

CURRICULUM VITÆ

University of Idaho

NAME: Aston, D. Eric

DATE: May 27, 2020

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

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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

EXPERIENCE:

Teaching, Extension and Research Appointments:

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

Chair, Department of Chemical and Materials Engineering, University of Idaho, Jun 2015-2020

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

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 Affiliate/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, coffee roasting chemometrics & design, creative writing

Courses Taught (Sabbatical Spring 2013):

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

ISEM 301, Discoveries and Inventions That Shape Society, every semester Fall 2015 – Fall 2016, Spring 2017, 2018, 2020 (Honors, 1 cr.)

CHE 299, DS: Exploring Chemical Engineering, coordinator, Fall 2018-present (1 cr.)

CHE 393, Chemical Engineering Projects, Fall 2018-present (var. cr., primary instructor)

CHE 433, Chemical Engineering Lab I (1 cr lab), Fall 2019 (4 sections), co-instructor

CHE 434, Chemical Engineering Lab II (1 cr lab), Spring 2020 (4 sections), co-instructor

CHE 455, Surfaces and Colloids (3 cr.), Spring 2019 (new course), Spring 2020, Fall 2020

CHE 502, DS: Interfacial Phenomena (3 cr.), Spring 2020.

CHE 527, Thermodynamics, WSU Co-Op (3 cr.), Spring 2012, 2014, 2016; Fall 2014 (w/ Andrew Weakley), Spring 2020

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

CHE 204, ST: Programming for Chemical Engineering, (10%) Fall 2017 (3 cr. – Team taught)

CHE 210, Integrated Chemical Engineering Fundamentals, Fall 2016, 2017 (10%, 1 cr. – Team taught)

CHE 299, DS: Coffee Engineering, Spring 2018 (3 cr.)

CHE 307, Group Mentoring, Fall 2016, 2017 (1 cr.)

CHE 330, Separation Processes I, Spring 2002-2012, 2014-2015, 2017 (3 cr.)

Courses Taught (cont.):

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 Lab I/II, Fall & Spring 2001-2016 (30%)
 CHE 433/434, Chemical Engineering Laboratory I/II (1 cr. labs), lead instructor, Spring & Fall 2017 (40%);
 Spring 2018 (50%, 3 sections), Fall 2018 (75%, 2 sections)
 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.)
 CHE 499, DS: Colloids and Surfaces, Summer 2016 – w/ Patrick Mahoney (3 cr.)
 CHE 499, DS: Colloids and Surfaces, Spring 2018 – w/ Joe Pengilly, Jack Williams (3 cr.)
 CHE 501, Seminar, Fall 2016-Fall 2019 (1 cr.)
 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.)
 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 320, Engineering Thermodynamics and Heat Transfer, Fall 2016 (3 cr.) – new course, team taught
 (w/ Prof. Soumya Srivastava)
 ENGR 404/INTR 404, HON: ST: Creative Science Writing, Fall 2014, Spring 2015, new course (1 cr.)
 MSE 434, Fundamentals of Polymeric Materials, Fall 2010, new course (3 cr.)

Students Advised:

Undergraduate Students: ~40/year

Advised on research projects: 46

Daryl Giglio, Fall 2018-present
 Simon Shindler, Fall 2018-Spring 2019, Fall 2016-Summer 2017
 Britton Bell, Spring 2018
 Nathan “Nate” Dillon, Spring 2018
 Sam Rasmussen, Summer 2017
 Brian Beatty, Summer 2017 – OUR SURF fellowship
 Patrick Mahoney, Summer 2016-present
 Nicolas Johnson, Spring, Fall 2016, Spring 2017
 Joe Pengilly, Spring, Fall 2016, Spring 2017
 Jack Williams, Spring, Fall 2016, Spring 2017
 Benjamin Plaster, Spring, Fall 2016, Spring 2017
 Minh Tran, Spring, Fall 2016-Spring 2017
 Nathan Myers, Fall 2016
 John Lyons, 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 Nemece, Gregory Stone, Spring & Fall 2002
 Brent Sasaki, Spring 2002

Graduate Students:

Advised to completion of degree as major professor: 12 MS, 1 MEngr, 6 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)
 Saravananarajan "Rajan" Shanmugham, "Mechanical and Electrical Properties of Single Polymer Nanowires." **MS ChE 2004** (Fall 2002-Spring 2004)
 Andrew Nemece, "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." **MEngr 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)

Students Advised (cont'd):

Graduate Students (cont'd):

- Hesham Ramzy Tantawy, "Electromagnetic Shielding Potential of Polyaniline Nanopowders." **PhD ChE 2014** (Fall 2010-Spring 2014)
- Okechukwu Charles Nwamba, "Tuning the Electronic Properties of Graphite for Enhanced and Sustained Electron Transfer Kinetics: Characterization, Properties and Applications." **PhD Chemistry 2019** (Spring 2018-Spring 2019; co-advising w/ major advisor: Prof. Jean'ne Shreeve)
- Nathan Yergenson, "Coffee Roasting Process Monitoring with In-Situ NIR Spectroscopy." **MS ChE 2019** (Fall 2017 – Spring 2019)

