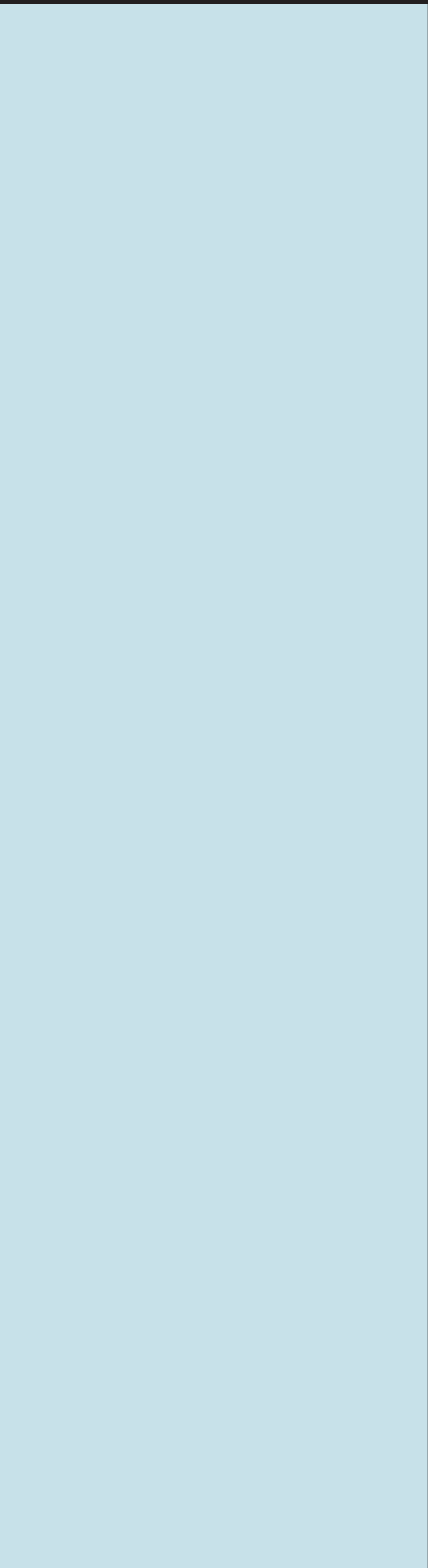


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By Dr. Jeffrey Cohlberg

Dr. Young Shon's research is exploring new ways of synthesizing nanomaterials and using them for a variety of technological applications. Nanoparticles of diameters between 1 and 100 nanometers often exhibit properties significantly different from those observed either in bulk materials or in atomic and molecular structures. Nanomaterial research is currently an area of intense scientific interest due to a wide variety of potential applications in optics, electronics and biomedical areas.

Dr. Shon received his B.S. and M.S. degrees at Sogang University, a private Catholic university in Korea. After working briefly for the Korea Institute of Science & Technology, he entered the graduate program at the University of Houston, completing a thesis on material chemistry and organic thin films in 1999 under the direction of Dr. T. Randall Lee.

It was during postdoctoral work under the direction of Dr. Royce Murray at the University of North Carolina that Dr. Shon became involved in research developing methods of synthesizing ligand-capped nanoparticles. He continued this work while serving as a professor at Western Kentucky University from 2001-06. During this period, his group developed new approaches to nanoparticle synthesis.

Since coming to CSULB, Dr. Shon has focused on developing applications of nanoparticles prepared using the synthetic methods that his group developed



by Rick Oady

Professor Jeffrey Longti, lecturer in the Department of Chemistry and Biochemistry, has been named one of America's top undergraduate professors by Princeton University in its newest guidebook, *The Best 300 Professors*, which has released rankings published in partnership with RateMyProfessors.com, the highest-trafficked college professor ratings site in the U.S. *The Best 300 Professors* profiles outstanding faculty at 122 colleges. According to Princeton University, a lot of the professors on high praise from their most important audiences—the undergraduate students they teach and inspire—class after class, year after year, in fields that range from ancient studies to neuroscience to sports management.

an educator for more than 30 years, Jeffrey has taught at MIT for 25 years since 1990, and much of that time has been spent teaching one course, the 10.0. According to his professor profile in the guidebook, "He looks for students whose love of chemistry is buried so deep inside that they don't know they have it." He says his goal is to "unbury" that love of chemistry.

There are many people more deserving than me, but it is still a very nice honor to receive," Jeffrey said of his selection. "It is an honor to work with young kids... try to show them how neat chemistry is in today's world and try to treat them with dignity and decency. The truth is, I get to do a lot of that. One of the things I do is being an older geezer like a grandpa, it is great being around young people."

Professor Longti states, "In his legendary demonstrations, he uses humor, songs and jokes, and treats students with respect. And he says, 'Ranking, make it very easy to do if students show up and really try. It's hard for chemistry, logic and critical thinking, but having fun is a rewarding hobby. Important chemistry is."

He is a great instructor, very entertaining," said department chair Kristin O'Connell. "He has been here for many years. He is very interactive, a good showman, and he is very bubbly among the students. He is truly enthusiastic about chemistry and that's very important."

His profile also includes comments from students who describe him as a "real goof" who is "igniting" emotions and awards bonus points to students for a variety of contributions.

Jeffrey admits that he is obsessed with chemistry and that fact comes through in his demonstrations. "He always says that humor is very important when it comes to helping students learn chemistry as is getting them involved in the subject. At the same time, he said he tries to teach students a little about life in general and that he thinks is important."

First, try to tell me that being a decent human being is a goal. I don't think I should be a 2.0 student.

Photo by Victoria Sanchez

The Chemistry and Biochemistry Department welcomed Dr. Jason

Department Upgrades NMR Instruments

The Department of Chemistry and Biochemistry recently acquired a new 300 MHz nuclear magnetic resonance spectrometer for use in the teaching laboratories and has upgraded its 400 MHz instrument.

Nuclear magnetic resonance, or NMR as most chemists and biochemists know it, is so much an integral part of modern chemistry that a working NMR spectrometer is the only piece of instrumentation specifically required by the American Chemical Society's Committee on Professional Education for ACS certified degree programs. No longer just a structure identification tool for organic chemists, NMR has broad application in organic, inorganic, physical and biochemical laboratories.

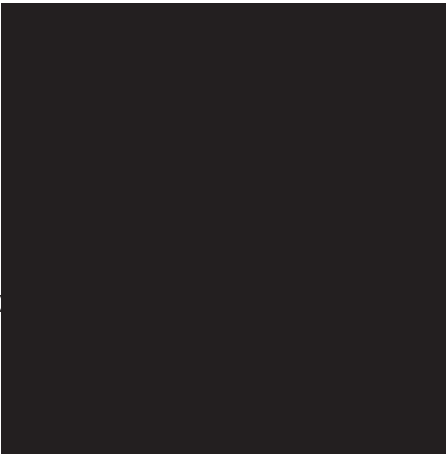
The department has continually worked to provide graduates with NMR training appropriate to the current technology. Some readers may remember the 60 MHz NMR that was housed in the instrument rooms between the Henderson Organic Labs and the

Dr. Roger Cey

It has been a very exciting year for my research group. There are three ongoing projects in the lab. One is to determine the role of butyrylcholinesterase (BuChE) in neuron development. The second is to develop unique BuChE inhibitors as a potential therapeutic for the treatment of Alzheimer's disease. This project is in conjunction with Dr. Kensaku Nakayama. We have begun animal studies to determine the *in vivo* pharmacological effects of the compounds. The third project involves the development of water purification technology using a unique metal binding protein known as metallothionein (MT). I

am pleased that Dr. Stephen Mezyk has decided to collaborate with us on the project.

Four undergraduate students joined the lab this year. Josh Feng and George Lara are working on the BuChE inhibitor project, Matthew Kunicki is looking at BuChE expression in stem cell differentiation and Phuc "Sam" Nguyen is working



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degree program, maintained a 4.0 in her course work and was awarded the John and Elizabeth Leonard Scholarship for the 2012-13 academic year.

I have been involved in teaching the advanced organic laboratory course (CHEM 420) since fall 2007. Every semester, I try to incorporate reactions from the literature into the course curriculum to give students an opportunity to ponder “real-world” examples in the lecture and lab. I've continued to also teach the CHEM 322 series, the two-semester organic chemistry lecture sequence for bioscience majors. The course has its own challenges, but I enjoy applying Dr. Don Paulson's (retired, Cal State L.A.) active learning strategy in its instruction.

Dr. Sas Arayanasai

Occasionally, I complain that my students move at glacial speed. Thanks to global warming, glaciers are moving faster nowadays, and looking back, it seems like the students are keeping pace with them! Read on to find out what a bunch of jetsetters we have in our group.

We welcomed the new M.S. biochemistry student Shweta Kothari, who joined our group in early spring. We also hosted three NSCI 160 freshmen, who spent the semester tagging students in our lab. One of them, Patricia Nguyen, won the LSAMP summer fellowship award to continue working in our group during summer 2012.

In late spring, we bid farewell to graduate student Gursharan Bains, who successfully defended her M.S. thesis. She completed her thesis on the synthesis of a novel class of

(check out the amazing pictures that Katie Feher took on the confocal Olympus microscope). We received more good news at the beginning of the year in the form of NIH funding for four years to study peptides as nano-carriers for delivery of cancer drugs. There are several students involved in this project, but Aparna Shinde worked especially hard on studying uptake of the carrier to the nucleus and carrier digestion by serum enzymes. We are ready (almost) to submit our manuscript.

scholarships, marking the second year in a row that the Sorin lab had two W&P Scholars. Erik, who will soon be working on a manuscript or two of his own, was also this year's Glenn M. Nagel Undergraduate Research Fellow, and Kim, currently analyzing her own data set, was awarded a 2012 BP America Scholarship. The support that Sorin lab students received this year has thus kept my students and me energized and looking forward to further accomplishments in 2012-13, with several new lab members by our side. M.S. chemistry student Linh Nguyen and biochemistry undergraduates Nguyen Nguyen and Emilio Robles are now in the lab with us full time this summer!

While working alongside this group of very ambitious and talented undergraduate and graduate students, I'm also having fun

teaching CHEM 361, our chemical communications course, for the first time this summer. For the second year in a row, I had a great time spending the year with a large number of our majors moving through the CHEM 377A/B sequence, which was very rewarding and allowed me to get to know some of our majors quite well (a couple of whom stayed on for my summer CHEM 361 class!). My teaching experiences at CSULB never fail to "shock and awe" me, and I'm looking forward to meeting next year's crop of aspiring chemists and biochemists.

I also remained extremely busy on the service front this year, as I continued to maintain the department's website and serve on the CSULB Academic Senate; developed and planned our first annual New Graduate Student Orientation event; served on our bioorganic faculty search committee; and was added to the editorial board of two journals this year, *OMICS Bioenergetics* and *the Journal of*

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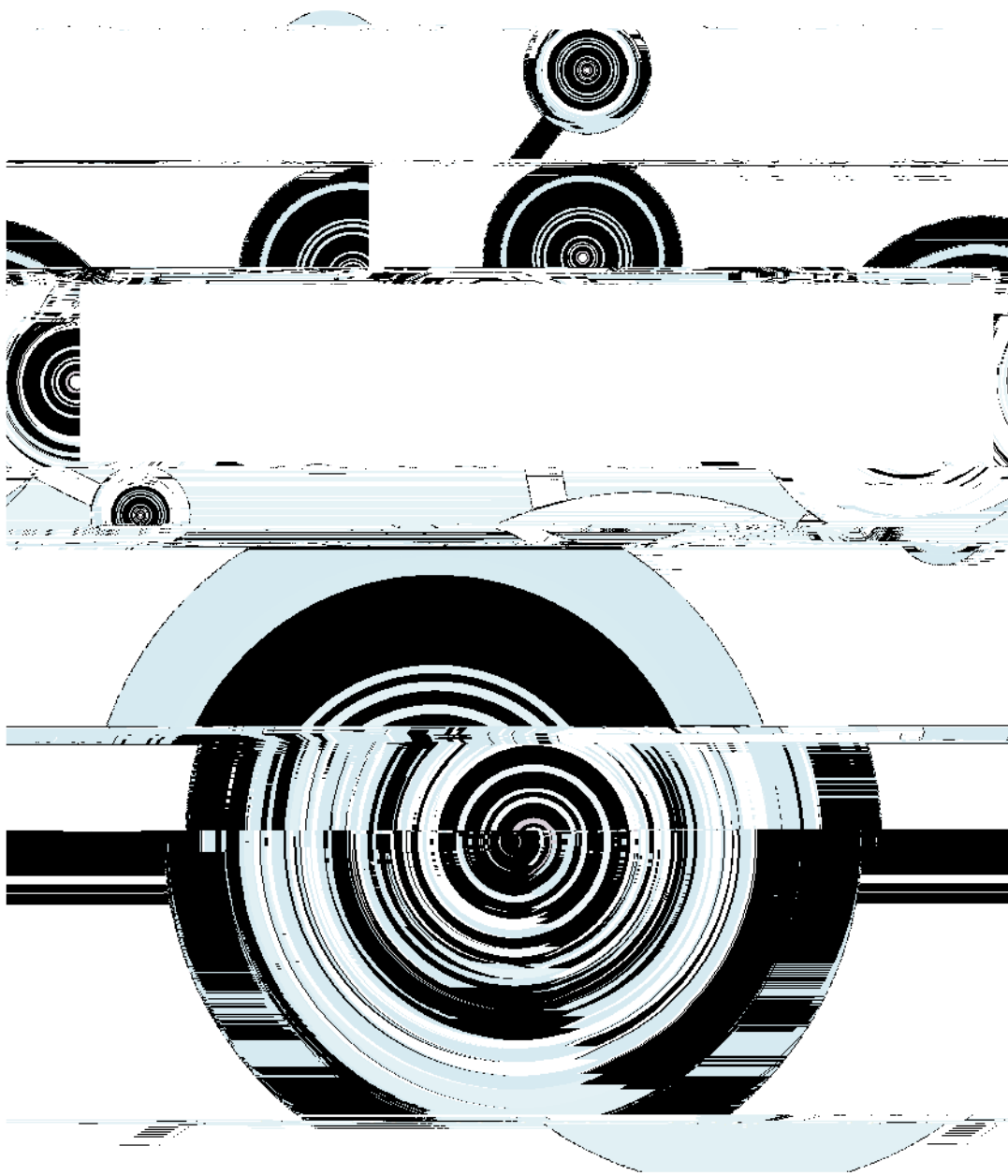
Dr. Kensaku Nakaya

- Carey, T., K. Nakaya, . . .

Robert B. Henderson Award

Dr. Robert B. Henderson, a distinguished scientist and teacher of organic and general chemistry, was a founding member of the Department of Chemistry and Biochemistry and taught from 1955-82. He served as chair of Physical Sciences and associate dean of the college. This award is given to a student best exemplifying Henderson's scholarship and commitment to the profession of chemistry. This year's award of \$1,000 was presented to **Aarav K**





Do you enjoy reading these reports? We would love to hear from you! Please e-mail our editor, Dr. Jeffrey Cohlberg, at Jeffrey.Cohlberg@csulb.edu with news about yourself that we can include in next year's newsletter!

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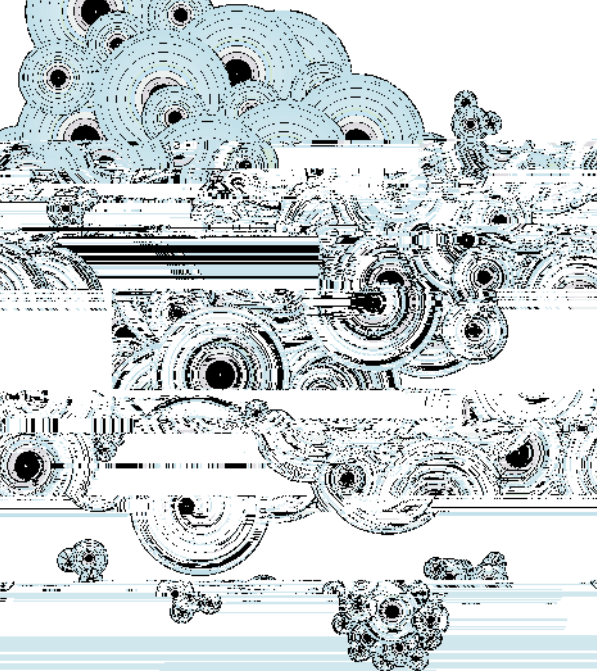
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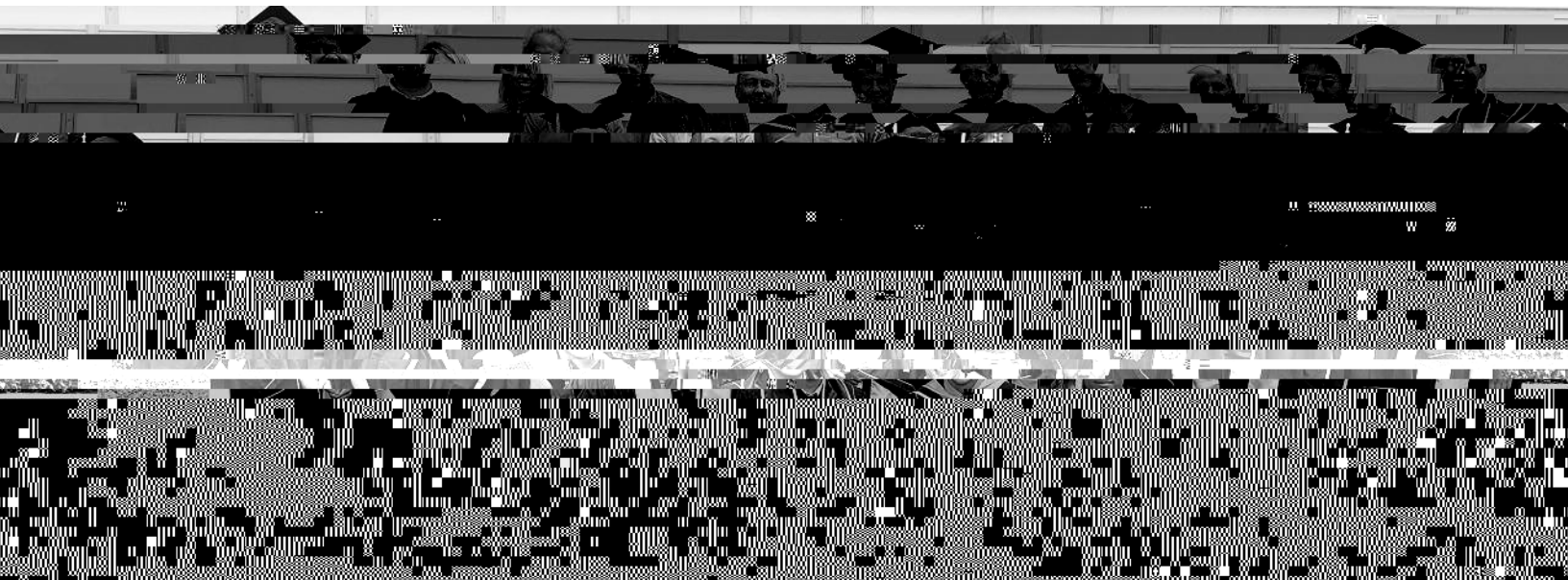
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