanical Engineering Congress and Exposition, New York, NY, November 11-16, 2001:
 - a. "Numerical Simulations of Fluid Flow During Electromagnetic Stirring of Metals"
 - b. "Numerical Study of Mold Filling Dynamics in "Cold-Box" Sand Coremaking Process"
 - c. "CFD Modeling of Metal Casting Process in Vacuum-Sealed Step Molding"

- d. "CFD Simulations of Flow Dynamics in Porous Media of Variable Permeability Arranged in Series"
 - e. "Numerical Simulation of Molten Metal-Polymeric Foam Interface Velocity During Lost Foam Casting"
 - f. "Decomposed EPS Gases Pressure Measurements in Iron Lost Foam Casting Process"
 - g. "Experimental Study of EPS Decomposition in Lost Foam Casting Process"
 - h. "Effect of Polymer Additive on the Synthetic Jet Bifurcation"
104. Microgravity Transport Processes in Fluid, Thermal, Biological and Materials Sciences II, Banff, Alberta, Canada, September 30 – October 5, 2001:
- a. "Electromagnetic Levitation Melting Technique: History and Future (Thermophysical Properties Measurements under Microgravity Conditions)"
105. 105th AFS Casting Congress, Dallas, TX, April 28-May 1, 2001:
- a. "Experimental and Numerical Study of Sand Core Molding Process"
 - b. "Measurements of Decomposed EPS Gases Pressure and Molten Metal-Polymeric Foam Interface Velocity During Counter Gravity Lost Foam Casting"
106. ASME International Mechanical Engineering Congress and Exposition, Orlando, FL, November 5-10, 2000:
- a. "Experimental Study of Multiphase Flow in Cold Box Core Process"
 - b. "Measurements of Decomposed EPS Gases Pressure and Molten MetalPolymeric Foam Interface Velocity During Lost Foam Casting Process (Part I: Disconnect Casting)"
 - c. "Measurements of Decomposed EPS Gases Pressure and Molten MetalPolymeric Foam Interface Velocity During Lost Foam Casting Process (Part II: Rectangular Bars Casting)"
107. 14th Symposium on Thermophysical Properties, Boulder, CO, June 25-30, 2000:
- a. "Contactless Inductive Technique for Electrical Conductivity Measurements on Molten Metals"
 - b. "Thermoviscoelastic Properties of Phenolic Resin/Polymeric Isocyanate Binders System"
108. ASME Fluids Engineering Division Summer Meeting, Boston, MA, June 11-15, 2000:
- a. "Polymeric Foam – Liquid Metal Interface Dynamics in Vacuum Assisted Counter Gravity Casting"
 - b. "Advanced Technique in Vacuum Assisted Counter Gravity Lost Foam Casting Process"
109. 20th Southeastern Conference on Theoretical and Applied Mechanics, Pine Mountain, GA, April 16-18, 2000:
- a. "Local Velocity Measurements in Liquid Metals by Permanent Magnet Potential Probe"
 - b. "Study of Molten Metal-Polymer Foam Interface Dynamics in Counter Gravity Casting"
 - c. "Advances in Counter Gravity Lost Foam Casting Process"
110. 104th AFS Casting Congress, Pittsburgh, PA, April 8-11, 2000:
- a. "Advances in Counter Gravity Lost Foam Casting Process"
 - b. "Thermophysical Properties of A356 Aluminum, Class 40 Gray Iron, and CF8M Stainless Steel"
111. National Textile Center Annual Forum, Myrtle Beach, SC, 2000:
- a. "Characterization of Air-Yarn Interface in Air-Jet Weaving"
112. ASME International Mechanical Engineering Congress and Exposition, Nashville, TN, November, 1999:
- a. "Rheological Measurements on Molten Metals"
 - b. "Velocity, Potential, and Temperature Distributions in Molten Metals During Electromagnetic Stirring. Part I: Experimental Measurements"
 - c. "Velocity, Potential, and Temperature Distributions in Molten Metals During Electromagnetic Stirring. Part II: Numerical Simulations"

