

## RÉSUMÉ

### Yury Gogotsi

Born December 16, 1961

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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, Kyiv 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

**B.S./M.S.** Metallurgy, Kyiv 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 Thümmel 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 – 08/2018

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**Linkoping University

From 09/2023 WISE Visiting Professor

Sumy State University, Ukraine

From 05/2022 Adjunct Professor of Nanoelectronics

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, 2021 Guest Professor

University of Limoges, France

1994, 1999, 2003, 2005 Guest Professor (summer appointment)

**Courses Taught**At 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 (15 times)

tDEC 211 Materials I (recitations, 5 times)

tDEC 180 First-Year Design (5 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 21<sup>st</sup> Century (2 times)

## Research Interests

- 2D Carbides, Nitrides and Carbonitrides of Transition Metals (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
- Chemistry and Electrochemistry in Confinement
- Nanocomposites

## Publications

2 books co-authored, 14 books edited, more than 800 papers in peer-reviewed journals, more than 170 patents applications filed (more than 60 issued patents, more than 30 licensed to industry), more than 300 plenary, keynote and invited lectures and seminars. His papers have been cited ~180,000 times and his h-index is >200 ([Google Scholar](#), Scopus). More than 30 papers cited >1000 times each. The most cited paper has ~17,000 citations. Clarivate's "Highly Cited" in Chemistry and Materials Science and Citations Laureate in Physics. The 2022 Stanford List, which is the most thorough bibliometric analysis, ranked him #2 in Nanotechnology and #38 across all scientific disciplines worldwide, based on the 2021 Scopus citation data.

## Professional Honors and Awards

- 2023 Jan Czochralski Award, European Materials Research Society (E-MRS)
- 2023 Khwaja Fareed Innovation Research Award 2023, KFUEIT, Pakistan
- 2023 Fellow, National Academy of Inventors
- 2022 Frontiers of Science & Society - Rustum Roy Lecture at MS&T Conference, ACerS
- 2022 Distinguished Lecture, University of Waterloo, Waterloo Institute of Nanotechnology
- 2022 Grigori Samsonov Medal and Award from the Ukrainian Materials Research Soc. (U-MRS)
- 2021 Materials Today Innovation Award, Elsevier
- 2021 MRS Medal, Materials Research Society
- 2021 Award for a Lasting and Outstanding Contribution to Materials Science and Engineering, MRS-Serbia
- 2021 Horizon Prize, Royal Society of Chemistry (RSC)
- 2021 Manuel Cardona Lecture, Institut Català de Nanociència i Nanotecnologia
- 2021 Honorary Doctorate, Sumy State University, Ukraine
- 2021 ACS Award in the Chemistry of Materials
- 2021 RASA-America Honorary Life Membership
- 2020 Ceramic Prize, The World Academy of Ceramics (given once every 4 years)
- 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
- 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 (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 in Materials Science and Chemistry, Thomson-Reuters/Clarivate (2014-2022)
- 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 6<sup>th</sup> 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 50<sup>TM</sup> 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 10<sup>6</sup> 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 PhD Students**

- Michael Naguib, Distinguished Alumnus Award, 2023
- Kathleen Maleski, 40 under 40 Drexel Alumni list, 2023
- Olha Mashtalir, 40 under 40 Drexel Alumni list, 2022

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, 1<sup>st</sup> 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, 40 under 40 Drexel Alumni list 2022  
 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  
 2<sup>nd</sup> 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 Niezgodá - 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, November 2013 – December 2021  
*Carbon* (Elsevier), Honorary Advisory Board, since 2016  
*Carbon* (Elsevier), Editor, April 2007 – March 2014  
*Graphene and 2D Materials* (Springer-Nature), Honorary Editor-in-Chief, since 2022  
*2D Materials* (IoP), Executive Editor, since 2021  
 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:

*ACS Nano*, since 2022  
*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  
*Carbon Future* (Tsinghua), since 2023  
*Ceramics International* (Elsevier), 2006-2010  
*Current Opinion in Solid State and Materials Science* (Elsevier), since 2014  
*Electrochemical Energy Technology* (De Gruyter), since 2014  
*eScience*, Nankai University, since 2022  
*InfoMat* (Wiley), since 2019  
*InfoScience* (Wiley), since 2022  
*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  
*Nano Trends* (Elsevier), since 2022  
*Nanoenergy Technologies and Materials*, since 2015  
*Nanomaterials and the Environment* (Versita), since 2012-2015  
*National Science Review (NSR)*, Oxford journals and CAS, since 2015  
*New Carbon Materials* (Elsevier), since 2009  
*Problems of Strength* (Springer), since 2022  
*Proceedings of KPI (Научные вестн КПИ)*, since 2010  
*Recent Patents in Nanotechnology*, 2007-2010  
*Reviews and Advances in Chemistry*, since 2020  
*Reviews in Advanced Materials Science* (DeGruiter), 1999-2022  
*Russian Journal of Electrochemistry*, 2016-2022  
*Science of Nanoscale Materials (Наноструктурное материаловедение)*, Ukraine, since 2005

#### Guest editor:

Focus issue of *2D Materials*, 2022  
 Virtual Issue of *ACS Nano*, 2021  
 Virtual Issue of *Advanced Materials*, 2021  
 Special Issue of *Advanced Functional Materials*, 2020  
 Special Issue of *Chinese Chemical Letters*, 2020  
 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:

Chair, Gordon Conference on Nanomaterials for Applications in Energy Technology, Ventura Beach, CA (2025)

Vice-chair, Gordon Conference on Nanomaterials for Applications in Energy Technology, Ventura Beach, CA (2023)

Chair of the Scientific Committee, YUCOMAT – 23<sup>rd</sup> Annual Conference on Materials Science (2022, 2023)

2<sup>nd</sup> International Conference on MXenes, Drexel University, Philadelphia, PA (2022)

3<sup>rd</sup> International Conference on MXenes, Ningbo, China (2020)

MXene 2020 Virtual Conference, Philadelphia, PA (2020)

Vice-chair, Gordon Research Conference on Nanomaterials for Applications in Energy Technology, Ventura, CA (2019)

Beilstein Nanotechnology Symposium, MXene at the Frontier of the 2D Materials World, Mannheim, Germany (2019)

2<sup>nd</sup> International Conference on MXenes, Beijing, China (2019)

6th International Conference "Novel Functional Carbon Nanomaterials" at CIMTEC 2018, Perugia, Italy (2018)

1<sup>st</sup> 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 200 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:

Co-Organizer, Nanotubes and low-dimensional materials NT'23, June 4-9, 2023, Arcachon, France.

Organizing Committee member, 7<sup>th</sup> Samsonov Conference in Kyiv: Symposium C: Low-dimensional nanostructures of refractory compounds, May 25-28, 2021, Kyiv, Ukraine.

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 3<sup>rd</sup> 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, 4<sup>th</sup> 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, 24<sup>th</sup> 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

215<sup>th</sup> 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, 3<sup>rd</sup> 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**

MSE Faculty Search Committee 2023  
 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**

Frontiers of Science and Society – Rustum Roy Lecture Committee, ACerS, 2023-2028  
*Journal of Materials Research* (MRS), Editor-in-Chief selection task force, 2021  
 Gamow Award Selection Committee (RASA), 2021  
 International Union of Crystallography, Commission on Crystallography of Materials, since 2020  
 Science History Institute, since 2018  
 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, 21012-2015, 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 Electronics*

*Nature Energy*

*Nature Materials*

*Nature Nanotechnology*

*Nature Physics*

*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*

*Graphene and 2D Materials*

*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 Materials*  
*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, Life-Long member**

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**  
 RASA-America, **Honorary Life-long Member**  
 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 400 plenary, keynote, and invited talks.

