

Dean Campbell

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EDUCATION

University of Wisconsin – Madison, Wisconsin 53706
Postdoctoral Research Associate
Arthur B. Ellis, Advisor

Northwestern University, Evanston, Illinois 60208
Thesis: The Design, Synthesis, and Characterization of
Azobenzene-Based Monolayers: Structure vs. Function
Chad A. Mirkin, Major Professor.
Ph.D. Inorganic Chemistry 1997
M.S. Chemistry 1993
GPA = 3.44/4.00

University of Wisconsin – Green Bay, Wisconsin 54311
B.S., Chemistry; Minor in Environmental Science 1991 (Magna
Cum Laude)
GPA = 3.78/4.00

TEACHING EXPERIENCE

Associate Professor, Department of Chemistry,
Bradley University, Peoria, Illinois 61625
Fall Semester 1998 to present.
General Chemistry Coordinator.
Teaching responsibilities include semester and interim courses:
General Chemistry for Non-Majors
General Chemistry I and II (including laboratory)
General Chemistry for Engineers
Chemical Literature
Inorganic Chemistry
Science for Grade School Teacher Candidates (team taught)
Topics in Materials Chemistry

Visiting Associate Professor, Department of Chemistry,
University of Washington, Seattle, Washington 98195
Fall Quarter, 2004 *Instructor* for General Chemistry I

Visiting Assistant Professor, Institute for Chemical Education,
University of Wisconsin – Madison, Madison, Wisconsin 53706
July 1998, July 1999, July 2000, July 2001
Co-instructor for Chemistry and Materials Science Workshop

Postdoctoral Research Associate, Department of Chemistry,
University of Wisconsin – Madison, Madison, Wisconsin 53706
Spring Semester 1997 to Spring Semester 1998.

Substitute/teaching assistant for:

General Chemistry I
Inorganic Chemistry

Graduate Teaching Assistant, Department of Chemistry,
Northwestern University, Evanston, Illinois 60208
Fall Quarter 1992 to Spring Quarter 1996.

Teaching assistant for:

General Chemistry I, II, and III

Summer Intern

Kewaunee Nuclear Power Plant, Kewaunee, Wisconsin 54216
June 1990 – August 1990

Upgraded Chemistry Technologist Training Manuals and wrote related quizzes.

**RESEARCH
EXPERIENCE**

Associate Professor, Department of Chemistry,
Bradley University, Peoria, Illinois 61625

Fall Semester 1998 to present.

Directed one graduate and ten undergraduate research students.

Projects included:

- Diffusion demonstrations within silicone polymer.
- Nanoparticle syntheses within silicone polymer.
- Applications of LEGO® bricks toward chemical and materials modeling.
- Spontaneous assembly of macroscale objects.
- Development of an educational website:
<http://bradley.bradley.edu/~campbell/deanmain.html>

Visiting Scientist, Center for Nano- & Molecular Science &
Technology, University of Texas-Austin, Austin, Texas 78712
August 2011 to June 2012.

Principal investigator: Dr. Keith Stevenson

Projects included:

- Studies of catalytic activities of nanoscale structures.
- Fabrication of microscale and nanoscale structures.
- Development of nanoscale educational activities.

Visiting Scholar, Department of Chemistry,
University of Washington, Seattle, Washington 98195
July 2004 to June 2005; June 2007-August 2007.

Principal investigator: Dr. Younan Xia

Projects included:

- Studies of catalytic activities of nanoscale structures.
- Fabrication of microscale and nanoscale structures.
- Development of nanoscale educational activities.
- Applications of LEGO® bricks toward chemical and materials modeling.

Postdoctoral Research Associate, Department of Chemistry,
University of Wisconsin – Madison, Madison, Wisconsin 53706
January 1997 to June 1998.

Advisor: Dr. Arthur B. Ellis

Projects included:

- Composites demonstrations involving silicone polymer
- Patterning demonstration involving silicone polymer.
- Demonstrations involving magnetic nanoparticles.
- Contribution to an educational website:
<http://mrsec.wisc.edu/edetc/index.html>

Graduate Research Assistant, Department of Chemistry,
Northwestern University, Evanston, Illinois, 60208

Supervisor: Dr. Chad A. Mirkin

September 1992 to December 1996.

- Researched the design, synthesis, and characterization of azobenzene-based self-assembled monolayers and explored their structure-function relationships.

Quality Control Technician

Moore Response Marketing Services, Green Bay, Wisconsin
54303

Supervisor: Leanne Wick

November 1989 to July 1992.

- Performed quality control on inks and adhesives.
- Researched novel printing techniques.

Undergraduate Research Assistant, Department of Chemistry,
University of Wisconsin – Green Bay, Wisconsin 54311

Supervisor: Dr. Jack C. Norman

November 1989 to December 1991.

