

RÉSUMÉ

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Education

- D.Sc.** Materials Engineering, National Academy of Sciences, Ukraine, 1995
Thesis title: Interactions of Non-Oxide Structural Ceramics with High-Temperature Gaseous Media and Development of Methods for Improving Their Corrosion Resistance
- Ph.D.** Physical Chemistry, Kiev Polytechnic Institute, Ukraine, 1986
Thesis title: High-Temperature Corrosion of Structural Ceramics Based on Silicon Nitride, Silicon Carbide and Boron Carbide. Thesis advisor: Prof. V.A. Lavrenko
- M.S.** Metallurgy, Kiev Polytechnic Institute, Ukraine, 1984 (with Honors, 5.0 perfect GPA)

Post-Doctoral Fellowships

- Center for Materials Research, University of Oslo, Norway (with Per Kofstad)
1993 - 1995 NATO/Norwegian Research Council Fellowship
Hydrothermal synthesis and high-temperature oxidation of ceramics.
- Tokyo Institute of Technology, Japan (with Masahiro Yoshimura)
1992 - 1993 Japan Society for the Promotion of Science (JSPS) Fellowship
Hydrothermal corrosion of SiC and hydrothermal synthesis of carbon.
- University of Karlsruhe, Germany (with Fritz Thümmeler and Georg Grathwohl)
1990 - 1992 A. von Humboldt Fellowship
Creep and high-temperature oxidation of silicon nitride based ceramics.

Work History

- Drexel University
Since 05/2017 Charles T. and Ruth M. Bach Endowed Professor
09/2010 – present Distinguished University Professor
09/2008 – 04/2017 Trustee Chair Professor of Materials Science and Engineering
02/2003 – present Founding Director, A.J. Drexel Nanotechnology Institute (<http://nano.drexel.edu>)
12/2002 – 09/2007 Associate Dean of the College of Engineering for Special Projects
11/2001 – present Professor of Mechanical Engineering and Mechanics (courtesy appointment)
08/2000 – 08-2008 Professor of Materials Science and Engineering
09/2002 – present Professor of Chemistry (courtesy appointment)
- University of Illinois at Chicago
9/2001-8/2003 Adjunct Professor of Mechanical Engineering
1999-2000 Associate Professor of Mechanical Engineering with tenure
1999-2000 Assistant Director, UIC Research Resources Center
1996 –1999 Assistant Professor of Mechanical Engineering
- University of Tübingen, Germany
1995 - 1996 Research Scientist
Hydrothermal behavior of carbon materials and hydrothermal synthesis of diamond.
- Institute for Materials Science, Academy of Sciences of Ukraine, Kiev, Ukraine
1986 - 1990 Research Associate
Manufacturing and property characterization of engineering ceramics and ceramic matrix composites.

Visiting Professorships

Korean Advanced Institute of Science and Technology (KAIST), Korea
 2016-2022 Adjunct Professor of Chemical and Biomolecular Engineering

Shinshu University, Japan
 2016-2022 Distinguished Visiting Professor

Jilin University, Changchun, China
 2016-2019 Distinguished Foreign Professor

Beijing University of Chemical Technology
 2016-2019 Visiting Professor

Huazhong University of Science and Technology (HUST) in Wuhan, China
 2012-2015 Guest Professor

University of Rome, Tor Vergata, Italy
 2014 Guest professor

Dalian University of Technology, China
 2008 - 2012 Cheung Kong Chair Professor (visiting)

Paul Sabatier University, Toulouse, France
 2007-2008 Guest Professor

University of Limoges, France
 1994, 1999, 2003, 2005 Guest Professor (summer appointment)

Courses TaughtAt Drexel University:

MATE 510 Thermodynamics of Materials (6 times)
 MATE 585 Nanostructured Carbon Materials (8 times)
 MATE 580 Introduction to MEMS and Nanotechnology
 MATE 580 Skills in Science Communication
 MATE 580 Raman and Infrared Spectroscopy
 MATE 536 Graduate Seminar (3 times)
 MATE 491-493 Senior Design (full-year design course)
 HON 200 Honors Seminar on Materials (Materials for Energy Section)
 MATE 280 Advanced Materials Laboratory (14 times)
 tDEC 211 Materials I (recitations, 5 times)
 tDEC 180 First-Year Design (5 times)
 MATE 270/280 Advanced Materials Laboratory (14 times)
 MATE 340 Ceramics I
 MATE 100 2-Day Introductory Course in Materials (6 times)

At Paul Sabatier University, Toulouse, France:

Carbon Nanomaterials for Energy Related Applications (3 times)
 (European Master Program, Materials for Energy Storage and Conversion)

At the University of Illinois at Chicago:

ME 494 Advanced Ceramic Materials
 ME 403 Introduction to Composite Materials Design
 ME 594 Advanced Diagnostics
 ME/IE 396 Senior Design
 ME/IE 380 Manufacturing Process Principles (2 times)
 IE 342 Probability and Statistics for Engineers (5 times)
 ME 291/HON 201 Materials for the 21st Century (2 times)

Research Interests

- 2D Carbides, Nitrides and Carbonitrides (MXenes)

- Nanomaterials for Energy, Water and Health Applications
- Chemistry of Nanostructured Carbons (nanotubes, onions, graphene, nanodiamond, and CDC)
- Use of Raman Spectroscopy in Materials Research
- Nanocomposites

Publications

2 books co-authored, 14 books edited, more than 600 papers in peer-reviewed journals, more than 60 patents received (more than 10 licensed to industry), more than 250 plenary, keynote and invited lectures and seminars. He has been cited over 100,000 times and currently has an h-index of 159 (Google Scholar) / 139(Web of Science). #2 most cited scientist in materials science in the past 5 years. Highly Cited in Chemistry and Materials Science (Web of Science/Clarivate)

Professional Honors and Awards

- 2021 Ceramic Prize, The World Academy of Ceramics (given once every 4 years)
- 2021 ACS Award in the Chemistry of Materials
- 2020 ACS Philadelphia Section Award
- 2020 George Gamow Award from the Russian-American Science Association (RASA)
- 2019 Fellow, European Academy of Sciences (EurASc)
- 2019 Sosman Lecture, American Ceramic Society
- 2018 Citations Laureate (Web of Science/Clarivate) - work is deemed to be of Nobel stature
- 2018 The Friendship Award from Chinese government (the highest award for foreigners in P.R. China)
- 2018 Rudolf Zahradnik Lecture, Regional Center of Advanced Technologies and Materials, University of Olomouc, Czech Republic
- 2018 Honorary Doctorate, National Technical University of Ukraine - Kyiv Polytechnic Institute
- 2018 Fellow, The International Society of Electrochemistry
- 2018 Tis Lahiri Memorial Lecture, Vanderbilt University
- 2017 Energy Storage Materials Award (Elsevier)
- 2017 Honorary Doctorate, Frantsevich Institute for Problems of Materials Science, National Academy of Sciences, Ukraine
- 2016 Nano Energy Award (Elsevier)
- 2016 Drexel Award for Outstanding Career Scholarly Achievement
- 2016 Included in 100 Most Cited Researchers in Materials Science by Elsevier/Scopus
- 2015 RUSNANOPRIZE 2015 (International Nanotechnology Prize)
- 2015 Fellow, Royal Society of Chemistry
- 2015 Lee Hsun Award Lecture, Institute of Metal Research, CAS, China
- 2014 Doctor Honoris Causa, Paul Sabatier University, Toulouse, France
- 2014 Highly Cited Researcher, Thomson-Reuters/Clarivate (again in 2015-2018)
- 2014 Fred Kavli Distinguished Lectureship in Nanotechnology, MRS Spring Meeting
- 2014 ASM Liberty Bell Chapter's Delaware Valley Materials Person of the Year
- 2014 Research Achievement Award, Department of Materials Science, Drexel University
- 2013 Ross Coffin Purdy Award from the American Ceramic Society
- 2012 European Carbon Association Award
- 2011 NANOSMAT Prize at the 6th NANOSMAT Conference
- 2011 ASM International Philadelphia Chapter Albert Sauveur Lecture Award
- 2011 Fellow, Materials Research Society
- 2010 Chang Jiang Scholar Award, Ministry of Education of P.R. China
- 2009 Fellow, American Association for Advancement of Science (AAAS)
- 2008 Fellow, The Electrochemical Society
- 2006 Nano 50TM Award from *NASA Tech Briefs Magazine*, Innovator of the Year
- 2006 Best Paper Award, American Society for Composites
- 2005 Fellow, American Ceramic Society