ISICXXI: 21st International Symposium on Intercalation Compounds, Nancy, France, June 11-15, 2023 (Plenary)  
 Korea Society of Industrial and Engineering Chemistry (KSIEC), Seoul, South Korea, May 12, 2023, Special MXene session (Keynote)  
 8th National Conference on Energy Storage Science and Technology, Jilin University, virtual, April 7, 2023, (Plenary)  
 1st International Conference on Emerging Materials for Sustainable Energy and Environment (EMSEE 2022), Dec. 13-15, 2022 (Keynote)  
 6th International Conference on Active Materials and Soft Mechatronics (AMSM), Atlanta, GA, October 27, 2022 (Plenary)  
 MS&T Meeting, Pittsburg ACerS Frontiers of Science and Society, Oct. 11, 2022, Rustum Roy Award Lecture  
 Hong Kong Tech Forum on Carbon Neutrality and Sustainable Environment, Oct. 5, 2022 (Keynote)  
 DGM's Materials Science and Engineering Congress 2022, Darmstadt, Germany, Sept. 27, 2022 (plenary)  
 IEEE NAP-2022 CONFERENCE, Poland. September 12, 2022 (Plenary)  
 Sede Boqer Symposium on Solar Electricity Production, Ben Gurion University, Israel, Sept. 6, 2022 (keynote)  
 International Symposium on Enhanced Electrochemical Capacitors, ISEECap 2022, July 14, 2022 (Plenary)  
 Graphene 2022, Germany, July 5, 2022 (Keynote)  
 CIMTEC Perugia, Italy, June 27, 2022 (Plenary)  
 College de France, Invited Lecture, February 21, 2022  
 Nanocon 2021, Brno, Czech Republic, October 20, 2021 (Plenary)  
 Printing for Fabrication and ICAI 2021 – October 11, 2021 (Keynote) Speaker  
 2021 IEEE 11th International Conference on Nanomaterials: Application & Properties, Sept. 6, 2021 (Plenary)  
 72nd Annual Meeting of ISE, Aug 29-Sept. 3, 2021 (Keynote)  
 Horizons Energy Storage and Conversions, Aug. 4, 2021 (Plenary)  
 SE-MAT Int'l Meeting 2021, Aug. 8, 2021 (Keynote)  
 IVS Students Conference, July 15, 2021 (Plenary)  
 WNCST 2021, March 8-13, 2021 (Plenary)  
 Virtual Conference on Global Renewable Energy Researchers Meet, May 7-8, 2021 (Plenary)  
 7th Samsonov Conference in Kyiv, May 25-28, 2021 (Keynote)  
 International Conference on Nanoscience and Nanotechnology (ICONN-2021), February 2, 2021 (Keynote)  
 Int. Conf. "Nanotechnology and nanomaterials" (NANO-2020), Lviv, Ukraine, August 26, 2020 (Keynote)  
 1st International Virtual Conference on Advances in Colloidal and Polymeric Systems (ACAPS-2020), August 22, 2020 (Keynote)  
 Center for Nanophase Materials Sciences Virtual Users Meeting, August 10, 2020 (Plenary)  
 Graphene 2020 Online Forum, Shenzhen, China, July 4, 2020 (Plenary)  
 Online Conference on Green Energy, July 20, 2020 (Plenary)