113. Second International Symposium on Mathematical and Computational Applications, Baku, Azerbaijan, September 1-3, 1999:
 - a. "Air-Flow over Wavy Yarn in Air-Jet Filling Insertion"
 - b. "Numerical Study of Collision Efficiency of Dust Particles"
114. 3rd ASME/JSME Joint Fluids Engineering Conference and FED Summer Meeting, San Francisco, CA, July 18-22, 1999:
 - a. "Rotational Technique for Liquid Metals Viscosity Measurements"
 - b. "Rheological Properties of Refractory Coating Materials"
115. 103rd AFS Casting Congress & CastExpo'99, St. Louis, MO, March 13-16, 1999:
 - a. "Rheology of Refractory Coating Materials Used in Lost Foam Casting Process"
116. Space Technology & Applications International Forum, Conference on Applications of Thermophysics in Microgravity & Breakthrough Propulsion Physics, Albuquerque, NM, January 31 – February 4, 1999:
 - a. "Rheological Measurements in Reduced Gravity"
117. 34th Intersociety Energy Conversion Engineering Conference, Vancouver, Canada, August 1-5, 1999:
 - a. "Simultaneous Measurements of Local Velocities and Temperature in Liquid Metals by Permanent-Magnet Potential Probe", Paper # 1999-01-2508.
118. Materials and Crystal Growth Seminar at NASA Marshall Space Flight Center, Huntsville, AL, October 9, 1998:
 - a. "Recent Advances in Hydrodynamics of Fluidized Beds"
119. 3rd International Conference on Multiphase Flow, Lyon, France, June 8-12, 1998:
 - a. "Apparent Viscosity Model for Radial Segregated Fluidized Beds"
120. ASME Fluids Engineering Division Summer Meeting, Washington D.C., June 21-25, 1998:
 - a. "Experimental Study of Hydrodynamical and Rheological Properties of Two-Phase Solid-Gas Systems"
121. ASME International Mechanical Engineering Congress and Exposition, Anaheim, CA, November 15-20, 1998:
 - a. "Rheology of Suspensions in Reduced Gravity"
 - b. "Interfacial Velocity in the Core-Annular Flow in a Tube"
 - c. "A Rheological Characterization of High Percent Solids Kraft Black Liquor"
122. International Symposium on Liquid-Liquid Two-Phase Flow and Transport Phenomena, Antalya, Turkey, November 3-7, 1997:
 - a. "On the Laminar Core-Annular Flow of Two Immiscible Fluids in a Horizontal Tube"
123. ASME Fluids Engineering Division Summer Meeting, Vancouver, B. C., June 22-27, 1997:
 - a. "A Rheological Model of Gas-Particle Systems in Poiseuille Flow"
124. 68th Annual Meeting of The Society of Rheology, Galveston, Texas, 1997:
 - a. "Displacement Process of One Fluid by Another in a Straight Tube"
125. 12th International Congress on Rheology, Quebec City (Quebec), Canada, 1996:
 - a. "Novel Effects in the Flow of Viscoelastic Fluids in Non-Homogeneous Porous Media"
126. ASME International Mechanical Engineering Congress and Exposition, Atlanta, GA, 1996:
 - a. "Study of the Apparent Viscosity of Fluidized Sand" & "Displacement of a Fluid by Another in Tubes"
127. Energy Week'96 Conference and Exhibition: Drilling & Production Economics, Houston, Texas, 1996:
 - a. "Viscoelastic Fluid Flow in In-Homogeneous Porous Media"
128. 31st Intersociety Energy Conversion Engineering Conference, Washington, D. C., 1996:
 - a. "Effect of Slugging Phenomena on Drag Coefficient in Fluidized Beds"

