

CURRICULUM VITÆ

University of Idaho

NAME: Aston, D. Eric

DATE: Apr 1, 2016

RANK OR TITLE: Professor; Affiliate Professor Materials Science and Engineering and Metallurgical Engineering
DEPARTMENT: Chemical and Materials Engineering

OFFICE LOCATION AND CAMPUS ZIP: MCCL 403B, 1021

OFFICE PHONE: (208)885-6953

EMAIL: aston@uidaho.edu

FAX: (208)885-7462

WEB: <http://www.uidaho.edu/engr/cme/faculty/ericaston>

DATE OF FIRST EMPLOYMENT AT UI: 25 June 2001

DATE OF TENURE: 1 July 2007

DATE OF PRESENT RANK OR TITLE: 1 July 2013

EDUCATION BEYOND HIGH SCHOOL:

Degrees:

Ph.D., University of Washington, Seattle, Washington, 2001, Chemical Engineering

M.S., University of Washington, Seattle, Washington, 2000, Physics

B.S., University of Idaho, Moscow, Idaho, 1995, Chemical Engineering

Certificates and Licenses:

Engineer-in-Training (EIT) for PE License

EXPERIENCE:

Teaching, Extension and Research Appointments:

Chair, Department of Chemical and Materials Engineering, University of Idaho, Jun 2015-present

Interim Chair, Department of Chemical and Materials Engineering, University of Idaho, Jul 2014-Jun 2015

Professor, Chemical Engineering, University of Idaho, 2013-present

Associate Professor, Chemical Engineering, University of Idaho, 2007-2013

Team Leader, Idaho NSF-EPSCoR Nanosensors Project, University of Idaho, Apr 2007-Dec 2008

Assistant Professor, Chemical Engineering, University of Idaho, 2001-2007

Materials Science and Engineering Adjunct, University of Idaho, 2003-present

Adjunct Professor, Division of Natural & Social Sciences, Northwest University, Kirkland, WA, 2000

Non-Academic Employment including Armed Forces:

Resident Associate, Argonne National Laboratory-West, Idaho Falls, Idaho, 1995

TEACHING ACCOMPLISHMENTS:

Areas of Specialization:

Atomic force microscopy, confocal Raman microscopy & spectroscopy, colloids, interfacial phenomena, polymers, nanoscience & nanotechnology

Courses Taught (Sabbatical Spring 2013):

CHE 110, Chemical Engineering Freshman Seminar, Fall 2003, Fall 2010, 2011 (1 cr.)

CHE 326, Chemical Engineering Thermodynamics, Fall 2001-present (3 cr.)

CHE 330, Separation Processes I, Spring 2002-2012, 2014-present (team-taught 2016) (3 cr.)

CHE 400, HON: Microcosms, Fall 2004, Honors Seminar, new course (1 cr.)

CHE 400, HON: Microcosms & Nanotechnology, Spring 2006, Honors Seminar, expanded course (2 cr.)

CHE 404, HON: ST: Nanotechnology and the Microcosm, Fall 2010, Honors Seminar (2 cr.)

CHE 404, ST: Interfacial Science, Spring 2002 – lecture, new course (3 cr.)

CHE 404, ST: Thermodynamic Computations, Summer 2005 – special topics/research (3 cr.)

CHE 404/504, ST: Surface Instrumentation, Spring 2004 – lecture, new course (3 cr.)

CHE 404/504, ST: Scanning Probe Microscopy, Spring 2005 – new course; Spring 2006 – new labs (3 cr.)

CHE 433/434, Chemical Engineering Laboratory I/II, (33%) Fall & Spring 2001-present (1 cr.)

CHE 491, Senior Seminar, Fall 2002, 2005, 2007, 2009, 2012, 2013 (1 cr.)

CHE 499, DS: Tissue Engineering, Summer 2005 – directed study w/ Fauna Samuel @ Penn State (1 cr.)

CHE 499, DS: Chemical Microanalysis, Spring 2011 – w/ Genaro Rivera, McNair Scholar (3 cr.)

Courses Taught (cont.):

CHE 502, DS: Nanotechnology, Summer 2004 – directed study, new course (2 cr.)
 CHE 502, DS: Industrial Disasters, Summer 2008 – directed study, new course (2 cr.)
 CHE 502, DS: Statistical Quality Control in Vibrational Spectroscopy, Spring 2014, new course (3 cr.)
 CHE 504, ST: Colloids and Interfacial Phenomena, Fall 2012 (3 cr.)
 CHE 527, Thermodynamics, WSU Co-Op (3 cr.), Spring 2012, 2014, 2016; Fall 2014 (w/ Andrew Weakley)
 CHEM 404/504, Applications of Nanomaterials in Biomedical Engineering, Spring 2007 (3 cr.)
 CHEM/AVS/MMBB 404/504, Applications of Nanomaterials in Biomolecular Engineering, Spring 2008 – team taught; Spring 2009 – lead instructor (added PHYS 404/504) (3 cr.)
 CHEM 414/514, Applications of Nanomaterials in Biomolecular Engineering, Spring 2010 (3 cr.)
 ENGR 404/INTR 404, HON: ST: Creative Science Writing, Fall 2014, Spring 2015, new course (1 cr.)
 ISEM 301, Discoveries and Inventions that Shape Society, Fall 2015 – present (1 cr.), also Honors section.
 MSE 434, Fundamentals of Polymeric Materials, Fall 2010, new course (3 cr.)

Students Advised:

Undergraduate Students: ~30/year

Advised on independent research projects: 44

Nicolas Johnson, Spring 2016
 John Lyons, Spring 2016
 Joe Pengilly, Spring 2016
 Benjamin Plaster, Spring 2016
 Simon Shindler, Spring 2016
 Minh Tran, Spring 2016
 Jack Williams, Spring 2016
 Benjamin W. Bolshaw, Summer 2014
 Landon Sturgeon, Fall 2013-Spring 2014 (coadvisor with Prof. Mark Roll)
 Martin Taylor, Fall 2013-Spring 2014 (coadvisor with Prof. Mark Roll)
 Travis Nelson, Fall 2011-Spring 2013
 Genaro Rivera, Spring 2011 (McNair Scholar), Fall 2011-Spring 2011
 Skyler Wilson, Summer 2012 (HOIST)
 Jacob Bow, Fall 2011-Spring 2012
 Kyle Koelsch, Fall 2010-Spring 2011
 Weston Corporon, Spring 2010-Spring 2011
 Leonard Edmo, Summer 2010 (HOIST)
 Mike Price, Spring 2010
 Kevin Lyon, Fall 2009-Spring 2010
 Veronica Hendricks, Fall 2007-Spring 2010 (NIH INBRE Fellow, Summer 2008)
 Seth Gibbon, Fall 2008 (co-advised by Larry Branen/UIRP & David McIlroy/Phys.)
 David Smith, Fall 2007-Fall 2008
 Abigail Sobczyk, Fall 2007-Spring 2008
 Kendra Pongah, Summer 2008 (HOIST)
 John Whetten, Spring 2008
 Laurel McGarry, Summer 2007 (REU, NSF-EPSCOR)
 James Erwin, 2006-2007
 Steven Williams, Blake Parkinson, Fall 2006
 Nate Hansen, Jan-Aug 2004, Jun-Dec 2005
 Fauna Samuel, 2005 (McNair Scholar)
 Robert Mosby, 2004-05
 Brian Dorgan, Jr., 2004
 Kevin Jeffreys, Spring 2004
 Vanessa Sanchez, Summer 2004 (HOIST)
 John Townsend, Travis Woodland, Summer 2004
 Andrew Marcy, Samuel Moore, David Thrasher, Summer 2003
 James Moberly, Spring 2002
 Andrew Nemeč, Gregory Stone, Spring & Fall 2002
 Brent Sasaki, Spring 2002

Graduate Students:

Advised to completion of degree as major professor: 10 MS, 1 ME, 5 PhD

Febby Victoria Thenu Efendi-Lubis, "Organofunctional Polysiloxanes for Selective Thin-film Coatings and Gas Barriers." **MS ChE 2003**, (Spring 2002-Summer 2003)

Radhakrishnan Padmanabhan, "Growth and Characterization of Barium Ferrite Films Grown Using Plasma Enhanced Chemical Vapor Deposition (PECVD)." **MS ChE 2004** (Fall 2002-04)

Graduate Students (cont'd):

Saravananarajan "Rajan" Shanmugham, "Mechanical and Electrical Properties of Single Polymer Nanowires." **MS ChE 2004** (Fall 2002-Spring 2004)

Andrew Nemecek, "Low-Temperature Chemical Growth of High Magnetization-High Permeability Ferrite Films." **MS ChE 2005** (Fall 2003-Spring 2005)

John R. Withers, "Characterization of the Physical Properties of Nanostructures Using Atomic Force Microscopy: Elastic Modulus." **MEng ChE 2005** (Fall 2003-Summer 2005)

Kathleen Weigandt, "Preliminary Study of Microflow Potentiometry with a Silica Nanospring Electrode." **MS ChE 2007** (Fall 2005-Fall 2007)

Devananda Dave Gangadean, "A Physical Approach to Boundary Conditions for the Mechanical Characterization of 1-D Nanomaterials." **PhD Phys. 2009** (coadvised with D.N. McIlroy, -Spring 2009); **MS Phys. 2005**

Jamie Marie F. Jabal, "Composite Nanowire Networks for Biological Sensor Platforms." **PhD MSE 2009** (Fall 2005-Summer 2009)