- 2005 Fellow, The World Innovation Foundation
 2005 Drexel University College of Engineering Outstanding Research Award
 2004 Academician, World Academy of Ceramics
 2003 R&D 100 Award from *R&D Magazine* (awarded again in 2009)
 2003 Roland B. Snow Award from the American Ceramic Society (also in 2005, 2007, 2012, 2013)
 2002 S. Somiya Award from the International Union of Materials Research Societies
 2002 G.C. Kuczynski Prize from the International Institute for the Science of Sintering
 2002 Full Member, International Institute for the Science of Sintering
 2002 Research Achievement Award from Drexel University (awarded again in 2009)
 2002-2004 10⁶ Club of Drexel University (more than \$1M external funding per year)
 2001 Winner of the Collegiate Inventors Competition
 2001-2015 Multiple listings in Who's Who in America, Who's Who in the World,
 Who's Who Among America's Teachers, Who's Who in Science and Engineering,
 Who's Who in Engineering Education, International Who's Who of Professionals
 Who's Who in the World, The World's Most Influential Scientists: 2014; American Men and
 Women of Science; biography published in English, Ukrainian and Russian editions of Wikipedia
 1999 UIC College of Engineering Faculty Research Award
 1998 NSF CAREER Award
 1999-2005 Best Poster awards from the International Metallographic Society, Electrochemical Society
 (2), Materials Research Society (3) and American Ceramic Society (8)
 1994, 1999, 2003, 2005 Guest Professor (summer appointment), University of Limoges, France
 1998, 1999, 2000 Certificates of Appreciation from Illinois Math and Sciences Academy
 1995, 2004 Certificate of Appreciation from the American Ceramic Society
 1993 I.N. Frantsevich Prize (the highest award in the field of Materials Science) from the
 Ukrainian Academy of Sciences
 1987, 1990 Award for young scientists from the Institute for Materials Science, Kiev, Ukraine

Selected Awards to/with Students

- Maria Lukatskays, 40 under 40 Drexel Alumni list, 2020
 Mark Anayee, NSF GRFP, 2018
 Kristy Jost, 40 under 40 Drexel Alumni list, 2018
 Ariana Levitt, NSF GRFP, NSF 2018 Australia-Americas PhD Research Internship Program
 Simge Uzun, 1st place 2018 in the Science as Art competition at MRS
 Kanit Hantanasirisakul, 2017 Science as Art Award at MRS
 Michael Naguib, 40 under 40 Drexel Alumni list, 2015
 Davide Mattia, 40 under 40 Drexel Alumni list, 2015
 Maria Lukatskaya, Graduate Student Gold Award at the MRS Spring Meeting, April 2015
 Maria Lukatskaya, Best Poster Award, ECS Spring Meeting, May 2015, Hill Fellowship, 2015
 Boris Dyatkin, Best Graduate Student Award, DOE EFRC Meeting, Washington, DC, October 2015
 Olha Mashtalir, Best Poster Award, E-MRS meeting, France, and 6th PCGMR-NCKU Symposium in
 Taiwan 2014
 Michael Naguib, Graduate Student Gold Award at the MRS Spring meeting, 2014
 Kelsey Hatzell - Arthur Nowick Graduate Student Award, MRS Fall meeting, 2014
 Kelsey Hatzell - Best poster Award at the ECS Fall Meeting, 2013
 Katherine Van Aken - Best poster Award at the ECS Fall Meeting, 2013
 Carlos Perez and Katherine Van Aken - Best poster Award at the MRS Spring meeting, 2013
 Amanda Pentecost - NSF Graduate Fellowship
 Riju Singhal and Yang Gao – Best poster Award at the MRS Fall meeting, 2012
 Riju Singhal, Graduate Student Silver Award at the MRS Fall meeting, 2012
 Kristy Jost – Graduate Student Silver Award at the MRS Fall meeting, 2012
 Kristy Jost – Arthur Nowick Graduate Student Award, MRS Fall meeting, 2012
 John Chmiola - NSF award to attend the European Ceramic Society meeting

John Chmiola – Drexel University Research/Service Award
 Adrian Gurga – NSF Graduate Fellowship
 Jameson Detweiler - NSF Fellowship - honorable mention
 Pia Rossi – The Most Promising Graduating Student, Drexel University
 Sebastian Osswald – Hill Fellowship
 Charles Avila - NDSEG Fellowship
 Thomas Juliano - NDSEG Fellowship
 Goknur Cambaz – Drexel University Teaching Award (Best TA) - awarded
 Ranjan Dash – Best PhD Thesis Award for Graduating students
 Ranjan Dash, Gulya Korneva and Liz Hoffman – MRS graduate student awards
 Michael Birnkrant, NSF and other fellowships
 2nd Place in the Scanning Electron Microscopy Category, Ceramographic Competition, MS&T conference, Oct. 2011. B. Anasori, M. Naguib, Y. Gogotsi, M.W. Barsoum
 Kristy Jost GRFP, NDSEG
 Michael Naguib Abdelmalak George Hill, Jr. Endowed Fellowship from the College of Engineering
 Sean Ozarlak, SMART finalist
 Kevin Knehr, GRFP
 Sebastian Osswald CARBON (Elsevier) prize for the best PhD thesis on carbon materials in the past 3 years (worldwide competition)
 Elina Vitol: The best PhD Thesis in Physical Sciences, Drexel University
 Stephen Niezgodna - NSF, NDSEG Fellowship
 Sebastian Osswald – Hill Fellowship
 John Chmiola – Excellence in Research Award
 Davide Mattia - The Student with Most Promise for Enhancing Drexel's Reputation

Editorship

Editor or Associate Editor:

ACS Nano, Associate Editor, since November 2013
Carbon (Elsevier), Honorary Advisory Board, since 2016
Carbon (Elsevier), Editor, April 2007 – March 2014
 Book Series Editor, *Advanced Materials and Technologies*, CRC Press/Taylor and Francis
International Journal of Applied Ceramic Technology, founding Associate Editor, 2003-2007
Science of Sintering, Regional Editor since 2005

International Editorial Board:

Advances in Applied Ceramics, since 2005
Advanced Ceramics and Glass, 1992-1993
Advanced Electronic Materials, since 2014
Advances in Technology of Materials and Materials Processing Journal (ATM), 1998-2004
Applied Ceramic Technology, since 2005
AZojomo - Journal of Materials Online, since 2005
British Ceramic Transactions, 2004-2005
C – Journal of Carbon Research (MDPI), since 2014
Ceramics International (Elsevier), 2006-2010
Current Opinion in Solid State and Materials Science (Elsevier), since 2014
Electrochemical Energy Technology (De Gruyter), since 2014
Journal of Materials Processing and Manufacturing Science, 1997-2002
Materials Physics and Mechanics (IPME, Russia), since 2000
MRS Bulletin, since 2020
New Materials, Compounds and Applications, Jomard Publishing and Baku State Univ., since 2017
Nano Energy (Elsevier), since 2011

Nanoenergy Technologies and Materials, since 2015
Nanomaterials and the Environment (Versita), since 2012
National Science Review (NSR), Oxford journals and CAS, since 2015
New Carbon Materials (Elsevier), since 2009
Proceedings of KPI (Научные вести КПИ), since 2010
Recent Patents in Nanotechnology, 2007-2010
Review Journal of Chemistry, since 2020
Reviews in Advanced Materials Science (IPME, Russia), since 1999
Russian Journal of Electrochemistry, since 2016
Science of Nanoscale Materials (Наноструктурное материаловедение), since 2005

Guest editor:

Special Issue of *Journal of Materials Processing and Manufacturing Science* on Carbides, Nitrides and Borides, Vol. 6, #4, 1998
International Journal of Applied Ceramic Technology, special issues on nanomaterials, v. 1, 2004; v. 3, 2006
 Focus Issue on Materials for Electrical Energy Storage, *Journal of Materials Research*, August 2010
 Focus Collection on Supercapacitors, *Nanotechnology*, 2015

Conference Organizer

Director/Chair:

Gordon Conference on Nanomaterials for Applications in Energy Technology, Ventura Beach, CA (2021)
 3rd International Conference on MXenes, Ningbo, China (2020)
 MXene 2020 Virtual Conference, Philadelphia (2020)
 Beilstein Nanotechnology Symposium, MXene at the Frontier of the 2D Materials World, Mannheim, Germany (2019)
 2nd International Conference on MXenes, Beijing, China (2019)
 6th International Conference "Novel Functional Carbon Nanomaterials" at CIMTEC 2018, Perugia, Italy (2018)
 1st International Conference on MXenes for Energy Applications, Changchun, China (2018)
 NATO ARW on Nanostructured Materials and Coatings, Kiev, Ukraine (2002)
 NATO ASI on Materials Science of Carbides, Nitrides and Borides, St. Petersburg, Russia (1998)
 Symposium on Material Challenges in Electrical Energy Storage, Materials Research Society Fall Meeting, November-December 2009

Co-Director/Co-Chair:

Workshop on Hysteresis, Metastability and Aftereffect, Chicago, IL (2000)
 20th Technical Conference of the American Society for Composites, Philadelphia, PA (2005)
 Conference on Nanomaterials of CIMTEC 2010, 12th International Ceramics Congress, Italy (2010)
 CIMTEC 2014

Panel Co-Chair: DOE Workshop on Basic Research Needs for Electrical Energy Storage, 2007

Symposium/Session Organizer or Member of the Organizing Committee:

Chaired and/or organized about 100 sessions at professional society and other meetings. Organized numerous symposia at the Materials Research Society, Electrochemical Society and American Ceramic Society meetings.