129. 31st National Heat Transfer Conference, Houston, Texas, 1996:
 - a. "Study of Channeling Phenomena in Fluidized Foundry Sands"
130. 10th Alabama Materials Research Conference, Auburn, AL, 1996:
 - a. "Study of Fluidized Sand Viscosity"
131. Hi-Tech Textiles Exhibition and Conference, Greenville, SC, 1995:
 - a. "Initial Design of Nonwoven Fabrics for Air Filtration"
132. ASME International Mechanical Engineering Congress and Exposition, San Francisco, CA, 1995:
 - a. "Flow of Linear Fluidity Fluids in Eccentric Annuli"
133. 100th AFS Casting Congress & CastExpo, Philadelphia, PA, 1995:
 - a. "Study of Cohesive Flow in Fluidized Foundry Sands"
134. International Conference on Mechanics of Drilling Technology, Grozny, USSR, 1991:
 - a. "Heat and Mass Transfer Phenomena of Fracturing Process in Oil Wells"
135. 3rd European Rheology Conference and Golden Jubilee Meeting of British Society of Rheology, Edinburgh, UK, 1990:
 - a. "Magnetized Polymer Solution Flow in Porous Media"
136. International Conference on Relaxation Phenomena and Properties of Polymers, Voronej, USSR, 1990:
 - a. "Heat Transfer in Laminar Flow Displacement of Newtonian Fluid by Non-Newtonian One"
137. National Scientific Conference on Mathematical Modeling of Polymer Processing Technology at High Pressures, Perm, USSR, 1990:
 - a. "Measurements of Relaxation Time for Dilute Polymer Solutions"
138. The Forum on Non-Newtonian Systems in Oil Production, Ufa, USSR, 1989:
 - a. "Power Law Fluid Flow in Porous Medium"
139. 2nd Scientific Conference on Rheology and Optimization of Polymer Processing, Izhevsk, USSR, 1989:
 - a. "Heat and Mass Transfer in Polymer Extrusion"
140. 2nd Conference of European Rheologists, Prague, Czechoslovakia, 1986:
 - a. "The Flow of Viscoelastic Fluids in Channel with Cavity"
141. 4th National Conference on Mechanics of Anomalous Systems, Baku, USSR, 1986:
 - a. "Drag Reduction by Polymer Additives in Circular Tubes"
142. 4th National Conference on Contact Hydrodynamics, Samara, USSR, 1986:
 - a. "Rotational Viscometry under Presence of Apparent Wall Slip"
143. National Seminar on Modern Problems of Fluid and Gas Mechanics, Grozny, USSR, 1986:
 - a. "Heat and Mass Transfer in Eddy Flows of Viscoelastic Fluids"
144. National Conference on Processes and Apparatus of Manufacturing of Polymer Materials, Moscow, USSR, 1986:
 - a. "Non-Stable Flow of Polyacrylamide Solutions"
145. 3rd National Conference on Theory of Mechanical Processing of Polymer Materials, Perm, USSR, 1985:
 - a. "Dilute Polyacrylamide Solutions Flow in Cavities"
146. National Conference on Wear of Mechanics and Protection Methods, Bryansk, USSR, 1985:
 - a. "Load Bearing by Viscoelastic Lubricants"
147. 9th International Congress on Rheology, Acapulco, Mexico, 1984:
 - a. "Rheological Properties of Viscoelastic Systems Used in Pumping and Separation"
148. 13th National Conference on Rheology, Volgograd, USSR, 1984:

- a. "Degradation Phenomena in Spacer Fluids"
- 149. The Forum of Universities of Caucasian Republics on Theoretical Mechanics, Baku, USSR, 1984:
 - a. "Specific Problems of Thermo-Kinetics"
- 150. International Workshop on Rheology of Oil, London, UK, 1983:
 - a. "A Study of Viscoelastic Spacer Fluid Flow in Rectangular Channels"
- 151. 1st Conference of European Rheologists, Graz, Austria, 1982:
 - a. "Enhanced Load Bearing by Polymer Solutions Lubricating External Near Contact of Sliding Cylinders"
- 152. National Forum on Non-Newtonian Systems in Technological Processes of Oil Production, Ukhta, USSR, 1981:
 - a. "Modified Sucker Pump for Oil Production"
- 153. 7th National Scientific Conference on Hydraulics of Drilling Fluids, Baku, USSR, 1980:
 - a. "Viscoelastic Fluids Flow Study by Photometry Method"
- 154. 10th National Conference on Rheology, Perm, USSR, 1978:
 - a. "Spacer Fluids in Cementing of Oil Wells"
- 155. 2nd National Conference on Mechanics of Anomalous Systems, Baku, USSR, 1977:
 - a. "Linear Model for Spacer Fluid Flow"
- 156. The Forum of Rheology: Polymers and Oil, Novosibirsk, USSR, 1977:
 - a. "Kinetics of Fluid Displacement from Cavities"
- 157. Annual Meeting of Thermophysics Institute, Novosibirsk, USSR, 1976:
 - a. "Experimental Investigation of Newtonian Fluid Flow in Cavities"

REVIEW OF BOOKS, JOURNAL ARTICLES AND CONFERENCE PAPERS

Reviewed Textbooks:

1. J. T. C. Liu, 2018, "Waves in Gas-Particle Flows", Cambridge Element Series in Aerospace Engineering, Cambridge University Press, UK (book proposal).
2. C. Huitrón, S. Valtierra and R. Colás , 2016, "Cast Al-Si-Cu Alloys: Effect of Modification on Thermal and Electrical Conductivities", Encyclopedia of Aluminum and Its Alloys Cast Al-Si-Cu Alloys: Effect of Modification on Thermal and Electrical Conductivities, Taylor & Francis.
3. D. A. Siginer, 2013, "Heat Transfer with Non-Newtonian Fluids and Non-Colloidal Suspensions in Conduits and Enclosures" (New Book Proposal), John Wiley & Sons Limited, Chichester, UK
4. C. T. Crowe, D. F. Elger and J. A. Roberson, 2010, "Engineering Fluid Mechanics", 9th edition, John Wiley & Sons, Inc., NJ □ C. J. McMahon, 2004, "Structural Materials", Merion
5. A. K. Haghi, 2007, "Foundations of Heat and Mass Transport in Textiles", WSEAS, Greece □ J. H. Swisher, 2004, "Materials Processing", ASME Press, New York, NY
6. W. D. Callister, 2004, "Materials Science and Engineering: An Introduction", 6th edition, John Wiley & Sons, Inc., NJ
7. B. R. Munson, D. F. Young and T. H. Okiishi, 2004, "Fundamentals of Fluid Mechanics", 5th edition, John Wiley & Sons, Inc., NJ
8. E. M. Abbasov, 1993, "Thermophysics and Rheodynamics", Elm Publishing Company, Baku, Azerbaijan
9. R. Melikov, 1992, "Environmental Fluid Mechanics for Chemical Engineers", Maarif Publishing Company, Baku, USSR
10. R. S. Gurbanov and Z. G. Kerimov, 1991, "Mechatronics", Elm Publishing Company, Baku, USSR
11. A. I. Mamedov, 1990, "Mechanics for Chemical Engineers", Elm Publishing Company, Baku, USSR Edited

12. "Rheology and Fluid Mechanics of Nonlinear Materials", Proceedings of Symposium at ASME International Mechanical Engineering Congress and Exposition, New Orleans, LA, 2002.
13. "Rheology and Fluid Mechanics of Nonlinear Materials", Proceedings of Symposium at ASME International Mechanical Engineering Congress and Exposition, FED - Vol. 254, New York, NY, 2001.