Dennis A. Oriero, "Bio-catalytic Hybrid Silica-PVA-Tyrosinase Fiber Mats for Electrochemical Detection of Phenols." **PhD ChE 2013** (Fall 2010-Summer 2013; defense 22 May); "Enzyme Encapsulating Biocomposite Porous Fibers for Aqueous Detection." **MS ChE 2010** (Fall 2008-Summer 2010)

Weston Corporon, "Titanium Dioxide-Polyvinylpyrrolidone Composite Fibers: Production and Low-temperature Wetting Transition." **MS ChE 2013** (Summer 2011-Summer 2013; defense 1 Aug)

Erin Lynn Cochran, "Nanocomposites of Bacterial Nanocellulose and Paramagnetic Iron Oxide Nanoparticles." **MS MSE 2014** (Spring 2009-Summer 2014; defense: 18 Jul 2013)

Andrew T. Weakley, "Multivariate Analysis in Vibrational Spectroscopy." **PhD ChE 2014** (Summer 2011-Summer 2014), "Multivariate Chemical Classification of Raman Spectra of Thermoplastic Polyurethane Blends." **MS ChE 2011**, (Fall 2009-Spring 2011)

Hesham Ramzy Tantawy, "Electromagnetic Shielding Potential of Polyaniline Nanopowders." **PhD ChE 2014** (Fall 2010-Spring 2014)

James Erwin, MS ChE, Summer 2007-2010 (incomplete, inactive; concurrent degree, UI Law School)

Sai Krishna R. Yadanaparthi, ME EnvE, Summer 2008 (IH work)

Jonghwa Jeong, PhD ChE, Fall 2004-Spring 2005 (incomplete, transferred)

Aditya Abburi, MS ECE, Fall 2005-Spring 2007 (incomplete, coadvisor: Richard Wells)

Rex Oxford, PhD MSE (@Boise State), Fall 2003-2008 (incomplete, inactive)

Beverly Weatherspoon, MS ChE, Spring 2007-Summer 2007 (incomplete, inactive)

Served/serving on graduate committee: 73 (including the above)

Haoyu Zhu, PhD Chemistry, (advisor: Frank Cheng)

Peter Wojcik, PhD Physics (advisor: David McIlroy)

Jennifer Hasenoehrl, PhD ME; MS ME 2009 (advisor: Steve Penoncello)

Nathan Wilkerson (Schmidt), MS 2015 (advisor: Mark Roll)

Liqing Wei, MS 2011, PhD Forest Products 2015 (advisor: Armando McDonald)

Pavel Bakharev, PhD Physics 2015 (advisor: David N. McIlroy)

Jeffrey Fischer, MS ChE 2015 (advisor: Mark Roll)

Blaise-Alexis Fouetio Kengne, PhD Physics 2014, (advisor: David McIlroy)

Keith Christopher, MS ChE 2014 (Fall 2012-Spring 2014)

Students Advised (cont'd):

Graduate Students (cont'd):

Served/serving on graduate committee (cont'd):

Hui Li, PhD Renewable Resources 2014 (advisor: Armando McDonald)
 Saswata Karmakar, PhD Chemistry 2013 (advisor: Patrick Hrdlicka)
 Jung Sun Hong, PhD Food Sci. 2013 (advisor: Kerry Huber)
 Jency P. Sundararajan, PhD Physics 2012 (advisor: Dave McIlroy)
 Ishwar Niraula, PhD Physics 2012 (advisor: Dave McIlroy)
 Yukta P. Timalsina, PhD Physics 2012 (advisor: Dave McIlroy) – collaborating advisor
 Guankui Wang, PhD Animal Physiology 2012 (advisor: Rod Hill)
 Nathan Bridges, MS Physics 2012 (advisor: David N. McIlroy)
 Parameswara Subramanian, MS ChE 2012 (advisor: Aaron Thomas)
 Matthew Sorge, MS ChE 2011 (advisor: Dean Edwards)
 Jacob Schroeder, MS ME 2011 (advisor: Steve Penoncello)
 Travis Woodland, MS ChE 2011 (advisor: Dean Edwards)
 Jessica Rodriguez, MS ME 2011 (advisor: Steve Penoncello)
 Achala Akuretiya, MS ME 2011 (advisor: Steve Penoncello)
 Xiaonan Lu, PhD Food Science 2011 (WSU; advisor: Barbara Rasco)
 Ayuba Fasasi, PhD Chemistry 2010 (advisor: Peter Griffiths)
 Stephanie, Pung, MA English 2010 (advisor: Janis Johnson)
 Branden Poulsen, MS ChE 2009, PhD ChE 2011 (advisor: Karl Rink)
 Sean McCormick, MS MSE 2009 (advisor: Dan Choi)
 David Leon Watkins, MS CE 2009 (advisor: Erik Coats)
 Hyun-Seok Kim, PhD Food Sci., 2009 (advisor: Kerry Huber)
 Hongmei Han, PhD MSE, 2008 (advisor: David McIlroy)
 Timothy Aldridge, MS ChE, 2007 (advisor: Aaron Thomas)
 Gatwech Thich, PhD ChE, 2007 (advisor: Aaron Thomas)
 Lina Ma, MS Forest Products, 2007 – inactive (advisor: Armando McDonald)
 David Rowe, MS ME, 2007 (advisor: Steve Penoncello)
 Elvie E. Brown, MS ChE (WSU), 2007 (advisor: Marie Laborie)
 Holton Quinn, MS ChE, 2006 (advisor: Louis Edwards)
 Vladimir Dobrokhotov, PhD Physics, 2006 (advisor: Dave McIlroy)
 Andy Soria, PhD Forest Products, 2005 (advisor: Armando McDonald)
 Phik Wei Low, MS EE 2005 (advisor: Rick Wells)
 Adbullah Alkhateeb, PhD Physics, 2005 (advisor: Dave McIlroy)
 Manish Vilas Kulkarni, MS Food Sci. & Tox., 2005 (advisor: Pawan Singh)
 Ram Mohan Kesavarapu, MEngr ME, Summer 2005 (advisor: Karl Rink)
 Jeff Berg, MS Chem. Idaho Falls, 2004 (advisor: Vivek Utgikar)
 Yanlin “Elaine” Zeng, MS ME, 2004 (advisor: Steve Penoncello)
 Stephanie Doan, MS Chemistry, 2004 (advisor: Jeanne McHale)
 Xin Dai, PhD Bio/Ag Engr., 2003. Advised in experiments but did not serve on committee;
 work led to one publication.
 Daqing Zhang, PhD Physics, 2002 (advisor: Dave McIlroy)
 Heather E. Dillon, MS ME, 2002 (advisor: Steve Penoncello)
 Zhiqiang Yu, PhD ChE, 2002 (advisor: Wudneh Admassu)

Inactive students advised partway through thesis/dissertation:

Xiaoping Hopkins, PhD MSE – inactive, transferred to BSU (advisor: Dan Choi)
 Kun Yang, PhD Physics
 Jiang Wei, PhD Physics
 Sung-Hoon Gee, PhD MSE – left UI with advisor Yang-Ki Hong, MSE.
 Damon Hunzeker, MA English – inactive (advisor: Ron McFarland)
 Patrick Lamb, MS MSE – inactive/transferred (advisor: Yang-Ki Hong)

Postdoctoral Students:

Nagarajan Kowliki, PhD (co-advised with Prof. Shapiro), May 2004-May 2005
 Yunxia Chen, PhD, Mar 2005-Dec 2006

Avijit Basu, PhD (co-advised with Prof. B. Williams), Jan 2006-Dec 2006
 Devananda “Dave” Gangadean, PhD, Sep-Dec 2009.
 Jamie M.F. Jabal, PhD, Sep 2009 – Aug 2011.
 Sachin Nandanwar, PhD, Jun 2014 – present (co-advised with Prof. Vivek Utgikar)

Courses Developed:

CHE 400, Microcosms, Fall 2004, new course for the Honors Seminar Series
 CHE 400, Microcosms & Nanotechnology, Spring 2006, revised and expanded Honors Seminar
 CHE 404: Hon: Nanotechnology & the Microcosm, Fall 2010, revised Honors Seminar
 CHE 404, Interfacial Science, Spring 2002
 CHE 404/504, Surface Instrumentation, Spring 2004
 CHE 404/504, Scanning Probe Microscopy, Spring 2005 – lecture, new course
 CHEM 414/514, Applications of Nanomaterials in Biomolecular Engineering, Spring 2007-2009 – team
 CHE 527, Thermodynamics, Spring 2012 (3 cr.) – not offered since before 2001, WSU Co-Op
 ENGR 404/INTR 404, HON: ST: Creative Science Writing, Fall 2014, new course (1 cr.)
 ISEM 301, Discoveries and Inventions That Shape Society, Fall 2015 – present (1 cr.)
 MSE 434, Fundamentals of Polymeric Materials, Fall 2010 (3 cr.)

Non-credit Classes, Workshops, Seminars, Invited Lectures, etc.:

Invited speaker: “From Dipoles to Distillation.” Physics graduate seminar, University of Idaho, 20 Oct 2014.

Invited speaker: “The Big Picture of Little Things: My Career, Nanomaterials, and What to Do about Them.” Materials Science and Engineering PhD Seminar, School of Mechanical and Materials Engineering, Washington State University, 22 Nov 2013.

Invited speaker: “Everyone Loves Fantasy.” UI Honors Program Fire-side Chat, Moscow, ID, 11 Sep 2013.

Invited researcher: “Atomic Force Mapping of TPUs: Topography, Adhesion, Elasticity.” Nike IHM, Beaverton, OR, 25 July 2011.

Invited Speaker: “A Philosophy of Nanomaterials & Superhydrophobic Composite Fiber Networks.” D.E. Aston, *Chemistry Seminar*, Moscow, ID, 3 May 2011.