Selected conferences in the past 10 years:

Organizing Committee member, The International Conference on Ceramic Processing Science (ICCP-13), May 8-11, 2016 in Nara, Japan.

International Advisory Committee, 2016 International Conference on Advanced Capacitors (ICAC2016), Otsu Prince Hotel, Otsu, Shiga, Japan, May 23 – 27, 2016.

Symposium Organizer, CARBON 2016, State College, PA, July 2016

Organizer of the Topic E3 -- Electrochemical capacitors and renewable fuels, International Conference on Innovative Electrochemical Energy Materials and Technologies (EEMT2015), November 8th to 11th, 2015, Nanning, China.

Co-chair of Symposium 2: Energy storage and hybridized cells, Nanoenergy and Nanosystems (NENS) conference, Beijing, Dec. 8-10, 2014

Symposium Chair, CIMTEC 2014, Montecatini Terme, Italy, June 16-20, 2014

Symposium Co-chair, NANO 2014, Moscow, Russia, July 2014

Symposium co-organizer, De Novo Carbon Nanomaterials II Symposium, 2014 MRS Spring Meeting, San Francisco, CA, April 20-25, 2014

International Advisory Board, 5th International Conference on Carbon for Energy Storage/Conversion and Environment Protection (CESEP'13), Mülheim a.d. Ruhr, Germany, September 22-27, 2013

Program Committee, NanoBioPhysics-2013, Kharkov, Ukraine, October 7-10, 2013

De Novo Carbon Nanomaterials II Symposium, 2014 MRS Spring Meeting, San Francisco, CA

International Advisory Board, 2013 International Conference on Advanced Capacitors (ICAC2013), Osaka, Japan from May 27 – 30, 2013.

Scientific Committee, The 3rd International Symposium on Enhanced Electrochemical Capacitors – ISEECap 2013, Taormina (Italy) on June 3-7, 2013.

International Organization Committee of the International Conference on Ceramic Processing Science 12. August 4-7, 2013 in Portland, Oregon.

Technical Program Committee for CARBON 2013, Rio de Janeiro, Brazil, July 14-19, 2013.

International Advisory Board, 5th International Conference on Carbon for Energy Storage/Conversion and Environment Protection (CESEP'13), Mülheim a.d. Ruhr, Germany, September 22-27, 2013.

Program Committee, NanoBioPhysics-2013, Kharkov, Ukraine, October 7-10, 2013.

International Advisory Committee member, Session Chair, Annual World Conference on Carbon, Krakow, Poland, June 17th to 22nd, 2012.

International Scientific Committee member, Second International Conference "Nanomaterials: Applications & Properties", Alushta, Ukraine, 24-29 September, 2012

Program Committee, Int. Conf. on Diamond and Carbon Materials. Organizer of a Focused Session on Detonation Nanodiamond: Properties and Applications, Granada, Spain, Sept. 3-7, 2012

Organizing Committee, 12th Asian Bio-Ceramics Symposium (ABC 2012), National Cheng Kung University, Tainan, Taiwan, Nov. 18-21, 2012.

Organizing Committee, 4th PCGMR-NCKU symposium on Nano-Technology/Materials for Bio-Medical Applications, Tainan, Taiwan, Nov. 21-23, 2012

Technical Program Committee for CARBON 2013, to be held in *Rio de Janeiro*, Brazil, July 14-19, 2013.

Co-Chair, Conference on Nanomaterials of CIMTEC 2010,

International Advisory Board of the 2nd International Conference “Disclosing Materials at Nanoscale” of the 12th International Ceramics Congress (Italy, June 6-11, 2010)

Session Organizer, Nanotube Devices and Applications, The Electrochemical Society Meeting, Montreal, 2011

International Advisory Committee, 2nd International Symposium on Enhanced Electrochemical Capacitors (ISEECap'11)

International Advisory Committee, Recent Advances In Fluid Mechanics, Heat & Mass Transfer and Biology, 8th WSEAS International Conference on FLUID MECHANICS (FM '11), Puerto Morelos, Mexico January 29-31, 2011

International Advisory Committee, CARBON 2011, The Annual World Conference on Carbon, Shanghai, July 25-19, 2011

Co-Organizer, Carbon Materials for Energy Storage and Generation workshop, Shanghai, 24th July, 2011

Lead Organizer, Symposium on Materials Challenges Facing Electrical Energy Storage (Symposium U) at the Fall MRS Meeting, Boston, MA, Dec. 2009.

Co-Chair, Conference on Nanomaterials of CIMTEC 2010,
International Advisory Board of the 2nd International Conference “Disclosing Materials at Nanoscale” of
the 12th International Ceramics Congress (Italy, June 6-11, 2010)
Symposium co-organizer, 33rd International Cocoa Beach Conference on Advanced Ceramics and
Composites, Symposium: Porous Ceramics: Novel Developments and Applications. Daytona Beach, FL,
January 2009
215th Electrochemical Society meeting, San Francisco, May 24-29, 2009
H4-Carbon Nanotubes and Nanostructures: Applications and Devices
(Fullerenes, Nanotubes, and Carbon Nanostructures)
Organizers: S. Rotkin and Y. Gogotsi
International Advisory Committee of the 5th International Workshop "Characterization of Porous
Materials: from Angstroms to Millimeters", Rutgers University, New Brunswick, NJ, June 24-26, 2009.
International Scientific Committee, 1st International Symposium on Enhanced Electrochemical
Capacitors (1st ISEE'Cap), Nantes, France, June 29 – July 2, 2009
4th China Medical Biotech Forum Theme: Translating Bio-Innovations into Industrialization, August 21-
23, 2009, Venue: Dalian, China
Sept. 2-6, 2007 - Krakow, Poland. Carbon for Energy Storage and Environment Protection Conference,
Session Chair
Sept. 9-14, 2007 - Berlin, Germany. 18th European Conference on Diamond, Diamond-Like Materials,
Carbon Nanotubes, and Nitrides, Session Chair
Symposium co-chair, Nanostructured and Multifunctional Materials, 7th Pacific Rim Conference on
Ceramic and Glass Technology, Shanghai, China, November 11-14, 2007
Symposium co-organizer, 32nd International Cocoa Beach Conference on Advanced Ceramics and
Composites, Symposium 9: Porous Ceramics. Daytona Beach, January 2008
International Advisory Board, 2nd International Congress on Ceramics, Verona, Italy, June 29-July 4,
2008
Co-organizer, 20th American Society of Composite Meeting, Philadelphia, PA, Sept. 2005
Member of International Program Committee, International conference “Modern Materials Science:
Achievements and Problems” Kiev, Ukraine, September 26—30, 2005
Co-organizer of a Symposium at the 2006 Spring American Chemical Society National Meeting in
Atlanta.
Advisory Board, Disclosing Materials at Nanoscale Symposium at CIMTEC 2006, Italy
Symposium Organizer, Fall Materials Research Society Meeting, Symposium T, Surface Engineering,
Dec. 2004
Member of the Steering Committee - Pennsylvania Nanotechnology 2005, Pittsburg, April 19-21, 2005
Symposium Organizer, Symposium on Nanostructured and Biomimetic Materials, Cocoa Beach Meeting
on Advanced Materials, Cocoa Beach, January, 2005
Co-organizer, 20th American Society of Composite Meeting, Philadelphia, PA, Sept. 2005
Organizing Committee member, 3rd International Conference on Materials and Coatings for Extreme
Performances: Investigations, Applications, Ecologically Safe Technologies and Their Production and
Utilization, Crimea, Ukraine, 13-17 Sept. 2004
Member of International Program Committee, International conference “Modern Materials Science:
Achievements and Problems” Kiev, Ukraine, September 26—30, 2005
Organizing Committee Member, E-MRS 2003 Spring Meeting. Jun 10-13, 2003, Strasbourg, France.
Member of the Steering Committee - Pennsylvania Nanotechnology 2002, Harrisburg, Oct. 3-4, 2002
Symposium Organizer, American Ceramic Society Meeting, Nashville, TN, May 2003
Organizing Committee Member, NATO-ARW on Frontiers in Molecular-Scale Science and Technology
of Nanocarbon, Nanosilicon and Biopolymer Integrated Nanosystems, July 12-16, 2003, Ilmenau,
Germany