- Explored the remediation of various paper mill waste streams.

OTHER PROFESSIONAL ACTIVITIES

Faculty Advisor, Bradley Chapter of the American Chemical Society (2000-2004,2005-present; award-winning chapter for several years)

Chair, Division of Chemistry of the Illinois State Academy of Sciences (2007-2011)

Local Section Coordinator for National Chemistry Olympiad (2004,2008-2010)

Various Certifications in First Aid and CPR (2001-2004,2007,2009)

PUBLICATIONS (* undergraduate student, **graduate student)

D. J. Campbell, J. D. Miller**, B. J. Andersh, "Synthesis of palladium colloids within polydimethylsiloxane and their use as catalysts for hydrogenation". *J. Coll. Interfac. Sci.*, **2011**, 360, 309-312.

D. J. Campbell, S. J. Bannon*, M. M. Gunter*, "Gas Property Demonstrations with Empty Water Bottles" *J. Chem. Educ.*, **2011**, 88, 784-785.

D. J. Campbell, J. D. Miller**, S. J. Bannon*, L. M. Obermaier*, "An Exploration of the Nanoworld with LEGO® Bricks" *J. Chem. Educ.*, **2011**, 88, 602-606.

D. Campbell, E. Wright*, M. Dayisi**, M. Hoehn*, B. Kennedy*, B. Maxfield*, "The Day the Nylons Ran in Peoria: A Classroom Illustration of Air Pollution", *J. Chem. Educ.*, **2011**, 88, 387-391.

D. J. Campbell, K. C. Campbell*, K. M. Campbell, "Chemical 'Fortune Tellers' or 'Cootie-Catchers'", *Chem13 News*, **March, 2011**, 8-9.

C. M. Cobley**, S. E. Skrabalak, D. J. Campbell, Y. Xia, "Shape-Controlled Synthesis of Silver Nanoparticles for Plasmonic and Sensing Applications" *Plasmonics*, **2009**, 4, 171-179.

C. J. Garvey, D. M. Hammer, S. Prasertchoung, E. Gomar-Nadal, D. R. Hines, J. D. Miller*, D. J. Campbell "Demonstrating Photolithography with LEGO® Bricks." *The Chemical Educator*, **2008**, 13, 348-350.

E. Formo**, E. Lee**, D. Campbell, Y. Xia, "Functionalization of electrospun TiO₂ nanofibers with Pt nanoparticles and nanowires for catalytic applications" *Nano Lett.* **2008**, 8, 668-672.

C. M. Cobley**, D. J. Campbell, Y. Xia, "Tailoring the optical and catalytic properties of gold-silver nanoboxes and nanocages by introducing palladium" *Adv. Mat.* **2008**, 20, 748-752.

Contributed interview, educational activities, and associated pictures for Mongillo, J. F. *Nanotechnology 101*; Greenwood Press: Westport, CT, 2007.

D. J. Campbell, K. E. Korte*, Y. Xia, "Fabrication and Analysis of Photonic Crystals" *J. Chem. Educ.*, **2007**, 84, 1824-1826.

K. F. Robinson*, P. N. Nguyen, N. Applegren*, D. J. Campbell, "Illustrating Close-Packed and Graphite Structures with Paper Snowflake Cutouts" *The Chemical Educator*, **2007**, 12, 163-166.

J. Kouakou, R. Sangalli*, D. J. Campbell, "A Card Trick Using Spontaneous Assembly" *The Chemical Educator*, **2007**, 12, 159-162.

PUBLICATIONS (Continued)

J. M. Reising*, P. N. Nguyen, E. B. Flint, D. J. Campbell, "Chemical Flags: Red, White, Blue, and Beyond" *The Chemical Educator*, **2007**, *12*, 85-88.

D. J. Campbell, "Four Scottish Chemists" *J. Chem. Educ.*, **2007**, *84*, 605.

D. J. Campbell, Y. Xia, "Plasmons: Why Should We Care?" *J. Chem. Educ.*, **2007**, *84*, 91-96.

D. J. Campbell, Y. Xia, "Powder Diffraction Simulated by a Polycrystalline Film of Spherical Colloids" *J. Chem. Educ.*, **2006**, *83*, 1638-1642.

D. J. Campbell, K. E. Korte*, J. T. McCann**, Y. Xia, "Classroom Scale Demonstrations Using Flash Ignition of Carbon Nanotubes" *J. Chem. Educ.*, **2006**, *83*, 1511-1515.

a) D. J. Campbell, "Exploring Materials Science with LEGO® Brick Models" *Mater. Res. Soc. Symp. Proc.*, **2005**, *861E*, PP2.5.1. b) D. J. Campbell: Exploring Materials Science With LEGO® Brick Models, in *Communicating Materials Science—Education for the 21st Century*, edited by S. Baker, F. Goodchild, W. Crone, and S. Rosevear (Mater. Res. Soc. Symp. Proc. **861E**, Warrendale, PA, 2005), PP2.5.