Invited Speaker: “Dimensions of Nanomaterials in Daily Life.” D.E. Aston, *Malcolm M. Renfrew Interdisciplinary Colloquium*, Moscow, ID, 19 Apr 2011.

Invited Guest Speaker: “Ultrafine Fibers and Nanosprings for Chemical Detectors, Sensors, and Active Components.” Chemical Engineering Seminar Series, University of Washington, Seattle, WA 4 Oct 2010.

Guest lecturer: MSE 101: “Microscopy for Materials Scientists & Engineers.” Moscow, ID 13 Sep 2010.

Invited discussion: “Chemical and Materials Instrumentation.” BANTech, Moscow, ID, 29 Jun 2010.

Keynote Faculty Speaker, UI Honors Program Awards Ceremony, 14 May 2010.

Keynote Speaker: “Dimensions of Nanomaterials in Daily Life.” D.E. Aston, *Road Builders’ Clinic*, Coeur d’Alene, ID, 2 Mar 2010.

Invited seminar: “Nanotechnology?: The Next Big Thing Is Almost Nothing.” D.E. Aston, Department of Physics, University of Idaho, Moscow, ID 29 Sep 2008.

Invited lecture: “Development and Characterization of an Aqueous Potentiometric Microsensor with a Silicon Dioxide Nanospring Mat Electrode.” K. Weigandt, B. Williams, D.E. Aston, *Advanced Fuel Cycle Workshop*, Boise, ID, 8-9 May 2007.

Invited lecture: “Fluid Interface-Atomic Force Microscopy (FI-AFM) and Mechanical Properties of Individual Nanowires, Nanocables, and Nanosprings.” Dept. of Chemical Engineering, University of Louisville, 8 Nov 2006.

Non-credit Classes, Workshops, Seminars, Invited Lectures, etc. (cont.):

- Invited lecture: "Nanoscale Imaging and Spectroscopy." Nanotechnology Science and Engineering, School of Engineering, Engineering Science (ENSC481) Gonzaga University, 12 Sep 2006.
- Invited lecture: "Introduction to Nanotechnology." Nanotechnology Science and Engineering, School of Engineering, Engineering Science (ENSC481), Gonzaga University, 29 Aug 2006.
- Chemical Engineering Lab instructor, Junior Engineering, Mathematics and Science (JEMS) Summer Workshop, July 9-21, 2006.
- Invited lecture, "Mechanical Measurements of Nanowires." Department of Materials Science and Engineering, Boise State University, October 15, 2004.
- Invited lecture, "Mechanical Properties of Individual Nanowires, Nanotubes, and Nanosprings." Departments of Chemistry and Materials Science, Washington State University, October 1, 2004.
- Invited lectures and demonstrations, "Solid Surface Characterization." In *Surfaces, Colloids, and Nanoscience*, University of Washington, Seattle, Washington, July, 2004-05.
- Lecturer/demonstrator, Surface and Colloid Science, Engineering Professional Programs, University of Washington, Seattle, Washington, 1996-2003 (each summer).
- Fundamentals of Engineering (FE) review instructor, Chemistry CE 411, UI, 2001-09.
- Fundamentals of Engineering (FE) review instructor, Thermodynamics CE 411, UI, 2001-03.
- Instructor, "Chemical Engineering: Fluid Mechanics and Separations," Upward Bound Math/Science, UI, July 8-11, 2003.
- Invited lecture, "Fluid Interface-Atomic Force Microscopy (FI-AFM) for Aqueous Dispersions," Department of Physics Colloquium Series, University of Idaho, April 28, 2003.
- Guest speaker, "Colloids and Surface Science in Chemical Engineering," Chemical Engineering Freshman Seminar CHE 110, UI, Fall 2002.
- Substitute instructor, Thermodynamics, ENGR 320, UI, Fall 2002.
- Guest speaker, "Chemical Engineering in Surface Science and Nanotechnology," University of Idaho JEMS Summer Workshop, July 2002.
- Invited lecture, "Nanotechnology and Nanotribology," Upward Bound Math/Science, UI, July 2002.
- Invited lecture, "Atomic Force Microscopy (AFM) beyond Imaging: Microtensiometry to Nanolithography," Washington State University Graduate Seminar ChE 598, Fall 2001.
- Invited lecture, "Polymeric Materials," Materials Science & Engineering Freshman Seminar MET 101, UI, Fall 2001.
- Guest speaker, "Chemical Engineering in Nanotechnology," ChE Freshman Seminar CHE 110, UI, Fall 2001.

Honors and Awards:

- President's Mid-Career Faculty Award, UI, 2014-2016
- Faculty of Excellence Award, College of Engineering, UI, 2012-2014
- Alumni Award for Excellence, Honored Faculty, University of Idaho Alumni Association, 2008, 2011.
- Outstanding Young Faculty, College of Engineering, University of Idaho, 2004-05.

SCHOLARSHIP ACCOMPLISHMENTS:**Publications, Exhibitions, Performances, Recitals:**

[h-index = 19 (Google Scholar); cited >1000 times in >800 different sources; two book chapters; 32 conference presentations.]

Refereed/Adjudicated (Total of 52; †corresponding author, *students & postdocs):

- Nandanwar, Sachin U.;* Dantas, Julia;* Coldsnow, Kai;* Green, Michael;* Utgikar, Vivek;† Sabharwall, Piyush; Aston, D. Eric. "Porous microsphere of magnesium oxide as an effective sorbent for removal of volatile iodine from off-gas stream." *Adsorption*, accepted 5 Feb 2016, doi: 10.1007/s10450-016-9781-1.
- Nandanwar, Sachin U.;* Coldsnow, Kai;* Green, Michael;* Utgikar, Vivek;† Sabharwall, Piyush; Aston, D. Eric. "Activity of nanostructured C@ETS-10 sorbent for capture of volatile radioactive iodine from gas stream." *Chem. Eng. J.*, 287: 593-601 (2016, doi: 10.1016/j.cej.2015.11.091; accepted 30 Nov 2015.
- Tantawy, Hesham Ramzy,* Fouetio Kengne, Blaise-Alexis,* McIlroy, David N., Nguyen, Tai, Heo, Deukhyoun, You Qiang, **Aston, D. Eric.**† "XPS Analysis for the Chemical Impact on Solvent Addition Rate on EM Shielding Effectiveness of HCl-Doped Polyaniline Nanopowders." *J. Appl. Phys.* **118**(17): 75501 (2015). Submitted 2 Jul 2015, revised 18 Sep 2015, accepted 25 Sep 2015. Impact factor: 2.183 (2014).
- Nandanwar, Sachin;* Coldsnow, Kai;* Utgikar, Vivek†; Sabharwall, Piyush; **Aston, D. Eric**; Yanning Zhang.* "Synthesis and characterization of ETS-10: Supported hollow carbon nano-polyhedrons nanosorbent for adsorption of krypton at near ambient temperatures." *Adsorption*, published online 31 Oct 2015, doi: 10.1007/s10450-015-9702-8.
- Gyan, Isaiah*; Wojcik, Peter*; **Aston, D. Eric**; McIlroy, David; Cheng, I. Francis.† "A Study of the Electrochemical Properties of a New Graphitic Material: GUITAR." *ChemElectroChem.* **2**(5): 700-706 (2015). Accepted 21 Jan 2015, doi: 10.1002/celec.201402433.
- Oriero, Dennis A.*, Gyan, Isaiah O.*, Bolshaw, Benjamin W.*, Cheng, I. Francis, **Aston, D. E.**† "Electrospun Biocatalytic Hybrid Silica-PVA-Tyrosinase Fiber Mats for Electrochemical Detection of Phenols." *Microchem. J.* **118**(1): 166-175 (2015). Available online 16 Sep 2014, submitted 2 Sep 2014, accepted 7 Sep 2014. Impact factor: 3.583 (2014).
- Tantawy, Hesham Ramzy,* Weakley, Andrew T.* **Aston, D. Eric.**† "Chemical effects of a solvent-limited approach to HCl-doped polyaniline nanopowder synthesis." *J. Phys. Chem. C* **118**(2): 1294-1305 (2014). Impact factor: 4.835 (2013).
- Weakley, Andrew T.*†, **Aston, D. Eric**, Griffiths, Peter R. "Automatic baseline correction of vibrational circular dichroism spectra." *Applied Spectroscopy* **67**(10): 1117-1126 (2013).
- Tantawy, Hesham Ramzy,* **Aston, D.E.**†, Smith, Jacob R.,* Young, Jeffrey L. "Comparison of electromagnetic shielding with polyaniline nanopowders produced in solvent-limited conditions." *ACS Appl. Mater. Interfaces* **5**(11): 4648-58 (2013). doi: [10.1021/am401695p](https://doi.org/10.1021/am401695p). Impact factor: 5.008 (2012).
- Aston, D. E.**†, Bow, Jacob R.*, and Gangadean, Dave N.* "Mechanical properties of select nanostructured materials and complex bio-nano, hybrid and hierarchical systems." *International Materials Reviews* **58**(3): 167-202 (2013). Impact Factor: 7.48 (2012), 7.149 (5-year).
- Xiaonan Lu, Qian Liu, Javier A. Benavides-Montano, Anthony V. Nicola, **D. Eric Aston**, Barbara A. Rasco, and Hector C. Aguilar† "Detection of Receptor-Induced Glycoprotein Conformational Changes on Enveloped Virions Using Confocal Micro-Raman Spectroscopy." *Journal of Virology* **87**(6): 3130-42 (2013); doi: 10.1128/JVI.03220-12. Impact factor: 5.402 (2012).
- Timalsina, Yukta P.*†; Branen, Joshua; Eilers, Jeremy*; Kengne, Blaise Alexis Fouetio*; **Aston, D. Eric**; Corti, Giancarlo and McIlroy, David N.† "The role of biofunctionalized silica nanospring surface for selective biosensing." *Advances in Biosensors and Bioelectronics* **1**(1): 1-10 (2012).