Service

Boards

Board of Directors, Materials Research Society (2016-2019)

External Advisory Board of the College of Energy at Beijing University of Chemical Technology (BUCT)

Drexel University Committees

COE Dean Search Committee 2017

Director, A.J. Drexel Nanomaterials Institute, Since Jan 2014

Founding Director, A.J. Drexel Nanotechnology Institute, March 2003-Dec. 2013

Tenure and Promotion Committee, COE, member

Energy and Environment Task Force, member

Drexel University Strategic Plan Initiative 3 (Global Impact), member

Prof. Cameron Abrams, Promotion Committee, CBE Department, member

Prof. Jack Zhou, Promotion Committee, MEM, member

Prof. C.Y. Li, Promotion Committee, MSE Department, chair

Prof. Minjun Kim, Promotion and Tenure Committee, MEM, member

Prof. M. Taheri, Mid-tenure review committee, member

Tenure and Promotion Committee, COE

Strategic Planning Phase 1 Research Task Force, Drexel University, member

VP for Research Search Committee, member

Prof. M. Marcolongo Promotion Committee (Full Professor), MSE Department, member

Prof. V. Genis, Promotion Committee (Full Professor), Goodwin College, member

Prof. U. Wegst, Chair, Mid-tenure review committee

College of Engineering Research Committee, member

Dean's Advisory Committee, member

VP for Research Search Committee, University, member

COE Promotion and Tenure Committee, member AY 2008/2009

VP for Research Search Committee, member

Professional Society Service

Materials Research Society, Board of Directors, 2016-2018

ACS *Nano* Lectureship selection committee, 2014

Rusnano Prize selection committee, 2013

Carbon Journal (Elsevier) Prize Selection Committee, 2013

The Electrochemical Society, Executive Committee member, Division of Fullerenes, Nanotubes and Carbon Nanostructures

MRS, Academic Affairs Committee, 2012-2015, Chair of the Student Chapter subcommittee

MRS Student Chapter Advisor (founding advisor) at Drexel

ECS Student Chapter Advisor (founding advisor) at Drexel

The International Institute for the Science of Sintering - Full Member

International Union of Materials Research Societies, Commission on Awards

The Electrochemical Society, Executive Committee member, Division of Fullerenes, Nanotubes and Carbon Nanostructures

Awards Committee of the Fullerenes, Nanotubes and Carbon Nanostructures Division of the Electrochemical Society, member

Department of Energy, Office of Basic Energy Sciences Electrical Energy Storage Workshop, Panel Co-Chair, April 2-5, 2007

DOE BES Workshop on Carbon Capture: Beyond 2020, panelist and report writer

National Science Board's Task Force on Unsolicited Mid-Scale Research - panelist
 PA Nano Market Advisory Committee, member
 Foreign Policy Association, World Leadership Forum 2009, Panel on the New Energy
 Forum Committee (2010-2014) of the World Academy of Ceramics (WAC), <http://www.waceramics.org>
 Department of Energy, Office of Basic Energy Sciences Hydrogen Storage panel, March 2007
 Department of Energy, Office of Basic Energy Sciences Electrical Energy Storage Workshop, Panel Co-Chair, April 2-5, 2007
 Participates in annual Academic Reputation Survey that determines the World University Rankings (QS, Thomson Reuters and Times Higher Education).

Other Professional Activities

Acted as reviewer:

Nature
Nature Communications
Nature Chemistry
Nature Energy
Nature Materials
Nature Nanotechnology
Science
Science Advances
ACS Applied Materials and Interfaces
ACS Nano
Advanced Materials
Advanced Electronic Materials
Advanced Energy Materials
Advanced Functional Materials
Angewandte Chemie
Applied Physics Letters
Applied Surface Science
British Ceramic Transactions
Carbon
Ceramic Engineering & Science Proceedings
Ceramics International
Diamond and Related Materials
Electrochemical and Solid State Letters
Electrochimica Acta
International Journal of Powder Metallurgy
International Journal of Applied Ceramic Technology
J. Alloys and Compounds
J. American Ceramic Society
J. American Chemical Society
J. Applied Physics
J. European Ceramic Society
J. Electrochemical Society
J. Engineering Materials and Technology (ASME)
J. Materials Chemistry
J. Materials Processing and Manufacturing Science
J. Materials Research
J. Materials Science
J. Nanoscience and Nanotechnology
J. Physics: Condensed Matter
J. Physical Chemistry, B

J. Power Sources
J. Raman Spectroscopy
Langmuir
Materials Today
Mendeleev Communications
Microscopy-Microanalysis-Microstructures
Nano Energy
Nano Letters
Nano Today
Nanotechnology
Physical Review Letters
Refractories (Ogneupory)
Science of Sintering
Scientific Reports (Nature)
Sensors and Actuators
Solid State Ionics
Surface Science
2D
 and other journals and conference proceedings

Reviewer of research proposals or panelist for:

Alexander von Humboldt Foundation
 AFOSR
 Army Research Office
 City University of New York Foundation
 CNRS (France)
 Department of Energy (DOE)
 Department of State
 DFG (Germany)
 DTRA
 Engineering and Physical Sciences Research Council, UK
 EPSCOR Foundation
 Estonian Science Foundation
 European Research Council (ERC)
 Global Climate and Energy Project at Stanford University
 National Research Council (NRC)
 National Science Foundation (NSF)
 Norwegian Research Council
 Petroleum Research Fund
 Research Grants Council, Hong Kong
 Science and Technology Center, Ukraine (STCU)
 US Civilian Research and Development Foundation (CRDF)
 U.S.-Israel Binational Science Foundation, Israel
 W.M. Keck Foundation

Abstracter:

Ceramic Abstracts (1990-1994)

Professional Society Membership:

American Association for Advancement of Science, **Fellow**
 American Ceramic Society, **Fellow**
 American Chemical Society

ASM International
 The Electrochemical Society, **Fellow**
 International Institute for the Science of Sintering, elected **Full Member**
 The International Society of Electrochemistry, **Fellow**
 Japan Society for Promotion of Science Alumni Association
 Materials Research Society, **Fellow, Director**
 NANOSMAT Society, **Fellow**
 Royal Society of Chemistry, **Fellow**
 World Academy of Ceramics, **Academician**
 World Innovation Foundation, **Fellow**

Selected Plenary, Invited and Keynote Lectures and Seminars

Conferences

More than 200 plenary, keynote and invited talks.

The First International Conference on Energy Storage Materials, November 18-21, 2017, Shenzhen, China (Keynote and Award Lecture)
 Chemical Heritage Foundation workshop on New Energy Storage Technologies for Enabling Renewables, January 11, 2018, Philadelphia, PA (organizer and lecturer)
 US-Czech Conference on Nanotechnology and Chemistry, Jan 17-18, 2018 (Keynote)
 3rd Energy Futures Conference, Sydney, Australia, February 3-9, 2018 (Plenary)
 Carbon Nanomaterials in Aqueous Environment Workshop, Berlin, Germany, February 21-23, 2018 (Invited)
 Gordon Research Conference on Batteries, Ventura, CA, Feb. 28 - March 2, 2018 (lecturer)
 ICREN 2018 (International Conference on Renewable Energy), Barcelona, Spain, April 25-27, 2018 (plenary)
 Graphene 2018, Dresden Germany, June 26-29, 2018 (Invited)
 CARBON 2018 (The World Conference on Carbon), Madrid, Spain, June 30-July 4, 2018 (Plenary)
 Organic Functional Materials and Electronics: Synthesis and Devices, Tianjin, Nankai University, July 13-15, 2018 (Keynote)
 10th Anniversary Workshop on Liquid Phase Epitaxy, Trinity College, Dublin, Ireland, August 1-2, 2018
 Gordon Research Conference (GRC) on Ceramics, South Hadley, MA, August 14-17, 2018 (lecturer)
 3rd International Conference on Advances in Functional Materials, University of California, Los Angeles, CA, USA, Aug. 14-17, 2017 (plenary)
 5th International Symposium on Enhanced Electrochemical Capacitors, Jena, Germany, July 10–14, 2017 (plenary)
 ICMAT 2017, Singapore, June 18-23, 2017 (plenary)
 The 4th International Forum on Graphene, Shenzhen, China, April 9-12, 2017 (plenary)
 1st Africa Energy Materials Conference, Pretoria, South Africa, March 28-31, 2017 (plenary)
 Gordon Research Conference on Nanomaterials for Applications in Energy Technology, Ventura Beach, CA, Feb. 26- March 3, 2017
 5th International Solvothermal and Hydrothermal Association Conference, January 17-20, 2016 (plenary)
 Daytona Beach, Nanostructures and 2D Materials Symposium, January 24 – 29, 2016
 AIMR International Symposium, Sendai, Japan, February 22, 2016
 ACS Meeting, San Diego, CA, March 12-15, 2016
 MRS Meeting, Phoenix, AZ, March 28-April 1, 2016
 Graphene 2016, Genoa, Italy April 19 – 21, 2016 (Plenary)
 13th International Conference on Ceramic Processing Science (ICCP-13), Nara, Japan, May 8-11, 2016 (plenary)
 2016 International Conference on Advanced Capacitors (ICAC2016), May 22-18, Shinga, Japan (keynote)
 229th ECS Meeting, San Diego, CA, May 29 – 31 (Plenary)
 Nature Conference on Materials For Energy 2016, Wuhan, China, June 11-14, 2016
 Nano Energy & Nano Science M3eting, Beijing, China, July 14-16, 2016

