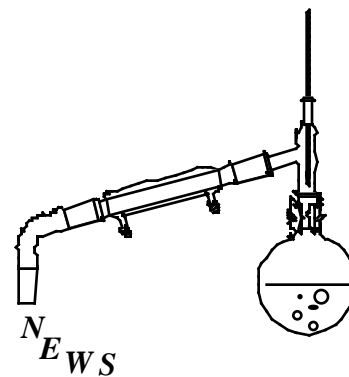


Distillations

A Newsletter for Chemistry Alumni
Winter 2001



The wet winters bring memories of the warm summers. Kristi Lopez takes her research with medicinal plants back to nature.

Happy New Year! What's NEW with you?

Winter greetings from Forest Grove. We hope you had a wonderful holiday. Locally, 2001 had a spring-like beginning with sunny skies and mild temperatures. We knew that wouldn't last. For the chemistry department, it has been another eventful academic year with expansion of the faculty and the arrival of a new manager of hazardous materials and storeroom. We have a great group of chemistry majors and research activity in the department continues to flourish. We love hearing from our alumni and are pleased to report on some of your recent activities in this issue. Keep the news coming!

Biochemist comes to Pacific

The year 2000 brought a fresh look to the chemistry faculty when it welcomed Jodi Paar as the first woman to occupy a tenure track position.

Born in Iowa, Jodi grew up in Nebraska in an academic family. Her father was, for many years, a high school history and social science teacher and Jodi recalls summers spent visiting battle sites of the civil and revolutionary wars. Her mother has had a career as a high school counselor and teacher of biology and P.E., and her step-father retired recently as academic dean at Western Iowa Tech Community College.

Jodi spent 14 years as a student in institutions of higher learning, earning no less than five degrees. She received a B.S. (Magna Cum Laude) in biological sciences with an emphasis in biochemistry from the University of Nebraska in 1990. She also earned minors in political science and psychology and was inducted into Phi Beta Kappa.

Interdisciplinary interests took her to Northern Arizona University in Flagstaff where she did graduate work in psychology and education, earning an M.Ed. in adult and community college education in 1993. During the same two-year interval she nearly completed a master's degree in psychology. She had been attracted to N.A.U. by its unique program in health psychology. It appealed to her interest in the combined effect of behavioral factors (motivation, education, and risk assessment) on health. While she immersed herself in experimental psychology, happenstance ultimately pulled her back into chemistry. Already a teaching assistant in education and psychology, she was recruited to work as a grading TA in chemistry. Thus reconnected, she spent an additional two years at N.A.U. earning an M.S. in chemistry following completion of her M.Ed.

Her evolving interests took her next to Cornell where she completed an M.S. in biochemistry with kineticist and National Acad-
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emy of Sciences member George Hess in 1998. Then, seeking experience in an area of research she could more readily implement in a small college environment, she completed a Ph.D. with the husband/wife team of biophysical chemist Barbara Baird and biochemist/cell biologist David Holowka.

Jodi's doctoral research was on the mechanism of the allergic response mediated by the immunoglobulin (or antibody) IgE. IgE molecules are complex proteins which bind to receptors in the cell membrane. Antigen-anti-



body binding triggers a cascade of intracellular reactions culminating in the release of histamines from the cell. IgE molecules do not act in isolation but must be cross-linked by antigens in order to provoke an immune response. Jodi chemically modified short segments of double stranded DNA to create rigid bifunctional molecules of variable length capable of bridging between molecules of IgE. She was thus able to study the effect of degree of separation of IgE molecules on the amount of histamine release.

Jodi's first semester at Pacific was a busy one. With Jim Currie on sabbatical, she taught the upper division organic chemistry course together with three laboratories. Jim will return to teach the second semester of organic in the spring and Jodi will have her hands full with biochemistry and a section of general chemistry. In 2001, she will dramatically expand the department's offerings by teaching, for the first time, a second course in biochemistry with lab, and a course in environmental chemistry. If time permits, she also hopes to begin engaging undergraduate students in research on the effect of molecules in the environment on the allergic response. Currently she and Kevin Johnson are collaborating on a major grant application to obtain instrumen-

tation for scanning tunneling microscopy and atomic force microscopy.

If the above sounds like a lot to pack into 15 years of life, it is only part of the story. While a student, Jodi consistently held two or three jobs simultaneously. She has done everything from house cleaning for the dean of health sciences and the president of N.A.U. to working for an Arizona mortuary to working in a post office to writing pesticide laws and toxic waste briefings for the governor of the state of Nebraska. She has also worked for a domestic violence shelter, an experience which she describes as "uplifting," and for the Breast Cancer and Environmental Risk Factor program of the Cornell Center for the Environment.

In her spare time Jodi likes to run; "I think better while moving." She also owns a 17' sea kayak which she has paddled on the Finger Lakes of upstate New York and which she looks forward to getting into the waters of the Pacific Northwest. She is an avid hiker/backpacker who celebrated the first day of 2000 in subzero weather in the Adirondack mountains, and recently, she observed the winter solstice, with a companion, while camping on Cumberland Island in Georgia. Her reading tastes run from philosophy, particularly the existentialists, to psychology to physics to drama (Arthur Miller is a favorite) and she loves Shakespeare ("Why does anybody need to write anything else?").

Jodi remembers that her first semester class in general chemistry had 500 students and, because of the overflow enrollment, she watched the lectures on a TV screen. It was almost enough for her to abandon chemistry. Fortunately, her second semester class was smaller by a few hundred students and her interest revived. However, the experience strengthened her resolve to seek an academic career in a small college setting. Thus she and Pacific appear to be a very good fit and she has quickly made herself at home here. Jodi was attracted to Pacific by the profile of the faculty, program, and facilities. During her visit to campus for an interview she was particularly impressed by the degree to which the sciences are integrated into the liberal arts experience. She also likes the west where "there's more air to breath." When she was offered the position, her mother advised, "...take it, these are your kind of people." Her colleagues agree with mom. Jodi arrived in the chemistry department like a whirlwind of positive energy and things will never be the same.

Simpson Joins Chemistry

Diane Simpson has quickly taken over management of the chemistry storeroom and hazardous material program at Pacific. Born in San Jose, Diane grew up in Milpitas, Calif. (between Fremont and San Jose) in what now is known around the world as Silicon Valley. She is the youngest of 15 (this is not a misprint!) children, which may help explain why she is very good at making her needs understood.

Diane attended the University of California at Davis from which she received a B.S. in biochemistry in 1993. Following graduation, she took a position as a research associate in the Process Development Department with Glyko, Inc. in Marin County. In search of an urban living experience, she next accepted a position as a research assistant at Oregon Health Science University where she served as manager of the clinical assay division, a multifaceted responsibility which included the supervision and training of visiting physicians, scholars, medical fellows and staff.

The next turn in her career path took her to Richland, Washington,

where, for more than two years, she served as a project manager assistant at Parsons Infrastructure and Technology Group, Inc. Affairs of the heart brought her back to the Portland area and another position at OHSU in the spring of 1999. Weary of the daily commute, she applied for the position she now holds, a mere six-block walk from the home she shares with husband Tony in the south central district of Forest Grove. Tony, who holds an M.S. degree from the acclaimed program in viticulture and enology at U.C. Davis, is the winemaker for Domaine Serene, a small but expanding winery located in Carlton, Ore. Diane and Tony met while at Davis and were married in June, 2000. They are planning a deferred honeymoon to New Zealand for two weeks beginning in late January 2001.

Diane, not surprisingly, is a wine and food enthusiast who, with Tony, enjoys partaking of the Portland restaurant scene. She is also a runner who last year completed a marathon to benefit the Leukemia Society and hopes to





New iMac computers combined with mini research projects have revolutionized the General Chemistry laboratories.

take part in the Portland Marathon in October 2001. The passion that Diane and Tony share for backpacking has taken them on trips to the Enchantments in Washington and to the mountains of Central Oregon. When she has time, Diane enjoys contemporary literature (John Irving is a favorite novelist). Of late, however, her energies and considerable organizational skills have been consumed in whipping the chemistry faculty into shape. It's not easy, but she's winning.