Incomplete:

- Jonghwa Jeong, PhD ChE, Fall 2004-Spring 2005 (incomplete, transferred)
- Aditya Abburi, MS ECE, Fall 2005-Spring 2007 (incomplete, coadvisor: Richard Wells)
- Beverly Weatherspoon, MS ChE, Spring 2007-Summer 2007 (incomplete, inactive)
- Rex Oxford, PhD MSE (@Boise State), Fall 2003-2008 (incomplete, inactive)
- Sai Krishna R. Yadanaparthi, ME EnvE, Summer 2008 (IH work)
- James Erwin, MS ChE, Summer 2007-2010 (incomplete, inactive; concurrent degree, UI Law School)

Served/serving on graduate committee: 80 (including the above)

- Shahla Nemati, PhD Physics (advisor: Andreas Vasdekis)
- Adisa, Saheed B. "Paul", PhD MSE (advisor: Matt Swenson)
- Raymond Emehiser, PhD Chemistry (advisor: Patrick Hrdlicka)
- Anilkumar Krosuri, PhD Environmental Science (advisor: Sarah Wu, BE)
- Peter Wojcik, PhD Physics (advisor: David McIlroy)
- Charles Okechukwu Nwamba, PhD Chemistry 2019 (advisor: Jean'ne Shreeve)
- Haoyu Zhu, PhD Chemistry 2018 (advisor: Frank Cheng)
- Mohammad Khan, MS CE 2017 (advisor: Emad Kassem)
- Bennett Carv, MS ChE 2017 (advisor: James Moberly)
- 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)
- 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. Timalina, 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)
- Stephani, Pung, MA English 2010 (advisor: Janis Johnson)
- Branden Poulsen, MS ChE 2009, PhD ChE 2011 (advisor: Karl Rink)
- Jennifer Hasenoehrl, MS ME 2009, PhD ME 2016 (advisor: Steve Penoncello)
- Sean McCormick, MS MSE 2009 (advisor: Dan Choi)
- David Leon Watkins, MS CE 2009 (advisor: Erik Coats)

Students Advised (cont'd):

Graduate Students (cont'd):

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

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 Dobrokhoto, 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, MEng 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, May 2014 – Dec 2016 (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
 CHE 455, Surfaces and Colloids, Spring 2019 (3 cr) – first offering
 CHEM 414/514, Applications of Nanomaterials in Biomolecular Engineering, Spring 2007-2009 – team
 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 (1 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.
- 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).

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

- 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 = 25 (Google Scholar); cited >2,000 times in >1,000 different sources; two book chapters; 37 conference presentations.]

Refereed/Adjudicated (Total of 60; †corresponding author, *students & postdocs):

- Nwamba, Okechukwu Charles; Echeverria, Elena M.; Yu, Qiong; Raja, Krishnan S.; McIlroy, David N.; Shreeve, Jean'ne M.; **Aston, D. Eric**†, "Increased Electron Transfer Kinetics and Thermally Treated Graphite Stability through Improved Tunneling Paths." *J. Mater. Sci.*, (2020). doi: 10.1007/s10853-020-04846-6. Received 13 Apr 20; Published 27 May 2020.
- Yergenson, Nathan*; **Aston, D. Eric**†, "Online Determination of Coffee Roast Degree toward Controlling Acidity." *J. Near Infrared Spectroscopy* (2020). doi: 10.1177/0967033520924493, published 23 May 2020, accepted 17 Apr 20, recommended for publication 23 Nov 2019, submitted 17 July 2019.
- Yergenson, Nathan*; **Aston, David Eric**†, "Monitoring coffee roasting cracks and predicting with in situ near-infrared spectroscopy." *J. Food Process Engineering* **43**(2): (2020). doi: 10.1111/jfpe.13305.
- Nwamba, O. Charles*; Echeverria, Elena*; McIlroy, David N.; Shreeve, Jean'ne M.; **Aston, D. Eric**†, "Electrochemical Stability and Capacitance of In-Situ Synthesized Prussian Blue on Thermally-Activated Graphite." *SN Applied Sciences* **1**(7): 731 (2019). Submitted 18 Jan 2019, accepted 4 Jun 2019, doi: 10.1007/s42452-019-0713-z.