International Materials Research Congress, 2016, Cancun, Mexico, Aug. 14-21, 2016
ACS Meeting, Philadelphia PA, Aug. 21-25, 2016
International NanoBioTechnology Symposium, Sept. 10-11, 2105. Koycegiz, Mugla, Turkey (Keynote)
mESC-IS, Sept. 7-9, 2015 Ankara, Turkey (Plenary)
CESEP 2015, Poznan, Poland, Oct 19- 22, 2015
Symposium on Capacitors at the 66th International Society for Electrochemistry (ISE) Meeting, Taipei, Taiwan, Oct. 5-8, 2015 (keynote)
DOE Energy Frontier Research Centers (EFRC) PI Meeting - Oct 26, 2015 to Oct 27, 2015, Washington, DC (Panelist)
1st International Symposium on Energy Chemistry and Materials, Shanghai, China, Oct. 29-31, 2016 (plenary)
International Conference on Innovative Electrochemical Energy Materials and Technologies, Nanning, China, Nov. 8-11, 2015
MRS Fall Meeting 2015, Nov 30, 2015 to Dec 4, 2015, Boston, MA (Symposium (MM): Advances in Flexible Devices for Energy Conversion and Storage
Institute of Metal Research, IMR-CAS, Nov 4, 2015 to Nov 7, 2015, Shenyang, China (Lee Hsun Award Lecture on Materials Science)
PacifiChem, Honolulu, HI, Dec 14 – 19, 2015 (Advances in Flexible Devices for Energy Conversion and Storage, Invited lecture: 2D Carbides (MXenes): Synthesis and Applications in Electrochemical Energy Storage)
5th International Solvothermal and Hydrothermal Association Conference, January 17-20, 2016 (plenary)
CESEP 2015, Poznan, Poland, Oct 19- 22, 2015
Symposium on Capacitors at the 66th International Society for Electrochemistry (ISE) Meeting, Taipei, Taiwan, Oct. 5-8, 2015 (keynote)
Keynote lecture at the International NanoBioTechnology Symposium, Sept. 10-11, 2105. Koycegiz, Mugla, Turkey
mESC-IS, Sept. 7-9, 2015 Ankara, Turkey (plenary)
8th International Conference on Materials for Advanced Technologies (ICMAT2015) and 16th IUMRS-ICA, Singapore, July 2, 2015
ISEECap conference, Montpellier, France, June 7-11, 2015
TechConnect World Innovation Conference, June 15, 2015
Argonne National Laboratory, Advanced Photon Source APS/CNM Users Meeting, May 12, 2015
CARBON 2015, Dresden
Advanced Membrane Technology VI: Water, Energy, and New Frontiers, February 8-13, 2015, Sicily, Italy
Nanoenergy and Nanosystems, NENS 2014, Beijing, Dec. 8-10, 2014 (invited)
Qatar Foundation Annual Research Conference, Doha, November 18-19, 2014
NEST Workshop on Nanowires for Energy Storage, Frankfurt, Oct. 14-15, 2014 (invited)
248th ACS National Meeting that will be held in San Francisco, California, August 10-14, 2014. [SEP]
6th International Symposium of Functional Materials, Singapore, Aug. 4-7, 2014 (plenary)
Symposium Ion Dynamics in Confined Systems, University of Cambridge. July 9, 2014 (invited)
Faraday Discussions 172: Carbon in Electrochemistry, July 2014, Sheffield, UK
Spring Materials Research Society Meeting, San Francisco, CA, April 2014 (**Fred Kavli Lecture**)
Power our Future 2014, Vitoria, Spain, April 1-4, 2014
American Chemical Society Meeting, Dallas, TX, March 2014
2014 TMS Annual Meeting & Exhibition, February 20, 2014, San Diego, CA
Asia-Pacific Conference on Energy Storage and Conversion, Brisbane, Australia, Feb. 2014 (plenary)
3rd International Materials Research Congress, Cancun, Mexico, Aug. 2013 (plenary)
Fall Materials Research Society Meeting, Boston, MA, Dec. 2013`
Flatlands beyond Graphene, Jacobs University, Bremen, June 17 - 21, 2013
ABC, ECCAP Symposium, June 25-26, Strasburg, 2013
International Materials Research Congress (IMRC-2013), Cancun, Mexico, August 11-16, 2013 (plenary)

International Conference on Advanced Capacitors, May 27 - 30, 2013, Osaka, Japan (Plenary)
2013 TMS Annual Meeting & Exhibition, March 3-7, 2013, San Antonio, TX
223rd ECS Meeting, Toronto May 12-17, 2013
NSF Workshop on Emerging Research in Ceramics, Carbon, Glasses and Composites, March 19, 2012
2010 Gordon Research Conference on Solid State Studies in Ceramics: Fundamental Phenomena in NANOSMAT, Krakow, Poland, Oct. 18-22, 2011 (**NANOSMAT Award Lecture**)
TACT 2011 International Thin Films Conference, Kenting, Taiwan, Nov. 21-23, 2011 (keynote)
Energy Applications, Colby Sawyer College, New London, NH, 15-20 August 2010
4th International Conference on Polymer Batteries and Fuel Cells, Yokohama, Japan, 2009
US-Korea Conference (UKC) 2009 on Global Sustainability, Raileigh, NC, July 16-19, 2009
ISEE'Cap09, First International Symposium on Enhanced Electrochemical Capacitors, Nantes, France, 29th June – 02nd July 2009
CARBON'09, The Annual World Conference on Carbon, Biarritz, France, June 14-19, 2009 (Keynote)
RUSNANOTECH, Moscow, Dec. 2-6, 2008
EPRI Workshop on Materials for Next Generation Energy Storage, Cleveland, OH, October 20-21, 2008
Michigan State University, June 2008
Electrochemical Society Meeting, Phoenix, AZ, May 2008
DOE workshop on Scientific Impacts and Opportunities in Computing, Maui, HI, Jan. 2008
Carbon for Energy Storage and Environment Protection Conference, Krakow, Poland, Sept. 2007
18th European Conference on Diamond, Diamond-Like Materials, Carbon Nanotubes, and Nitrides, Berlin, Germany, Sept. 2007
NATO Advanced Study Institute (ASI) on Plasma Assisted Decontamination of Biological and Chemical Agents, Izmir, Turkey, Sept. 2007
7th Pacific Rim Conference on Ceramic and Glass Technology, Shanghai, China, Nov. 2007
National Nano Engineering Conference (**Award Lecture**), Boston, November 2006
231st American Chemical Society National Meeting, Atlanta, GA, March, 2006
Materials Research Society Fall Meeting, December 2005
European Ceramic Society Meeting, Portoroz, Slovenia, June 2005
NATO ASI on Nanostructured and Advanced Materials for Optoelectronic, Photovoltaic and Sensor Applications, Sozopol, Bulgaria, September 2004
228th American Chemical Society National Meeting, Philadelphia, PA, August, 2004
XIII International Materials Congress, Cancun, Mexico, August 2004
11th International Symposium on Advanced Materials: Frontiers of Nano-technology and Colloidal Chemistry, Tokyo, Japan, March 2004
NATO ARW on Ultra-Nano-Crystalline Diamond, St. Petersburg, Russia, June 2004
High Temperature Corrosion Symposium, Les Embiez, France, May 2004
28th International Cocoa Beach Conference on Advanced Ceramics and Composites, Cocoa Beach, FL, January, 2004
IUMRS-ICAM Meeting, Yokohama, Japan, October 2003
American Ceramic Society 105th Annual Meeting, Nashville, TN, April 2003
XII International Materials Research Congress, Cancun, Mexico, August 2003
Symposium on Nanoscale Material Behavior and Modeling at the 2002 International Mechanical Engineering Congress New Orleans, LA, November 2002
XI International Materials Research Congress, Cancun, Mexico, August 2002
201st Meeting of The Electrochemical Society, Philadelphia, PA, May 2002
International Conference on Metallurgical Coatings and Thin Films, San Diego, CA, April 2002
4th Pacific Rim Conference on Advanced Materials, Maui, HI, November 2001
5th International Nanoceramics/Crystals Conference, Seoul, Korea, May 2001
International Conference on Soft Solution Processing, Tokyo, Japan, December 2000
Joint Sixth International Symposium on Hydrothermal Reactions & Fourth International Conference on Solvo-Thermal Reactions, Japan, July 2000