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Publications, Exhibitions, Performances, Recitals (cont'd):
Refereed/Adjudicated (cont'd):

- Weakley, Andrew T.*; Warwick, P.C. Temple*; Bitterwolf, Thomas E.; **Aston, D. Eric**† “Multivariate analysis of micro-Raman spectra of thermoplastic polyurethane blends using principal component analysis and principal components regression.” *Applied Spectroscopy* **66**(11): 1269-1278 (2012); doi: 10.1366/12-06588.
- Lu, Xiaonan†; Weakley, Andrew*; **Aston, D. Eric**; Rasco, Barbara; Wang, Shuo; and Konkel, Michael† “Examination of nanoparticle inactivation of *Campylobacter jejuni* biofilms using infrared and Raman spectroscopies.” *J. Appl. Microbiol.* **113**(4): 952-963 (2012); doi: 10.1111/j.1365-2672.2012.05373.x. Impact Factor: 2.337 (2012).
- Lu, Xiaonan; Huang, Qian; Miller, William; **Aston, D. Eric**; Xu, Jie; Xue, Feng; Zhang, Hongwei; Rasco, Barbara; Wang, Shuo†; and Konkel, Michael† “Comprehensive Detection and Discrimination of *Campylobacter* Species Using Confocal Micro-Raman Spectroscopy and Multilocus Sequence Typing.” *J. Clin. Microbiol.* **50**(9): 2932-2946 (2012). doi: 10.1128/JCM.01144-12. Impact factor: 4.153 (2012).
- Aston, D.E.**, C.A. Berven, B.C. Williams, and A. Basu*†, “Mathematical Analysis of Effects on the Electrostatic Double Layer of Nanoscale Surfaces in Microfluidic Channels.” *The Canadian Journal of Chemical Engineering* **90**(4): 1059-1065 (2012); doi: 10.1002/cjce.20475.
- Weakley, Andrew T.*, Griffiths, Peter R.†, and **Aston, D. Eric**, “Automatic baseline subtraction of vibrational spectra using minima identification and discrimination via adaptive, least-squares thresholding.” *Applied Spectroscopy* **66**(5): 519-29 (2012); doi: 10.1366/110-06526.
- Oriero, Dennis A.*, Weakley, Andrew T.*, and **Aston, D. Eric**†, “Rheological and micro-Raman time-series characterization of enzyme sol-gel solution toward morphological control of electrospun fibers.” *Science and Technology of Advanced Materials* **13**(2): 025008 (2012); doi:10.1088/1468-6996/13/2/025008. <http://stacks.iop.org/1468-6996/13/025008>; Impact factor (2011): 3.513.
- Rastogi, Shiva K.*; Gibson, Charlene M.; Branen, Josh R.; **Aston, D. Eric**; Branen, A. Larry; Hrdlicka, Patrick J.† “DNA Detection on Lateral Flow Test Strips: Enhanced Signal Sensitivity Using LNA-conjugated Gold Nanoparticles.” *Chem. Comm.* **48**(62): 7714-7716 (2012). doi: 10.1039/c2cc33430e. Impact factor: 6.169 (2011).
- Rastogi, Shiva K.*, Jamie M. F. Jabal*, Huijin Zhang, Charlene M. Gibson, Kevin J. Haler, You Qiang, **D. Eric Aston** and A. Larry Branen. “Antibody@silica coated Iron Oxide nanoparticles: Synthesis, capture of *E. coli* and SERS titration of biomolecules with antibacterial silver colloid.” *J. Nanomedic. Nanotechnol.* **2**(7): 1000121 (2011). ISSN: 2157-7439, doi: 0.4172/2157-7439.1000121.
- Rastogi, Shiva K.*†, Jamie Jabal*, Huijin Zhang*, Kevin J. Haler*, Charlene M. Gibson*, You Qiang, **D. Eric Aston**, A. Larry Branen, “Silica-coated Magnetic Nanoparticles (SMNPs): Capture and Identification of *Escherichia coli* Cells Using Surface Enhanced Raman Spectroscopy.” *NSTI Nanotech* **3**: 68-71 (2011), www.nsti.org, ISBN 978-1-4398-7138-6.
- Lu, Xiaonan*†, Barbara A. Rasco, Jamie M.F. Jabal*, **D. Eric Aston**, Mengshi Lin, and Michael E. Konkel, “Investigating Antibacterial Mechanisms of Garlic (*Allium sativum*) Concentrate and Garlic-derived Organosulfur Compounds on *Campylobacter jejuni* Using FT-IR Spectroscopy, Raman Spectroscopy and Electron Microscope.” *Appl. Environ. Microbiol.* **77**(15): 5257-69 (2011); doi: 10.1128/AEM.02845-10. Impact factor: 3.778 (2010).
- Oriero, Dennis A.* Jamie M. F. Jabal*, Lee Deobald, Andrew T. Weakley*, **D. Eric Aston**†, “A Potential Enzyme-Encapsulating, Ultrafine Fiber for Phenol Detection.” *React. Funct. Polym.* **71**(8): 870-80 (2011); doi: 10.1016/j.reactfunctpolym.2011.05.004. Impact factor: 2.479 (2011), 2.727 (5-year).

Publications, Exhibitions, Performances, Recitals (cont'd):
Refereed/Adjudicated (cont'd):

- Timalsina, Y.P.*; Branen, J.; **Aston, D.E.**; Noren, K.; Corti, G.; Schumacher, R.*; McIlroy, D.N.†
 “Alternating Current Impedance Spectroscopic Analysis of Biofunctionalized Vertically-Aligned Silica Nanospring Surface for Biosensor Applications.” *J. Appl. Phys.* **110**(1): (2011); doi: 10.1063/1.3601521. Issue Date 15-Jun-11; Impact factor: 2.168 (2011), 2.278 (5-year).
- Cheng, I. Francis, Yuqun Xie*, R. Allen Gonzales*, Przemysław R. Brejna*, Jency Pricilla Sundararajan*, B.A. Fouetio Kengne*, **D. Eric Aston**, David N. McIlroy, Jeremy D. Foutch* and Peter R. Griffiths, “Synthesis of Graphene Paper from Pyrolyzed Asphalt.” *Carbon* **49**(8): 2852-2861 (2011); doi: 10.1016/j.carbon.2011.03.020. Impact Factor: 5.378 (2011).
- Lu, Xiaonan*; Rasco, Barbara; Kang, Dong-Hyun; Jabal, Jamie Marie*; **Aston, D. Eric**; Konkell, Michael, “Infrared and Raman Spectroscopic Studies of the Antimicrobial Effects of Garlic Concentrates and Diallyl Constituents on Foodborne Pathogens.” *Anal. Chem.* **83**(11): 4137-4146 (2011); doi: 10.1021/ac2001498; Impact factor: 5.856 (2011).
- Lu, Xiaonan*; Ross, Carolyn F.; Powers, Joseph R.; **Aston, D. Eric**; Rasco, Barbara, “Determination of Total Phenolic Content and Antioxidant Activity of Garlic (*Allium sativum*) and Elephant Garlic (*Allium ampeloprasum*) by Attenuated Total Reflectance-Fourier Transformed Infrared (ATR-FTIR) Spectroscopy.” *J. Agric. Food Chem.* **59**(10): 5215-5221 (2011). doi: 10.1021/jf201254f. Impact factor: 2.823 (2011).
- Rastogi, Shiva K.*, Parul Pal*, **D. Eric Aston**, Thomas E. Bitterwolf, A. Larry Branen, “8-Aminoquinoline Functionalized Silica Nanoparticles: A Fluorescent Nanosensor for Detection of Divalent Zinc in Aqueous and in Yeast Cell Suspension.” *ACS Appl. Mater. Interfaces* **3**(2): 279-86 (2011); doi: 10.1021/am2002394. Impact factor: 4.525 (2011).
- Lu, Xiaonan*, Qian Liu, Di Wu, Hamzah M. Al-Qadiri, Nivin I. Al-Alami, Dong-Hyun Kang, Joong-Han Shin, Juming Tang, Jamie M.F. Jabal*, **Eric D. Aston**, Barbara A. Rasco, “Using of infrared spectroscopy to study the survival and injury of *Escherichia coli* O157:H7, *Campylobacter jejuni* and *Pseudomonas aeruginosa* under cold stress in low nutrient media.” *Food Microbiol.* **28**(3): 537-46 (2011); doi:10.1016/j.fm.2010.11.002. Impact factor: 3.28 (2011); online 13 Nov 2010.
- Pal, Parul*, Shiva K. Rastogi*, Charlene M. Gibson*, **D. Eric Aston**, A. Larry Branen, and Thomas E. Bitterwolf, “Fluorescence Sensing of Zn(II) Using Ordered Mesoporous Silica Materials (MCM-41) Functionalized with N-(Quinolin-8-yl)-2-(3-(triethoxysilyl)propylamino)acetamide.” *ACS Appl. Mater. Interfaces* **3**(2): 279-286 (2011), doi: 10.1021/am100923x; Impact factor: 4.525 (2011).
- Sai, Vemulakonda Venkata R.*; Gangadean, Devananda*; Jabal, Jamie M.F.*; Niraula, Ishwar*; Corti, Giancarlo; McIlroy, D.N.; **Aston, D. Eric**; Branen, Josh R.; Hrdlicka, Patrick J. “Silica Nanosprings Coated with Noble Metal Nanoparticles: Highly Active SERS Substrates.” *J. Phys. Chem. C* **115**(2): 453-59 (2011); 13 Dec 2010 (ASAP); doi: 10.1021/jp109586f. Impact factor: 4.805 (2011).
- Sai, Vemulakonda Venkata R.*; Gangadean, Devananda*; Niraula, Ishwar*; Corti, Giancarlo; McIlroy, D.N.; **Aston, D. Eric**; Branen, Joshua; Hrdlicka, Patrick J. “Silica Nanosprings Coated with Noble Metal Nanoparticles: Highly Active SERS Substrates.” *NSTI Nanotech* **3**: 19-22 (2010), www.nsti.org.
- Jabal, Jamie M.F.*; Laurel McGarry*, Abigail Sobczyk*, and **D. Eric Aston**†, “Substrate Effects on the Wettability of Electrospun Titania-Poly(vinylpyrrolidone) Fiber Mats.” *Langmuir* **26**(16): 13550-55 (2010), doi: 10.1021/la1017399, available ASAP (web) 20 July 2010. Impact factor: 4.186 (2010).
- “Highlight of 2010” by publisher choice:** Timalsina, Yukta P.*, Dennis Oriero*, Timothy Cantrell, Tej Prakash*, Joshua Branen, **D. Eric Aston**, Kenneth Noren, James J. Nagler, Shiva Rastogi*, David N. McIlroy, and Giancarlo Corti, “Characterization of a Vertically Aligned Silica Nanospring-based Sensor by Alternating Current Impedance Spectroscopy.” *J. Micromech.*