Reviewed Papers Submitted to Peer-Reviewed Journals:

1. Advances in Materials Science and Engineering
2. AFS Transactions
3. AIChE Journal
4. ASME Journal of Fluids Engineering
5. ASME Journal of Heat Transfer
6. ASME Journal of Thermal Science and Engineering Applications
7. Biomass & Bioenergy
8. Electrical and Electronics Engineering: An International Journal (EEEEIJ)
9. Energies
10. Fractal Fractional
11. International Journal of Aerospace Engineering (IJAE)
12. International Journal for Communication of Research
13. International Journal of Cast Metals Research
14. International Journal of Materials and Product Technology (UK)
15. International Journal of Recent Advances in Mechanical Engineering (IJMECH)
16. International Journal of Thermophysics
17. Journal of Applied Mathematics and Physics (JAMP)
18. Journal of Applied and Computational Mathematics (JACM)
19. Journal of Applied Mechanics
20. Journal of Applied Sciences
21. Journal of Chemistry
22. Journal of Elastomers and Plastics
23. Journal of Fluids Engineering
24. Journal of Heat and Mass Transfer
25. Journal of Materials Science
26. Journal of Materials Science and Engineering A
27. Journal of Mechanical Engineering Science (JMES) Part C
28. Journal of Micromechanics and Microengineering
29. Journal of Non-Newtonian Fluid Mechanics
30. Journal of Oil and Gas (Russia)
31. Journal of Physics (Turkey)
32. Journal of Surface and Coatings Technology (Elsevier Publications)
33. Maejo International Journal of Science and Technology (Thailand)
34. Mathematical and Computer Modeling
35. Measurement Science and Technology (UK)
36. Metallurgical and Materials Transactions B
37. Proceedings of the National Academy of Sciences of Azerbaijan (Science: Physics and Mathematics series)(Azerbaijan)
38. Rheologica Acta (Netherlands)
39. WSEAS Transactions on Environment and Development (Greece)

Reviewed Papers Submitted for Presentation at Conferences and Symposia:

1. ASME International Mechanical Engineering Congress and Exposition, Salt Lake City, UT, November 8-14, 2019; "The 26th Symposium on Fluid Mechanics and Rheology of Non-linear Materials and Complex Fluids"
2. ASME International Mechanical Engineering Congress and Exposition, Tampa, FL, November 3-9, 2018; "The 25th Symposium on Fluid Mechanics and Rheology of Non-linear Materials and Complex Fluids"
3. ASME FED SM, Waikoloa, HI, July 31-August 2, 2017, "The 24th Symposium on Fluid Mechanics and Rheology of Non-linear Materials and Complex Fluids"
4. ASME International Mechanical Engineering Congress and Exposition, Tampa, FL, November 3-9, 2017, "The 16th Symposium on Advances in Materials Processing Science and Manufacturing"
5. ASME International Mechanical Engineering Congress and Exposition, Tampa, FL, November 3-9, 2017; "The 24th Symposium on Fluid Mechanics and Rheology of Non-linear Materials and Complex Fluids"
6. ASME International Mechanical Engineering Congress and Exposition, Phoenix, AZ, November 11-17, 2016, "The 15th Symposium on Advances in Materials Processing Science and Manufacturing"
7. ASME International Mechanical Engineering Congress and Exposition, Phoenix, AZ, November 11-17, 2016, "Symposium on Transport Phenomena in Manufacturing Processes", ASME Fluids Engineering Division Summer Meeting, 2017, Waikoloa, Hawaii, USA
8. ASME International Mechanical Engineering Congress and Exposition, "The 21st Symposium on Fluid Mechanics and Rheology of Nonlinear Materials and Complex Fluids", 2015, Houston, TX
9. ASME International Mechanical Engineering Congress and Exposition, "The 19th Symposium on Fluid Mechanics and Rheology of Nonlinear Materials and Complex Fluids", 2013, San Diego, CA
10. International Conference on Mechanical Engineering (MECHE-2013), 2013, Dubai, UAE.
11. "The First International Conference on Recent Trends in Mechanical Engineering (RTME2013)", 2013, Dubai, UAE
12. 6th IAASS Conference "Safety is Not an Option", 2013, Montreal, Canada
13. ASME International Mechanical Engineering Congress and Exposition, "The 19th Symposium on Fluid Mechanics and Rheology of Nonlinear Materials and Complex Fluids", 2012, Houston, TX
14. ASME International Mechanical Engineering Congress and Exposition, "The 13th Symposium on Advances in Materials Processing Science and Manufacturing", 2012, Houston, TX
15. "Symposium on Transport Phenomena in Manufacturing Processes", ASME Fluids Engineering Division Summer Meeting, 2012, Puerto Rico, USA
16. The 5th International Association for the Advancement of Space Safety (IAASS) Conference "A Safer Space for a Safer World", 2011, Versailles, Paris, France
17. 4th World Scientific and Engineering Academy and Society International Conference on Materials Science, 2011, Angers, France
18. ASME International Mechanical Engineering Congress and Exposition, 2010, Vancouver, BC, Canada
19. ASME 3rd Joint US-European Fluids Engineering Summer Meeting and 8th International Conference on Nanochannels, Microchannels and Minichannels, 2010, Montreal, Canada
20. ASME International Mechanical Engineering Congress and Exposition, 2009, Lake Buena Vista, FL
21. ASME Fluids Engineering Division Summer Conference, 2009, Vail, CO
22. ASME International Mechanical Engineering Congress and Exposition, 2008, Boston, MA