NATO ASI on Functional Gradient Materials and Surface Layers Prepared by Fine Particle Technology, Kiev, Ukraine, June 2000
International Workshop on Interface Controlled Materials, St. Petersburg, Russia, June 2000
High Temperature Corrosion Symposium, Les Embiez, France, May 2000
International Workshop on Solvothermal Synthesis of Ceramics, Yokohama, Japan, February 2000
NATO ARW on Nanostructured Films and Coatings, Santorini, Greece, July 1999
International Symposium on Carbon, Tokyo, Japan, November 10, 1998
World Ceramic Congress, Florence, Italy, June 15, 1998
Innovations in Materials Conference, Washington, DC, 1998
28th Annual Meeting of the Fine Particle Society, Dallas, TX, April 3, 1998
Diamond Science and Technology Conference, La Jolla, CA, 1998
The Electrochemical Society Meeting, San Diego, CA, 1998
NATO ARW on Multilayered and Fiber-Reinforced Composites, Kiev, Ukraine, June 1997

Selected seminars

University of North Carolina Chapel Hill (UNC), Department of Chemistry, February 1, 2018
Integrative Research Institute for the Sciences, Humboldt-Universität Berlin Feb. 22, 2018
University of Nebraska, Lincoln, April 9, 2018
Vanderbilt University, Nashville, TN, March 23, 2018 (Tis Lahiri Award Lecture)
University of California at Los Angeles (UCLA), Materials Science Department, April 16, 2018
University of Technology, Sydney, February 9, 2018
Institute for Problems of Materials, Kiev, Ukraine, May 7-8, 2018
Latvian University, Riga, Latvia, May 9-11, 2018
University of Olomouc, Czech Republic, June 25, 2018 (Rudolf Zahradník Lecture)
School of Energy, Soochow University, Suzhou, China, July 19, 2018 (East Suzhou Scholar Lecture)
Xi'an Jiaotong University, Dec. 16, 2017
Northwestern Polytechnical University (NWPU) Dec. 15, 2017
Northwestern University, Evanston, IL, January 24, 2017
A*STAR Institute for Materials Research and Engineering, May 16, 2016
University of Central Florida, April 25, 2016
University of Pennsylvania, April 14, 2016
Michigan State University, April 7, 2016
Columbia University, February 2016
Shinshu University, Japan, Feb. 2016, May 18, 20, 2016
Tongji University, Shanghai, China, Nov. 2015
National Cheng Kung University (NCKU), Tainan, Taiwan, Oct. 2015
Huazhong University of Science and Technology (HUST), Wuhan, China, Oct. 2015.
Duke University, Mechanical Engineering Department, Aug. 26, 2015
North Carolina State University, Materials Science and Engineering Department, Aug. 25, 2015
The Chinese University of Hong Kong, Department of Electronic Engineering, June 30, 2015
City University of Hong Kong, June 29, 2015
Hong Kong University of Science and Technology, Energy Institute Seminar, June 26, 2015
Nanyang Technological University, Singapore, July 1, 2015; May 17, 2016
University of Chicago, Oct. 3, 2014
Texas A&M University, TX, March 2014
Brown University, Providence, RI, February 2014
Deakin University, Australia, Feb. 2014
University of Kentucky, annual **Dawson Lecture**, Oct. 25, 2013
University of Maryland, MD, May 2, 2013
SUNY Binghamton, February 28, 2013
Columbia University, New York, NY, March 15, 2013
California Institute of Technology (Caltech), Pasadena, CA, February 2013
Queens College, CUNY, NY, April 2, 2012

Pacific Northwest National Laboratory, April 6, 2012
University of Texas, Austin, DOE EFRC on Charge Separation and Transfer, April 18, 2012
Dalian University of Technology, Dalian, China
National Taiwan University, August 9, 2012
Huazhong University of Science and Technology (HUST), Wuhan, China, October 2012
National Cheng Kung University, Tainan, Taiwan, November 22, 2012
KAUST, Saudi Arabia, Dec. 5, 2012
MPIF Technical Program Committee (PowderMet2012), Philadelphia, Nov. 8, 2011
Dalian University of Technology, Dalian, China, Nov. 17-18, 2011
Department of Materials Science and Engineering, National Cheng Kung University, Taiwan, Nov. 23, 2011
Lehigh University, Chemistry Department, Feb. 22, 2012
Carnegie Mellon University, March 2, 2012
AIChE Webinar on “Carbon Nanomaterials for Energy-Related Applications”, March 7, 2012
Rensselaer Polytechnic Institute, Albany, NY, April 14, 2010
Cornell University, Ithaca, NY, April 9, 2010
Jack Fest, A symposium to Celebrate Jack Fischer, University of Pennsylvania, May 1, 2009
Oak Ridge National Laboratory, Oak Ridge, TN, 2009
University of Tennessee, Knoxville, TN, 2009
Texas A&M, College Station, TX, April 3, 2009
University of Albany, SUNY, March 13, 2009
University Of Brighton, Brighton, UK, March 11, 2009
Imperial College, London, March 9, 2009
Clemson University, SC, March 6, 2009
Naval Research Laboratory, Washington, DC, February 27
Georgia Tech, Materials Science and Engineering Department, October 7, 2008
University of Pennsylvania, Materials Science and Engineering Department, September 27, 2008
University of Connecticut, School of Engineering, February 28, 2008
Laboratory for Analysis and Architecture of Systems (LAAS), CNRS, Toulouse, France, March 13, 2008
Temple University, Chemistry Department, September 27, 2007
Headwaters, NJ, September 28, 2007
Rutgers University, Department of Chemical Engineering, October 3, 2007
Laboratoire de Chimie de Coordination du CNRS, Toulouse, Nov. 6, 2007
Centre Interuniversitaire de Recherche et d'Ingénierie des Matériaux (CIRIMAT), Université Paul Sabatier, Toulouse, Nov. 9, 2007
Laboratoire de Reactivite et de Chimie des Solides, CNRS, Amiens, France, Nov. 27, 2007
Toulouse Nanotube Research Group Meeting, CEMES CNRS, France, Nov. 28, 2007
DuPont China, Shanghai, Nov. 15, 2007
Dalian University of Technology, China, Nov. 18-19, 2007
Oak Ridge National Laboratory, April 18, 2008
University of Texas-Dallas, February 2007
Texas Catholic University, **Award lecture**, February 2007
University of Nebraska, Lincoln, **Centennial Seminar Series**, October 2006
Corning, Inc., Carbon Workshop, Corning, NY, September 2006
Procter and Gamble, Cincinnati, OH, September 2006
Institute of Materials Science, Ukrainian National Academy of Sciences, September 2006
Ain Shams University, Cairo, Egypt, July 2006
Arkema, Inc., Research Board Meeting, King of Prussia, April 2006
University College London, February 2006
Brown University, Providence, RI, November 2005
Queen Mary College, London, UK, March 2005
Lehigh University, Bethlehem, PA, October 2004

Michigan Tech, Houghton, MI, October 2004
 University of Pennsylvania, Philadelphia, PA, April 2004
 Case Western Reserve University, Cleveland, OH, March 2004
 Goodrich Aerospace Corporation, Cleveland, OH, March, 2004
 National Institute of Standards and Technology, 2003
 Rutgers University, New Brunswick, NJ, March 2002
 Korean Institute of Science and Technology, Seoul, May 2001
 Philadelphia Liberty Bell Chapter of ASM International, April 2001
 Drexel University, Departments of Chemistry and Physics, January 2001
 DARPA, January 2001, December 2001
 NASA Langley Research Center, 2000
 Argonne National Laboratory, Chicago, IL, March 2000
 University of Michigan at Ann Arbor, Ann Arbor, MI, 1999
 University of Illinois at Urbana-Champaign, Urbana, IL, 1995, 1997, 1999
 Tokyo Institute of Technology, Tokyo, Japan, December 1997
 Hokkaido University, Sapporo, Japan, December 1997
 Institute of Materials Science, Kiev, Ukraine, 1997
 Pennsylvania State University, University Park, PA, 1994
 University of Rome “Tor Vergata”, Rome, Italy, September 1995
 Chalmers University of Technology, Gothenburg, Sweden, October 1994
 CNRS, Paris, France, 1995
 University of Karlsruhe, Germany, October 1993; December 1994
 University of Stockholm, Sweden, October 1994
 University of Bergen, Bergen, Norway, April 1994
 University of Limoges, France, June 1994; 1999
 Rutgers University, New Brunswick, NJ, July 1995
 Government Research Institute, Nagoya, Japan, 1993
 National Institute of Standards and Technology, Bethesda, MD, 1993

