Announcements

Awards

NSF: Systemic Changes in the Undergraduate Chemistry Curriculum—Adapt and Adopt Emphasis

Five awards were made by the National Science Foundation in the first round of the Adapt and Adopt Emphasis of the Systemic Changes in the Undergraduate Chemistry Curriculum Initiative. These projects disseminate results from the existing five major awards, made earlier in the initiative, through adaptation and adoption of materials and methods from the original five projects. Proposals for the second and final round of this Adapt and Adopt Emphasis are due November 16, 1998. This competition is a part of the Adaptation and Implementation Track of the new Course, Curriculum, and Laboratory Improvement Program. Further information is available by consulting the Program Announcement (NSF 98-45) for the Division of Undergraduate Education (DUE), which can be found on DUE's Web site (*http://www.ehr.nsf.gov/EHR/DUE/start.htm*) or by calling the DUE Information Center at 703/306-1666.

The recently announced awards are:

Title: *Chemistry ConcepTests Linked to Course Learning Objectives*
Principal Investigator: Carl Wamser, Portland State University, Portland, Oregon
Grant: DUE 9752882, $151,455

Title: *Iowa General Chemistry Network: Adapt and Adopt*
Principal Investigator: Thomas Greenbowe, Iowa State University, Ames, Iowa
Grant: DUE 9752884, $155,938

Title: *Consortium to Improve Chemistry: Linking Nine Community Colleges with the National Science Foundation's Undergraduate Chemistry Systemic Reform Initiative*
Principal Investigator: Mark H. Walter, Oakton Community College, Des Plaines, Illinois
Grant: DUE 9752885, $238,230

Title: *A Project to Adapt and Adopt Workshop Chemistry*
Principal Investigator: Mark Cracolice, University of Montana, Missoula, Montana
Grant: DUE 9752892, $160,000

Title: *Reforming the Undergraduate Curriculum: Adapting Fruits of the ModularChem Consortium and ChemLinks Coalition at Minority Institutions*
Principal Investigator: Ram Lamba, Inter American University Puerto Rico San Juan, Puerto Rico
Grant: DUE 9752894, $140,000

NSF: Course and Curriculum Development Program Awards

Awards in chemistry made under the Course and Curriculum Development (CCD) Program for FY 1998 in the Division of Undergraduate Education (DUE) have been announced by the National Science Foundation. This is the last round of awards that will be made in the CCD program. Those interested in submitting proposals in the future for undergraduate curriculum development should consider the new Course, Curriculum, and Laboratory Improvement (CCLI) Program for which the deadline is November 16, 1998. Within that program, proposals will be accepted in three tracks. The Educational Materials Development (CCLI-EMD) track encourages the development of innovative materials that incorporate effective educational practices to improve student learning in science, mathematics, engineering, and technology (SMET) content areas. These projects should have potential for national distribution, adaptation, and implementation. The Adaptation and Implementation (CCLI-A&I) track results in improved SMET education at

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Proposal Deadlines

National Science Foundation
Division of Undergraduate Education (DUE)

- Course, Curriculum, and Laboratory Improvement (CCLI) November 16, 1998
- NSF Collaboratives for Excellence in Teacher Preparation (CETP)
  - Preliminary proposals, Track 1 May 1, 1998
  - Formal proposals, Track 1 September 1, 1998

Further information about NSF DUE programs can be obtained by consulting the DUE Website at *http://www.ehr.nsf.gov/EHR/DUE/start.htm* or by contacting the DUE Information Center; phone: 703/306-1666; email: *undergrad@nsf.gov*.

The Camille & Henry Dreyfus Foundation, Inc.

- Henry Dreyfus Teacher–Scholar Awards: July 1, 1998
- Scholar/Fellow Program for Undergraduate Institutions: July 1, 1998
- Special Grant Program in the Chemical Sciences: July 15, 1998
- Camille Dreyfus Teacher–Scholar Awards Program: November 16, 1998

Further information may be obtained from The Camille and Henry Dreyfus Foundation, Inc., 555 Madison Avenue, Suite 1305, New York, New York 10022; phone: 212/753-1760; email: *admin@dreyfus.org*; *http://www.dreyfus.org/*

Research Corporation

- Research Opportunity Awards: May 1, 1998 and October 1, 1998
- Cottrell College Science Awards: May 15, 1998 and November 15, 1998
- Cottrell Scholars: First regular business day in September
- Partners in Science: December 1, 1998

Further information may be obtained from Research Corporation, 101 North Wilmot Road, Suite 250, Tucson, AZ 85711-3332; phone: 520/571-1111; fax: 520/571-1119; email: *awards@rescorp.org*; *http://www.rescorp.org*

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institutions through adaptation and implementation of exemplary materials, laboratory experiences, and educational practices. (Note that for the November 16 deadline, two options exist for adaptation involving the chemistry curriculum. One option is the CCLI-A&I track, in which any quality materials or practices may be the basis for the adaptation and implementation. The second option is the very specific Systemic Changes in the Undergraduate Chemistry Curriculum-Adapt and Adopt (CCLI-AA) possibility, in which the materials and methods to be adapted must come from the five major projects funded through NSF's Systemic Chemistry Initiative. The November 16 deadline is the last opportunity for the second option.) The third track in the new CCLI program is National Dissemination (CCLI-ND), for projects that will facilitate large-scale, national professional development opportunities for faculty through workshops, short courses, or related activities. Further information is available about the CCLI program, and other programs supported by DUE in the Program Announcement (NSF 98-45) for DUE, which can be found on DUE's Web site (*http://www.ehr.nsf.gov/EHR/DUE/start.htm*) or by calling the DUE Information Center at 703/306-1666.

The recently announced awards are:

Title: *An Introductory Course in Modeling Dynamic Chemical and Ecological Systems*
Principal Investigator: Joseph E. Earley, Georgetown University, Washington, DC
Grant: DUE 9554932, FY98 $27,067

Title: *Support of the Caltech Chemistry Animation Project*
Principal Investigator: Nathan S. Lewis, California Institute of Technology
Grant: DUE 9652909, FY98 $120,000

Title: *Electronic Homework and Intelligent Tutoring on the World Wide Web: Course Delivery Tools for Large Enrollment Classes*
Principal Investigator: Roberta O. Day, University of Massachusetts, Amherst, Massachusetts
Grant: DUE 9653064, FY98 $200,000

Title: *Guided Inquiry Physical Chemistry Laboratory*
Principal Investigator: Mary Jane Shultz, Tufts University, Medford, Massachusetts
Grant: DUE 9752195, FY98 $220,000

Title: *Gateway Examinations in General Chemistry for Engineers*
Principal Investigator: Thomas A. Holme, University of Wisconsin–Milwaukee, Milwaukee, Wisconsin
Grant: DUE 9752280, FY98 $120,000

Title: *Project Sherlock: An Interactive Multimedia Program in Forensic Science to Enhance Introductory Chemistry (Science)Courses*
Principal Investigator: Lawrence J. Kaplan, Williams College, Williamstown, Massachusetts
Grant: DUE 9752526, FY98 $75,000

Title: *A Low Cost, Open-Ended, CBL-Based Approach to General Chemistry Laboratory*
Principal Investigator: Diane Wolff , Ferrum College, Ferrum, Virginia
Grant: DUE 9752535, FY98 $67,300

Title: *Project Inclusion*
Principal Investigator: Janan M Hayes, Merced College, Merced, California
Grant: DUE 9752624, FY98 $150,000

Title: *Interactive Biochemistry-An Interactive Web Course in Biochemistry Using JAVA-Based Problem Solving and Chime-Based Molecular Modeling*
Principal Investigator: Charles M. Grisham, University of Virginia, Charlottesville, Virginia
Grant: DUE 9752689, FY98 $100,000

Title: *An Interactive, Web-Based Materials Characterization Project for Undergraduate Education in Analytical Chemistry*
Principal Investigator: Jeanne Pemberton, University of Arizona, Tucson, Arizona
Grant: DUE 9753237, FY98 $75,000

1998 Research Corporation Awards

Cottrell College Science Awards

• Spencer Anthony-Cahill, Western Washington University: Determination of topological constraints in the globin fold—$34,683. • Toni L. Ceckler, Bucknell University: Characterization of surface chemistry and dynamics affecting water–macromolecular hydrogen nuclear magnetic coupling: Applications to MRI contrast—$28,000. • M. Morgan Conn, Amherst College: Oligoamines as sequence-specific RNA-binding ligands—$33,000. • Anne J. Cox, Eckerd College: Structure and properties of transition metal clusters and cluster beam depositions—$33,600. • Douglas B. Craig, University of Winnipeg: Single molecule enzymology—$20,250. • Jane G. DeWitt, San Francisco State University: XAS investigations of heavy metal speciation in plant cells—$26,500. • James Alan Duncan, Lewis and Clark College: Bending as a function of base sequence in BPDE-altered DNAs–a systematic study—$38,110. • Christopher L. Exstrom, University of Nebraska at Kearney: Molecular modification effects on charge-transfer-to-diimine solvatochromic shifts—$23,303. • Eric Fossum, Winona State University: Synthesis and characterization of triarylphosphine oxide containing dendrimers and hyperbranched macromolecules—$33,960. • Glen A. Frerichs, Westminster College: An investigation of pH oscillating reactions—$32,000. • David K. Geiger, SUNY College at Geneseo: Linker ligands for molecular arrays: Luminescent complexes with phenanthroline ligands bearing coordinating appendages—$25,400. • Waldemar Gorski, University of Texas at San Antonio: Study of iridium electrocatalysts for oxidation of carbohydrates—$31,000. • Timothy W. Hanks, Furman University: Construction of nanoporous organic solids—$22,600. • Maria Hepel, SUNY College at Potsdam: Electrochemical and spectroscopic studies of interactions of antineoplastic drugs with DNA-modified electrodes—$35,000. • Robert J. Hinkle, College of William and Mary: The solvolysis of electron-deficient alkenyl(aryl)iodonium salts via vinyl cations—$32,319. • Kyle S. Knight, University of Tennessee at Chattanooga: Stereoselective molybdenum-catalyzed oxidation of trivalent phosphorus—$21,000. • Prasad S. Lakkaraju, Georgian Court College: Investigations into molecular and

electronic structure of unusual Au(II) complexes—$37,000. • David E. Lewis, University of Wisconsin–Eau Claire: The oxidative coupling of 2-(aminomethyl)-1,6-di(*p*-hydroxyphenyl)-5-hexenes—$28,618. • Yi-Ping Liu, Western Michigan University: Computational characterization of hydroxylation reactions catalyzed by cytochrome P-450—$24,173. • Charles E. Miller, Haverford College: Chemical reaction dynamics probed via cavity ring-down spectroscopy—$35,600. • Kimberly Groat Olsen, Loyola College in Maryland: Immobilized enzyme sensors: Detection and study of pharmacologically-significant enzyme inhibitors—$42,684. • Timo V. Ovaska, Connecticut College: A novel synthetic approach to the phorbol core structure and related fused ring systems—$27,116. • Jeffrey T. Petty, Furman University: Liposome confinement for investigating single molecule dynamics—$43,000. • Daniel Rabinovich, University of North Carolina at Charlotte: New copper(I) complexes with sterically-demanding tripodal ligands—$36,066. • Christian M. Rojas, Barnard College: Directed nitrogen insertion reactions for the preparation of amino saccharide derivatives: Application to the synthesis of enzyme inhibitors—$37,203. • Linda S. Sapochak, University of Nevada, Las Vegas: Design of novel red emitting metal quinolate chelates for systematic photoluminescence and electroluminescence studies—$37,500. • Ronald F. See, Saint Louis University: A study of strong hydrogen bonds by systematic variation of electronic effects—$13,011. • Michael A. Serra, Youngstown State University: Lysozyme as a model protein to investigate the site-specific nature of polypeptide fragmentation using MCO systems—$35,000. • James C. Shattuck, University of Hartford: The enantioselective synthesis of imperanene, a novel platelet aggregation inhibitor—$36,484. • David Y. Son, Southern Methodist University: Bending effects in hyperbranched organosilicon polymers—$18,250. • Eric D.A. Stemp, Mount Saint Mary's College: The flash-quench technique as a novel method for inducing DNA-protein crosslinks—$35,000. • Durwin R. Striplin, Davidson College: Electron and energy transfer in light harvesting peptide assemblies—$35,061. • Fu-Ming Tao, California State University, Fullerton: Theoretical investigation of intermolecular interactions of atmospheric species—$29,000. • Brian D. Wladkowski, Western Maryland College: Computational study of the enzyme catalyzed hydrolysis mechanism of peptide bonds by aspartyl proteases—$38,300. • Yu Yang, East Carolina University: Reverse-phase separation using high-temperature water as the mobile phase—$39,218.

Cottrell Scholars Awards

• Stacey Shane Bent, New York University: Chemical reactivity of amorphous thin film semiconductors—$50,000. • Victoria J. DeRose, Texas A&M University, College Station: Spectroscopic probes of metal sites and dynamics in RNA molecules—$50,000. • Paul A. Deck, Virginia Polytechnic Institute and State University: Preservation of single-site behavior in "face-up" silica-supported metallocene olefin polymerization catalysts—$50,000. • Jeffrey L. Krause, University of Florida: Quantum control in semiconductor devices—$50,000. • Philip James Reid, University of Washington: Elucidating the origin of solvent effects in condensed-phase environmental chemistry using resonance Raman spectroscopy—$50,000.

Research Opportunity Awards

• Kenneth J. Takeuchi, SUNY at Buffalo: Carbon nanofibers: Preparation, characterization and subsequent utilization as anode materials in lithium ion batteries—$24,240.

Partners in Science Awards

Charles T. Campbell, University of Washington: Investigations of biomolecular adsorbates on thin film surfaces with surface plasmon resonance (The M. J. Murdock Charitable Trust)—$14,000 Laura J. Spencer, Edmonds-Woodway High School. • Victor Cesare, Saint John's University: The synthesis of alpha-lactams as potential anticancer agents (The Camille and Henry Dreyfus Foundation)—$14,000 Paul J. Englehart, Syosset High School. • John W. Chapman, Oregon State University: What did Columbus see? (The M. J. Murdock Charitable Trust)—$14,000 Billie Jo Smith, Toledo High School. • Kenneth B. Eisenthal, Columbia University: Laser studies of molecules at surfaces (The Camille and Henry Dreyfus Foundation)—$14,000 Anthony Mauro, Fort Hamilton High School. • Michael E. Green, CUNY, City

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College: Voltage gating of ion channels: Simulations and ab initio calculations (The Camille and Henry Dreyfus Foundation)—$14,000 Jerry Snowhite, Brooklyn Technical High School. • Dirk Iwata-Reuyl, Portland State University: Mechanistic studies of 7-deazaguanosine hypermodification in tRNA (The M. J. Murdock Charitable Trust)—$14,000 Caroline Marquis, Tualatin High School. • Donald E. Kiely, University of Montana: Biodegradable synthetic polymers derived from a renewable resource (The M. J. Murdock Charitable Trust)—$14,000 Brett Taylor, Big Sky High School. • Yorke E. Rhodes, New York University: Astrochemistry: The evolution of organic molecules in interstellar clouds: Using MO theory to model new molecules and reactions between the stars (The Camille and Henry Dreyfus Foundation)—$14,000 Gregory D. Fisher, New Milford High School. • Edward Rosenberg, University of Montana: Structure and molecular weight relationships in silica-polyamine composites for toxic metal ion removal and recovery from water (The M. J. Murdock Charitable Trust)—$14,000 John Deming, Stanford High School. • Charlotte S. Russell, CUNY, City College: Heme biosynthesis in *Escherichia coli* (The Camille and Henry Dreyfus Foundation)—$14,000 Ayorinde Ayetiwa, Washington Irving High School. • Garon C. Smith, University of Montana: Removal of carbohydrate and terpene interferents when measuring bioavailable contaminants in beehive atmospheres (The M. J. Murdock Charitable Trust)—$14,000 David Jones, Big Sky High School. • Ralph Stephani, Saint John's University: *N′N′*-Dialkylaminoalkyl-*N*-isochromenoindoles as potential anticancer agents (The Camille and Henry Dreyfus Foundation)—$14,000 Denice A. Gamper, Bishop Kearney High School. • Nicholas J. Turro, Columbia University: Fluorescence spectroscopy as a probe of biomolecular structures (The Camille and Henry Dreyfus Foundation)—$14,000 Robert Nociti, George Washington High School. • Carl C. Wamser, Portland State University: Porphyrin derivatives as potential solar cell components: Effects of substituents on adsorption and electrophoresis properties (The M. J. Murdock Charitable Trust)—$14,000 Joseph Ruwitch, Molalla High School.

Courses, Seminars, Meetings, Opportunities

Philosophy of Chemistry and Biochemistry

An international conference on the philosophy of chemistry and biochemistry will be held August 3–7, 1998, at Sidney Sussex College, Cambridge, England. This conference is being organized by the International Society for the Philosophy of Chemistry. For more information contact Michael Ackroyd, Bradford & Ilkley College, Great Horton Road, West Yorkshire, BD7 1AY; phone: (0)1943 874 868; fax: (0)1274 736175; WWW: *http://www.cco.caltech.edu/~scerri*.

The society operates a discussion list that currently has about 180 members. To participate in the list, send your subscribe commands to *listserv@vm.sc.edu* and write just the following in your subscription message: subscribe philchem your name. For further information on any of the above contact Eric Scerri, Chemistry Department, Bradley University, Peoria, IL 61625; *scerri@bradley.edu*.

Call for Papers: Planck Centennial

To commemorate the centennial anniversary of Planck's historic paper of 1900 that introduced quantization of energy, the *Journal of Chemical Education* will allocate a portion of the January 2000 issue to papers associated with Planck and quantum mechanics. Contributions are invited. The deadline for receipt of papers is December 1, 1998. Papers should be sent to Sydney Bluestone, Planck 2000, Department of Chemistry MS#70, California State University, Fresno, Fresno, CA 93740. For more information contact *syd_bluestone@csufresno.edu*.

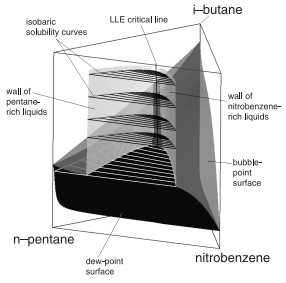
TeleCon XVIII

The eighteenth annual teleconferencing users conference will be held October 26–28, 1998, at the Anaheim Convention Center, Anaheim, CA. TeleCon is the world's largest conference and trade show on all forms of teleconferencing, videoconferencing, collaborative computing technologies, and their applications in distance learning, corporate training, business collaboration, telecommuting, and telemedicine. For more information contact phone: 1-800/829-3400; *www.abctelecon.com*.

Materials Available

Thermodynamics Visualization Tool

A phase-equilibrium slide show has been produced using the showcase feature on Silicon Graphics IRIS workstations. The authors are Kenneth Jolls and Kong S. Tian. The tutorial contains computer-generated phase diagrams for binary, ternary, and quaternary fluid-phase systems and includes simple and azeotropic VLE and one example of ternary LLE. Data were generated using the equation-of-state method with standard mixing rules. Open Inventor graphics software was used for the three-dimensional visualizations (binary PTx-y, ternary composition prisms, and quaternary tetrahedrons). Color and transparency are used to distinguish the components of the diagrams. Approximately 60 text slides accompany the drawings to explain the thermodynamics and the visual presentation. Text and graphics can either follow a preprogrammed order or jump to particular sections.



Isothermal Pressure-Composition Prism

There are both static images and movable images, which can be zoomed and rotated (and in some cases sectioned) to allow students to experiment with the drawings and reinforce their understanding of phase relationships. The tutorial is offered at no cost to teachers who can use it and who have the necessary Silicon Graphics equipment. Contact Kenneth R. Jolls, Chemical Engineering Department, Iowa State University, 2114 Sweeney Hall, Ames, IA 50011-2230; 515/294-5222; fax 515/294-2689; email: *jolls@iastate.edu*. Files can be retrieved via ftp. Documentation will be provided.