Microeng. **20**(9): 095005 (2010); Impact factor: 2.276 (2010); doi:10.1088/0960-1317/20/9/095005.

Publications, Exhibitions, Performances, Recitals (cont'd):

Refereed/Adjudicated (cont'd; †corresponding author, *students & postdocs):

- Gangadean, D.*, David N. McIlroy, Brian E. Faulkner*, and **D. Eric Aston**†, “Winkler Boundary Conditions for Three-point Bending Tests on 1D nanomaterials.” *Nanotechnology* **21**(22): 225704 (2010); Impact factor: 3.644 (2010), 3.979 (2011); doi: 10.1088/0957-4484/21/22/225704.
- Jabal, Jamie M.F.*, Laurel McGarry*, Abigail Sobczyk*, and **D. Eric Aston**†, “Wettability of Electrospun Poly(vinylpyrrolidone)-Titania Fiber Mats on Glass and ITO Substrates in Aqueous Media.” *ACS Appl. Mater. Interfaces*, **1**(10): 2325-31 (2009); Impact factor: 2.929 (2010); doi: 10.1021/am900481d, available ASAP (web) 9 Oct 2009.
- Corti, Giancarlo, L. Wang*, D. Major, J.* Branen, J. Jabal*, L. Branen, J. Nagler, **E. Aston**, G. Norton, and D. McIlroy, “Nanospring-Based Biosensors for Electrical DNA Microarrays.” In *Functional Materials for Chemical and Biochemical Sensors*, edited by E. Comini, P.-I. Gouma, V. Guidi, X.-D. Guidi, X.D. Zhang, *Mater. Res. Soc. Symp. Proc.* **1010E**: (2007), 1010-V05-03.
- Chen, Y.*, Ian Stevenson*, Rebecca Pouy* L. Wang*, D.N. McIlroy, Tyler Pounds*, M. Grant Norton, and **D.E. Aston**†, “Mechanical Elasticity of Vapor-Liquid-Solid Grown GaN Nanowires.” *Nanotechnology* **18**(13): 135708 (2007). Impact factor: 3.446 (2008).
- Chen, Y.*, B.L. Dorgan, Jr.*, D.N. McIlroy, and **D.E. Aston**†, “On the Importance of Boundary Conditions on Nanomechanical Bending Behavior and Elastic Modulus Determination of Silver Nanowires.” *J. Appl. Phys.* **100**(10): 104301/1-7 (2006). Impact Factor: 2.201 (2009).
- Withers, J.R.*, and **D.E. Aston**†, “Nanomechanical Measurements with AFM in the Elastic Limit.” *Adv. Colloid Interface Sci.* **120**(1-3): 57-67 (2006). Impact Factor (5-year ave.): 6.373 (2009).
- Invited Special Issue Festschrift for Editor Bob Rowell*: Shanmugham, S.*, J. Jeong*, A. Alkhateeb*, and **D.E. Aston**†, “Polymer Nanowire Elastic Moduli Measured with Digital Pulsed Force Mode AFM.” *Langmuir* **21**(22): 10214-18 (2005).
- Doan, S.C.*, S. Shanmugham*, **D.E. Aston**, and J.L. McHale, “Counterion Dependent Dye Aggregates: Nanorods and Nanorings of Tetra (p-carboxyphenyl) porphyrin.” *J. Am. Chem. Soc.* **127**(16): 5885-92 (2005). Impact Factor: 7.885 (2009).
- McIlroy, D.N., A. Alkhateeb*, D. Zhang*, **D.E. Aston**, A.C. Marcy, and M. Grant Norton, “Nanospring Formation: Unexpected Catalyst Mediated Growth.” *J. Phys.: Condens. Matter* **16**(12): R415-R440 (2004), *invited review*. Impact Factor: 2.037 (2007).
- Dai, X.*, J. Boll, M.A. Hayes*, and **D.E. Aston**, “Adhesion of *Cryptosporidium Parvum* and *Giardia Lamblia* to Solid Surfaces: The Role of Surface Charge and Hydrophobicity.” *Colloids and Surfaces B: Biointerfaces* **34**(4): 259-63 (2004).
- Sun, C.*, **D.E. Aston**, and J.C. Berg, “Structural Evolution of Octyltriethoxysilane Films on Glass Surfaces during Annealing at Elevated Temperature.” *J. Colloid Interface Sci.* **248**(1): 96-102 (2002).
- Aston, D.E., and J.C. Berg, “Thin-Film Hydrodynamics in Fluid Interface-Atomic Force Microscopy.” *Ind. Eng. Chem. Res.* **41**(3): 389-96 (2002).
- Aston, D.E., and J.C. Berg, “Quantitative Analysis of Fluid Interface-Atomic Force Microscopy.” *J. Colloid Interface Sci.* **235**(1): 162-69 (2001).
- He, M., A. Szuchmacher-Blum, D.E. Aston, C. Buenviaje, R.M. Overney, and R. Luginbühl, “Critical Phenomena of Water Bridges in Nanoasperity Contacts.” *J. Chem. Phys.* **114**(3): 1355-60 (2001).
- Aston, D.E., and J.C. Berg, “Long-Range Attraction between Silanated Silica Materials Studied by an Electrolyte Titration with Atomic Force Microscopy.” *Colloids and Surfaces A* **163**(2-3): 247-63

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Irvine, J.A., D.E. Aston, and J.C. Berg, "The Use of Atomic Force Microscopy (AFM) to Measure the Adhesive Properties of Sized and Unsized Papers." *Tappi J.* **82**(5): 172-74 (1999).

Aston, D.E., and J.C. Berg, "Fluid Interfacial Separations for Secondary Fiber Recovery as Probed with Atomic Force Microscopy." *J. Pulp Paper Sci.* **24**(4): 121-25 (1998).

Snyder, B.A., D.E. Aston, and J.C. Berg, "Particle-Drop Interactions Measured with Atomic Force Microscopy." *Langmuir* **13**(3): 590-93 (1997).

Peer Reviewed/Evaluated (†corresponding author, *students & postdocs):

Jabal, Jamie M.F.*, Anjil Giri*, Kurt E. Gustin, and **D. Eric Aston†**, "Biocompatible Electrospun Titania-composite Nanofiber Networks for Whole Cell Sensing." *International Microelectronics and Packaging Society*, 41st International Symposium on Microelectronics, submitted 5 Sep 2008, in print. *Voted Best Session Paper.*

Erwin, Jim* and **D. Eric Aston†**, "Modified Polypyrrole Nanowire Networks for Electrochemical Sensors." *International Microelectronics and Packaging Society*, 41st International Symposium on Microelectronics, submitted 5 Sep 2008, in print.

Aston, D.E.†, and J.C. Berg, "Advances in Fluid Interface-Atomic Force Microscopy." In *Science, Technology and Education of Microscopy: An Overview*. Vol. 2, A. Mendez-Vilas, Ed., FORMATEX: Spain, 2003, pp. 630-37, ISBN 84-607-6699-3.

Other:

Invited Contribution: **D. Eric Aston†**, David N. McIlroy, Larry Branen, Shiva Rastogi, Joshua Branen, Giancarlo Corti, Patrick J. Hrdlicka, Kenneth Noren, and James J. Nagler, "Nanomaterials for Biosensor Platforms toward Increasing Safety and Shelf Life of Agricultural Commodities." *The World of Food Science*, vol. **10: Sensors**, available Aug 2010 online, <http://www.worldfoodscience.org/cms/>

Invited Chapter: Choi, Daniel, D. McIlroy, James Nagler, **E. Aston**, Patrick Hrdlicka, Kurt Gustin, Rod Hill, Deborah Stenkamp, and Joshua Branen, "One-Dimensional Silica Structures and their Applications to the Biological Sciences." In *Nanostructured Oxides: Nanomaterials for the Life Sciences*. Challa Kumar, Ed., Vol. 2, Wiley-VCH, 2009, pp. 83-108; submitted July 2008.