Consulting and Entrepreneurship

Y-Carbon, Inc. (founder)
 Materials Research Center, Kiev, Ukraine (founder)
 Art and Craft, Turkey
 The Cadmus Group, WA
 EPSCOR Foundation, DC
 Corning, NY
 NanoBlox, FL
 Foster-Miller, MA
 Kurth, Ylitalo and Couden, TX
 ABB (Asea Brown Boveri), Heidelberg, Germany
 Microsin, Kiev, Ukraine

Industrial Partners

(DNI Industry Consortium members, industrial collaborators, or partners on STTR/SBIR proposals)
 AETC
 Alion Science and Technology Corporation
 AlumiFuel
 Amerinova
 Arkema
 Art&Craft
 Ashland Chemical

Aspen Aeerogels
BAE Systems
BASF
Checkpoint
Cooper Standard
Cytostorm Inc.
Dentsply
Discovery Pharmaceutical Sciences
Delux
EnerSys
Evonik/SP3
Exponent
Hemolife
Honda
Innova Dynamics
Johnston Controls
KOEI Chemicals
Lockheed Martin
Meta Tenna
Murata
Nanoblox
Rayner
Superior Graphite
Toyota
Universal Technology Corporation

Unsolicited Coverage in Media

Associated Press
ABC (Channel 6)
BBC Science Watch
Channel 17 (TV News)
Chemical & Engineering News (C&EN)
Chemistry & Industry (UK)
Chicago Sun Time
Frankfurter Allgemeine Zeitung (German daily newspaper)
Financial Times (London)
Fox News
Frost & Sullivan web site - www.frost.com
Gazeta.Ru (leading Russian internet publication)
IEEE Spectrum
Inside R&D (Web alert service)
Le Monde (French daily newspaper)
Liberation (French daily newspaper)
Materials Research Bulletin
Materials Today
Metro
Nano Today
Nanotechweb.org
National Public Radio
Nature
Neue Zuercher Zeitung (Swiss daily newspaper)

Nikkei Shinbun (Japanese business newspaper)
Philadelphia Inquirer
Philadelphia Business Journal
Science
Spektrum der Wissenschaft (German magazine of popular science)
TRN News (Web magazine)
United Press International (UPI)
WHYY Radio
WPVI Television
and many other newspapers, professional magazines and Web sources

Selected Grants

Title: Energy Frontier Research Center for Fluid Interface Reaction, Structures and Transport (EFRC-FIRST)

Agency: Department of Energy

Amount: \$1,300,000

Date: 9/1/2014-10/1/2018

Title: Two Dimensional (2D) MXene Phases for Energy & Electronic Applications

Agency: KAUST

Total Award Amount: \$400,000

Date: 1/1/2015-31/1/2017

Title: Indentation Study of 2D Carbides for Manufacturing Novel Multifunctional Composites

Agency: Army Research Office

Amount: \$50,000

Date: 8/18/2014 – 4/17/2015

Title: Room-temperature Electrochemical Synthesis of Carbide-derived Carbons and Related Materials

Agency: DOE

Amount: \$240,000

Date: 9/1/2013 – 2/28/2015

Title: Synthesis and Characterization of Two-Dimensional $M_{n+1}X_n$ Layers Derived from the MAX Phases (Co-PI)

Agency: NSF

Amount: \$520,000

Date: 9/1/2013-8/31/2017

Title: MXenes: New Two-Dimensional Ceramics

Agency: French American Cultural Exchange (PUF of the French Embassy)

Amount: \$83,000

Date: 9/1/2012-8/31/2015

Title: Development of Electrode Architectures for High Energy Density Electrochemical Capacitors

Agency: University of California Los Angeles/Sandia National Laboratory

Amount: \$385,000

Date: 3/22/2011-9/21/2015

Title: Two-Dimensional Metal Carbides (MXenes) for Next Generation Water Treatment Membranes

Agency: QNRF-NPRP
Amount: \$213,370
Dates: 12/1/2016-11/30/2019

Title: Probing Intercalation-Induced Dimensional Changes in Composite Porous Electrodes by QCM-D
Agency: BSF
Amount: \$63,450
Dates: 1/1/2016-12-31/2018

Title: Printed, Flexible Ultracapacitors Based on Novel, High-Performance Carbon Nanomaterials
Agency: SI2 Technologies, INC
Amount: \$250,000
Date: 04/24/2015 – 01/15/2017

Title: Carbon Materials for Energy Storage
Agency: Honda Research Institute
Amount: \$120,000
Date: 03/01/2015-02/28/2016

Title: Development of New Carbon Materials and Design of a Device for Testing
Agency: Hemolife
Amount: \$106,400
Dates: 1/1/2016-12/31/2016

Title: Carbon Materials for Energy Storage
Agency: Honda Research Institute
Amount: \$120,000
Date: 03/01/2015-02/28/2016

Title: Development of Electrode Architectures for High Energy Density Electrochemical Capacitors
Agency: University of California Los Angeles/Sandia National Laboratory
Amount: \$385,000
Date: 3/22/2011-9/21/2015

Title: MXenes: New Two-Dimensional Ceramics
Agency: French American Cultural Exchange (PUF of the French Embassy)
Amount: \$83,000
Date: 9/1/2012-8/31/2015

Title: Global Innovation Network: Nanostructured materials to control contaminants for healthcare applications.
Agency: British Council (via University of Brighton)
Total Award Amount: \$70,901
Date: 03/21/2014 – 03/31/2016

Title: MRI: R2: Development of Common Platform for Unifying Humanoids Research (Co-PI)
Agency: NSF
Amount: \$\$5,999,997 (total grant amount)
Date: 7/1/2010-7/1/2015

Title: Nanodiamond Platforms For Anticancer Chemotherapeutics Delivery In Brain
Agency: SARI/Drexel

Amount: \$350,000
Date: 7/1/2011-7/1/2015

Title: Industrial Manufacturing of Nano-Graphitic Obscurant Aerosols
Agency: American Energy Technologies Co.
Amount: \$8,169
Date: 1/1/2013-6/28/2013

Title: Development of Electrochemical Flow Capacitor Prototype for Rapid Energy Storage in Smart Grid Applications (Co-PI)
Agency: Ben Franklin Technology partners
Amount: \$150,000
Date: 9/1/2012-9/1/2013

Title: SBIR: New and Improved Lithium Ion Battery
Agency: NASA/American Energy Technologies Co.
Amount: \$14,031
Date: 2013

Title: SST – Smart Surgical Tools: Bioactive Surgical Fixation Devices for Enhanced Bone and Tissue Regeneration
Agency: Wallace Coulter Foundation
Amount: \$100,000
Date: 2013

Title: Power Reactant Delivery System for Air Independent Fuel Cell
Agency: Ingenium Technologies
Amount: \$21,000
Date: 2013

Title: International Collaboration in Chemistry: Ionic Liquid in Confined Environments
Agency: National Science Foundation
Amount: \$365,174
Date: 9/15/2009-9/14/2012

Title: Energy Frontier Research Center for Fluid Interface Reaction, Structures and Transport (EFRC-FIRST)
Agency: Department of Energy
Amount: \$675,000
Date: 9/15/2009-9/14/2014

Title: The Influence of Electrolyte Structure and Electrode Morphology on the Performance of Ionic Liquid Base Supercapacitors
Agency: Department of Energy/University of Utah
Amount: \$494,514
Date: 10/1/2009-9/30/2012

Title: EAGER Carbide Derived Carbons with Pore Structure and Surface Chemistry Designed for Selective Adsorption of Proteins
Agency: National Science Foundation
Amount: \$125,000
Date: 9/1/2009-3/01/2011

Title: New Materials Synthesis and Processes for Energy Storage Microdevices
Agency: PUF of the French Embassy
Amount: \$83,000
Date: 10/1/2009-9/30/2012

Title: Keck Institute for Attofluidic Nanotube-based Probes
Agency: W.M. Keck Foundation
Amount: \$1,000,000
Award Period: 06/01/07 – 05/31/10

Title: RET Site: Research Experience for Teachers in Nanotechnology (RET-Nano)
Agency: National Science Foundation
Amount: \$500,000
Date: 9/1/2007-8/31/2012

Title: IGERT: Nanoscale Engineering and Science: One Campus, Two-University Approach
Agency: National Science Foundation
Amount: \$3,000,000
Date: 9/1/2009-8/31/2012