- Nwamba, O. Charles*; Echeverria, Elena*; McIlroy, David N.; Austin, Aaron*; Shreeve, Jean'ne M.; **Aston, D. Eric**‡, “Thermal modification of graphite for fast electron transport and increased capacitance.” *ACS Appl. Nano Mater.* **2**(1): 228-240 (2019). Published (web) 6 Dec 2018, doi: 10.1021/acsanm.8b01887.
- Nandanwar, Sachin U.*; Coldsnow, Kai*; Porter, Austin*; Sabharwall, Piyush; **Aston, D. Eric**; McIlroy, David N.; Utgikar, Vivek;‡ “Adsorption of radioactive iodine and krypton from off-gas stream using continuous flow adsorption column.” *Chem. Eng. J.* **320**: 222-31 (2017). doi: 10.1016/j.cej.2017.03.020.
- Nandanwar, Sachin U.*; Coldsnow, Kai*; Utgikar, Vivek;‡ Sabharwall, Piyush; **Aston, D. Eric**. “Capture of harmful radioactive contaminants from off-gas stream using porous solid sorbents for clean environment – A review.” *Chem. Eng. J.* **306**: 369-381 (2016). doi: 10.1016/j.cej.2016.07.073.
- Chitrada, Kalyan C.*; Gakhar, Ruchi; Chidambaram, Dev; **Aston, Eric**; Raja, Krishnan S.‡ “Enhanced Performance of β -Bi₂O₃ by in-situ Photo-conversion to Bi₂O₃-BiO_{2-x} Composite Photoanode for Solar Water Splitting.” *Journal of the Electrochemical Society*, **63**(7): H546-H558 (2016). Doi: 10.1149/2.0721607jes.
- 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* **22**(3): 335-345 (2016). doi: 10.1007/s10450-016-9781-1.
- Nandanwar, Sachin U.*; Coldsnow, Kai*; Green, Michael*; Utgikar, Vivek;‡ Sabharwall, Piyush; **Aston, D. Eric**. “Capture of volatile iodine from gas stream via nanostructured C@ETS-10 sorbent.” *Chem. Eng. J.*, **287**: 593-601 (2016). doi: 10.1016/j.cej.2015.11.091.
- Nandanwar, Sachin*; Coldsnow, Kai*; Utgikar, Vivek‡; Sabharwall, Piyush; **Aston, D. Eric**; Yanning Zhang.* “Synthesis and characterization of ETS-10: Supported hollow carbon nanopolyhedrons nanosorbent for adsorption of krypton at near ambient temperatures.” *Adsorption* **22**(2): 129-137 (2016). Published online 31 Oct 2015, doi: 10.1007/s10450-015-9702-8.
- 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).
- 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). 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). 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).

Publications, Exhibitions, Performances, Recitals (cont'd):
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- “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. Nemeec, 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, 1/01/2014-12/31/2017, 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.

Grants and Contracts Awarded (cont.):

Pending: Michael Maughan, K. S. Raja and D.E. Aston, Predicting Environmentally Assisted Cracking of HDPE Pipes based on Damage Accumulation and Martensitic Transformation. \$246,751, PHMSA, U.S. Department of Transportation, 10/20- 09/23.

Pending: K.S. Raja and D.E. Aston, Mitigation of AC Corrosion of Gas and Hazardous Liquid Pipelines: Influence of Microstructures of Steel and Oxide Layers on Mitigation Strategies using DC Pulse Cathodic Protection. \$249,999, PHMSA, U.S. Department of Transportation, 10/20- 09/23.

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.

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.

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:

Graduate Program Coordinator/Director, Dept of Chemical & Materials Engineering, 2014-present
 Department Chair, Chemical & Materials Engineering, University of Idaho, Jun 2015-2020
 Interim Chair, Chemical & Materials Engineering, Jul 2014-Jun 2015

Major Committee Assignments:

Barry M. Goldwater Application Committee, November 2003-present (did not meet 2013)
 Intellectual Property Committee, Fall 2019-present, Chair 2020-21
 Faculty Compensation Task Force Committee, CoE rep, 2016-present(?)
 Chemical Engineering Strategic Plan Committee, Graduate Student Admissions, ABET, Departmental Policies & Guidelines, 2001-present
 College of Engineering Strategic Committee, 2006-present
 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
 Faculty Search Committees, Materials Science & Engrg, 2002-03, 2006-07, 2010-11
Ad Hoc Committee for ChE/MSE Merger Assessment, 2007-2009

Others:

P&T Review Committee (Helen Joyner), School of Food Science, College of Agricultural and Life Sciences, Spring-Fall 2018
 Center for Modeling Complex Interactions Faculty Search, Fall 2016-Spring 2017
 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, 2005-2012
 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
 American Society of Civil Engineers (ASCE), Affiliate Member, 2008
 Society for Applied Spectroscopy, Member, 2012
 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 *Canadian Light Source* (on-going), National Science Foundation (NSF), J Brazilian Chemical Society, *Applied Surface Science*, *Science*, *Langmuir*, *J. Colloid Interface Science*, *Materials*, *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), 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*, *Kentucky Science and Engineering Foundation* (2010, 2012), Oxford University Press, John R. Wiley; Chemical Engineering Thermodynamics textbook review for Cengage Learning (2014); Thermo text proposal from (2016).

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.