D. J. Campbell, "Letter to the Editor 'An Alternative Thermochemical Container'" *J. Chem. Educ.*, **2004**, *81*, 1421.

D. J. Campbell, "Response Letter to 'Another Variation on the "Whoosh Bottle" Theme'" *J. Chem. Educ.*, **2004**, *81*, 31.

E. R. Freidinger*, R. Denk*, D. J. Campbell, "Magnetite Precipitation on an Overhead Projector." *The Chemical Educator*, **2003**, *8*, 330-331.

D. J. Campbell, E. R. Freidinger*, "Comment on 'Construction and Evaluation of a LEGO Spectrophotometer for Student Use'" *The Chemical Educator*, **posted online May 2, 2003**.

D. Campbell, E. Freidinger, M. Querns, S. Swanson, A. Ellis, T. Kuech, A. Payne, B. Socie, S. M. Condren, G. Lisensky, R. Rassmussen, "Exploring the Nanoworld with LEGO® Bricks". Revised book available online at <http://mrsec.wisc.edu/edetc/LEGO/index.html> for download and review.

D. J. Campbell, R. A. Bailey (high school student), "Density Tricks with LEGO® Bricks." *Chem13 News*, **Feb, 2003**, 4-5.

D. J. Campbell, E. R. Freidinger*, J. M. Hastings*, M. K. Querns*, "Spontaneous Assembly of Soda Straws." *J. Chem. Educ.*, **2002**, *79*, 201-202.

PUBLICATIONS (Continued)

D. J. Campbell, M. K. Querns*, "Using Paper Cutouts to Illustrate Poisson's Ratio." *J. Chem. Educ.*, **2002**, *79*, 76.

D. J. Campbell, E. R. Freidinger*, M. K. Querns*, "Spontaneous Assembly of Magnetic LEGO[®] Bricks." *The Chemical Educator*, **2001**, *6*, 321-323.

D. J. Campbell, E. R. Freidinger*, J. M. Hastings*, M. K. Querns*, "Spontaneous Assembly of LEGO[®]s." *Chem13 News*, **Sep, 2001**, 8-9.

D. J. Campbell, "An Alcohol Rocket Car - A Variation on the "Whoosh" Bottle Theme." *J. Chem. Educ.*, **2001**, *78*, 910-911.

C. M. Murphy*, D. J. Campbell, "A Chicken Wire Buckyball." *The Chemical Educator*, **2001**, *6*, 5-6.

D. J. Campbell, E. R. Freidinger*, C. M. Murphy*, "Response Letter to 'Solvent-Swelling Demonstrations: Possible Extension to Other Types of Materials.'" *J. Chem. Educ.*, **2001**, *78*, 165.

D. J. Campbell, S. B. Rupe*, "Solvent-Swelling and Optical Rotation Demonstrated on an Overhead Projector." *J. Chem. Educ.*, **2000**, *77*, 876-878.

G. C. Lisensky, H. Beall, A. B. Ellis, D. J. Campbell, J. Stewart, "How Do You Get Blue Light from a Solid?" NSF ChemLinks educational module, John Wiley & Sons: New York, 1999.

a) D. J. Campbell, J. A. Olson**, C. E. Calderon*, P.W. Doolan*, E. A. Mengelt*, A. B. Ellis, G. C. Lisensky, "Chemistry with Refrigerator Magnets: From Modeling of Nanoscale Characterization to Composite Fabrication." *J. Chem. Educ.*, **1999**, *76*, 1205-1211. b) C. E. Calderon*, K. J. Beckman*, P. W. Doolan*, S. Yulke**, D. J. Campbell, Laboratory Instructions: "Polymers and Composites." *J. Chem. Educ. Online*, **1999**.

a) P. Berger, N. B. Adelman*, K. J. Beckman*, D. J. Campbell, A.B. Ellis, G. C. Lisensky, "Preparation and Properties of an Aqueous Ferrofluid." *J. Chem. Educ.*, **1999**, *76*, 943-948. b) N. B. Adelman*, K. J. Beckman*, D. J. Campbell, A.B. Ellis, Laboratory Instructions: "Preparation and Properties of an Aqueous Ferrofluid" *J. Chem. Educ. Online*, **1999**.