Center for Nanophase Materials Sciences Virtual Users Meeting, August 10, 2020 (Plenary)  
Graphene 2020 Online Forum, Shenzhen, China, July 4, 2020 (Plenary)  
Int. Virtual Conference on Advanced Nanomaterials & Applications, Vellore, India, June 18, 2020 (Plenary)  
Graphene Flagship: Graphene for Energy Storage Applications, June 17, 2019 (Keynote and Panelist)  
2nd Int. Conf. on Nanoscience and Nanotechnology, Vellore Institute of Technology, India, Nov. 29 - Dec. 1, 2019 (Plenary)  
Congress of the Mexican Carbon Association, San Luis Potosi, Mexico, November 5, 2019 (Plenary)  
Graphene Week, Helsinki, Finland, September 23 - September 27, 2019 (Plenary)  
7th Dresden Nanoanalysis Symposium, Dresden, Germany, August 30, 2019 (Keynote)  
ChinaNano Conference, Beijing, China, August 17 – 20, 2019 (Keynote)  
Energy Frontier Research Centers PI's Meeting, Washington, D.C., July 29 - 30, 2019, (Talk)  
70th Annual Meeting of the International Society of Electrochemistry, Durban, South Africa, Aug. 5-9, 2019 (Keynote)  
NANO KOREA, South Korea, July 2 – 4, 2019 (Keynote)  
Int. Symposium on Enhanced Electrochemical Capacitors, ISEECap, Nantes, France, May 5-8, 2019 (Plenary)  
2nd International Conference on MXenes, Beijing, China, May 10-12, 2019 (Plenary)  
2nd Int. Conference on Materials Strength and Applied Mechanics, Kiev, Ukraine, May 27-28, 2019 (Keynote)  
6th International Conf. of Multifunctional, Hybrid and Nanomaterials, Sitges, Spain, March 12, 2019 (Plenary)  
NREL/MINES/NIST, Colorado School of Mines, Feb 21, 2019 (Distinguished Lecture)  
Graphene for US, New York, NY, Feb. 14, 2019 (Keynote)  
India Nano 2018, Bengaluru, India, Dec. 8, 2018 (Plenary)  
9th International Symposium of Global Research and Development Centers, Seoul, South Korea  
Nov. 7-9, 2018 (Plenary)  
OSA's Int. Photonics and Optoelectronics Meeting (POEM), Wuhan, China, Oct. 31-Nov. 1, 2018 (Plenary)  
InScience 2018, Science and Innovation Conference, Kieve, Ukraine, Sept. 13, 2018 (Plenary)  
IEEE 8<sup>th</sup> International Conference on Nanomaterials: Applications and Properties, Zatoka, Ukraine,  
Presentation regarding raising money for research in the US at the Future of Ukraine Science & Education:  
Roundtable and International Networking Workshop (9/9), Sept. 8-12, 2018 (Plenary)  
Gordon Research Conference (GRC) on Ceramics, South Hadley, MA, August 14-17, 2018 (lecturer)  
Chemical Heritage Foundation workshop on New Energy Storage Technologies for Enabling Renewables,  
January 11, 2018, Philadelphia, PA (organizer and lecturer)  
10th Anniversary Workshop on Liquid Phase Epitaxy, Trinity College, Dublin, Ireland, August 1-2, 2018  
(Plenary)  
Organic Functional Materials and Electronics: Synthesis and Devices, Tianjin, Nankai University, July 13-15,  
2018 (Keynote)  
CARBON 2018 (The World Conference on Carbon), Madrid, Spain, June 30-July 4, 2018 (Plenary)  
Graphene 2018, Dresden Germany, June 26-29, 2018 (Invited)  
ICREN 2018 (International Conference on Renewable Energy), Barcelona, Spain, April 25-27, 2018 (plenary)  
Gordon Research Conference on Batteries, Ventura, CA, Feb. 28 - March 2, 2018 (lecturer)  
Carbon Nanomaterials in Aqueous Environment Workshop, Berlin, Germany, February 21-23, 2018 (Invited)  
3rd Energy Futures Conference, Sydney, Australia, February 3-9, 2018 (Plenary)  
US-Czech Conference on Nanotechnology and Chemistry, Jan 17-18, 2018 (Keynote)The First International  
Conference on Energy Storage Materials, November 18-21, 2017, Shenzhen, China (Keynote and Award  
Lecture)  
3<sup>rd</sup> 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 4<sup>th</sup> International Forum on Graphene, Shenzhen, China, April 9-12, 2017 (plenary)  
1<sup>st</sup> 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)  
13<sup>th</sup> Int. Conference on Ceramic Processing Science (ICCPS-13), Nara, Japan, May 8-11, 2016 (plenary)  
2016 International Conference on Advanced Capacitors (ICAC2016), May 22-18, Shinga, Japan (keynote)  
229<sup>th</sup> 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 Meeting, 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 (plenary)  
Symposium on Capacitors at the 66th International Society for Electrochemistry (ISE) Meeting, Taipei, Taiwan, Oct. 5-8, 2015 (keynote)  
1<sup>st</sup> 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 (Plenary)  
MRS Fall Meeting 2015, Nov 30, 2015 to Dec 4, 2015, Boston, MA (Symposium (MM): Advances in Flexible Devices for Energy Conversion and Storage (Invited)  
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 (Invited)  
5th International Solvothermal and Hydrothermal Association Conference, January 17-20, 2016 (plenary)  
CESEP 2015, Poznan, Poland, Oct 19- 22, 2015 (Plenary)  
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 (Invited)  
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. <sup>[1]</sup><sub>[SEP]</sub>  
6<sup>th</sup> 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  
11<sup>th</sup> 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  
28<sup>th</sup> International Cocoa Beach Conference on Advanced Ceramics and Composites, Cocoa Beach, FL, January, 2004  
IUMRS-ICAM Meeting, Yokohama, Japan, October 2003  
American Ceramic Society 105<sup>th</sup> 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  
4<sup>th</sup> Pacific Rim Conference on Advanced Materials, Maui, HI, November 2001  
5<sup>th</sup> 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  
28<sup>th</sup> 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