23. ASME Fluids Engineering Division Summer Conference, 2008, Jacksonville, FL
24. American Conference on Applied Mathematics (MATH'08) and Management, Marketing and Finance (MMF'08), 2008, Cambridge, MA
25. ASME International Mechanical Engineering Congress and Exposition, 2007, Seattle, WA
26. 5th IASME / WSEAS International Conference on Heat Transfer, Thermal Engineering and Environment (HTE'07), 2007, Vouliagmeni, Athens, Greece
27. 5th Joint ASME/JSME Fluids Engineering Conference, 2007, San Diego, CA
28. ASME Joint U.S.-European Fluids Engineering Summer Meeting, 2006, Miami, FL
29. AFS 109th Metalcasting Congress and Exposition, 2005, St. Louis, MO.
30. ASME International Mechanical Engineering Congress and Exposition, 2004, Anaheim, CA.
31. AFS 108th Metalcasting Congress and Exposition, 2004, Rosemont, IL.
32. ASME Heat Transfer/Fluids Engineering Summer Conference, 2004, Charlotte, NC.
33. ASME International Mechanical Engineering Congress and Exposition, 2003, Washington, DC.
34. AFS 107th Casting Congress and Exposition, 2003, Milwaukee, WI.
35. AFS 106th Casting Congress and Exposition, 2002, Kansas City, MO.
36. ASME International Mechanical Engineering Congress and Exposition, 2002, New Orleans, LA.
37. Joint ASME-European Fluids Engineering Summer Meeting, 2002, Montreal, Canada.
38. ASME International Mechanical Engineering Congress and Exposition, 2001, New York, NY.
39. Southeastern Conference on Theoretical and Applied Mechanics – XX, 2000, Pine Mountain, GA.
40. 2nd International Symposium on Two-Phase Flow Modeling and Experimentation, 1999, Pisa, Italy.
41. Energy Week'97: Drilling & Production Operations Conference, 1997, Houston, TX.
42. Seventh International Symposium on Gas-Particle Flows, Joint ASME/JSME Fluid Engineering Conference, 1997, Vancouver, BC, Canada.
43. International Conference on Mechanics of Drilling Technology, 1991, Grozny, USSR
44. International Conference on Relaxation Phenomena and Properties of Polymers, 1990, Voronezh, USSR
45. Forum on Non-Newtonian Systems in Oil Production, 1989, Ufa, USSR
46. National Conferences on Mechanics of Anomalous Systems, 1986 and 1977, Baku, USSR
47. National Conference on Theory of Mechanical Processing of Polymer Materials, 1985, Perm, USSR
48. Annual Rheology Conferences, 1978-1994, USSR