A. B. Ellis, T. F. Kuech, G. C. Lisensky, D. J. Campbell, S. M. Condren, M., K. J. Nordell. "Making the Nanoworld Comprehensible: Instructional Materials for Schools and Outreach." *J. Nanoparticle. Res.*, **1999**, *1*, 147-150.

a) D. J. Campbell, K. J. Beckman*, C. E. Calderon*, P. W. Doolan*, R.M. Ottosen*, A. B. Ellis, G. C. Lisensky, "Replication and Compression of Bulk and Surface Structures with Polydimethylsiloxane Elastomer." *J. Chem. Educ.*, **1999**, *76*, 537-541. b) D. J.

PUBLICATIONS (Continued)

Campbell, K. J. Beckman*, C. E. Calderon*, P. W. Doolan*, R.M. Ottosen*, A. B. Ellis, G. C. Lisensky, Laboratory Instructions: "Replication and Compression of Surface Structures with Polydimethylsiloxane Elastomer" *J. Chem. Educ. Online*, **1999**.

D. J. Campbell, T.F. Kuech, G. C. Lisensky, J. K. Lorenz**, M.S. Whittingham, A.B. Ellis, "The Computer as a Materials Science Benchmark." *J. Chem. Educ.*, **1998**, 75, 297-312.

J. K. Lorenz**, J. A. Olson**, D. J. Campbell, G. C. Lisensky, A. B. Ellis, "A Refrigerator Magnet Analogy to Scanning-Probe Microscopy." *J. Chem. Educ.*, **1997**, 74, 1032A-1032B.

Walter, D. G.**, Campbell**, D. J., Mirkin, C. A. "Photon-Gated Electron Transfer in Two-Component Self-Assembled Monolayers." *J. Phys. Chem. B*, **1999**, 103, 402-405.

D. J. Campbell**, B. R. Herr**, J. C. Hulteen**, R. P. Van Duyne, C. A. Mirkin, "Ion-Gated Electron Transfer in Self-Assembled Monolayer Films." *J. Am. Chem. Soc.*, **1996**, 118, 10211-10219.

F. Xu**, K. Chen**, J. Zhu**, D. J. Campbell**, C. A. Mirkin, R.-K. Lo**, J. Zhao**, J. T. McDevitt, "Probing the Surface Coordination Chemistry of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ with Redox-Active Adsorbate Molecules." *Proc. Electrochem. Soc.*, **1996**, 130-131.

W. B. Caldwell**, D. J. Campbell**, K. Chen, B. R. Herr**, C. A. Mirkin, A. Malik**, M. K. Durbin**, P. Dutta, K. Huang, "A Highly Ordered Self-Assembled Monolayer Film of an Azobenzenealkanethiol on Au(111): Electrochemical Properties and Structural Characterization by Synchrotron In-Plane X-ray Diffraction, Atomic Force Microscopy, and Surface Enhanced Raman Spectroscopy." *J. Chem. Am. Soc.*, **1995**, 117, 6071-6082.

J. B. Lambert, J. L. Pflug**, A. M. Allgeier**, D. J. Campbell**, T. B. Higgins**, E. T. Singewald**, C. L. Stern, "A Branched Polysilane." *Acta. Cryst.*, **1995**, C51, 713-714.

D. J. Campbell, "Tornado Tally." *NEWmonth*, **March, 1988**, 8-11.

RESEARCH PRESENTATIONS AND POSTERS

(* **undergraduate student**, ****graduate student**)

J. Miller**, B. Andersh, D. Campbell, "Colloidal Palladium(0) Encapsulated in Polydimethylsiloxane (PDMS): Fabrication and Study of the Catalytic Ability for Hydrogenation and Hydrogenolysis Reactions of Various Organic Functional Groups" Bradley University Nineteenth Annual Student Scholarship Exposition, Peoria, IL, April, 2011.

J. Miller**, B. Andersh, D. Campbell, "Colloidal Palladium(0) Encapsulated in Polydimethylsiloxane (PDMS): Fabrication and Study of the Catalytic Ability for Hydrogenation and Hydrogenolysis Reactions of Various Organic Functional Groups" 103rd Meeting of the Illinois State Academy of Science, Charleston, IL, April, 2011.

M. Shields, D. Pollard, R. Villarreal*, J. Miller**, B. Andersh, D. Campbell, "Kinetic Studies of Catalytic Metal Colloids Synthesized within Silane-Containing Polymers." BEST Summer Research Symposium, Peoria, IL, August, 2010.

J. Miller**, R. Villarreal*, M. Shields, D. Pollard, B. Andersh, D. Campbell, "Catalysis by Metal Colloids Synthesized within Polydimethylsiloxane." BEST Summer Research Symposium, Peoria, IL, August, 2010.

D. Campbell, M. Hoehn*, B. Kennedy*, B. Maxfield*, "The day the nylons ran in Peoria: A classroom illustration of air pollution." 21st Biennial Conference on Chemical Education, Denton, TX, August, 2010.