Invited Chapter: **Aston, D.E.**, "Colloids and Colloidal Suspensions." In *Chemistry: Foundations and Applications*. Lagowski, J.J., ed., Vol. 1, New York: Macmillan Reference USA, 2004, pp. 247-52.

Stone, G.R.*, and **D.E. Aston†**, "AFM for Membrane Analysis." *Pacific Nanotechnology E-Newsletter* April 2003, available at <<http://www.pacificnanotech.com/>>.

Refereed/Adjudicated (currently submitted or in preparation; †corresponding author, *students & postdocs):

Weakley, Andrew T.,* **Aston, D. E.†** "Model Selection in Partial Least-Squares Regression Using Comprehensive Criteria." *Analytica Chimica Acta submitted* submitted 24 Mar 2015.

Professional Meeting Papers/Presentations (Total of 32+):

"Influence of Electrospun Silica-PVA-Fiber Mat Thickness on Glass Coated ITO Electrode for Electrochemical Detection of Phenol." Dennis A. Oriero, **D. Eric Aston**, *NSBE Proceedings of the 39th Annual National Convention*, Indianapolis, IN, Mar 27-31 (2013).

"Rheological and micro-Raman Time-Series Characterization of Enzyme Sol-gel Solution toward Morphological Control of Electrospun Fibres." Dennis A. Oriero, Andrew T. Weakley, **D. Eric**

- Aston**, *NSBE Proceedings of the 38th Annual National Convention*, Pittsburgh, PA, Mar 28-Apr 1 (2012) 91-107.
- “A Study of Ionic Transport through Randomly-aligned Silica Nanosprings Using Electrochemical Impedance Spectroscopy.” Yukta P. Timalisina, Joshua Branen, **Eric Aston**, Ken Noren, David N. McIlroy, *Proceedings of the American Physical Society*, vol. 56. (2011).
- “Silica-coated Magnetic Nanoparticles (SMNPs): Capture and Identification of *Escherichia coli* Cells Using Surface Enhanced Raman Spectroscopy.” Shiva K. Rastogi, Jamie Jabal, Huijin Zhang, Kevin J. Halder, Charlene M. Gibson, You Qiang, **D. Eric Aston**, A. Larry Branen, *NSTI Nanotech Conference & Expo*, Anaheim, CA, Jun 13-16 (2011).
- “Wettability and Contact Angle Hysteresis of Electrospun Composite Fibers.” Weston Corporon, Jamie M.F. Jabal, **D. Eric Aston**, *Pacific Northwest Regional AIChE Meeting*, Corvallis, OR, Apr 16 (2011).
- “A Potential Enzyme-Encapsulating, Ultrafine Fiber for Phenol Detection.” Dennis A. Oriero, Jamie M. F. Jabal, Lee Deobald, Andrew T. Weakley, **D. Eric Aston**, *Technical Proceedings of the NSBE 37th Annual National Convention*, St. Louis, MI, Mar 24-27 (2011).
- “Detection of the Invisible: Synthesis of Magnetic/Silica and Raman Active Silver Nanoparticles.” Kevin J. Halder, Shiva K. Rastogi, Jamie Jabal, Charlene M. Gibson, **D. Eric Aston**, A. Larry Branen, *M. J. Murdock Partner in Science National Conference*, San Diego, CA, Jan 14-15 (2011).
- “Characterization of Nanospring-based Biosensor by AC Impedance Spectroscopy.” Yukta P. Timalisina, Dennis Oriero, Giancarlo Corti, Timothy Cantrell, Tej Prakash, Joshua Branen, **D. Eric Aston**, Kenneth Noren, James J. Nagler, Shiva Rastogi, David N. McIlroy, *National Society of Black Engineers (NSBE) Technical Research Exhibition Fall Regional Conference*, San Mateo, CA, Nov 12-14 (2010).
- “Detection of the Invisible: Synthesis of Magnetic/Silica and Raman Active Silver Nanoparticles.” Kevin J. Halder, Shiva K. Rastogi, Jamie Jabal, Charlene M. Gibson, **D. Eric Aston**, A. Larry Branen, *M. J. Murdock Conference (Twentieth Annual Pacific Northwest Partners in Science)* Vancouver, WA, Aug 13 (2010).
- “Au and Ag nanoparticle coated silica nanosprings: characterization of SERS-active materials and detection of DNA from biological threat agents.” Sai, V.V.R., Niraula, I., Branen, J.R., McIlroy, D.N., Gangadean, D., Hrdlicka, P.J., Corti, G. and Aston, D.E. Abstracts, *Joint 65th Northwest and 22nd Rocky Mountain Regional Meeting of the American Chemical Society*, June 20-23, (2010), NWRM-206.
- “Au and Ag Nanoparticles Coated on Nanosprings for SERS Applications.” Vemulakonda V.R. Sai, D. Gangadean, I. Niraula, G. Corti, D. McIlroy, D.E. Aston, J.R. Branen, P. Hrdlicka, *NSTI Nanotech Conference & Expo*, Anaheim, CA, Jun 21-25, 2010.
- “Characterization of Vertically Aligned Silica Nanospring-Based Sensors by Alternating Current Impedance Spectroscopy.” Yukta P. Timalisina, Dennis Oriero, Giancarlo Corti, Timothy Cantrell, Tej Prakash, Joshua Branen, D. Eric Aston, Kenneth Noren, James J. Nagler, Shiva Rastogi and David N. McIlroy, *American Physical Society March Meeting*, Portland, OR, Mar 15-19, 2010.
- “Microscale Effects on the Wettability of Electrospun PVP-Titania Fiber Mats on ITO Substrates in Aqueous Media.” Kevin Lyon, Jamie M.F. Jabal, D. Eric Aston, *AIChE Annual Meeting*, Nashville, TN, Nov 8-13, 2009.
- “Modified Polypyrrole Nanowire Networks for Electrochemical Sensors.” Jim Erwin, D. Eric Aston, IMAPS: 41st International Symposium on Microelectronics, Providence, RI, Nov 2-6, 2008.
- “Biocompatible Electrospun Titania-composite Nanofiber Networks for Whole-Cell Sensing.” Jamie M.F. Jabal, Anjil Giri, Kurt E. Gustin, D. Eric Aston, IMAPS: 41st International Symposium on Microelectronics, Providence, RI, Nov 2-6, 2008.

Professional Meeting Papers/Presentations (cont'd):

- “Nanospring-based Electronic Biosensors for DNA Detection.” Josh R. Branen, Jamie M. Jabal, Giancarlo Corti, M. Grant Norton, D. Eric Aston, A. Larry Branen, James J. Nagler, and David N. McIlroy, American Association for the Advancement of Science (AAAS) Annual Meeting, Boise, ID, June 17-20, 2007.
- “Nanospring-Based Biosensors for Electrical DNA Microarrays.” David N. McIlroy, Lidong Wang, David Major, Chris Berven, D. Eric Aston, James Nagler, Josh Branen, Larry Branen, M. Grant Norton, Giancarlo Corti, *MRS Spring Meeting*, San Francisco, CA, Apr 9-13, 2007.
- “Nanowire Materials for Nanosensors: Wettability, Morphology, Conductivity.” Jamie Marie F. Jabal, D.E. Aston, D.N. McIlroy, C.A. Berven, B. Williams, K. Weigandt, *NSF EPSCoR National Conference*, Lexington, KY, Nov 6-10, 2006.
- “Nanowire Material Selection for Nanosensor Fabrication: Wettability and Morphology.” Jamie Marie F. Jabal, D.E. Aston, B. Williams, *INRA Environmental & Subsurface Science Symposium*, Moscow, ID Sept. 25-27, 2006.
- “Numerical Investigations for Design and Characterization of a Microfluidic Sensor.” Avijit Basu, Kathleen Weigandt, D.E. Aston, B. Williams, *INRA Environmental & Subsurface Science Symposium*, Moscow, ID Sept. 25-27, 2006.
- “GaN Nanowire Microfluidic Sensor for Detection of Dissolved Aqueous Species.” Avijit Basu, Kathleen Weigandt, Barbara Williams, Jamie Marie Jabal, Michelle LeBaron, D.E. Aston, *American Society of Agricultural and Biological Engineers (ASABE) Annual International Meeting*, Portland, OR, July 9-12, 2006.
- “Computer Modeling of Surface Tension Effects on the Shape of Nanodroplets in the Presence of a Temperature Gradient.” Robert Mosby, D.E. Aston, *AIChE Pacific Northwest Regional Conference*, Oregon State University, Corvallis, Oregon, April 22-23, 2005
- “Digital Pulsed Force Microscopy Study of SiC Nanowires.” A. Alkhateeb, D. Gangadean, D. Zhang, D.N. McIlroy, and D.E. Aston, *Bull. Am. Phys. Soc., APS Meeting*, Los Angeles, California, March 21-25, 2005.
- “Spectroscopy and Imaging of Counterion-Dependent Porphyrin Aggregates.” J.L. McHale, F.J. Knorr, S.C. Doan, D.E. Aston, *229th ACS National Meeting*, San Diego, California, March 13-17, 2005, PHYS-573.
- “Electrical and Thermomechanical Testing of Single Polymer Nanowires.” S. Shanmugham, D.E. Aston, *ACS 78th Colloid and Surface Science Symposium*, Yale University, New Haven, Connecticut, June 20-23, 2004.
- “Low-Temperature Spin Spray Chemical Growth of Magnetic Ferrite Films.” A. Nemeč, D.E. Aston, *ACS 78th Colloid and Surface Science Symposium*, Yale University, New Haven, Connecticut, June 20-23, 2004.
- Invited*: “Nanowire and Nanospring Formation and Mechanics.” D.E. Aston, M.G. Norton, D.N. McIlroy, *Micron Foundation Summer Technical Conference*, Boise, Idaho, August 8, 2003.
- “Tantalum Oxide Nanoislands and Continuous Films Grown by Atomic Layer Deposition. D. Zhang, J. Wei, S. Moore, X. Chen, L. Bergman, D.E. Aston, B. Pesic, and D.N. McIlroy.” *Bull. Am. Phys. Soc.* Vol. 48, No.1 (2003) 1058, *APS Meeting*, Austin, Texas, March 3-7, 2003.
- “Fluid Interface-Atomic Force Microscopy (FI-AFM).” D.E. Aston, J.C. Berg, *ACS 74th Colloid and Surface Science Symposium*, Lehigh University, Bethlehem, Pennsylvania, June 19-21, 2000.
- “Fluid Interfacial Separations for Secondary Fiber Recovery as Probed with Atomic Force Microscopy.” D.E. Aston, J.C. Berg, *4th Research Forum on Recycling*, Québec, QC, Canada, October 7-9, 1997.
- “Colloid Force Measurements at Oil-Water Interfaces.” D.E. Aston, J.C. Berg, *ACS 71st Colloid and Surface Science Symposium*, University of Delaware, Newark, Delaware, June 29-July 2, 1997.