Reviewed Proposal:

National Science Foundation, Washington, DC, 2008-2010 International Science and Technology Center, Los Alamos National Laboratory, NM, 2003

RESEARCH SUPPORTS:

1. Co-PI: "Production and Investigation of Carbon Nanoforms and Their New Nanocompositions Doped with Magnetic Clusters". Collaborative project with Georgian Technical University, New Mexico Institute of Mining and Technology. STCU (Science and Technology Center in Ukraine, International organization) and SRNSF (Shota Rustaveli National Science Foundation, Georgia). 2016-2017
2. Co-PI, US Collaborator: "Development and Characterization of New Antifriction/Frictional Nanocomposites Based on PTFE and Carbon Nanoparticles Doped with Ferromagnetic Clusters", Science and Technology Centre in Ukraine (STCU) and SRNSF. Collaborative project with Georgian Technical University (GTU), Tbilisi, Georgia.

3. PI: "A Two-Component Model Analysis of Critical Detonation Diameter of Explosive Formulations". DHS Science and Technology (S&T) Directorate Office of University Programs, Oak Ridge Institute for Science and Education, 03/01/2017-05/01/2018 (Total: \$70,000).
4. PI: "High Performance Turbojet Engine Nano-Lubricant", New Mexico NASA EPSCoR, New Mexico Space Grant Consortium, from 10/01/08 through 03/31/10 (Total: \$100,000).
5. Co-PI: "New Mexico Tech Explosives Engineering HS-STEM Program", DHS Science & Technology Directorate, University Programs, Homeland Security Science, Technology, Engineering and Mathematics (HS-STEM) Career Development Program, Award No. 2008-ST-104-000011, 2008-2011 (Total: \$400,000).
6. NMT PI and Program Director: "Structural Health Monitoring and Self-Healing of Aerospace Structures", NASA EPSCoR, 2007-2011 (Total \$1,500,000).
7. PI: "Technology on In-Situ Gas Generation to Recover Residual Oil Reserves", U.S. Department of Energy, National Energy Technology Laboratory, Grant No. DE-FC26-05NT15478, from 10/1/05 through 02/29/08 (Total cost: \$700,985)
8. PI: "A New Stimulation Technique to Improve Low Permeable Well-Bore Zone Characteristics", The Stripper Well Consortium, from 01/01/2009 through 6/30/2010 (total \$235,798).
9. Co-PI: "A Model for Participatory, Collaborative STEM Learning", CCRAA Grant with Amarillo College, TX, Department of Education (Total: \$3,242,767; NMT: 1,498,709; Mechanical Engineering Department at NMT: \$387,000)
10. PI: "Pilot Tests of ISGGT Technology in Muscogee Oilfield", Global Technology Transfer, Inc., from 12/15/2008 through 06/15/2010 (\$50,000)
11. Co-PI: "CRIF: MU Acquisition of a Raman Microscope for Education and Research", NSF Chemistry Division, CRIF-MU Instrument Acquisition Program CHE-0632071, 2007 (\$150,000)
12. US PI: "Experimental and CFD Studies of Rheological Characteristics and Transport Properties of Viscoelastic Composite Systems Used in Oil Industry", ANSF/CRDF Azerbaijan-U.S. Bilateral Grants Program, 2004-2005 (\$35,000)
13. PI: "Enabling Technology for the Design of Short-Fiber Reinforced Aluminum MMC Components", American Foundry Society, 2004
14. US-PI: "Deformable Cast Iron as an Alternative for Steel Components of Oil Well Equipment", U.S. CRDF, First Steps to Market Program, from 01/05/06 through 12/31/06 (\$25,000)