Wedding Bells

Congratulations and best wishes to Kevin Johnson and Gowri Meda who chose the winter solstice, December 21, 2000, as their wedding date. Kevin joined the chemistry faculty in 1994 and was awarded tenure in the spring of 2000. Gowri, who is from Hyderabad in southern India, holds a Ph.D. in mathematics from Bryn Mawr (1997).



Research News

NASA

Rick Whiteley and senior Brandy Moore attended the NASA Aerospace Battery Workshop in Huntsville, Alabama in November, 2000. The workshop, hosted by the Marshall Space Flight Center, is held annually and brings together approximately 100 of the most prominent battery engineers and scientists from around the world to discuss ongoing research and development in spacecraft energy storage. Brandy presented a paper entitled *The Characterization of Lithium Battery electrolytes by Computer Modeling*, coauthored with Rick Whiteley, Jim Currie and Kevin Johnson. Their work, largely funded by the Murdock Charitable Trust over the past two summers, showed that the way electrolytes break down in lithium ion batteries can be predicted by molecular modeling. According to Whiteley, the modeling approach offers a promising avenue toward the design of more effective battery electrolytes, and may replace the trial and error route currently used in battery development.

BCCE, 2000

Jim Currie and Kevin Johnson attended the 16th Biennial Conference on Chemical Education at the University of Michigan in Ann Arbor July 30-August 3. More than 630 papers were presented at this well attended conference which was cosponsored by the American Chemical Society. Contributions from Pacific University were:

- *The Evelyn Effect. A Multifaceted Study for Organic Chemistry*, James O. Currie, Jr.

- *Projects in General Chemistry Activity Sessions: Putting Theory into Practice*, Kevin E. Johnson.

Murdock Conference, 2000

Summer research in the sciences has flourished over the past two years under generous funding provided by a grant from the Murdock Charitable Trust. Each fall the Murdock Trust sponsors a conference at a campus in the Pacific Northwest. The 2000 conference was held November 3-4 at the University of Puget Sound. Five chemistry students joined Jim Currie and Kevin Johnson for the weekend trip from Forest Grove. The following poster presentations were given.

- *Characterization of Lithium Battery Electrolytes by Computer Modeling, II*, Brandy Moore, Kevin Johnson, James Currie, and Richard Whiteley.
- *The Evelyn Effect*, Rachel Anderson and James Currie.
- *Inhibition of Growth of Pathogenic Microorganisms by North and Central American Plant Extracts*, Ramil E. Sapinoro, Kristi Lopez, James O. Currie and Lisa M. Sardinia.
- *Edge Effects on HOPG Graphite of the Intercalation of Lithium Ions*, Amanda Moore, Kristy Drafahl, Kevin E. Johnson.
- *Reactions of Carbenes with Azirines*, Matthew P. Seidel and James O. Currie.

Alumni News

Steve Fields '82, recently provided a summary of the path his life has taken since completing a B.S. in chemistry. His story begins with an anecdote which is reflective of the type of fortuitous encounter which can alter the course of one's life.

"During my senior year at Pacific, I was an intern at the Oregon Graduate Center, working on an air pollution project in conjunction with NEA Labs of Beaverton. Prof. Nolan Mangelson, on sabbatical leave from Brigham Young University, and I collaborated in an evaluation of particulate source apportionment software. Later that year he



helped me find a research technician position at BYU in the lab of Professor Milton Lee. Both of my brothers lived near there, which

helped soften the agony of a drastic haircut and shave (my nephews thought the before and after look was hilarious)."

Though he had anticipated spending only one year at BYU, Steve had an opportunity to participate in the early development of capillary supercritical fluid chromatography techniques and ended up staying for a Ph.D. His work involved optimizing experimental parameters and included some assembly language programming. His personal life evolved as well when he married Rebecca, the roommate of a fellow student in his research group. Steve and Rebecca celebrated their wedding a second time in Taiwan, Rebecca's home country, en route to a postdoctoral appointment at Ciba-Geigy's central research labs in Basel, Switzerland, in February 1987.

Steve's work in Basel continued to center on supercritical fluids with experiments designed to test the limits of its applicability in pharmaceutical and polymeric fields. Steve observes that "Living without a car for two years was one of the great perks of that position - the Swiss and generally all European train systems are fantastic."

Steve and Rebecca completed their journey around the world when they returned to the U.S. in 1989 where Steve commenced

a postdoctoral position at Battelle Labs in Richland, Wash. Here his work focused on capillary isotachopheresis coupled to mass spectrometry. Steve next accepted a position with Dow Chemical which took him first to Pittsburg, California and later to Cincinnati, Ohio. Dow's strong support of analytical research afforded him the opportunity to participate in the application and development of a wide variety of chromatographic techniques including GC, supercritical fluid chromatography, HPLC and capillary electrophoresis. According to Steve, "...if you ever have your house 'tented' the purity (of the termite fumigant Vikane(tm), SO_2F_2) was tested with a packed-capillary column sequence reversal method I developed." At the drug discovery center in Cincinnati, he worked on a project involving silica monolithic supports for HPLC in 1995, which has since become a very hot topic in chromatographic research.

When the company was bought by Hoechst, Steve and Rebecca were faced with a move to New Jersey. Instead they opted for an opportunity to return to the west. "An old Dow friend was working at ALZA Corp. in Mountain View, Calif., and I sent him my resume, which led to a position as a lab manager for their transdermal patch product area in 1996. I have found it very true that personal connections are what get you the best jobs."

At ALZA, Steve manages a group of 15 people, which develops and validates analytical methods (mostly HPLC) and supports the efforts of the product development groups. His group's primary work is on the transdermal patches (Nicoderm is one of ALZA's best known products). He has been leading the group in efforts to continually speed up chromatographic techniques. ALZA's entire business is in the science of controlled release formulations for pharmaceuticals. Steve notes wryly that their work is subject to FDA oversight, "...which translates into about one hour of paperwork for any one hour of lab work."

Steve and Rebecca have two daughters, Shiantel, 10, and Jinelle, 7. Steve has done a good job of staying in touch over the years, visiting Pacific from time to time. Eighteen years following receipt of his own diploma, Steve attended the May 2000 commencement ceremony of his nephew, Nicholas Miller. This provided a nice op-

portunity to reconnect with faculty remaining from his time as a Pacific student.

Brad Broker '91, after 9 years in a high-stress, fast paced industrial career, has taken a new position as Drinking Water Lab Certification Officer and QA Manager for the State of Idaho. He is responsible for internal compliance and auditing and certifying all the private labs in Idaho for compliance with EPA regulations.

Alison Little '79, lives in Redmond, Ore. She is medical director of an insurance company.

Nate Meyer '00 is living in San Jose where he works for Kforce.com, an internet technology staffing firm.

Christie (Kalamen) Nielsen '00, is living in Boulder, Colo., with her husband, Nick. She is working as associate chemist with Hauser Laboratories. Their lives are due for a major change this spring when their first child is due to arrive.

Jane (Eisenhauer) Rudd '86, gave birth to child number three, Erin Marie Rudd December 12, 1999. Erin joins sisters Megan, 5, and Katie, 3. Dr. Rudd spends 2-3 days a week tending to her medical practice. Jane says she goes to the clinic "...to rest up from my hard job at home!"

Aaron Song '92, completed an M.D. at University of Washington School of Medicine. Following three years of training in internal medicine, he is serving as chief resident at UCI Medical Center in California. Next up will be two years of training in nephrology. In November 1999, Aaron was married to My Linh who is a nurse practitioner in family medicine.

Ken Stangland '77, lives in Bend where he has a practice as an anesthesiologist, or, as Ken puts it: "I'm a clinical chemist."

Be a Part of the New Website

Thanks to Vicki and Jim Currie, the Chemistry Department Website at www.chem.pacificu.edu, is sporting a revised look. We plan to update the alumni section soon. If you would like to post your e-mail address or add a link to your personal website, just let us know.

**The Pacific University
Chemistry Department**