J. Miller**, B. Kennedy*, B. Andersh, D. Campbell, "Catalysis by Metal Colloids Synthesized within Silane-containing Polymers." 102nd Meeting of the Illinois State Academy of Science, Decatur, IL, April, 2010.

J. Miller**, B. Kennedy*, B. Andersh, D. Campbell, "Catalysis by Metal Colloids Synthesized within Silane-containing Polymers." Bradley University Eighteenth Annual Student Scholarship Exposition, Peoria, IL, April, 2010.

B. Kennedy*, B. Maxfield*, D. Campbell, "Illustrations of Acidic Air Pollution using Nylon Fabric." Bradley University Eighteenth Annual Student Scholarship Exposition, Peoria, IL, April, 2010.

N. Applegren*, K. Korte*, D. Campbell, "Amino Acid Influences on Gold Colloidal Particle Formation." Illinois Heartland Section of the American Chemical Society Student Research Poster Session, Normal, IL, September, 2009.

D. Campbell, J. Miller**, "Exploring Materials Chemistry with LEGO® Bricks." ChemEd 2009, Radford, VA, August, 2009.

RESEARCH PRESENTATIONS AND POSTERS (continued)

J. Miller**, N. Applegren*, B. Andersh, D. Campbell, "Formation of Metal Colloids in the Presence of Silane-containing Polymers and Studies of their Catalytic and Synthetic Abilities." 101st Meeting of the Illinois State Academy of Science, Edwardsville, IL, April, 2009.

J. Miller**, N. Applegren*, B. Andersh, D. Campbell, "Formation of Metal Colloids in the Presence of Silane-containing Polymers and Studies of their Catalytic and Synthetic Abilities." Bradley University Seventeenth Annual Student Scholarship Exposition, Peoria, IL, April, 2009.

K. Eads*, M. Gass*, M. Hoehn*, T. Kreifels*, N. Pierson*, T. Porter*, J. Weida*, A. Weiss*, D. Campbell, "Experiences in Building a Bradley University Chemistry

Outreach Program to the Local Community." Bradley University Seventeenth Annual Student Scholarship Exposition, Peoria, IL, April, 2009.

J. Miller*, E. Zdansky, L. Nace, B. Andersh, D. Campbell, "Formation of Metal Nanoparticles in the Presence of Silane-containing Polymers and Studies of their Catalytic and Synthetic Abilities." 19th Annual Argonne Symposium for Undergraduates in Science, Engineering, and Mathematics, Argonne Laboratories, IL, November, 2008.

L. Nace, K. Korte*, D. Campbell, "Influences of Threonine on Noble Metal Particle Formation." Illinois Heartland Section of the American Chemical Society Student Research Poster Session, Normal, IL, September, 2008.

J. Miller*, E. Zdansky, L. Nace, B. Andersh, D. Campbell, "Formation of Noble Metal Particles in the Presence of Polydimethylsiloxane and Studies of Their Catalytic Abilities." Illinois Heartland Section of the American Chemical Society Student Research Poster Session, Normal, IL, September, 2008.

L. Nace, K. Korte*, D. Campbell, "Influences of Threonine on Noble Metal Particle Formation." Bradley University/Peoria NEXT Summer Research Symposium, Peoria, IL, August, 2008.

E. Zdansky, J. Miller*, B. Andersh, D. Campbell, "Formation of Noble Metal Particles in the Presence of Polydimethylsiloxane and Studies of Their Catalytic Abilities." Bradley University/Peoria NEXT Summer Research Symposium, Peoria, IL, August, 2008.

D. J. Campbell, K. M. Eads, M. M. Gass, G. T. Girsch, H. L. Hayes, M. R. Hoehn, T. A. Kreifels, "Experiences in Building a College Chemistry Outreach Program to the Local Community." 20th Biennial Conference on Chemical Education, Bloomington, IN, July, 2008.

RESEARCH PRESENTATIONS AND POSTERS (continued)

E. Flint, D. J. Campbell, "Use of the Cambridge Structural Database in Upper-Level Inorganic Chemistry Courses." 20th Biennial Conference on Chemical Education, Bloomington, IN, July, 2008.

D. J. Campbell, "Studies of Colloidal Noble Metal Particles." Bradley University BEST/NEXT/REU Research Seminar, Peoria, IL, July, 2008.

J. Miller*, N. Applegren*, D. Campbell, "Silane Influences on Noble Metal Particle Formation." Bradley University Sixteenth Annual Student Scholarship Exposition, Peoria, IL, April, 2008.

K. Korte*, D. Campbell, "Amino Acid Influences on Noble Metal Particle Formation." Bradley University Sixteenth Annual Student Scholarship Exposition, Peoria, IL, April, 2008.

K. E. Korte*, B. Hanerhoff*, D. J. Campbell, "Effects of Threonine on the Morphology of Noble Metal Colloids." 100th Meeting of the Illinois State Academy of Science, Urbana, IL, April, 2008.

C. M. Coble**, D. J. Campbell, Y. Xia, "Tailoring the optical and catalytic properties of gold-silver nanoboxes and nanocages by introducing palladium" 235th Meeting of the American Chemical Society, New Orleans, LA, April, 2008.

K. F. Robinson*, D. J. Campbell, "Synthesis and Characterization of Tetraiodomercurate Salt Colloids." 99th Meeting of the Illinois State Academy of Science, Springfield, IL, April, 2007.

K. E. Korte*, D. J. Campbell, "Laboratory Exercises Involving Photonic Crystal Films." 99th Meeting of the Illinois State Academy of Science, Springfield, IL, April, 2007.

K. Korte*, K. Ithal*, D. Campbell, "Mediated Synthesis of Gold Colloids." Bradley University Fifteenth Annual Student Scholarship Exposition, Peoria, IL, April, 2007.

P. Morrison*, K. Robinson, D. Campbell, "Synthesis and Characterization of Tetraiodomercurate Colloids." Bradley University Fifteenth Annual Student Scholarship Exposition, Peoria, IL, April, 2007.

K. E. Korte*, D. J. Campbell, "Laboratory Exercises Involving Photonic Crystal Films." 233rd Meeting of the American Chemical Society, Chicago, IL, March, 2007.

K. F. Robinson*, P. N. Nguyen, N. D. Applegren*, D. J. Campbell, "Modeling Solid Structures with 2-D Paper Cutouts." 233rd Meeting of the American Chemical Society, Chicago, IL, March, 2007.

RESEARCH PRESENTATIONS AND POSTERS (continued)

K. Korte*, D. Campbell, "Explorations in Materials Chemistry." Illinois Heartland Section of the American Chemical Society Student Research Poster Session, Normal, IL, September, 2006.

P. Nguyen, D. Campbell, "Explorations in Chemistry Education." Bradley University/Peoria NEXT Summer Research Symposium, Peoria, IL, August, 2006.

J. Kouakou, D. Campbell, "Self-Alignment of Vertical Stacks of Mesoscale Units." Bradley University/Peoria NEXT Summer Research Symposium, Peoria, IL, August, 2006.

D. J. Campbell, "Flash Ignition of Carbon Nanotubes." 19th Biennial Conference on Chemical Education. West Lafayette, IN, August, 2006.

D. J. Campbell, N. Applegren*, M. Hehn*, J. Hill*, K. Korte*, K. Robinson*, R. Sangalli*, S. Timpe*, "Laboratory Explorations in Materials Chemistry." Second Peoria NEXT All-Science Assembly, Peoria, IL, April, 2006.

K. Korte*, R. Sangalli*, D. Campbell, "Explorations in Materials Chemistry." Bradley University Fourteenth Annual Student Scholarship Exposition, Peoria, IL, April, 2006.

D. J. Campbell, "Fabrication and Characterization of Photonic and Plasmonic Structures." Bradley University, Peoria, IL, September, 2005.

D. J. Campbell, "Exploring Nanoscale Materials Science with LEGO® Brick Models." University of Puget Sound, Tacoma, WA, March, 2005

D. J. Campbell, "Exploring Nanoscale Materials Science with LEGO® Brick Models." University of Washington Nanotech Student Association Meeting, Seattle, WA, February, 2005.

D. J. Campbell, "Exploring Materials Science with LEGO® Brick Models." 2004 Materials Research Society Fall Meeting, Boston, MA, November, 2004.

D. J. Campbell, "Dean Campbell's Current Research Interests." Peoria NEXT Research Mini-Summit, Mossville, IL, July, 2004.

D. J. Campbell, "Exploring the Nanoworld with LEGO® Bricks." Discovery Forum 2004: A Celebration of Creativity, Peoria, IL, February, 2004.

D. J. Campbell, "Exploring Materials Science with LEGO Bricks." 30th Annual Meeting of the Federation of Analytical Chemistry & Spectroscopy Societies. Fort Lauderdale, FL, October, 2003.

RESEARCH PRESENTATIONS AND POSTERS (continued)

D. J. Campbell, S. L. Swanson**, E. R. Freidinger*, "Colloidal Particle Syntheses within a Silicone Matrix." 17th Biennial Conference on Chemical Education. Bellingham, WA, July, 2002.

S. Swanson**, E. Freidinger*, D. Campbell, "Ships in Bottles: Particle Synthesis within a Silicone Polymer Matrix." Bradley University Tenth Annual Student Scholarship Exposition, Peoria, IL, April, 2002.

D. J. Campbell, "Exploring the Nanoworld with LEGO® Blocks." Louisiana State University, Baton Rouge, LA, March, 2002.

D. J. Campbell, S. L. Swanson**, E. R. Freidinger*, "Using LEGO® Blocks to Model Solid Chemical Structures." 222nd Meeting of the American Chemical Society, Chicago, IL, August, 2001.

S. L. Swanson**, E. R. Freidinger*, D. J. Campbell, "Ships in Bottles: Particle Synthesis Within A Silicone Polymer Matrix." 222nd Meeting of the American Chemical Society, Chicago, IL, August, 2001.

J. G. Breitzer, C. G. Widstrand, A. B. Ellis, G. C. Lisensky, S. M. Condren, D. J. Campbell, K. J. Nordell, "Teaching with Ferrofluids." 221st Meeting of the American Chemical Society, San Diego, CA, April, 2001.

D. J. Campbell, "Solid Summer Fun." Bradley University, Peoria, IL, March, 2001.

D. J. Campbell, M. K. Querns*, B. A. Socie*, A. B. Ellis, "Modeling Chemical Structures and Instrumentation with LEGO Bricks." 16th Biennial Conference on Chemical Education. Ann Arbor, MI, August, 2000.

D. J. Campbell, S. B. Rupe*, "Diffusion Demonstrations Involving Polydimethylsiloxane." 16th Biennial Conference on Chemical Education. Ann Arbor, MI, August, 2000.

S. B. Rupe*, D. J. Campbell, "Diffusion Studies Involving a Form of Polydimethylsiloxane." 92nd Annual Meeting of the Illinois State Academy of Science, Rock Island, IL, April, 2000.

M. K. Querns*, D. J. Campbell, B. A. Socie*, A. B. Ellis, "LEGO Unit Cell Models." 92nd Annual Meeting of the Illinois State Academy of Science, Rock Island, IL, April, 2000.

D. B. Shaw, J. W. Moore, D. J. Campbell, G. Trammell, "Introducing solid-state chemistry to the high school classroom: The ICE Materials Science Workshop." 219th Meeting of the American Chemical Society, San Francisco, CA, March, 2000.

RESEARCH PRESENTATIONS AND POSTERS (continued)

D. J. Campbell, N. Adelman*, K. J. Beckman*, A. B. Ellis, G. C. Lisensky, "Demonstrating Magnetic Particles." Bradley University, Peoria, IL, February, 1999.

D. J. Campbell, N. Adelman*, K. J. Beckman*, A. B. Ellis, G. C. Lisensky, "Overhead Projector Demonstrations Involving Magnetic Nanostructures." 15th Biennial Conference on Chemical Education, Waterloo, Ontario, August, 1998.

E. A. Mengelt*, D. J. Campbell, A. B. Ellis, "The Effects of Crosslinking on the Elastic Properties of Polydimethylsiloxane." 28th Annual Wisconsin Undergraduate Research Symposium in Chemistry, Appleton, WI, April, 1998.

D. J. Campbell, C. A. Mirkin, A. B. Ellis, "Nanoscale Adventures."

- Penn State Berks-Lehigh Valley College, Reading, PA, February, 1998.
- Bradley University, Peoria, IL, February, 1998.
- Grand Valley State University, Allendale, MI, January, 1998.
- University of Wisconsin - La Crosse, La Crosse, WI, December, 1997.

N. Adleman*, E. Mengelt*, K. Campbell, D. Campbell "Tiny Materials." An International Scientific Symposium, Madison, WI, February, 1998.

D. J. Campbell, C.A. Mirkin, "Structure and Function of Azobenzene-Based Monolayers." University of Wisconsin-Milwaukee, Milwaukee, WI, January, 1998.

D. J. Campbell**, B. R. Herr**, W. B. Caldwell**, K. Chen, C. A. Mirkin, "Ion- and Photon-Gated Electron Transfer in Self-Assembled Monolayers." Summer Gordon Research Conference on Chemical Sensors and Interfacial Design, New London, NH, July, 1996.

D. J. Campbell**, W. B. Caldwell**, K. Chen, B. R. Herr**, C. A. Mirkin, A. Malik**, M. K. Durbin**, P. Dutta, K. Huang, "A Highly Ordered Self-Assembled Monolayer Film of an Azobenzenealkanethiol on Au(111)." 210th ACS National Meeting, Chicago, IL, August, 1995, Abst, Coll 93.

EDUCATIONAL PRESENTATIONS AND DEMONSTRATIONS

(* **undergraduate student**, ****graduate student**)

D. J. Campbell, Bradley University Chemistry Club*, “Chemistry Demonstration Shows.” Various venues **including** some of those listed in subsequent entries, Peoria, IL, 2007-2011.