Patents:

M. Grant Norton, Aaron Lalonde, David N. McIlroy, D. Eric Aston, and Christopher A. Berven, Methods for manufacturing nanowires coated with nanoparticles. Washington State University, USA; Idaho Research Foundation, Inc. Patent #2006-US24435, PCT/WO 2007002369 (2007).

D.N. McIlroy, D.E. Aston, C.A. Berven, and N.G. Norton, Aqueous and Gas Sensors. IRF0002GN (2005) invention disclosure.

Grants and Contracts Awarded (\$2M as PI; \$5.4M as coPI/collaborator; \$1.6M as EPSCoR team leader):

DOE-NEUP: "Off-gas Treatment: Evaluation of Nano-structured Sorbents for Selective Removal of Contaminants." PI: Vivek Utgikar, CoPI: D.E. Aston, Collaborators (INL): Patricia Paviet-Hartmann, Piyush Sabharwall \$785,910, 1/01/2014-12/31/2016, submitted 12 Jun 2013.

INL-DOE: "Surface Tension and Interfacial Tension Measurements of Solvent Extraction Liquids." PI. \$926, 7/11/2011-8/15/2011, Task Order 00101.

USDA-NIFA: "Increasing Shelf Life of Agricultural Commodities, ID." PI: D.E. Aston, Co-PIs: D.N. McIlroy, A.L. Branen, R.A. Hill, N.N. Mishra, \$561,193, 4/01/10-9/30/12, NIFA Award # 2010-34479-20715, *submitted* Jan 19, 2010.

USDA-CSREES: "Increasing Shelf Life of Agricultural Commodities, ID." PI: D.E. Aston, D.N. McIlroy, Co-PIs: A.L. Branen, R.A. Hill, W. Maki/N. Mishra, \$562,169, 08/01/09-7/31/11, USDA-2009-34479-19833, *submitted* May 20, 2009.

NSF MRI: "Acquisition of Confocal Raman, Scanning Near-Field Optical Microscopy (SNOM) System for Wet and Dry Materials and Device Engineering," PI D.E. Aston, CoPIs: P.R. Griffiths, M.-P. Laborie, A. McDonald, D.N. McIlroy, \$527,050, 9/01/06-8/30/07, DMR-0619310.

UI Strategic Initiatives: "BANTech (Biological Applications of Nanotechnology)" PI: David N. McIlroy; D. Eric Aston, Gregory Bohach, Kurt Gustin, Rod Hill, James Nagler, Michelle O'Neill, Pamela Shapiro, Deborah Stenkamp, Patrick Hrdlicka, Marty Ytreberg, et al., \$1,600,000, 7/01/06-6/30/11.

NSF NER: "Polymer Nanowire Chemical Sensors for Aqueous Media," PI D. Eric Aston, \$130,000, 7/15/05-6/30/07, BES-0507921.

NSF Idaho-EPSCoR RII: Idaho Grand Challenge Initiative (IGCI): "Nanosensors for Aqueous Environments," PI J. Shreeve, Group Leaders D.N. McIlroy and D.E. Aston; \$1,626,454, 04/2005-12/2008, EPS-0447689.

M. J. Murdock Charitable Trust Grant, "Twin Screw Extruder," PI Armando McDonald, Co-PIs: D.E. Aston, S. Froes, B. He, K. Huber, P. Singh, \$235,000, 2/05-1/06.

Electricity Innovation Institute: "Synthetic Approaches to New Photovoltaic Materials Based on Ordered Chalcopyrite Quantum Dot Arrays in Polymer Matrices for the Development of High Efficiency Solar Cells," PI: Pamela Shapiro, co-PI: D.E. Aston, \$100,000, 01/2005-12/2005.

ONR: "Development of Soft Magnetic Films for Thin Film Inductor for High-Frequency Applications," PI: Yang.-Ki. Hong; co-PIs: D.E. Aston, C.A. Berven, G. Donohoe, Y. Qiang, J. Young. \$750,000, 09/2003 – 08/2004. Aston has 15% of total workload to grow magnetic films from solution.

UI Seed Grant, "Synthesis and Characterization of Polymer Nanowires," PI, \$10,000, 07/2003-06/2004.

W. M. Keck Foundation Science and Engineering Grant, "Nanosprings: Exploring Mechanics at the Nanoscale," PI: D.N. McIlroy; co-PIs: D.E. Aston, C.A. Berven, N.G. Norton (WSU). \$861,991, 01/2003-12/2006. Aston has 20% of total workload to measure mechanical and electromechanical behavior of nanosprings.

NSF-Idaho EPSCoR, "Nanoscale Materials Research Postdoctoral Funds," PI: P. Shapiro, Co-PI D.E. Aston, \$44,000, 5/2004-5/2005.

NSF-Idaho EPSCoR, "Nanoscale Materials for Electronics and Sensor Applications," D.N. McIlroy, Lead, 18 co-PIs, \$1,024,000/yr, 02/2002-01/2005, EPS-0132626; Aston has equal responsibility (~\$35k/yr) to

synthesize and characterize materials for making magneto-/optoelectronic devices.

Grants and Contracts Awarded (cont.):

Idaho BRIN Research Enhancement Grant, \$4,850, 2004.

NSF-Idaho EPSCoR, Instrumentation Acquisition Award, \$26,000, 2003, EPS-0132626.

NSF-Idaho EPSCoR, Instrumentation Upgrade, \$6,000, 2003.

UI Seed Grant, “Selectively Permeable Membrane Coatings,” PI, \$10,000, 07/2002-06/2003.

NSF-Idaho EPSCoR, Faculty Start-up Augmentation, \$12,000, 2002.

NSF-Idaho EPSCoR, Instrumentation Acquisition Award, \$15,000, 2002.

NSF-Idaho EPSCoR, REU Program, \$2,000, 2002.

Other Proposals Pending:

NSF: MRI “Acquisition of X-ray Computed Tomography for Microstructure Characterization and Modeling.” PI: Emad Kassem, CoPIs: Daniel M. Johnson, D.E. Aston, Robert Heinse, Craig P. McGowan, \$488,754, 08/01/2016-07/31/2019, submitted 13 Jan 2016.

NSF: “Electrokinetic and biomechanical characterization of erythrocytes based on blood type on a microfluidic platform.” PI: Soumya Srivastava, CoPI: D. E. Aston, \$299,479, 08/01/2016-07/31/2019, submitted 20 Oct 2015. *In review.*

ONR: “Dynamics in Extreme Environment Thin-films (DIET).” PI: Mark Roll, CoPIs: Aston, Charit, Kanakala, Moberly, Raja, Ytreberg (Physics), Zhao, white paper submitted 24 Nov 2014.

W.M. Keck Foundation—Science Grant: “The High Temperature-Ambient Scanning Microbalance-Microscope.” PI: Mark Roll, CoPI: D. E. Aston, James G. Moberly, internal abstract competition submitted 10 Nov 2014.

W.M. Keck Foundation—Education Grant: “Advanced Materials Chemistry, Characterization and Engineering.” PI: Kristopher V. Waynant, CoPI: Mark Roll, D. E. Aston, internal abstract competition submitted 10 Nov 2014.

NSF: “Characterization of ABO-Rh antigen dependencies using a low frequency AC-iDEP microfluidic platform.” PI: Soumya Srivastava, CoPI: D. E. Aston, \$254,146, 06/01/2015-05/31/2018, resubmitted 4 Nov 2014.

USDA/NIFA-AFRI: “Nanoconstructs to improve growth efficiency and meat quality in beef cattle.” PD: Rodney A. Hill, CoPIs: D. E. Aston, J.D. Wulffhorst, \$500,000, submitted letter of intent 5 Feb 2014.

Honors and Awards:

President’s Mid-Career Faculty Award, UI, 2014-2016

Faculty of Excellence Award, College of Engineering, UI, 2012-2014

Alumni Award for Excellence, Honored Faculty, University of Idaho Alumni Association, 2008, 2011.

Outstanding Researcher with scholarship activities, College of Engineering, University of Idaho, 2007-08.

Outstanding Young Faculty, College of Engineering, University of Idaho, 2004-05.

Victor K. LaMer Award Nominee, ACS Division of Colloid and Surface Chemistry, 2002, 2003, 2004.