Title: NIRT: Nanotube-based nanofluidic devices and fundamental fluid studies at the nanoscale
Agency: National Science Foundation (NSF)
Amount: \$1,002,000
Date: 09/01/06 – 08/31/10

Title: Development of the laboratory-based course in Lean Six Sigma nanomanufacturing
Agency: National Science Foundation
Amount: \$150,000
Date: 1/1/2009-1/1/2011

Title: New Layered Nanolaminates for Use in Lithium Battery Anodes
Agency: Department of Energy/Lawrence Berkley National Laboratory
Amount: \$1,057,470
Date: 10/1/2010-12/31/2014

Title: SBIR: Power Reactant Delivery System of Air Independent Fuel Cell
Agency: Office of Naval Research
Amount: \$30,000
Date: 7/1/2010-2/1/2011

Title: MRI-R2: Development of Common Platform for Unifying Humanoids Research
Agency: NSF
Amount: \$5,999,997.00
Date: 7/1/2010-7/1/2015

Title: Low Temperature Synthesis of Carbide-Derived Carbons from Binary and Ternary Carbides in the Si-Ti-C Systems: Experiments and Modeling
Agency: Department of Energy
Amount: \$700,000
Date: 9/1/2010-2/28/2015

Title: Carbide-derived carbons with tunable pore size for hydrogen storage
Agency: DoE through University of Pennsylvania
Amount: \$650,000 (Drexel share)
Date: 09/30/04 – 09/30/09

Title: Nanoscale Cellular Probes
Agency: NanoTechnology Institute
Amount: \$98,999
Date: 09/01/08 – 12/31/09

Title: Catalytically Active Nanostructured Carbons
Agency: Army Research Office
Amount: \$75,000
Date: 6/1/09-5/31/2010

Title: Advanced Filtration Systems
Agency: Global Protection, Inc.
Amount: \$231,929.07
Date: 12/15/06 – 12/14/08

Title: Carbide-Derived Carbons with Tunable Pore Size for Hydrogen Storage (Co-PI)
Agency: DOE
Amount: \$557,780 (Drexel part)
Date: 09/30/04 – 09/30/08

Title: Surface Modification of Nanodiamond for Drug Delivery Applications (PI)
Agency: NanoBlox and BFTP
Amount: \$100,000
Date: 01/01/06-12/31/07

Title: Filling carbon nanotubes with metal nanoparticles
Agency: NAVSEA
Amount: \$99,975
Date: 07/27/07 – 07/26/08

Title: Electron Microscopies
Agency: National Science Foundation
Amount: \$498,000
Date: 09/2007-08/2008

Title: Manufacturing of Drug Nano-Dispersions
Agency: National Science Foundation
Amount: \$121,564
Date: 06/01/2006 – 05/31//2008

Title: One-Dimensional Probes Made of Carbon Nanotubes (PI)
Agency: NTI / Ben Franklin Technology Partners of Southeastern Pennsylvania
Amount: \$205,522
Date: 08/01/02-07/31/06

Title: Research Experience for Teachers in the Areas of Innovative and Novel Technologies in Philadelphia (RETAIN)

Agency: National Science Foundation
Amount: \$21,000 (REU supplement)
Date: 09/01/02 – 08/31/05

Title: Acquisition of a Field Emission Scanning Electron Microscope Equipped With Wavelength Dispersive X-Ray Spectrometer (Co-PI)
Agency: DOD/ARO
Amount: \$170,000
Date: 01/07/2004 - 01/07/2005

Title: Acquisition of ICP System within Two Universities/One Campus Framework (Co-PI)
Sponsor: NSF
Amount: \$350,000
Date: 08/15/2004 – 08/14/05

Title: One-Dimensional Probes Made of Carbon Nanotubes (PI)
Agency: NTI / Ben Franklin Technology Partners of Southeastern Pennsylvania
Amount: \$155,522
Date: 08/01/02-07/31/04

Title: A New Class of Nanostructured Carbon Materials: Graphite Polyhedral Crystals (PI)
Agency: DOE
Amount: \$425,000
Date: 09/01/01 – 02/28/05

Title: Characterization of Ti-Pb and Ti-graphite composites
Agency: Electrodes International
Amount: \$30,000
Date: 2003

Title: Carbon Nanotube Reinforced Carbon Fiber
Agency: Hexcel Corporation /NAVAIR
Amount: \$111,700
Date: 06/01/03– 12/31/03

Title: Synthesis and Characterization of Carbide-Derived Carbon for Chemical and Energy Systems
Agency: DARPA via ONR
Amount: \$677,000
Date: 07/01/01 – 06/30/04

Title: GAANN Fellowships in Emerging Areas of Research: Nanotechnology, Information Technology, and Biotechnology
Agency: Department of Education
Amount: \$846,930
Date: 9/01/03 – 08/31/07

Title: Phase Transformations in Ceramics and Semiconductors
Agency: NSF
Amount: \$239,778
Date: 9/1/00-2/29/04

Title: Development of BAN coating for SiC

Agency: SSG
Amount: \$66,836
Date: 1/2/03-12/31/03

Title: Nano Technology Institute
Agency: Ben Franklin Technology Partners of Southeastern Pennsylvania
Amount: \$155,522
Date: 08/01/02-07/31/04

Title: Acquisition of Near-Field and UV Raman Instruments
Agency: Ben Franklin Technology Center
Amount: \$100,000
Date: 08/01/02-07/31/03

Title: IGERT Fellowships in the Area of Nanoscale Engineering and Science: A New Educational Model Combining Two Universities
Agency: National Science Foundation
Amount: \$3,000,000
Date: 12/01/02-11/30/07

Title: Novel Carbon Films for Next Generation Rotating Equipment Applications
Agency: University of Illinois at Chicago/DOE
Amount: \$495,375
Date: 04/01/02-12/31/04

Title: Carbide-Derived Carbon Filters for Biohazardous Materials
Agency: Drexel University Synergy Grant
Amount: \$20,000
Date: 7/1/2002 – 6/30/2003

Title: Biocompatibility and Immune Response of Carbon Nanotubes
Agency: Drexel University Synergy Grant
Amount: \$20,000
Date: 7/1/2002 – 6/30/2003

List of Graduated and Current MS/PhD Students and Post Docs

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Asya Sarycheva, PhD
Fayan Meng, Post Doc
Muhammad Boota, PhD
Mohamad Alhabeab, PhD
Mengqiang Zhao, Postdoc
Nicholas Pescatore, MS
Kathleen Maleski, PhD
Christine Hatter, PhD
Tyler Mathis, PhD
Chuonfang (John) Zhang

Muge Acik, Post Doc
Kevin Cook, Post Doc
Mengqiang Zhao, Post Doc
Majid Beidaghi, Post Doc
Ioannis Neitzel, PhD
Yohan Dall'Agnese, PhD
Jonathan Campos, MS
Riju Singhal, PhD
Carlos Perez, PhD
Chang Ren, PhD
Boris Dyatkin, PhD
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Min Heon, PhD
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Katherine Van Aken, PhD
Christopher Dennison, PhD
Roger Swartz, MS
Pavel Ruvinsky, Post Doc
Michael Naguib, PhD
Isabel Nocke, Post Doc
Jun Jie Niu, Post Doc
Michael Schrlau, Post Doc
Volker Presser, Post Doc
Bastian Etzold, Post Doc
Taha Demirkan, MS
Veli Kara, MS
Patricia Redington, MS
Shruti Gour, MS
Valarie Pelletier, MS
Elina Vitol, PhD
Murat Kurtoglu, PhD
Amanda Pentecost, PhD
Marianna Kharlamova, MS
Vadym Mochalin, Post Doc
Sayan Bhattacharyya, Post Doc
Sun-Hwa Yeon, Post Doc
M. Teresa Ubieto, Post Doc
Kris Behler, PhD
Benjamin Legum, PhD
Byung-Yong Lee, Post Doc
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Davide Mattia, PhD
Chris Hobson, MS
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Sauji Yachamaneni, MS
Sebastian Osswald, PhD
Mickael Havel, Post Doc
Cristelle Portet, Post Doc
Byung-Yong Lee, Post Doc

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Adarsh Sagar, MS
Gleb Yushin, Post Doc
Stephane Casimirus, Post Doc
Svetlana Dimovski, PhD
Hai Yang, Post Doc
Nevin Naguib, PhD
Ranjan K. Dash, PhD
Victor Jaya Nasamini, Post Doc
Sascha Welz, PhD
Edem Akpan, PhD
Daibin Ge, PhD
Vladislav Domnich, PhD, Post Doc.
Thomas Juliano, PhD
John Daghfal, MS
Beth Carroll, MS
Linlin Chen, PhD
Alexei Nikitin, Post Doc

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Personal Data

Born: December 16, 1961; Married, 2 children; US Citizen

Signed:

