

**EDUCATION THROUGH RESEARCH: FOSTERING NEW
CONNECTIONS
2001 REPORT TO THE NSF ON COLBY COLLEGE'S
AWARD FOR THE INTEGRATION OF RESEARCH AND EDUCATION**

**DEPARTMENTAL RESEARCH PUBLICATIONS AND PRESENTATIONS
(Student authors are underlined, Faculty names are bolded)**

PUBLICATIONS

DEPARTMENT OF BIOLOGY

- Cole, F.R.**, L.L. Loope, A.R. Medeiros, C.E. Howe '92, and L.J. Anderson '88. 2000. Food habits of introduced rodents in high-elevation shrubland of Haleakala National Park, Maui, Hawaii. *Pacific Science* 54:313-329.
- Firmage, D.** and A. Dafni. 2000. Pollen viability and longevity: practical, ecological and evolutionary implications. *Plant Syst. & Evol.* 222:113-132.
- Janze, A. M. '01. 2001. Effects of stimulus modality on conditioned responses in male zebra finches. *J. Undergraduate Study and Independent Res.* 1:9-13.
- Johnson, R.** and W. Dyer. 2000. Degradation of endosperm mRNAs during dry after-ripening of cereal grains. *Seed Sci. Res.* 10:233-241.
- Navas, C.A., and **C. R. Bevier**. 2001. Thermal dependency of calling performance in the eurythermic frog, *Colostethus subpunctatus*. *Herpetologica* 57:384-395.
- Tilden, A.R.**, E. McGann '01, J. Schwartz '00, A. Bowe, and Christina Salazar. 2001. Effect of melatonin on hemolymph glucose and lactate levels in the fiddler crab *Uca pugilator*. *J. Exp. Zool.* 290:379-383.
- Wilson, D. E. and **F. R. Cole**. 2000. Common names of mammals of the world. Smithsonian Press, Washington, D. C. (contributors B. N. Graham '96, A. P. Potter '96, and M. M. Upmeyer '98). pp. 1-204.
- Wilson, Jr., W. H.**, D. Kipervaser '98, and S. A. Lilley '97. 2000. Spring arrival dates of Maine migratory breeding birds:1994-1997 vs. 1899-1911. *North. Natur.* 7:1-6.

DEPARTMENT OF CHEMISTRY

- Conry, R. R.** and A. A. Tipton. 2001. A mononuclear Mo(V) mono-oxo, biphenyl-2,2'-dithiolate complex in which the metal resides within a cleft formed by the ligands and that exhibits N-H...S hydrogen bonding in the solid state. *J. Biol. Inorg. Chem.*, 6(4):359-366.
- McNaughton, R. L., A. A. Tipton, N. D. Rubie, **R. R. Conry**, and M. L. Kirk. 2000. Electronic structure studies of oxomolybdenum tetrathiolate complexes: origin of reduction potential differences and relationship to cysteine-molybdenum bonding in pyranopterin molybdenum enzymes. *Inorg. Chem.*, 39(25):5697-5706.
- Millard, J. T.** and E. E. Wilkes '00. 2000. Cis- and trans-diamminedichloroplatinum(II) interstrand cross-linking of a defined sequence nucleosomal core particle. *Biochemistry* 39:16046.

DEPARTMENT OF COMPUTER SCIENCE

- Congdon, C. B.** 2000. Classification of epidemiological data: a comparison of genetic algorithm and decision tree approaches. Congress on Evolutionary Computation (CEC-2000), San Diego, CA. pp. 442-449.
- Congdon, C. B.** and E. F. Greenfest. 2000. Gaphyl: a genetic algorithm approach to cladistics. Workshop on data mining with evolutionary algorithms, genetic and evolutionary computation conference (GECCO-2000), Las Vegas, NV. pp. 85-88.

- Congdon, C. B.** and E. F. Greenfest. 2000. Genetic algorithms in cladistics. Grace Hopper Celebration of Women in Computing, Cape Cod, MA, September 2000.
- Jones, R. M.** and P. G. Kenny. 2000. Lessons learned from integrating STOW technology into an operational naval environment. Proceedings of the 2000 Spring Simulation Interoperability Workshop. Orlando, FL. Online.
(<http://www.sisostds.org/siw/00spring/scripts/download.cfm/00SSIW-116.doc>)
- Nielsen, P. E., F. V. Koss, G. E. Taylor, and **R. M. Jones.** 2000. Communication with intelligent agents. Proc. Interservice/Industry Training Simulation and Education Conf. 2000. Orlando, FL. p. 824-834.

DEPARTMENT OF GEOLOGY

- Behrensmeyer, A.K., S.M Kidwell, and **R.A. Gastaldo.** 2000. Taphonomy and Paleobiology. *Paleobiology* 26(4):103-147.
- DiMichele, W.A., H.W. Pfefferkorn, and **R.A. Gastaldo.** 2001. Response of late carboniferous and early Permian plant communities to climate change. *Ann. Rev. Earth Planetary Sci.* 29:461-487.
- Gastaldo, R.A.** and W.A. DiMichele, eds. 2000. Phanerozoic Terrestrial Ecosystems. The Paleontol. Soc. Papers, 6:308.
- Jablonski, D., M.J Benton, **R.A. Gastaldo**, C.R. Marshall, and J.J. Sepkoski, Jr. 2000. Macroevolution. In Lane, H.R., Steininger, F.F., Kaesler, R.L., Ziegler, W., and Lipps, J., eds., Fossils and the Future: Paleontology in the 21st Century. Senckenberg-Buch, No. 74, p. 155-166.
- Pfefferkorn, H.W., **R.A. Gastaldo**, and W.A. DiMichele. 2000. Ecosystem stability during the late Paleozoic cold interval. In Gastaldo, R.A., and DiMichele, W.A., eds., Phanerozoic Terrestrial Ecosystems. The Paleontol. Soc. Papers, 6:63-78.
- Shosa, J.D.**, D.L. Woodrow, and S.E. Orrell. 2000. Self-contained problem sets as a means of incorporating quantitative skill development in existing introductory geoscience courses. *J. Geosci. Ed.*, 48:427-430.
- Staub, J.R., H.L. Among, and **R.A. Gastaldo.** 2000. Seasonal sediment transport and deposition in the Rajang River Delta, Sarawak, East Malaysia. *Sediment. Geol.*, 133:249-264.

DEPARTMENT OF MATHEMATICS

- Berlinghoff, W. P.**, K. E. Grant and **D. Skrien.** 2001. A Mathematics Sampler. 5th edition. Ardsley House Publishers, Lanham, MD.
- Drnovsek, R., **L. Livshits**, G.W. MacDonald, **B. Mathes**, H. Radjavi, and P. Semrl. 2000. On operator bands. *Studia Mathematica*, 139(1): 91-100.
- Drnovsek, R., **L. Livshits**, G.W. MacDonald, **B. Mathes**, H. Radjavi, and P. Semrl. 2000. On transitive linear semigroups. *Linear Algebra and Its Applications*, 305:67-86.
- Gouvea, F. Q.** 2001. Review of "The Fermat Diary" by C. J. Mozzochi. *Amer. Sci.* 89(3):281-282.
- Gouvea, F. Q.** 2001. Where the slopes are. *J. Ramanujan Math. Soc.* 16(1):75-99.
- Gouvea, F. Q.** 2000. Review of "Exploring the Number Jungle." by Edward B. Burger, MAA Online. Available: <http://www.maa.org/reviews/numjungle.html>.
- Gouvea, F. Q.** July 2000. "Review of "The Wild Numbers" by Philibert Schogt. MAA Online. Available: <http://www.maa.org/data/reviews/wildnumb.html>.
- Holly, J. E.** 2000. Baselines for three-dimensional perception of combined linear and angular self-motion with changing rotational axis. *Vestibular Res.* 10:163-178.
- Livshits, L.** and G. W. MacDonald. 2001. n-Transitivity and the complementation property. *Linear Algebra and Its Applications*, 329:157-169.
- Livshits, L.**, G.W. MacDonald, and H. Radjavi. 2000. Cone-transitive matrix semigroups. *Linear and Multilinear Algebra*, 47:313-350.

DEPARTMENT OF PHYSICS AND ASTRONOMY

- Bluhm, R.**, V. A. Kostelecky, and N. Russell. 2000. Searching for Lorentz violation in the ground state of hydrogen, *In: Planck-Range General Relativistic Basis of Elementary Particles and Superstring Based Unification*. B. N. Kursunoglu, S.L. Mintz, and A. Perlmutter, eds., Plenum, New York, 2000. pp. 173-180.
- Bluhm, R.** 2000. Lorentz and CPT tests in atomic systems, *In: Symmetries in Subatomic Physics*. A.W.Thomas, G. Xin-Heng, and A.W. Williams, eds., Amer. Inst. Physics, New York, 2000. pp. 109-118.
- Bluhm, R.** 2001. Lorentz and CPT tests in QED, *In: Frontier Tests of Quantum Electrodynamics and Physics of the Vacuum*, D. Amati, G. Cantatore, E. Zavattini, and R.S. Hayano, eds., Amer. Inst. Physics, New York, 2001. pp. 101-108.
- DeCamp, M.F., D.A. Reis, P.H. Bucksbaum, B. Adams, J. M. Caraher, R. Clarke, **C. W. S. Conover**, E. M. Dufresne, R. Merlin, V. Stoica, and J. K. Wahlstrand . 2001. Coherent control of pulsed X-ray beams. *Nature* 413: 825.
- Jennerich, R. M. '00 and **D. A. Tate**. 2000. Hyperfine structure intervals and isotope shifts in the 2p³ 3s 5S² - 2p³ 3p 5P^J' fine structure multiplet of atomic oxygen. *Physical Review A*, **62**, 042506. Online. Available: <http://link.aps.org/abstract/PRAa/v62/e042506>.
- Kortyna, A.**, P. T. Howe, M. Darrach, and A. Chutjian. 2000. High resolution study of xenon autoionization using direct vuv laser excitation. *Jour. Optical Soc. Amer. B.* 17(11):1934-1942.

PROGRAM IN SCIENCE, TECHNOLOGY, AND SOCIETY

- Fleming, J. R.**, ed. 2001. Weathering the Storm: Sverre Pettersen, the D-Day Forecast and the Rise of Modern Meteorology. Historical Monograph Series. Boston: Amer. Meteorol. Soc.. 329 pp.
- Fleming, J. R.** and Bruce Hevly, eds. 2000. Geophysics and the military. Special theme issue of *Hist. Studies Phys. Biol. Sci.* 30(2).
- Fleming, J. R.** 2000. *Isis* 91(3): 567-68. Mark Monmonier. *Mitteilungen der DMG [Deutschen Meteorologischen Gesellschaft]*, Heft 1/2000. Hans-Jochen Luhmann. Online. Available: http://www.met.fuberlin.de/dmg/dmg_home/mitteilungen1_2000.html#literatur "Die allmähliche Entdeckung, dass der Mensch des Industriezeitalters das Klima zu wandeln vermag und dass dieser Klimawandel zu fürchten sei. [The gradual discovery that humans of the industrial age are able to change the climate and that this climatic change is to be feared].
- Fleming, J. R.**. 2000. Storms, strikes, and surveillance: the U.S. Army Signal Office, 1861-1891. *Hist. Studies Phys. Biol. Sci.* 30(2):1-18.
- Fleming, J. R.** 2000. The Weather Doctor's Book Reviews. Online. Available: <http://www.islandnet.com/~see/weather/reviews/metamer.htm> (Aug. 2, 2000). Keith C. Heidorn.
- Fleming, J. R.**. 2000. To measure the atmosphere: an exhibit on the history of weather instruments at the Musée des arts et métiers, Paris, France. *Bull. Amer. Meteorol. Soc.* 81:2486-87.

PRESENTATIONS

DEPARTMENT OF BIOLOGY

- Abbot, L. '04, E. Carreiro '03, and L. Williams '02. 2001. Marine protected areas: a tool to ensure the future of our seas. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Arell, E. '04, Z. Hansen '02, J. Lawson '04, A. Sommo '04. 2001. Superfund sites in Pennsylvania: how do demographic affect groundwater contaminaiton? Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 10, 2001.

- Arens, S. '01, R. Swank '03, and K. Wasik '01. 2001. The paper industry as a vehicle for environmental change in Maine's forests and rivers. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Ayotte, E. '04, C. Cassis '04, M. Liebman '04, and J. Zerendow '04. 2001. How the social status of women affects fertility rates around the world. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 10, 2001.
- Bennett, A. '04, N. Bolton '04, and S. Mason '03. 2001. Effects of melatonin on spontaneous activity of nerve three in the crayfish, *Procambarus clarkii*. Poster presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Berezin, J. '04, M. Karottki '04, J. Seilheimer '03, and K. Stoos '04. 2001. The factors responsible for the varying degrees of recovery in four species of whales. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 10, 2001.
- Bevier, C.** 2001. Calling behavior in frogs. Presentation to the members of the Maine Herpetological Society. Newport, ME. February 17, 2001.
- Bevier, C. R.,** C. A. Navas, and F. R. Gomes. 2001. Environmental influences on call structure in tropical treefrogs of the genus *Scinax*. Animal Behavior Society, Oregon State University, Corvallis, OR.
- Blask, S. '03, C. Riss '03, B. Twible '04, and S. Piampiano '02. 2001. Solar energy on a global perspective. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 9, 2001.
- Bogel, J. '02, M. Crawford '04, J. Dickson '03, and M. Sesko '02. 2001. The dumping of injustice. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 7, 2001.
- Browne, S. '02. 2001. Phylogenetic analysis of loss of drug resistance in HIV. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 1, 2001.
- Carvalho, J. E., F. R. Gomes, **C. R. Bevier,** and C. A. Navas. 2001. Exceptionally high vocal effort of treefrogs in the genus *Scinax* involves rapid evolution of aerobic capacity without parallel increase in resting metabolism. The Herpetologists' League and Society for the Study of Reptiles and Amphibians, Indianapolis, IN.
- Champlin, A. K.** 2000. Cryopreserving mammalian embryos and gametes. Presented to the staff and students of the Department of Life Science at the University of East London, London, England, 12 December 2000.
- Champlin, A. K.** 2000. The cryopreservation of mammalian genomes. Presented to the scientific staff of deCODE Genetics in Reykjavik, Iceland, 23 June 2000.
- Cornett, M. '03. 2001. Phylogenetic analysis of human colonization of Australia and New Guinea. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 9, 2001.
- Cousins, T. '02, L. Sablosky '02, and H. Sofaer '02. 2001. Effects of melatonin on neurodepressing hormone production and spontaneous nerve cord activity in the crayfish, *Procambarus clarkii*. Poster presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Danziger, A. '03, C. Dugan '01, and J. Jost '01. 2001. Influence of melatonin on spontaneous neural activity in the fiddler crab, *Uca pugilator*. Poster presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Egleston, R. '01 and S. O'Grady '03. 2001. Melatonin and locomotor activity patterns of the crayfish, *Procambarus clarkii*. Poster presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Eisinger, A. '01 and F. A. Fekete. 2001. A study of tolerance to mercury and antibiotics among soil bacteria due to elevated mercury levels in the soil environment. Abstracts of the Colby Undergraduate Research Symposium 2001, Colby College. May 4, 2001.

- Elliott, J. '04, A. McKenna-Foster '04, G. O'Brien '04, and S. Zerbonne '03. 2001. The impact of the oil industry on Native American culture. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Estey, E. '03, M. Johnson '01, C. Pearce '01, S. Rundquist '01. 2001. A comparison of the effects of exotic fish introduction on Alpine Lake and Maine lake ecosystems. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Firmage, D. H., P. J. Nyhus, and F. R. Cole**. 2001. Enhancing undergraduate education through research in the environmental science laboratory: GIS and project-based learning at Colby College. Presented at the National Conference of Undergraduate Research, University of Kentucky, Lexington, Kentucky, March 15-18, 2001.
- Firmage, D.H. and F.R. Cole**. 2000. Highlights of Colby College's NSF-AIRE grant. Presented at the RAIRE/AIRE meeting at Carnegie Mellon University, Pittsburgh, Pennsylvania, November 30, 2000.
- Frank, A. '01. 2001. Rnase activity in self-compatible and self-incompatible plants. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Frazar, T. '01 and S. Cho '01. 2001. Comparisons of mitochondrial DNA sequence variation among humans. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 9, 2001.
- Gallagher, J. '02, T. Rogers '04, and P. Thompson, III '04. 2001. Choosing fossil fuels over photovoltaics on the world market. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Geary, D. '01. 2001. Evolution of *E. coli* in different host species. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 9, 2001.
- Gomes, F. R., **C. R. Bevier**, and C. A. Navas. 2001 Influence of systematic position and ecology on the calling effort and energetics of tropical treefrogs of the genus *Scinax*. Animal Behavior Society, Oregon State University, Corvallis, OR.
- Gorgoska, E. '04, J. Haefele '01, and J. Qazi '01. 2001. Melatonin production by the optic nerve and stomatogastric ganglion of the crayfish, *Procambarus clarkii*. Poster presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Greenwood, P. G., K. Garry '01** and A. Hunter '01. 2001. Advances in research on the biology of Nudibranch Nematocysts. Presented at the University of New Hampshire, Department of Zoology, Graduate Seminar, February 23, 2001.
- Greenwood, P. G.** 2001. Slug stingers: intracellular trafficking in stolen goods. Presented at Colby College, for Colby Today, March 28, 2001.
- Hanby, P. '01 and A. Isham '01. 2001. Global environmental change and freshwater ecosystems. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Janze, A. '01. 2001. The effects of melatonin on glucose and lactate levels in the crayfish, *Procambarus clarkii*. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Johnson, R. R.** 2001. Molecular biology of plant responses to abscisic acid. Bates College Biology Department seminar, 8 March 2001.
- Johnson, R. R.** 2001. Stressed out in the field: abscisic acid signal transduction in wheat. Colby College Biology Department Colloquium Series, 16 March 2001.
- Johnson, R., R. Wagner, M.K. Walker-Simmons, and S. Verhey.** 2001. Role of PKABA1 in ABA signal transduction: identification of a seed-specific PKABA1-interacting protein by two hybrid screening. Ann. Mtg. -- Amer. Soc. Plant Biologists, Providence RI.

- Jost, J. '01. 2001. The risk of freezing in an intertidal polychaete worm: the effects of variation in salinity and sediment depth. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Kenney, K. A. '01 and **R. Johnson**. 2001. Analysis of cDNAs from germination-related genes: an undergraduate molecular biology laboratory. Ann. Mtg. - Amer. Soc. Plant Biologists, Providence, RI.
- Knauer, T.P. '01. 2001. The effects of disturbance on early post-settlement Acorn Barnacles, *Semibalanus balanoides*. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Kreider, M. '02, C. Lavertu '02, and B. Zakielarz '02. 2001. Influence of melatonin on neurodepressing hormone and locomotor activity patterns in the crayfish, *Procambarus clarkii*. Poster presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Laliberte, D. '03, S. Maggs '03, M. Mineau '03, and L. Williams '02. 2001. Current status of Atlantic Salmon stocks in the Western Atlantic Ocean. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 9, 2001.
- Land, J. '04, S. Graber '01, and A. Stonebraker '02. 2001. Social roots of tropical deforestation: a plausible link to global climate change. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Larsen, D. '03, A. Matthews '04, J. Mojo '04, and L. Stevens '01. 2001. Factors that drive successful dam removal projects. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 9, 2001.
- Laverde, C. '02 and T. Weekes '01. 2001. Quantification of melatonin cycle with HPLC in the lobster, *Homarus americanus*. Poster presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Lehmann, P. S. '01, A. M. Megquier '01, D. G. Thornton '01, **D. H. Firmage**, **F. R. Cole**, and **P. J. Nyhus**. 2001. Geographic information systems and integrated watershed research at Lake Wesserunsett, Maine. Presented at the National Conference of Undergraduate Research, University of Kentucky, Lexington, Kentucky, March 15-18, 2001. Presented at the Maine Water Conference, University of Maine at Augusta, May 3, 2001. [Won best poster award]. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Logan, J. M. '01. 2001. The effects of clam digging on benthic macroinvertebrate community structure in a Maine mudflat. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Logan, J. M. '01, K. A. Parzych '01, M. E. Short '01, H. N. Spitz '01, **F. R. Cole**, **D. H. Firmage**, and **P. J. Nyhus**. 2001. The impact of land use patterns on the water quality of Lake Wesserunsett, Maine. Presented at the National Conference of Undergraduate Research, University of Kentucky, Lexington, Kentucky, March 15-18, 2001. Presented at the Maine Water Conference, University of Maine at Augusta, May 3, 2001. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Matson, S. '01. 2001. Scientific illustration. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Megquier, A. '01. 2001. A GIS-based population estimate for the Sumatran Tiger. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Megquier, A. '01, J. Weisbein '01, and **F. A. Fekete**. 2001. Patterns of mercury resistance and antibiotic resistance in the gastrointestinal microflora of hatchery lake trout. Colby Undergraduate Research Symposium 2001, Colby College. May 4, 2001.
- Morton, L.S.** and **C.R. Bevier**. 2001. Integrating inquiry-based learning into a distributional biology course. Presented a poster at the NCUR (National Conference for Undergraduate Research) Conference in Lexington, Kentucky, March 15-17, 2001.

- Ness, K. '02, M. Young '02, and S. Sarno '04. 2001. The impact of global change on large mammals in the African Savanna. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Nyhus, P.J., F.R. Cole, and D.H. Firmage.** 2000. Using NSF-AIRE to introduce new technology for teaching and research at Colby College. Presented at the RAIRE/AIRE meeting at Carnegie Mellon University, Pittsburgh, Pennsylvania, November 30, 2000.
- Olenick, L. '04, K. Schaefer '04, and M. Sharma '04. 2001. Influence of melatonin on the neuroendocrine growth and development of Tobacco Hornworms, *Manduca sexta*. Poster presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Owen, J. '03, T. Sterio '03, and K. Thurston '03. 2001. Influence of photoperiod and melatonin on locomotor activity in the fiddler crab, *Uca pugilator*. Poster presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Parzych, K. A. '01 and A. Megquier '01. 2001. Anthropogenic global change and North American temperate forests. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Phelan, K. '04, J. Pickman '04, L. Snow '04, and E. Turnbull '04. 2001. The factors which influenced the implementation of the Green Revolution in China, India, Pakistan, and Mexico. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 7, 2001.
- Riss, D. G. F. '01, S. B. Lovitz '01, and W. S. McCloy '03. 2001. Marine invasive species: a growing problem in a changing world. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Rutkiewicz, J. '01, M. Kleinman '01, and F. A. Fekete. 2001. Characterization of potential microbial pathogens from hatchery grown Atlantic Salmon. Abstracts of the Colby Undergraduate Research Symposium 2001, Colby College. May 4, 2001.
- Rutkiewicz, J. '01. 2001. Effects of melatonin on growth of the cricket, *Acheta domesticus*. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3, 2001.
- Sander, W. '04. 2001. Genetic variability in marine seaweed from different environments. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 9, 2001.
- Sawyer, G. '03. 2001. Genetic variability in inbred and outcrossed populations of the tropical shrub *Witheringia solanacea*. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 9, 2001.
- Schannen, A. '02 and M. Short '01. 2001. Melatonin production by the optic lobes and ventral nerve cord of the crayfish, *Procambarus clarkii*. Poster presentation Colby Undergraduate Research Symposium 2001, Colby College. May 11, 2001.
- Stone, J.** 2001. Breakdown of self-incompatibility in the tomato family. University of Maine, Orono on April 20, 2001.
- Stone, J., A. Frank '01, B. Drummond '03, and J. Wentzell '03.** 2001. Breakdown of selfincompatibility in *Witheringia solanacea*. Ann. Mtg. -- Soc. for the Study of Evolution, Knoxville, TN.
- Stutman, G. '01 and A. Tilden. 2001. Influence of melatonin and photoperiod on limb regeneration in the fiddler crab, *Uca pugilator*. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3, 2001.
- Tilden, A. R., J. Schwartz '00, and L. McGann '01.** 2001. Influence of melatonin on hemolymph metabolites in the fiddler crab *Uca pugilator*. Society for Integrative and Comparative Biology, Chicago. p. 404.
- Tucker, S. '02. 2001. Rapid evolution of male reproductive genes in humans. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 9, 2001.

- Vassar, K. '03, L. Walker '04, S. Vayda '03, and K. Welch '04. 2001. Why recycling works: a case study of eight Maine towns. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 7, 2001.
- Widener, C. '01, A. Ganong '00, K. A. Johnson, and F. A. Fekete. 2001. Characterization of mercury and antibiotic-resistant bacterial strains isolated from the oral cavity of humans. Abstracts of the 101st General Meeting of the American Society for Microbiology, May 23, 2001. Orlando, FL. Abstract #A-103. Presentation Colby Undergraduate Research Symposium 2001, Colby College. May 4, 2001.
- Wilson, Jr., W. H.,** 2001. The impacts of supplemental feeding on wintering Black-capped Chickadees in Central Maine: Population and Individual Responses, Biology Department seminar, University of Maine - Farmington, Farmington, ME. February 13, 2001.

DEPARTMENT OF CHEMISTRY

- Bizier, N. '01, A. Brooks, B. P. Mundy, and T. Poon. 2001. Acid promoted electrophilic aromatic substitution reactions in the formation of 1,2-diquaternary centers. An approach to the concise synthesis of (\pm)-cuparene and related natural products. 221st ACS National Meeting in San Diego, CA, April 1- 5, 2001.
- Boland, N. E. '01 and D. W. King. 2001. Flow injection analysis of superoxide in aqueous solution: a quantitative determination using the chemiluminescent probe MCLA. 221st ACS National Meeting San Diego, CA. April 1-5, 2001. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Conklin, J. E. '00 and J. T. Millard. 2000. DNA interstrand cross-linking by a diepoxide mycotoxin; Poster presented at the Colby Undergraduate Research Symposium.
- Conry, R. R.** 2001. Synthetic inorganic projects in bioinorganic and organometallic chemistry. An invited seminar at the University of Maine, Orono, Maine. January 26, 2001.
- Conry, R. R.** 2001. Small-molecule model complexes for catalytic sites including sulfur-ligated W, Mo, and Ni metalloenzymes and Cu-mediated organic transformations" Univ. of New Hampshire, Durham, NH
- Conry, R. R.** 2001. Synthetic bioinorganic and organometallic chemistry. Bowdoin College, Brunswick, ME
- Curran, T. F. '02 and S. U. Dunham. 2001. Synthesis, characterization, and DNA-binding studies of cis and trans-Ru C12(DMSO)4. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Drees, J. '01 and St. U. Dunham. 2001. Metal ion stabilization of G-tetrads containing 6-thioguanosine. 221st ACS National Meeting, San Diego, CA. April 1-5, 2001. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Farlow, R. A. '01 and D. M. Thamattoor. 2001. Intramolecular reactions of a b-hydroxycarbene. Presented at the 221st National Meeting of the American Chemical Society in San Diego, April 1-5, 2001. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3, 2001.
- Frazar, T. F. '01 and J. T. Millard. 2001. Isolation and investigation of the role of HMG1 in diepoxide cross-link recognition; Poster and talk presented at the 221st National Meeting of the American Chemical Society in San Diego, CA April 1-5, 2001. Presented at the Colby College Undergraduate Research Symposium May 3, 2001.
- Ghaffari, A. H. '02, D. A. Otte '01, and D. M. Thamattoor. 2001. An unusual oxidative rearrangement promoted by DDQ. Presented at the 221st National Meeting of the American Chemical Society in San Diego, CA. April 1-5, 2001.
- Ghertner D. A. '01, T. Bertram '00, C. Langelier '00, and D. W. King. 2001. Photochemical degradation of 2,4-D and atrazine in well-defined media. 221st ACS

- National Meeting. San Diego, CA. April 1-5, 2001. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Goda, J. '01 and **J. T. Millard**. 2001. Diepoxide interstrand cross-linking of 5S DNA; Poster presented at the 221st National Meeting of the American Chemical Society in San Diego, CA April 1-5, 2001. Presented at the Colby College Undergraduate Research Symposium. May 4, 2001.
- Isham, A. M. '01, C. Xiao, and **D. W. King**. 2001. Mechanistic investigation of copper-1,10-phenanthroline chemiluminescence. 221st ACS National Meeting San Diego, CA. April 1-5, 2001. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 1, 2001.
- Jose, M. J. '01 and **S. U. Dunham**. 2001. Exploring metal substitution for the structure determination of a metal-binding peptide. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 1, 2001.
- King, D. W.** and S. Theberge. 2000 Investigation of the chemiluminescence reaction dynamics of H₂O₂ and acridinium esters for optimization of FIA for natural H₂O₂ samples. Gordon Research Conference, Environmental Sciences: Water, Plymouth, NH.
- King, D. W.**. 2000. Analytical techniques for the rapid analysis of reactive intermediates in the marine euphotic zone: analytical considerations and field applications. ACS Pacificchem 2000. Honolulu, HI.
- Lovitz, S. B. '01, C. Xiao, and **D. W. King**. 2001. Free radical intermediates in the Fe(II)-luminol chemiluminescence system: application to ultra-trace analysis of Fe(II). 221st ACS National Meeting. San Diego, CA. April 1-5, 2001. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Mabaera, R. '03, and **St. U. Dunham**. 2001. Stability of DNA duplexes containing 6-thioguanine. 221st ACS National Meeting, San Diego, CA. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3, 2001.
- Morgan, C. R. '01, A. Burr '03, S. M. Theberge, and **D. W. King**. 2001. Determination of hydrogen peroxide in ocean water using a chemiluminescent flow-injection analysis system. 221st ACS National Meeting. San Diego, CA. April 1-5, 2001. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Natkin, J. '01, A. A. Tipton, and **R. R. Conry**. 2001. A probe of nitrogen- and sulfur-ligated copper complexes as aziridination catalysts. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 1, 2001.
- Olson, H. '01 and **St. U. Dunham**. 2001. Structural analysis of 6-thioguanine in duplex DNA by NMR spectroscopy. 221st ACS National Meeting, San Diego, CA. April 1-5, 2001. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3, 2001.
- Otte, D. A. '01, R. A. Farlow '01, S. B. Lovitz '01, A. H. Ghaffari '02, and **D. M. Thamattoor**. 2001. Synthetic approaches to hexaaxa[6]peristylane and its derivatives. Presented at the 221st National Meeting of the American Chemical Society in San Diego, April 1-5, 2001. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 1, 2001.
- Schwartz, D. L. '01, M. H. Hennessy, and **D. W. King**. 2001. Computational studies of the reaction of OH radical with Cl⁻, SO₄⁼ and CO₃⁼. 221st ACS National Meeting, San Diego, CA. April 1-5, 2001. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Shelton, G. '01 and **St. U. Dunham**. 2001. Structural determination of an MRI contrast agent. 221st ACS National Meeting, San Diego, CA. April 1-5, 2001. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Srivatsan, S. '01 and **J. T. Millard**. 2001. Flanking sequence effects on DNA interstrand cross-linking preferences of diepoxides; Poster presented at the 221st

National Meeting of the American Chemical Society in San Diego, CA. April 1-5, 2001.

Theberge, S. M., **D. W. King**, **J. T. Millard**, **B. Fekete**, and **L. Miller**. 2000. The chemistry of crime: a forensics-based laboratory course for non-science majors; Poster presented at the 220th National Meeting of the American Chemical Society in Washington, DC.

Tuncak, B. '01 and **St. U. Dunham**. 2001. Structural analysis of a DNA duplex containing 6- thiodeoxyguanosine by ESR and NMR spectroscopy. 221st ACS National Meeting, San Diego, CA. April 1-5, 2001. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.

Wilkes, E. E. '00 and **J. T. Millard**. 2000. Cisplatin interstrand cross-linking of defined sequence nucleosomal DNA; Poster presented at the Colby Undergraduate Research Symposium.

DEPARTMENT OF COMPUTER SCIENCE

Batchelder, J. '01 and J. Lieberman '01. 2001. Multi-species competition for resources in a complex adaptive system. CS Fest 2001, Colby College Science Department, May 10, 2001.

Casazza, D. '02 and C. Multari '02. 2001. An investigation of aggressive behavior in a complex adaptive system society. CS Fest 2001, Colby College Science Department, May 10, 2001.

Cattrell, M. '01. 2001. IPRAW: an interface to raw IP. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 10, 2001.

Cohen, D. '04 and A. C. Quale III '01. 2001. A comparison of decision trees and genetic algorithms on the Colby Student Lifestyles Survey. CS Fest 2001, Colby College Science Department, May 10, 2001.

Congdon, C. B. 2001. Colby College Computer Science. Presentation to members of the Development Office at Colby College, January 8, 2001.

Congdon, C. B. 2001. Experiences with small robots, from "The Use of Robots in the Undergraduate Curriculum: Experience Reports." Panel discussion at SIGCSE, the Technical Symposium on Computer Science Education, February 23, 2001. (SIGCSE is the Association for Computing Machinery Special Interest Group in Computer Science Education; this is an international conference).

Congdon, C. B. 2001. Genetic algorithms in cladistics. Science Lunch talk, Colby College, April 10, 2001.

Congdon, C. B. 2001. Robots don't rule: some thoughts on using robots for Introductory CS. Proceedings of the American Association for Artificial Intelligence (AAAI) Spring Symposium Series, March 26- 28, 2001, Stanford University.

Congdon, C. B., E. F. Greenfest, and J. R. Ladieu '02. 2000. Genetic algorithms and cladistics. Poster presentation at the Science and Technology venue, inaugural events for President William D. Adams, Colby College, October 2000.

Creelman, C. '01. 2001. Poetry in motion: flash animations. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 10, 2001.

Creelman, C. '01, J. Weinberg '01, T. Mace '03, and J. Lieberman '01. 2001. Beer Die (networked simulation). Game research presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 10, 2001.

Fernandes, C. and L. Henschen. 2000. Discovering and resolving user intent in heterogeneous databases. Twelfth International Symposium on Methodologies for Intelligent Systems (ISMIS00). Charlotte, NC. Oct 11-14, 2000.

Fleischman, E. S. '02. 2001. A cognitive model of learning from examples. Consortium for Computing at Small Colleges, Northeastern Section. Middlebury College, Middlebury, VT. April 20-21, 2001.

- Fleischman, E. S. '02. 2001. Cascade explains and informs the utility of fading examples to problems. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3, 2001.
- Fleischman, E. '02 and K. Radloff '03. 2001. Classification of spikes in extracellular recordings from the crayfish ventral nerve cord. CS Fest 2001, Colby College Science Department, May 10, 2001.
- Jones, R. M.** 2000. Intelligent agents for training simulations. Meeting of the Agent Institute. Portland, ME.
- Jones, R. M.** 2000. Interactive visualization of situational awareness. Twentieth North American Soar Workshop. Los Angeles.
- Jones, R. M.** 2000. Projects for introductory courses on cognitive science. Twenty-Second Annual Conference of the Cognitive Science Society. Philadelphia.
- Jones, R. M.** 2000. TacAir-Soar at sea: deployment in BFTT. Twentieth North American Soar Workshop. Los Angeles.
- Jones, R. M.**, A. Henninger, & E. Chown. 2001. Emotional interactive agents. Twenty-First North American Soar Workshop. Ann Arbor, MI.
- Jones, R. M.**, G. Taylor, R. Frederiksen, & L. Carter. 2001. Graphic visualization of agent thinking. Twenty-First North American Soar Workshop. Ann Arbor, MI.
- Kostrowski, E. '01, J. Batchelder '01, and D. Casazza '02. 2001. Cave Wars (battle game). Game research presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 10, 2001.
- Liedtke, M. '01. 2001. Chat program visualizations. Annual conference of the Consortium for Computing in Small Colleges, Northeastern Section. Middlebury College, Middlebury, VT. April 20-21, 2001.
- Liedtke, M. '01. 2001. Visualizing the geographic distribution of network users in real time. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 10, 2001.
- Mann, J. '02 and K. Mann '03. 2001. A machine learning approach to finding DNA base-pair N-tuples. CS Fest 2001, Colby College Science Department, May 10, 2001.
- Mateosian, S. E. '01. 2000. Interactive art. Poster presentation at the Science and Technology venue, inaugural events for President William D. Adams, Colby College, October 2000.
- Mazza, R. H., III '01. 2001. Building an interactive, three-dimensional world. Consortium for Computing at Small Colleges, Northeastern Section. Middlebury College, Middlebury, VT. April 20-21, 2001. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 10, 2001.
- Mazza, R. H., III '01. 2001. Using genetic algorithms to evolve trees in 3D graphics. CS Fest 2001, Colby College Science Department, May 10, 2001.
- Merryman, A. '02. 2001. Interactive Art. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 10, 2001.
- Mower, N. '02, C. Multari '02, and K. Simons '02. 2001. Final Feud (battle game). Game research presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 10, 2001.
- O'Connell, J. '02 and M. Bloom '01. A comparison of decision trees and cobweb. CS Fest 2001, Colby College Science Department, May 10, 2001.
- O'Connell, J. '02, T. Roderick '01, and P. Brush '03. 2001. Portal: The Convergence (role-playing game). Game research presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 10, 2001.

DEPARTMENT OF GEOLOGY

- Ashworth, A. C., M. Gutenkunst and **R. E. Nelson**. 2000. The climate during the last advance of the Puget Sound Glacier (Vashon Stade, Fraser Glaciation) based on Fossil Beetles from Seattle. Geological Society of America Abstracts with programs, 32(7):A-

404. Abstracts of papers presented at the National Meeting of the Geological Society of America, Reno, Nevada.
- Becker, C.J., **J.D. Shosa**, and **B.F. Rueger**. 2001 A Geochemical Comparison of Spittal Pond and Warwick Pond, Bermuda" GSA Abstracts with Program, 33(6):A181.
- Cathles, L.M. '03 and M.R. Albert. 2001. Diffusion of an inert gas in seasonal snow. 27th Annual Meeting of the Canadian Geophysical Union, Ottawa, Ontario, Canada, 14-17 May 2001.
- Cathles, L.M. '03, **J.D. Shosa**, S. Losh, and P. Meulbroek. 2000. Some aspects of multiphase fluid flow, chemical mass transport, and alteration in sedimentary basins. 10th Annual Goldschmidt Conference, Cambridge, UK.
- Fuente, D.E. '01. 2001. Correlation of thermal infrared multispectral scanner (TIMS) and FTIR data: Geological Society of Maine, 7:4. Maine Geological Society, Gorham, ME. 6 April 2001; Poster. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.
- Gastaldo, R. A.**, **R. E. Nelson**, S. C. Bandow '03J, C. F. Lindley '02, and M. K. Trout '01. 2001. Early middle Devonian terrestrial ecosystems of Maine: the trout valley formation revisited. Geological Society of America Abstracts with Program, 33(1):A-63. Abstract of paper presented at the Northeast Regional Meeting of the Geological Society of America, 11-15 March 2001, In Burlington, Vermont.
- Houlahan, M. '01. 2001. Testing of TIMS image limitations concerning weathering and alteration products of rock types: Geological Society of Maine, 7:5. Maine Geological Society, Gorham, ME. 6 April 2001.
- Lindley, C.F. '02 and **R.A. Gastaldo**. 2001. Dispersed organic matter (Palynofacies) in coastal environments: an example from the Mobile-Tensaw River delta and bay, Alabama: Geological Society of America, Abstracts with Program, 33(1):A28. NE Regional GSA, Burlington, VT. 11-15 March 2001.
- Lindley, C.F. '02, **R.A. Gastaldo**, and J. Pross. 2000. Palynofacies characterization of Holocene Bay sediments from the Mobile-Tensaw River system, Alabama: Geological Society of America, Abstracts with Program, 32(7):A413. National GSA, Reno, NV. 11-16 November 2000.
- Murphy, M.L. '01, L. Vecsey, D. A. Yuen, and E. O. Sevre. 2000. Development of secondary upwelling instabilities in High Raleigh number convection and the formation of hotspots: American Geophysical Union, EOS Transactions, 81(48), Abstract NG62D-01. National AGU, San Francisco, CA. 10-15 December 2000.
- Nelson, R. E.** 2000. Fishcreekian (Late Pliocene) Palynofloras from NW Alaska: new evidence for lowland tundra development. Geological Society of America Abstracts with programs, 32(7):A-20. Abstracts of papers presented at the National Meeting of the Geological Society of America, November 2000, Reno, Nevada.
- Perkins, L.E. '01, and R. Deike. 2001. A case study of geoscience education and assessment: designing and implementing a geologic mapping class for students with no prior geology knowledge: Geological Society of America, Abstracts with Program, 33(1):A75. NE Regional GSA, Burlington, VT. 11-15 March 2001.
- Randall, A.K. '01 and R. Deike. 2001. Emerging paradigms of granite genesis: incorporation in K-12 geoscience education: Geological Society of America, Abstracts with Program, 33(1):A75. NE Regional GSA, Burlington, VT. 11-15 March 2001.
- Randall, A.L. '01 and R. Deike. 2001. Keeping K-12 geoscience curriculum on the cutting edge of research: the granite question: Geological Society of Maine Newsletter, 7:8. Maine Geological Society, Gorham, ME. 6 April 2001.
- Shosa, J.D.** and L.M. Cathles. 2000. Flow-related mineralogic alteration in sedimentary basins. GSA Abstracts with Program, 32(7):A-209, Reno, NV.
- Shosa, J.D.** and L.M. Cathles. 2001. Mineralogic implications of fluid flow in sedimentary basins. 11th Annual Goldschmidt Conference, Hot Springs, VA.