- (2010-2011) – 1100 participants, 20 events
- (2009-2010) – 1100 participants, 20 events
- (2008-2009) – 1700 participants, 19 events
- (2007-2008) – 1400 participants, 14 events

A. Schmitt, D. J. Campbell, “LEGO® Bricks and Minerals.” (exhibit featured mineral crystal structures built using LEGO® bricks), Lakeview Museum, Peoria, IL, June, 2010 - present.

D. J. Campbell, “Exploring the Nanoworld with LEGO® Bricks.” Lakeview Museum workshop. Peoria, IL, May, 2010.

D. J. Campbell, Bradley University Chemistry Club*, “Campus Visit Demonstrations.” Present occasional short demonstrations to campus visitors on behalf of the campus admissions office. 2009-present.

D. J. Campbell, K. C. Campbell, “Easy Science Activities.” Heart of Illinois Association for the Education of Young Children. Peoria, IL, January, 2003; March, 2007; September, 2008; May, 2010.

D. J. Campbell, Bradley University Chemistry Club*, "Siblings Weekend Chemistry Show." Bradley University, Peoria, IL, February, 2007, 2008.

D. J. Campbell, Bradley University Chemistry Club*, “Chemistry Demonstration Shows” (various grades). Peoria Christian Middle and Elementary Schools, Peoria, IL, 2006, 2007, 2008, 2009, 2010.

D. J. Campbell, Bradley University Chemistry Club*, “Family Science Day.” For Friends Preschool, Bartonville, IL, January, 2003, 2004, 2006, 2007, 2008, 2009.

D. J. Campbell, Bradley University Chemistry Club*, “National Chemistry Week Show.” Bradley University, Peoria, IL, October, 2002, 2005, 2007, 2009.

D. J. Campbell, "Effective Chemical Demonstrations with Household Products” Keynote Address, Real Chemistry with Everyday Materials: An Interactive Workshop for K-8 Educators. Bradley University, Peoria, IL, February, 2007.

D. J. Campbell, Bradley University Chemistry Club*, "December Science." Family Science Show at Lakeview Museum, Peoria, IL, December, 2006.

EDUCATIONAL PRESENTATIONS AND DEMONSTRATIONS

D. J. Campbell, "Chemistry Demonstrations for Visiting Texas High School Students." Bradley University, Peoria, IL, June, 2004.

D. J. Campbell, Bradley University Chemistry Club*, "Kids' Kreativity Fair." Greater Peoria YMCA, Peoria, IL, April, 2004.

E. B. Flint, D. J. Campbell, Chemistry and Biochemistry Students*, "Pittcon Report." Bradley University, Peoria, IL, March, 2004.

D. J. Campbell, J. Rockwood, M. Jones, "Chemistry Magic: Ferrofluids." Strange Science Show at Lakeview Museum, Peoria, IL, February, 2003.

D. J. Campbell, "Rocks, Fossils, and Minerals." (exhibit featured mineral crystal structures built using LEGO® blocks), Bartonville Public Library, Bartonville, IL, June-July, 2002.

D. J. Campbell, Bradley University Chemistry Club*, "SIMaST Demo Show." Bradley University, Peoria, IL, November, 2001, 2002.

E. R. Freidinger*, S. L. Swanson**, D. J. Campbell, "Experiences from the Chicago Meeting of the American Chemical Society." Bradley University, Peoria, IL, October, 2001.

D. J. Campbell, M. A. Taylor, E. B. Flint, "Chemical Topics." Bradley University, Peoria, IL, October, 2000.

K. M. Shanks, D. J. Campbell, "Incorporating Materials Science into High School Chemistry." 16th Biennial Conference on Chemical Education. Ann Arbor, MI, August, 2000.

G. C. Lisensky, D. J. Campbell, A. B. Ellis "Semiconductors and Metals." - a half-day invited talk for faculty and students at the National Science Foundation Summer Program In Solid State Chemistry, Los Angeles, CA, June, 1997, 1998.

D. J. Campbell, members of the UW-Madison Materials Research Science and Engineering Center, "Materials Chemistry Demonstrations." University of Wisconsin Engineering Expo", Madison, WI, April, 1998.

G. C. Lisensky, A. B. Ellis, D. J. Campbell, "Putting Solids in the Foundation: Elements of Curriculum Reform." The Art of Teaching Undergraduate Chemistry Symposium, Evanston, IL, November, 1997.

G. C. Lisensky, D. J. Campbell, A. B. Ellis "Integrating Materials Science into the Chemistry Curriculum." A Day 2-to-40 Workshop Symposium on Chemical Education, Ann Arbor, MI, May, 1997.