Technical University of Vienna, Sept. 2023  
Technical University of Warsaw, Sept. 2023  
Sunway University, Malaysia, Full-Day MXene Course, Dec. 16th, 2022  
College de France, February 21, 2022  
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 Réactivité 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 Manufacturing  
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](http://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**

(Past 20 years)

Title: Scalable Manufacturing of Functional Yarns for Textile-based Energy Storage  
Agency: US Army via Directed Vapor Technologies, Inc.  
Total Award Amount: \$250,000  
Date: 06/2022-05/2024

Title: Molecular Insights for Fine-Tuned Hydrogen Interaction Control  
Agency: Dept. of Energy via Savannah River National Laboratory  
Total Award Amount: \$580,000  
Date: 10/2022-09/2025

Title: MXene-based Coatings for Aerospace Applications (Phase II)  
Agency: Air Force Research Lab via Ballydel Technologies  
Total Award Amount: \$375,000  
Date: 09/2023-10/2025

Title: Center for MXenes Synthesis, Tunability and Reactivity (M-STAR)  
Agency: National Science Foundation  
Total Award Amount: \$1,800,000  
Date: 09/2023-08/2026

Title: MXene-based Coatings for Aerospace Applications (Phase I)  
Agency: Air Force Research Lab via Ballydel Technologies  
Total Award Amount: \$75,000  
Date: 11/09/2021-5/09/2022

Title: Liquid Electrolytes for Lithium-Sulfur Batteries with Enhanced Cycle Life and Energy Density Performance  
Agency: Department of Energy/Giner, Inc.  
Total Award Amount: \$400,000  
Date: 10/01/2021-12/31/2024

Title: Validating MXene Electrodes for Next-Generation Electroencephalography  
Agency: Nation Institute of Health  
Total Award Amount: \$1,376,953  
Date: 6/01/2021 - 11/30/2022

Title: Electromagnetic Shields Based on MXene Nano-Metamaterials  
Agency: NSF  
Total Award Amount: \$489,998.00  
Date: 6/01/2021-5/31/2024

Title: Integrated Soldier Protective System for Unburdened Chem-Bio Protection  
Agency: DARPA/Flir

Total Award Amount: \$100,000  
Date: 05/26/2021-11/26/2021

Title: Ion Fountain Nanopore Readers for High-Resolution DNA and RNA Sequencing  
Agency: National Institute of Health via Northeastern University  
Total Award Amount: \$627,457  
Date: 7/15/2021-6/30/2023

Title: Synthesis and Optoelectronic Properties of Solid Solution MXenes  
Agency: NSF  
Total Award Amount: \$450,000.00  
Date: 3/01/2021-02/28/2025

Title: DOE SBIR Phase I  
Agency: Giner, Inc.  
Total Award Amount: \$35,000  
Date: 2/22/2021-11/21/2021