- Shosa, J.D.**, M. J. Charles '02, C.F. Lindley '02, A.L. Randall '01, W. R. Simpson '02, W.J. Tackaberry, '01, and L.J. Wilcox '01. 2001. The class research project as a curricular foundation for a structural geology course: Geological Society of America, Abstracts with Program, 33(1):A75. NE Regional GSA, Burlington, VT. 11-15 March 2001.
- Tackaberry, W. '01. 2001. Local environmental perturbations as evidenced by facies relationships: Spittal Pond, Bermuda: Geological Society of Maine Newsletter, 7:8. Maine Geological Society, Gorham, ME. 6 April 2001; Oral. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3, 2001.
- Tackaberry, W.A. '01, **B. F. Rueger**, and **R.A. Gastaldo**. 2001. Local environmental perturbations as evidenced by sedimentological analysis: Spittal Pond, Bermuda: Geological Society of America, Abstracts with Program, 33(1):A24. NE Regional GSA, Burlington, VT. 11-15 March 2001.
- Tackaberry, W.A. '01, **B. F. Rueger**, and **R.A. Gastaldo**. 2000. Sedimentology and Holocene history of Spittal Pond, Bermuda: Geological Society of America, Abstracts with Program, 32(7):A178. National GSA, Reno, NV. 11-16 November 2000.
- Trout, M.K. '01, C.C. Labandeira, and R.E. Chapman. 2000. A morphometric analysis of insect damage on Neuropteris and implications for Paleozoic herbivory: Geological Society of America, Abstracts with Program, 32(7):A219. National GSA, Reno, NV. 11-16 November 2000.
- Wilcox, L.J. '01. 2000. Use of hydraulic test data to evaluate electro-osmosis remediation performance: Geological Society of America, Abstracts with Program, 32(7):A289. National GSA, Reno, NV. 11-16 November 2000.
- Wilcox, L.J., '01. 2001. Development and comparison of finite-element and finite difference models at an electro osmosis remediation site: Geological Society of America, Abstracts with Program, 33(1):A23. NE Regional GSA, Burlington, VT. 11-15 March 2001.
- Wilcox, L.J. '01. 2001. Development of a flow model for an electro-osmosis remediation test site: Geological Society of Maine Newsletter, 7:9. Maine Geological Society, Gorham, ME. 6 April 2001. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 3-4, 2001.

DEPARTMENT OF MATHEMATICS

- Gouvea, F. Q.** 2000. Where the slopes are. Presented at Quebec-Vermont Number Theory Seminar, University of Vermont, Burlington, VT. Presented at Millennial Conference in Number Theory, University of Illinois at Urbana-Champaign.
- Gouvea, F. Q.** 2001. Where the slopes are. Algebra Seminar, Boston University, Boston, MA.
- Gouvea, F. Q.** 2000. Fermat's last theorem, from "Diophantus to Wiles." Physics Department Colloquium, Brookhaven National Laboratory.
- Gouvea, F. Q.** 2000. Without numbers, with numbers, about Numbers. William M. Bullitt Lecture, University of Louisville, Louisville, KY.
- Holly, J.** 2000. The disoriented brain: analysis and prediction of self-motion perception. Theoretical Biology Seminar (invited), Los Alamos National Laboratory, Los Alamos, New Mexico. August 2000.
- Holly, J.** 2000. Three-dimensional differences between vestibular coriolis effects during acceleration, deceleration, and microgravity. Poster at Society for Neuroscience Annual Meeting, New Orleans, Louisiana. November 2000.
- Holly, J.** 2001. Understanding puzzling perceptions of self-motion in three dimensions through modeling. Talk at the Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, Massachusetts. January 2001.
- Livshits, L.** 2000. Banach space duality in absolute Schur algebras. Great Plains Operator Theory Symposium.

DEPARTMENT OF PHYSICS AND ASTRONOMY

- Bluhm, R.** 2000. QED tests of Lorentz and CPT symmetry. QED 2000: Frontier Tests of Quantum Electrodynamics, Trieste, Italy, October 2000.
- Bluhm, R., C. Lane,** and V.A. Kostelecky. 2000. Testing CPT and Lorentz symmetry with muons. Annual Meeting of the Division of Atomic, Molecular, and Optical Physics, Storrs, CT, June 2000.
- Bluhm, R., C. Lane,** and V.A. Kostelecky. 2000. Atomic Tests of Lorentz and CPT symmetry. 2001. Annual Meeting of the American Physical Society, Washington, DC, April 2001.
- Cathles, L.M. '03, and M.R. Albert. 2000. Diffusion of an inert gas in seasonal snow. 27th Annual Meeting of the Canadian Geophysical Union, Ottawa, Ontario, Canada, 14-17 May 2001.
- Clark, D. '01. Far-IR from the Star Formation Region G34.3+0.2. Poster presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Jennerich, R.M. '00 and **D.A. Tate.** 2000. Hyperfine structure intervals and isotope shifts in the $2p^3 3s 3S1 - 2p^3 3p 3PJ$ fine structure multiplet of atomic oxygen. Presented at the APS Division of Atomic, Molecular, and Optical Physics 2000 Annual Meeting (DAMOP00), Storrs, CT, June 2000. Abstract published in Bulletin of the American Physical Society, **45(3)**, 29, 2000.
- Kortyna, A.** 2000. Low energy electron attachment at sub-meV resolution. Annual Meeting of the Division of Atomic, Molecular, and Optical Physics of the American Physical Society, University of Connecticut, Storrs, CT, U.S.A. 15 June 2000.
- Kortyna, A.** 2000. Threshold behavior of low energy electron-molecule attachment at sub-meV resolution. Pan-American Advanced Study Institute in Atomic and Molecular Physics, Angra dos Reis, Brazil. 3 May 2000.
- Long, V. C.,** G. Yu. Rudko, Z. T. Zhu, J. L., Musfeldt, W. Wei, A. Revcolevschi, and G. Dhalenne. 2001. Doping dependence of the zero phonon line in CuGeO₃. American Physical Society meeting in Seattle, Washington on March 15, 2001.

PROGRAM IN SCIENCE, TECHNOLOGY, AND SOCIETY

- Abbott, L. M. '04. 2001. Oceans and coastal issues: climate change and the thermohaline circulation. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Alioto, M. A. '01. 2001. Waves: wave power and tidal power. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Arens, S. '01. 2001. Invaders from Spain and their impact on Native American discourses. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Benson, C. '02. 2001. Kenya and World Bank: environmental problems and solutions. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Carey, R. L. '01. 2001. Destruction, damage and death: gender, race, and class as international variables-floods. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Cease, C. C. '01. 2001. International aspects of climate change: joint implementation--The Netherlands. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Chapman, J. T. '01. 2001. Destruction, damage and death: gender, race, and class as international variables- -drought. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Clark, S. T. '01. 2001. Evolution of the weather report: prediction. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Cook, R. W. '03. 2001. History of weather services: The U.S. National Weather Service. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Cooper, B. P. '03. 2001. History of weather services: weather and war. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.