Intel Foundation Fellowship, 1998-99

Weyerhaeuser Fisker Fellowship, 1996-97

SERVICE:**Major Committee Assignments:**

Barry M. Goldwater Application Committee, November 2003-present (did not meet 2013)
 Library Affairs Committee, 2002-05, 2011-12 (sabbatical), 2013-16 (chair 2015-16)
 Research Conflict of Interest Committee, University level, by VPR appointment, 2013-??
 Scientific Misconduct Committee, 2007-10, 2011-13
 College of Engineering Research Council, 2009-2012
 Chair, Department Hiring Vision and Planning, Chemical & Materials Engineering (ChME), Fall 2012
 University Honors Program Committee, 2003-06 (Chair 2005-06), 2007-10
 College of Engineering Strategic Committee, 2006-present(?)
 Faculty Search Committees, Materials Science & Engrg, 2002-03, 2006-07, 2010-11
 Chemical Engineering Strategic Plan Committee, Graduate Student Admissions, ABET, Departmental Policies & Guidelines, 2001-present
Ad Hoc Committee for ChE/MSE Merger Assessment, 2007-2009

Others:

Chemical Engineering Faculty Search – Idaho Falls, 2013-2014
 College of Engineering Committee Chair for Faculty Senate Position, Spring 2014
 College of Engineering Committee for Position Descriptions and Evaluations, Fall 2012-Spring 2013
 Environmental Engineering Program Admissions Committee, 2005-?? (defunct?)
 Chemical Engineering Faculty Search (x2), 2012-13
 Presidential Management Fellows Nomination Committee, UI, <https://www.pmf.opm.gov>, Fall '09-'12
 Chair, Tenure Review Committee (Supithorn Phongikaroon), Chemical Engineering, Fall 2012
 Chair, Tenure Review Committee (Indrajit Charit), Materials Science and Engineering, Fall 2012
 College of Engineering Strategic Planning Committee, Fall 2012
 Chemical Engineering Temporary Instructor, Search Committee, Fall 2012
 Associate Dean for Research Search Committee, College of Engineering, Summer 2012
 Grant Writer, CoE, Search Committee, Spring 2012
 College of Engineering, Dean Search, Fall 2011-Spring 2012
 Faculty Tenure Review Committee Chair (Daniel Choi), MSE, Fall 2011
 Chemistry Department, Promotion & Tenure (Eric Brauns), Fall 2010
 Physics Department Chair Search Committee (David McIlroy), Spring 2010
 Faculty Third-Year Review Committee (Indrajit Charit), MSE, Fall 2009
 College of Engineering Awards Committee, Spring 2009
 Senior Associate Dean Search Committee (Larry Stauffer), College of Engineering, Spring 2009
 Civil Engineering Chair Search Committee (Richard Nielsen), Spring 2009
 Physics Department Chair Search Committee (Wei Jiang Yeh), Fall 2007
 Science & Technology Building Selection Committee, 2006
 National Research Council (NRC) Response Team, 2006 (Provost appointment)
 Research Associate Engineer Search Committee (David MacPherson), Chemical Engineering, 2005
 Faculty Search Committee (Erik Coates), Civil Engineering, 2005-06
 DEPSCoR Preproposal On-campus Review Committee, August 2005
Ad Hoc Professional Fee Committee, College of Engineering, 2003
 Faculty Third-Year Review Committee (Leah Bergman), Physics, Fall 2002

Professional and Scholarly Organizations:

American Institute for Chemical Engineers (AIChE), Senior Member, 1991 (inactive)
 American Society of Civil Engineers (ASCE), Affiliate Member, 2008-present
 Society for Applied Spectroscopy, Member, 2012 (inactive)
 International Microelectronics and Packaging Society (IMAPS), Member, 2008 (inactive)
 National Society of Professional Engineers (NSPE), Member, 1995-2006
 Canadian Pulp and Paper Association (CPPA), Member, 1997-2002

Reviewer Duties—one or more per month (on average): manuscripts, textbook chapters, proposals, etc., for *Applied Surface Science*, *Science*, *Langmuir*, *J. Colloid Interface Science*, *Nanotechnology*, *Nanomedicine: Nanotechnology, Biology and Medicine*, *Sensors & Actuators: A. Physical*, *J. Phys. D: Appl. Phys.*, *J. Am. Chem. Soc. (JACS)*, *PLOS ONE*, *ACS Applied Materials and Interfaces*, *Optical*

Materials, Biotechnology and Bioengineering, J. Biomedical Materials Res. Part A, Review of Scientific Instruments, Nanoscale Research Letters, J. Vac. Sci. Technol. B, Textbook Chapter (2007): "Nanotechnology: Chapter 5: A Roadmap to Nanobionotechnology," Jones and Bartlett Publishers; "Handbook of Experimental Solid Mechanics" Chapter on AFM Imaging, Springer; Petroleum Research Fund (PRF), National Science Foundation (NSF), McGraw-Hill, The Dekker Encyclopedia of Chemical Processing, International J. Hydrogen Energy, Chem. Eng. Res. Design, Acta Mechanica Solida Sinica, Acta Biomaterialia, Crystal Growth and Design, Canadian Light Source (2013), Kentucky Science and Engineering Foundation (2010, 2012), Oxford University Press, John R. Wiley; Chemical Engineering Thermodynamics textbook review for Cengage Learning.

Outreach Service:

Helping Orient Indian Students and Teachers (HOIST) program mentor, summer researchers 2003, 2004, 2008, 2010, 2012.
 HOIST guest lecture and lab tours, June 2014.
 Mentoring Adjunct Faculty Dr. Arthur Miller, Gonzaga University and National Institute for Occupational Safety and Health (NIOSH), new instructor for ENSC 481: Nanotechnology Science and Engineering, Fall 2006, 2007.
 Legislator in the Lab, Idaho State Representative Shirley Ringo, Idaho-EPSCoR, Aug. 18, 2006.
 What Is Nanotechnology? Lectures and demos to 4 applied physics classes, Moscow High School, Pat Blount-instructor, 24 Feb 2006.
ExploraVision Science Projects, project advisor, physical science classes, Moscow Junior High School, Kathy Dawes, instructor, November 2002, January 2006.
 Chemical Engineering & Nanotechnology, Lewiston High School, 4 chemistry and biology classes, 13 December 2004.
 Introduction to Chemical Engineering, Lapwai High School, biology, astronomy, and geometry classes, 12 May 2003.
 Future Problem Solvers, Nanotechnology, Moscow High/Junior High Schools, January 2003.
 Women of Engineering Day Lab Tours, Association of Women Engineers, University of Idaho, November 2002, 2003.
 Introduction to Chemical Engineering, Lewiston High School, 5 chemistry and physics classes, September 2002.

Community Service:

Judge, Undergraduate Research Poster Exposition, College of Science, UI, 2 Nov 2012.
 Nanotechnology demonstrations to the public, "NanoDays," Palouse Discovery Science Center, Pullman, WA, April 2008; grad student participants—Dev Gangadean, Jamie Jabal, Jim Erwin.
 Safety compliance judge, National ChemE Car Competition, AIChE Annual Meeting, Salt Lake City, November 4, 2007.
 Judge, Graduate Student Research Poster Presentations, Chemical Engineering, Washington State University, Spring 2006.
 Panelist, McNair Scholars Interview, University of Idaho, Fall 2004, 2005, 2007.
 Faculty Mentor, McNair Scholars Achievement Program, University of Idaho, Fall 2003-Summer 2005.
 Event Judge, NASA- Mars Rover Competition, Society of Women Engineers, Women in Engineering Day, University of Idaho, November 11, 2004.
 Judge, Graduate Student Research Poster Presentations, Chemical Engineering, Washington State University, Spring 2003.
 Engineering Poster Judge, Graduate Student Research Exhibition, University of Idaho, 2002.
 Panel Judge, Chemical Engineering Graduate Student Research Presentation, Washington State University, Spring 2002.

PROFESSIONAL DEVELOPMENT:**Teaching:**

Assessment Institute: Laying a Foundation to Elevate Student and Faculty Performance, Pacific Crest, sponsored by the Enriched Learning Environment (ELE) Project, Moscow, Idaho, May 31-June 3, 2005.

Designing Assessment and Evaluation Tools, Enriched Learning Environment (ELE) Workshop, Moscow, Idaho, March 2, 2004.

Promoting Higher Level Learning Outcomes through Activities Design, ELE Workshop, Moscow, Idaho, October 7, 2003.

ELE Mentoring Workshop, Moscow, Idaho, August 18, 2003.

Improving Teaching and Learning Institute: A Process Approach for Engineering Education, ELE Project, Moscow, Idaho, June 9-11, 2003.

Share the Future IV Workshop, SUCCEED, Tempe, Arizona, March 16-18, 2003.

Scholarship:

PNNL EMSL SIP Review Panel, Don Baer, Lead Scientist Interfacial Chemistry, Richland, WA, 28-29 Jun 2012.

NSF Nanotechnology Review Panel, Phase I, Rathindra "Babu" DasGupta, Program Manager, SBIR/STTR Aug. 15, 2006.

Idaho NSF-EPSCoR Scholarly Writing Workshop, Dr. Robert Lucas, Moscow, ID, June 6, 2006.

Conducting Educational Research in Your Classroom, Enriched Learning Environment (ELE) Workshop, Moscow, Idaho, w/ Don Elger, Steve Beyerlein, Dan Apple, Steve Zemke, September 13, 2004.

NSF CAREER Workshop, "Development for New Faculty," Tempe, Arizona, Geoffrey Prentice – NSF, Tim Anderson – Chemical Engineering, University of Florida, March 16, 2003.

NSF Nanoparticle Materials Review Panel, SBIR/STTR Phase I, Electronics Division, James Rudd, Program Manager, March 13, 2003.