Title: Fabric-based power generation and storage  
Agency: Triton (via AFFOA)  
Total Award Amount: \$275,001.00  
Date: 8/01/2020-5/04/2022

Title: EAGER: MXene Sorbents for Continuous Renal Replacement Therapy  
Agency: NSF  
Total Award Amount: \$200,000  
Date: 7/15/2020-6/30/2022

Title: High Energy Density and High Cycle Life Lithium -Sulfur Battery for Electrified Aircraft Propulsion  
Agency: Giner, Inc.  
Total Award Amount: \$130,000  
Date: 6/18/2020-6/17/2022

Title: MXene Sorbents for Efficient and Cost-Effective Dialysate Regeneration  
Agency: Coulter Foundation  
Total Award Amount: \$194,000  
Date: 4/21/2020-5/31/2022

Title: High Energy Density Lithium-Sulfur Battery with Improved Cycle Life  
Agency: NASA (via Giner, Inc.)  
Total Award Amount: \$130,000  
Date: 8/13/2019-5/31/2022

Title: Cooperative Agreement: Collaborative Hierarchical and Agile Resonant Materials  
Agency: U.S. Army Research Lab  
Total Award Amount: \$9,097,925.00  
Date: 05/15/2015-09/30/2022

Title: Compositional Control of Fundamental Electronic and Magnetic Properties of Ordered Layered Multielemental MXenes  
Agency: Department of Energy: BES  
Total Award Amount: \$1,600,000

Date: 3/01/2018-8/31/2022

Title: 2D transition metal carbides MXenes-TiO<sub>2</sub> composites and their optical properties

Agency: ARO

Total Award Amount: \$70,000

Date: 12/08/2017-12/07/2018

Title: Transition Metal Carbides/Nitrides (MXenes) for Advanced Self-repairing Lightweight Composite Materials

Agency: ARO

Total Award Amount: \$300,000

Date: 9/1/2017-8/31/2019

Title: Fundamental Study of Ordered MXenes and Their Defects

Agency: NSF

Total Award Amount: \$671,765.00

Date: 8/15/2017-7/31/2022

Title: Double Transition Metal MXenes for Capacitive Energy Storage

Agency: Kaust

Total Award Amount: \$325,000

Date: 03/01/2017-2/28/2020

Title: Development of Products based on 2D transition metal carbides (MXenes)

Agency: Murata Manufacturing

Total Award Amount: \$389,300

Date 2/2017-2/2018

Title: Exploration of MXene Materials

Agency: Murata Manufacturing

Total Award Amount: \$1,935,272.52

Date: 2/01/2016-12/31/2022

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

Agency: Department of Energy: BES (via ORNL)

Total Award Amount: \$2,372,400.00

Date: 10/14/2016-09/14/2022

Title: BN-reinforced Ceramics

Agency: Dentsply Prosthetics

Total Award Amount: \$50,000

Dates: 9/1/2016-2/28/2017

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: 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: 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: 12/1/2016-6/26/2019

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: 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**

C. Alex Inman, PhD  
Asaph Lee, PhD  
Benjamin Chacon, PhD  
Danzhen Zhang, PhD  
Eliot Precetti, PhD  
Geetha Valurouthu, PhD  
Jamal Alhourani, PhD  
James Fitzpatrick, PhD  
Kyle Matthews, PhD  
Lingyi Bi, PhD  
Roman Rakhmanov, PhD  
Sokhna Dieng, PhD  
Tetiana Hryhorchuk, PhD  
Teng Zhang, PhD  
Mark Anayee, PhD  
Anastasia Morozova, MS  
Mikhailo Yilepshilev, MS  
Kateryna Shevchuck, MS/PhD  
Adam Goad, MS  
Pol Salles, MS  
Cedric Couley, MS  
Kanit Hantanasirisakul, PhD  
Asya Sarycheva, PhD  
Fayan Meng, Post Doc  
Muhammad Boota, PhD  
Mohamad Alhabebe, 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  
Kelsey Hatzell, PhD  
Min Heon, PhD