- Coughlin, J. L. '01. 2001. Politics of climate change: the difficulties surrounding international climate change, negotiations and treaties. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Dakin, J. L. '02. 2001. International aspects of climate change: joint implementation--The United States. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- DiStefano, M. R. '03. 2001. Storms in North America: storms in the Northeast. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Egleston, R. P. '01. 2001. Evolution of the weather report: pressure and winds. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Fleming, J. R.** 2000. Climatology: a myth-saturated science. May 2000. Presentations at: Centre for Research on Environment and Society, Australian National. Geography Department, University of Canterbury. Christchurch, NZ. History Department, University of Canterbury, Christchurch, NZ. History Department, University of Otago, Dunedin NZ. History Department, University of Sydney, Australia. School of STS, University of New South Wales, Sydney, Australia.
- Fleming, J. R.** 2000. Civilization, climate and ozone: Ellsworth Huntington's biophysics, biocosmics, and biocracy. Conference on Good Airs and Bad: Historical Perspectives on the Atmosphere in Relation to Health and Medicine, Wellcome Unit for the History of Medicine, School of History, University of East Anglia, UK, Nov. 2000.
- Fleming, J. R.** 2000. University, Canberra. Joint Seminar: History and Philosophy of Science Department, Centre for the Study of Health and Society, Geography Department, and Environmental Studies Department, University of Melbourne, Australia.
- Fleming, J. R.** 2001. Climate, culture, and carbon dioxide. Department of Science Studies, University of California-San Diego, January 2001.
- Fleming, J. R.** 2001. Climatology: a myth-saturated science. Centre for the History of Science, Technology and Medicine and Wellcome Unit for the History of Medicine, University of Manchester, UK, Nov. 2000.
- Fleming, J. R.** 2001. John Tyndall's research on trace gases and climate. Dedication of the Tyndall Centre for Climate Change Research, University of East Anglia, UK, Nov. 2000.
- Fleming, J. R.** 2001. Sverre Petterssen, the D-Day Forecast, and the Rise of Modern Meteorology. Department of Atmospheric Sciences, Institute of Atmospheric Physics, and Institute for the Study of Planet Earth, The University of Arizona, January 2001.
- Gammill, C. T. '02. 2001. Oceans and coastal issues: El Niño--climatic and social effects. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Garinger, A. '01. 2001. Tourism and ecotourism in Nepal. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Gehlert, N. C. '01. 2001. Creationists and scientists: social, religious, and scientific foundations of the Genesis debate. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Green, D. '01. 2001. The legacy of Thoreau. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Harris, M. A. '04. 2001. Acid rain: regional case studies in the United States--Texas and the Southwest. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Hoffmann, C. '03. 2001. Environmental issues of Ecuadorian natives. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Jaspersohn, A. '02. 2001. Eulogy for the fishermen: the destruction of the Aral Sea ecosystem, the environment, and surrounding cultures. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.

- Knorr, B. '01. 2001. Historical perspectives on science and religion. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Koch, P. F. '03. 2001. Waves: human and social impact of waves. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Krause, M. A '03. 2001. Weather and health: ultraviolet radiation and skin cancer. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Laramee, J. '03. 2001. The National Parks: Yellowstone and beyond. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Lockard, T. G. '03. 2001. Politics of climate change: developing nations and the effect of the World Bank on climate change. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Manning, D. J. '02. 2001. Energy and the environment: hydroelectricity: its uses and impact. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Mark, E. W. '01. 2001. Evolution of the weather report: recording organizations and networks. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Marshall, P. K. '03. 2001. Waves: how waves are formed. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- McCloy, W. S. '03. 2001. History of weather services: history of hurricane forecasting and the tropical prediction center. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- McManigal, J. G. '03. 2001. Acid rain: regional case studies in the United States-- California and the Pacific Coast. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Mellen, E. C. '01. 2001. Politics of climate change: the problems of island nations. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Mellen, E. C. '01. 2001. The tole of religion in environmental degradation. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Mojo, J. A. '04. 2001. Oceans and coastal issues: climatic and social effects of a changing carbon cycle. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Moran, M. E. '03. 2001. Storms in North America: El Niño and the West. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Nahigian, P. R. '02. 2001. Energy and the environment: nuclear energy: use and impact. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Nalesnik, M. J. '03. 2001. History of weather services: history of severe storm warnings. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Pace, S. C. '02. 2001. Evolution of the weather report: precipitation. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Parker, A. D. '01. 2001. Politics of climate change: the role of environmental organizations in the politics of climate change. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Paustenbach, M. D. '01. 2001. Politics of climate change: big business and the politics of climate change. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Pearce, W. '02. 2001. A history of the paper industry and its effects on the environment. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Pennypacker, C. M. '04. 2001. Weather and health: heat waves and their impacts. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Perkins, L. E. '01. 2001. Destruction, damage and death: gender, race, and class as international variables- - earthquakes. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.

- Perowne, F. A. '01. 2001. The first spike: forging the Canadian Nation. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Phillips, J. C. '02. 2001. International aspects of climate change: joint implementation--Norway. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Presbrey, K. E. '03. 2001. Storms in North America: hurricanes in the Caribbean and Gulf. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Presbrey, K. '03. 2001. Air pollution under capitalist and communist regimes. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Rogalus, M. J., III '02. 2001. Evolution of the weather report: temperature. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Rouhana, T. W. '01. 2001. Waves: tsunamis, tidal waves and society. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Rowen, K. K. '01. 2001. Destruction, damage and death: gender, race, and class as international variables- - hurricanes. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Rowen, K. K. '01. 2001. Technology, the environment and Home Depot: how technological innovation is making the lumber and hardware industries more sustainable. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME. May 4, 2001.
- Rowen, K. K. '01. 2001. The Appalachian Trail: environmental and social effects of the Trail's construction. Presentations at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Rust, M. '01. 2001. The United Fruit Company in Central America. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Schnitzer, E. '02. 2001. The downfall of the fishing industry in Maine. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Schwartz, S. M. '03. 2001. Acid rain: regional case studies in the United States--Michigan and the Midwest. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Seilheimer, J. L. '03. 2001. Storms in North America: storms of the Midwestern and Great Plains States. The impact of mammals on the flora and fauna of New Zealand. Presentations at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Sesko, M. '02. 2001. The New Zealand environment: green but not so clean. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Skulley, S. D. '02. 2001. Weather and health: smog--cause, effects and possible solutions. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Spitz, H. '01. 2001. Humans and animals: perspectives from religious traditions. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Spurr, S. K. '02. 2001. Natural gas: is it the fuel of the future? Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Tabas, M. A. '03. 2001. The winter blues: seasonal affective disorder. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Tosch, J. '01. 2001. Environmental stewardship and Buddhism. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Trout, M. K. '01. 2001. Oceans and coastal Issues: sea level rise and implications for coastal communities. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Tsiaras, G. M. '03. 2001. Acid rain: regional case studies in the United States--Florida and the Southeast. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Tweedie, S.H. '01. 2001. Acid rain: regional case studies in the United States--Maine and the Northeast. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.

- Walker, E. H. '04. 2001. Storms in North America: causes and effects of southern storms. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Wasik, K. A. '01. 2001. International aspects of climate change: joint implementation--Australia. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Williams, D. A., III '03. 2001. Energy and the environment: black gold: how oil changed our world. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.
- Zerbonne, S. '03. 2001. The green revolution revisited. Presentation at the Undergraduate Res. Symp., Colby College, Waterville, ME.