Kristy Jost, PhD  
Maria Lukatskaya, PhD  
Olha Mashtalir, PhD  
Jake McDonough, PhD  
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  
Guzelya Korneva, PhD  
Davide Mattia, PhD  
Chris Hobson, MS  
John Chmiola, PhD  
Sauji Yachamaneni, MS  
Sebastian Osswald, PhD  
Mickael Havel, Post Doc  
Cristelle Portet, Post Doc  
Byung-Yong Lee, Post Doc  
Sayan Bhattacharyya, Post Doc  
Maria Pia Rossi, PhD  
Zarife Goknur Cambaz, PhD  
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

## **Graduate Thesis Committee Membership**

Stefani Susilo, PhD committee, CBE  
Eric D. Laird, PhD committee  
Philip Hunger, PhD committee  
Riju Singhal, PhD committee  
Min Heon, PhD committee  
Ioannis Neitzel, PhD committee  
Natali Shainsky, PhD Committee, ECE  
Carlos Perez, PhD committee  
Shan Chen, PhD Committee  
Chris Dennison, PhD Committee, MEM  
Miao (Marie) Wang, PhD Committee, MEM  
Michael Naguib Abdelmalak, PhD Committee  
Arianna Watters, PhD Committee, CBE  
Boris Dyatkin, PhD Committee  
John McDonough, PhD Committee  
Jock Smith, PhD Committee (External examiner)  
Jared Coyle, PhD Committee, ECE  
Joey Lambert, PhD Committee, Physics  
Nikolay N. Dementev, PhD Committee, Temple U, Chemistry Dept.  
Murat Kurtoglu, PhD Committee  
Christopher Karwacki, PhD Committee  
Miao (Marie) Wang, PhD Committee, MEM  
Michael Abdelmalak, PhD Committee  
Elina Vitol, PhD committee, Electrical and Computer Engineering,  
Patricia Reddington, PhD committee  
Sara Zeppilli, MS, University of Rome - Tor Vergata, Italy  
Sameet Shriyan (ECE), PhD committee  
Ismail C. Albayrak, MS committee  
Eric D. Laird, PhD committee  
Philip Hunger, PhD committee  
Bing Li, PhD committee  
Taha Demirkan, MS committee  
Shruti Gour, MS committee, Biomed  
Natali Shainsky, PhD Committee, ECE  
John Alamia, PhD Committee, ECE  
Shraddha J. Vachhani, PhD Committee, MEM  
Zuyan Shen, PhD, Materials Science and Engineering  
Shahram Amini, PhD, Materials Science and Engineering  
Jessica D. Shiffman, PhD Committee  
Kexia Sun, PhD, Mechanical Engineering, University of Illinois at Chicago  
Xi (Rebecca) Chen, PhD, Materials Science and Engineering



Volker Presser, PhD, Mineralogy, University of Tuebingen, Germany  
Shahram Amini, PhD, Materials Science and Engineering,  
Davide Mattia, PhD, Materials Science and Engineering,  
Hemang Shah, PhD, Electrical Engineering  
Guzelya Korneva, PhD, Chemistry  
Kris Behler, PhD, Materials Science and Engineering,  
John Chmiola, PhD, Materials Science and Engineering,  
Sebastian Osswald, PhD, Materials Science and Engineering,  
Benjamin Legum, MS, Materials Science and Engineering,  
Christopher Hobson, MS, Materials Science and Engineering,  
Kexia Sun, PhD, Mechanical Engineering, University of Illinois at Chicago  
Prateek Gupta, PhD committee, University of Illinois at Chicago  
Christopher White, PhD committee, University of Illinois at Chicago, PhD  
Adrish Ganguly, PhD committee  
Surojit Gupta, PhD committee  
Elizabeth Hoffman, PhD committee  
Lingyu Li, PhD Committee  
Svetlana Dimovsky, PhD committee  
Ranjan K. Dash, PhD committee  
Zuyan Shen, PhD committee  
Allen Lee, PhD committee, University of Illinois at Chicago  
Beth Carroll, MS committee  
Tom Juliano, PhD committee

## **Personal Data**

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

Signed:

