Dominick Casadonte Takes on Chairman Role

After a year-long search process, Arts & Sciences Dean Jane Winer named Dr. Dominick J. Casadonte, Jr. as the 10th chairman of the Department of Chemistry and Biochemistry.

Dom received his BS degree with Honors from Case Western University in 1977, his MS and PhD degrees from Purdue University in 1981 and 1985, respectively. He held two postdoctoral research positions (in the labs of Kenneth S. Suslick and Theodore L. Brown) at the University of Illinois, Urbana, from 1985-89, and was a Dreyfus Scholar/Fellow at Furman University 1988-89 prior to joining Texas Tech University in 1989. He spent 1999-2000 in France on a Fulbright Senior Scholarship. In 2001 he was designated a Minnie Stevens Piper Professor by the Texas Higher Education Coordinating Board, and in 2003 was promoted to Professor at TTU.

Dom’s research focuses on the chemical effects of high-intensity ultrasound, environmental remediation, supramolecular chemistry, design of photoactive metallopolymers, and photophysics/photophysics. He has received 27 research grants during his career, and has published 2 books, one book chapter, and 27 refereed articles. During his career, he has supervised two Postdocs, three PhD students, six MS students, and 34 high school and undergraduate students.

We welcome Dom to the chairmanship of the Department!
August 1, 2005

Dear Diary,

Well, today I officially begin my duties as Chair of the Department of Chemistry and Biochemistry at Texas Tech. As I think back on the history of chairs in the Department since I arrived (dare I say it?) in 1989, I realize that I have incredibly big shoes to fill.

When I came to Lubbock to join the TTU faculty, Dick Bartsch was Chair of the department. He was finishing up his first term, which lasted through most of the decade, including a major renovation of the building and facilities. When Dick retired as chair the faculty were, for the first time, entirely research active.

David Knaff began to make his mark in 1990, and was Chair throughout the first half of the decade of the 90’s. During David’s time we saw a rise in the number of faculty, graduate students, and research dollars generated by the Department. We also saw an expansion in our General Chemistry program through the skillful management of a new General Chemistry Coordinator, Patricia Metz.

In the latter portion of the 1990’s Dr. Max Roundhill led the Department. Max spent the majority of his time trying to promote the research agenda of the Department. He was our first outside hire for the Chair position. In 2000 Dick Bartsch again assumed the reins (OK, we are at Texas Tech… the analogy seems appropriate) of Chair. During his second term, the Department again saw a rise in research funding (to $4 million, as Dick reported in the 2004 TestTube), and hired a significant number of new faculty, so that today our numbers stand at 27, the largest number in the history of the department.

With a history like that, and let’s not forget the amazing Chair tenures of Joe Dennis, Henry Shine, and John Kice, I find myself both nervous (what huge legacies to continue!) and excited by the Department’s potential to reach new horizons. In the fall of 2005 we will have two new faculty members joining the Department, Dr. Dimitri Pappas (Analytical Chemistry) and Dr. Michael Fuertes (Organic Chemistry). More information about Dimitri and Michael is on page 4. Even though our number of faculty is the largest in our history, so are the numbers of students coming through our doors, so hiring more faculty continues to be one of our priorities.

Since the last time I wrote in this diary, several faculty have been promoted, recognized, or have been in transition. Paul Paré was promoted to Associate Professor and received tenure this past year. David Nes is returning from a two-year stay at the National Science Foundation, where he served as Director for three different programs (Metabolic Biochemistry, Molecular Biochemistry, and Sensors and Sensor Systems). Whew!

In the area of kudos this past year, there are many. David Birney was the recipient of the President’s Academic Achievement Award. Bob Blake was awarded the “Professing Excellence” Award from the TTU SUCCESS Center. Sandy Dasgupta and I had the honor of being inducted into Phi Kappa Phi, a national academic honor society. Sandy was also named the 2004-05 Scientist of the Year by the Lubbock Chapter of ARCS (Achievement Rewards for College Scientists). He was also the recipient, for the second time, of the Ion Chromatography Achievement Award.

Guigen Li received the TTU Chancellor’s Distinguished Research Award for 2004 in December. This was the second such award received by a faculty member in the Department since its inception in 2000. Bill Poirier received the “Tribute to Teachers” award given by the College of Arts & Sciences.

There have been a number of changes in the staff since the last time I wrote. Jennifer Dunfield left for the wilds of Washington state. Amy Peterman now works with both the General Chemistry program and the Undergraduate Advisor. Speaking of Undergraduate Advisors, we were very sad to see Michael Jones (Kathy’s husband) leaving us. Michael was named Assistant Director of the Center for Biodefense, Law, and Public Policy at the TTU Law School. Michael is uniquely qualified for this position because of his training as an Organic Chemist and the time he spent as Environmental Safety Officer for the
The Chair Conformation (continued)

TTU Health Sciences Center prior to joining our department. Pramod Chopade will be taking over as Organic Lab Coordinator this year. Chris Truitt is taking on a new role as General Chemistry Lab Coordinator. And Jeremy Mason will become the new Undergraduate Advisor.

With all of the excitement and new beginnings that are going on around here, I can’t help but reflect on the passing of two of our own this year. Justin Thorne, a May 2005 BA chemistry graduate of our Department, passed away in late July. Justin had been instrumental in working with Bob Blake as a member of his Peer Led Team Learning team. His unique personality and sense of humor will be missed.

For me personally, the saddest loss of the year came from hearing of the death of Jerry Mills in February. Jerry was a good friend and a real spark for the Inorganic Division, Student Advising Office, and Pre-Professional Health Careers Office during his time at TTU. He was easily the best teacher we have had in the Department since I have been here. He was one of the most organized people I have ever met, and could accomplish Herculean tasks with ease. It was incredible to watch him put together large parts of the Southwest Regional American Chemical Society meeting we hosted in Lubbock in the early ’90’s. And talk about someone who could cook!... Even now I miss his “How the hell are you?” that greeted me almost every day for my first seven years at Tech. There are some people you meet in life who leave a lasting impression on your being. Jerry’s kindness, his warmth, his amazing teaching, and his true interest in people were felt by all who knew him, from the freshman in the classroom to his colleagues on the faculty. He was my mentor. He was my friend. And I shall miss him.

August 2, 2005

I survived a day as chair!

Today I have to write something to go into the Test Tube. I wonder if its recipients know that they have me to blame for its current format (the cute (OK, I think they are cute…) little things, like “the Chair Conformation”, “What’s ν (that’s c/λ of course!)”, and all). Hmm…

Two of the things I told the Department I wanted to do in my role as Chair are: 1) to make the department more accessible, especially to our undergraduate students; and 2) to help move the Department “to the next level” (whatever that means).

I have met many of you during my 16 years at Texas Tech — some in freshman chemistry classes and some as “the wizard” during my chemical demo shows. Some of you may only know me as a name on our directory, and some of you don’t even know me to that extent. I want to assure all of you, though, that my door is always open for you to come and visit. I mean that literally. As long as I am in the office during the day, the Chair’s office is open (just ask the folks in the front office…). Please feel free to come by when you visit TTU, whether you are coming for a football game or alumni weekends or simply to visit your old haunts.

We are opening up a lounge area in the building this fall. An old stockroom on the south side of the building is being converted to a space where Chemistry and Biochemistry students can come and eat lunch, discuss research, or just simply relax. Since the room has large wooden letters from some bygone days that spell out the word “STOCKROOM”, we are calling it “The Stockroom Lounge”.

Point number 2 is a bit trickier. Being a middle-sized public institution, we never seem to get enough money from the state to move to the next level. You will see throughout this newsletter a number of opportunities to support the Department. We are starting a Jerry Mills Endowed Scholarship this year, for example. And as our department continues to grow, infrastructure needs become ever more pressing. We want to thank all of you who have so graciously provided financial support over the past year. And we encourage everyone in our Chemistry and Biochemistry family to think about supporting the future of Science at Texas Tech by donating to the Department (see page 19). It is truly an investment in the future of the young Red Raider men and women who will move the world to the next level.

OK. It has been a long, interesting day, Diary. I’m going home to think about new horizons…and maybe even get some sleep…
Who is "\( \nu \)" (That’s \( c/\lambda \) of course!) on the Faculty?

Michael Fuertes, Assistant Professor, Organic Division

Michael Fuertes joins the Organic Division as an Assistant Professor. Michael received his MS and PhD degrees from the University of Chicago in 1997 and 2002, respectively, and then held a postdoctoral research position at the University of Pennsylvania from 2002-05. His research focuses on the total synthesis of natural products, development of new synthetic methodology, peptidomimetics, drug discovery, and catalysis.

Michael was born in Freehold, New Jersey, and grew up in Holland, Michigan, with 4 siblings. His hobbies include golf (with an 8 handicap), martial arts (he has a black belt in Pukang Tang Soo Do), snowboarding, baseball, softball, and playing video games and Texas Hold ‘Em poker. He is also an aspiring wine collector.

Dimitri Pappas, Assistant Professor, Analytical Division

Dimitri Pappas joins the Analytical Division as an Assistant Professor. He received his PhD from the University of Florida in 2002, and has worked as a postdoctoral researcher at the University of Florida, in 2002, and as a research scientist in the Wyle Laboratories of the NASA/Johnson Space Center, from 2002-05. Dimitri’s research focuses on analytical fluorescence and raman spectroscopy, cellular analysis, flow cytometry, and optics.

Dimitri was born in Daytona Beach, Florida, and spent his days on the beach. He and his wife, Mimi, have two daughters — Anya, age 2 1/2, and Natalya, age 9 months. Dimitri plays guitar and enjoys building and modifying vacuum tube guitar amplifiers. He writes fiction, and loves reading, swimming, and cooking.

Jeremy Mason, Instructor and Undergraduate Advisor

Jeremy Mason joins the department as Instructor and Undergraduate Advisor. Jeremy is a double Texas Tech graduate, receiving a Biochemistry BS May 2002 and a Chemistry MS May 2005. He and his wife, Sara, recently purchased their first house.

Lab Coordinators Named

Instructors Dr. Christopher Truitt (left) and Dr. Pramod Chopade were named General Chemistry and Organic Lab Coordinators, respectively, for the 2005-06 academic year. Both men received PhDs in Chemistry from TTU — Chris in December 2003, and Pramod in December 2004. Chris is married to Christina. Pramod is married to Li Li (MS Birney 2003) and has a daughter, Catherine, age 2.
Staff Role Call

We had several staff changes during the 2004-05 school year. **Jennifer Dunfield** moved to Washington state in November 2004, and **Rhonda Green** and **Kelly Diaz** left the department during the summer of 2005. **Amy Peterman** is our new Unit Coordinator of Academics and **Whitney Green** is our new receptionist (and May 2005 TTU graduate). **Adelina Loya** and **Nina Pruitt** are the new Senior Business Assistant and Senior Office Assistant, respectively, in the Business Office. Nina also stays busy working part-time for three of our professors.

Business Manager **Yesenia Sanchez** received a TTU Service Plus Award in March 2005. **Debbie Guerrero** became Mrs. Bryant Martinez this summer. Congratulations to them!

**Faculty Departures**

- Visiting Assistant Professor Dr. **Jess Jones** is currently working as a Postdoctoral Associate at the University of Tennessee.
- Instructor, Undergraduate Advisor, and General Chemistry Coordinator Dr. **Michael Jones** has moved to the TTU Law School as Assistant Director of the Center for Biodefense, Law, and Public Policy.
- Visiting Assistant Professor Dr. **Gary Miracle** is now on the chemistry faculty at Western Illinois University.
- Visiting Assistant Professor Dr. **Howard Vogel** is a new Assistant Professor at Oklahoma Christian University.

**DEPARTMENTAL STAFF, 2005-06**

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**Rhonda Green**, center front, celebrated her birthday (and her last day of work) with staff (from left) **Kathy Jones**, **Yesenia Sanchez**, **Amy Peterman**, Laquetta Purkiss, and Cheryl Blasingame, July 2, 2005.

**Our newest staff members are** (left to right) **Amy Peterman**, **Adelina Loya** and **Whitney Green**.
Departmental Lecture Series

2004 Shine Lecture

The Fifth Henry J. Shine Lecture was held Thursday, November 4, 2004. Professor Amos B. Smith, III, from the University of Pennsylvania, presented a talk entitled “Evolution of a Gram Scale Total Synthesis of (+)-Spongistatin 1: Challenges, Excitement, and Frustrations.

2005 Robinson Endowed Lecture Series

The Third G. Wilse Robinson Endowed Lectures Series was held Wednesday April 27, 2005. Dr. William H. Miller from the University of California, Berkeley, gave two talks. His technical talk was entitled, “Using the Initial Value Representation of Semiclassical Theory to Include Quantum Effects in Classical Molecular Dynamics Situations”, and his public talk focused on “The Remarkable Confluence of Theoretical Chemistry.

2005 Song Dissertation Prize Awarded to Chun Zhou

The Song Dissertation Award, established by Professor Pill Soon Song when he left our department to become chairman of the Department of Chemistry at the University of Nebraska, honors the graduate student who submits the best doctoral dissertation in Texas Tech’s Department of Chemistry and Biochemistry in a given calendar year.

The winner of the 2005 Song Dissertation Prize was Dr. Chun Zhou for her dissertation entitled, “Studies on Cycloaddition Reactions of Ketenes: Further Investigations of Pseudopericyclic Reaction Mechanisms”, completed under the supervision of Professor David Birney. The award consisted of a check for $650 and her name engraved on our permanent Song Prize plaque.

Dr. Zhou is currently working as an R&D chemist at Corsicana Technologies in Corsicana, Texas, focusing on new product development. One of her new products is currently being manufactured at the CT plant; she hopes to have two more in production this year.

Faculty and Staff Receive Awards for Years of Service to TTU

5 Years
Paul Pare
Jatindra Tripathy
Christopher Truitt
Howard Vogel

10 Years
Jim Hildebrand
David Nes

15 Years
David Birney
Dominick J. Casadonte, Jr.
Huiliang Huang
Laquetta Purkiss

20 Years
Masa Hirasawa
Edward Quitevis

30 Years
Richard Bartsch
Robert Holwerda

Welch Professor William Hase, left, presents Dr. William Miller a plaque of appreciation at the 2005 Robinson Endowed Lecture.
Student Honors and Scholarships

SCHOLARSHIPS AWARDED FOR ACADEMIC YEAR 2005-06

JEANETTE & JOE DENNIS SCHOLARSHIP
Andrew Raines

ROBERT C. GOODWIN SCHOLARSHIPS
Sara Lynn Coleman
Jody Faircloth
Derek Piaschyk
Kim Styrovky
Susan Wozniak

H. EARL & COUNTESS FORE ARCHER SCHOLARSHIPS
Susan Daniel
Stephen McDonald
Colin Jennings

PAUL & ALTA CATES BIOCHEMISTRY SCHOLARSHIP
S. James Mills

WALTER J. CHESNAVICH SCHOLARSHIPS
Asama Tanaudommongkon
Irin Tanaudommongkon

CHEMISTRY/BIOCHEMISTRY UNDERGRADUATE SCHOLARSHIPS
Anthony Lewis
Shaughn Nunez

DEPARTMENT OF CHEMISTRY SCHOLARSHIPS
Marcus Hershey
Sharon Hughes
Christianah Layode

$1000 ARTS & SCIENCES ACADEMIC ACHIEVEMENT SCHOLARSHIPS
Sharon Hughes
Shaughn Nunez
Asama Tanaudommongkon
Irin Tanaudommongkon

ACADEMIC AWARDS FOR THE 2004-05 ACADEMIC YEAR

HOUGHTON-MIFFLIN FIRST YEAR AWARD
Brandon Cometti

CRC OUTSTANDING STUDENTS IN GENERAL CHEMISTRY
Alisha Bloodworth
Brandon Wells

OUTSTANDING SENIORS
Katrina Petney
Mandy Geryk

OUTSTANDING GENERAL CHEMISTRY TEACHING ASSISTANTS
Mitchel L. Cottenoir (Fall 2004)
Jason L. McAfee (Spring 2005)
Transition States: Graduations

PHD DEGREES IN CHEMISTRY

**August 2004**

Todd A. Davis
(Organic-Flowers)
Reduction and Reductive Coupling Reaction of Alpha-Fluoroketones and Related Substrates

Kyoo Dong Jo
(Analytical-Dasgupta)
Development of New Automated Flow Titration Systems

Abdulaziz Mahmoud Ajlouni
(Organic-Marx)
Total Synthesis of Occidrenol and Synthetic and Kinetic Studies on Substituted Cyclohexadienones and Pyrazoles

Pramod Ramesh Chopade
(Organic-Flowers)
The Role of Proton Donors, Solvation, and Additives in Samarium Diiodide Mediated Reduction of Ketones

Howard F. Vogel
(Analytical-Bartsch)
Metal Cation Complexation and Separation with Macrocyclic Polyether Ligands

May 2005

Dianjun Chen
(Organic-Li)
Functionalization of Olefins and Asymmetric Halo Aldol Reactions

In Yong Eom
(Analytical-Dasgupta)
Application of Light Emitting Diodes as Solid State Light Sources in Analytical Chemistry

Wei Zhou
(Analytical-Korzeniewski)
Electrochemical Studies of Carbon Monoxide Oxidation on Platinum and Platinum Based Fuel Cell Catalysts

BACHELOR OF ARTS IN CHEMISTRY

**August 2004**

Samantha Nicole Gomez
Loan H. C. Phan
Kathryn Thuy Tram Tran
Yen Phuong Thi Trinh

May 2005

Grace Elizabeth Ames
Joel Onyero Ebuh
Jeremy Philip Janssen

BACHELOR OF ARTS IN BIOCHEMISTRY

**August 2004**

Amanda Kaye Bryan
Joanna Leigh Schmidt
Dale Scott Smith

May 2005

Sumeet Batra
Kevin George Garnepudi
Mandy Ann Geryk
Edward Alexander Kalmykov
Candice Gerber Peirce
Katrina Cheri Petney
Lindsay Michelle Scott

BACHELOR OF SCIENCE IN CHEMISTRY

**August 2004**

Zubin N. Bhakta
Lauren Michelle McPherson

December 2004

Patricia Martinez Madrid

May 2005

Nicholas Allen Miersma

BACHELOR OF SCIENCE IN BIOCHEMISTRY

**August 2004**

Jill Sawicki
Gregory Keith Vandiver

December 2004

George Lee Martinez

May 2005

Ryan Wayne Jacobs
John Wesley Jerman
Mona Lisa Medalla
Justin Ray Thorne

BACHELOR OF SCIENCE IN CHEMISTRY

**August 2004**

None

December 2004

Kyu Mee Kim
(Biochemistry-Shaw)
Inhibition of Metall-beta-lactamase by RNA

Archana Sinha
(Biochemistry-Nes)
Site-Directed Mutagenesis Studies on Sterol Methyl Transferase from Glycine Max

May 2005

Jeremy Todd Mason
(Biochemistry-Knaff)
Disulfide/Dithiol Redox Titration of Proteins

David Edward Snow
(Analytical-Korzeniewski)
Temperature-Dependent Catalytic Activity Rates of Methanol Oxidation at High-Surface-Area Platinum/Ruthenium Nanoparticles

BACHELOR OF ARTS IN CHEMISTRY

**August 2004**

Jill Sawicki
Gregory Keith Vandiver

December 2004

George Lee Martinez

May 2005

Ryan Wayne Jacobs
John Wesley Jerman
Mona Lisa Medalla
Justin Ray Thorne

BACHELOR OF SCIENCE IN CHEMISTRY

**August 2004**

Zubin N. Bhakta
Lauren Michelle McPherson

December 2004

Patricia Martinez Madrid

May 2005

Nicholas Allen Miersma
Transition States: Deaths

JERRY MILLS, DIED MARCH 17, 2005

Jerry L. Mills, professor emeritus of chemistry at Texas Tech University, died March 17, 2005, at the age of 62. An advocate for students and a mentor to many, Jerry will be remembered for his caring personality, illustrative lectures, and mischievous sense of humor.

Jerry attended the University of Texas where he first earned his BS in 1965, and later his PhD in 1969 with Alan Cowley. After graduation Jerry moved on to post-doctoral studies under the direction of Sheldon Shore and Larry Anderson.

Jerry swept into Lubbock, TX, on the heels of a powerful tornado where he conducted research and taught at Texas Tech University for 22 years. During his tenure he authored approximately 65 technical papers published in major journals in the area of main group chemistry, with additional publications in chemical education, including several study guides developed for McGraw-Hill. During his academic career, Jerry served as research advisor for 18 PhD and 4 MS students.

Jerry’s research was in the field of inorganic chemistry focusing on the synthesis, structure and reactivity of main group and other non-transition metal compounds. Specifically of interest were main group elements of unusual oxidation states and coordination. He had a long-term interest in the polymers of the Group 5 elements including rings, chains, and cages formed by phosphorus as well as Lewis acid base interactions.

While at Tech, Jerry served in several roles including Undergraduate Advisor, Pre-med Advisor, and Associate Chair (1975-82). Jerry was a member of the Phi Eta Sigma, Phi Lambda Upsilon, and Sigma Xi honor societies, as well as the American Chemical Society, The Royal Society of Chemistry, the Association of University Professors, and the Texas Academy of Science. While a member of the South Plains Section of the American Chemical Society, Jerry served as Secretary, Chair, Councilor, and Student Affiliate Advisor, but not at the same time.

At the age of 50, Jerry left the bureaucracy and politics of academic life to pursue his second love: cooking. He moved to the big island of Hawaii and opened a restaurant in the shadow of Mauna Kea in the town of Waimea. Jerry was a consummate chef, attracting a loyal following of patrons who came every Friday night for his weekly culinary feature.

Jerry will be missed by his extended family of students and friends.

JUSTIN THORNE, BA CHEM 2005,
DIED JULY 29, 2005

May 2005 BA chemistry graduate Justin “Jud” Thorne died July 29, 2005 of a sudden illness. While a student at TTU, Jud worked for chemistry education professor Bob Blake, who said, “Jud was an outstanding teaching assistant for CHEM 1301 and created animated tutorials for a teacher training course that will be used throughout the State of Texas. He was an active participant in the Student Affiliate group of the American Chemical Society.”

DONNELL LOVE,
DIED SEPTEMBER 26, 2004

Former staff member Don Love passed away September 26th, 2004. He was employed in the Department of Chemistry and Biochemistry as the chemical stores supervisor from 1959 until his retirement in 1993.

JOHN WALLACE FIELDS, BA CHEM 1939, FROM SHAMROCK, TX, DIED JANUARY 3, 2005

A. C. SANDERS, BA CHEM 1935, FROM EL PASO, TX, DIED MARCH 24, 2005
Faculty News and Notes

Richard A. Bartsch, Analytical and Organic:

David L. Birney, Organic:
- received a three-year renewal grant for $50,000/year from the Welch Foundation.
- received the TTU President’s Academic Achievement Award. This award is given for excellence in achievement across the teaching-research-service missions of the university, including three years of faculty service, recognition by peers in one or more areas, evidence of productive scholarship, and demonstrated competence in the three areas.

Robert E. Blake, Jr., Chemical Education:
- gave an oral presentation in September 2004 at a science education conference, Estrategias en la enseñanza de las ciencias, in Collima, Mexico. The talk was entitled, "Peer-led Team Learning: An Effective Strategy for Teaching Chemistry," or in Spanish "Aprendizaje en equipo guiado por un companero: una estrategia para enseñar quimica".
- presented three papers at the 229th American Chemical Society Meeting in San Diego, March 2005, entitled, “Beginning a US/Mexico Collaboration: First Steps,” “Gender Issues and Student Performance in General Chemistry,” and “No Child Left Behind: The Chemistry Module in Texas.”
- sponsored the American Chemical Society-Student Affiliates group, and took them to the March 2005 American Chemical Society meeting in San Diego.
- is a founding member of the International Center for First-Year Undergraduate Chemistry. This organization held their first conference in May 2005 entitled, "First-Year Chemistry: The Richness of Difference," at the University of Illinois-Urbana Champaign. Bob led a break-out session on Analogies in the Classroom and gave a talk entitled, "Placement, Remediation and Improved Learning in First-Year Chemistry: A Ten-Year Study."
- received a Professing Excellence Award from The Success Center in the Department of Housing and Residence Life at Texas Tech.
- had a 185-page workbook, "Introductory Chemistry: A Workbook," published by Prentice Hall. The workbook will accompany Prentice Hall textbooks in introductory chemistry and supports collaborative and active learning strategies.
- participated in these conferences: Conference for the Advancement of Science Teaching in Corpus Christi; Wakonse South Conference for Teaching and Learning at Lake Buchanan; First Year International Conference for Chemistry Education: The Richness of Difference, Urbana, IL; Gordon Research Conference, Research in Chemical Education; Chemed 2005 Vancouver, BC, Canada.
- ran a half-marathon in Anchorage, Alaska in June 2005, and raised $4000 to support The Leukemia and Lymphoma Society.
Dominick J. Casadonte, Jr., Inorganic:

- was recognized by TTU Mortar Board as one of five Outstanding Faculty for 2004.
- was initiated April 14, 2005, into Phi Kappa Phi, the nation's oldest, largest, and most selective all-discipline honor society. The Society's mission is "to recognize and promote academic excellence in all fields of higher education and to engage the community of scholars in service to others."
- was named new chairman of the Department of Chemistry and Biochemistry, effective August 1, 2005.
- gave two talks at the American Chemical Society national meeting in Washington, D.C., August 2005, entitled, "Using Service Learning as a Tool to Teach Chemistry to Non-Science Majors," and "Project SERVE: Science Enrichment using Retired Volunteer Educators."

Pramod Chopade, Organic:

- received a Professing Excellence Award from The Success Center in the Department of Housing and Residence Life at Texas Tech.

Sandy Dasgupta, Analytical:

- was initiated April 14, 2005, into Phi Kappa Phi, the nation's oldest, largest, and most selective all-discipline honor society. The Society's mission is, "to recognize and promote academic excellence in all fields of higher education and to engage the community of scholars in service to others."
- was selected as the 2004-2005 Scientist of the Year by the Lubbock Chapter of ARCS (Achievement Rewards for College Scientists). He was honored at the ARCS Scientist of the Year Dinner in February 2005. In his 23+ years as a TTU faculty member, Sandy has published 280 peer-reviewed articles in primary journals, two major book chapters, two significant encyclopedia sections, 19 chapters in a standard methods compendium, five major reports sponsored by federal agencies and private foundations, and 117 abstracts, discussions, and editorials. His ground-breaking research in analytical and environmental research at TTU has attracted more than $15 million in research support.
- participated a study that discovered high levels of perchlorate in human breast milk. The study, "Perchlorate and Iodide in Dairy and Breast Milk," was published in *Environmental Science and Technology*, February 22, 2005. In March 2005, Sandy traveled to Washington, D.C., to brief the U.S. Congress Select Committee on issues related to perchlorate and milk.
- was awarded a three-year, $353,000 grant from the National Science Foundation to develop the study, "A Green Fieldable Analyzer for Arsenic." (In this context "green" means non-polluting and environmentally friendly.)
- organized a symposium on "The Composition of Atmospheric Particulate Matter" at the Southeast Regional Meeting of the American Chemical Society in Research Triangle, North Carolina. The symposium featured Sandy and four invited speakers from industry and academia.
- was appointed as the North American member of the Advisory Board for the journal *Analytical Sciences*, which is published by the Japan Society of Analytical Chemistry (JSAC).
- received the Ion Chromatography Achievement Award for 2005 at the International Ion Chromatography Symposium in Montreal, Canada, September 19, 2005. He is one of only two scientists to have been recognized twice; Sandy received one of the inaugural IC Symposium Awards in 1989. This award recognizes his many contributions to ionic analysis since 1990.

Sandy Dasgupta, left, receives the 2004-05 ARCS scientist of the Year award from Phyllis Kinnison.

Dom Casadonte, left, and Guigen Li, right, show off the ACS Salutes to Excellence Award.
William L. Hase, Physical:

- gave invited oral presentations at the 60th Regional American Chemical Society Meeting in Fort Worth in September 2004 entitled, "Energy Transfer Dynamics in Collisions of Rare Gas Atoms and Peptide Ions with Hydrocarbon Surfaces" and "First Principles Determination of Symmetry Induced Kinetic Isotope Effects in the Formation of He_2^+" in the Computational Chemistry Session.
- participated in the Symposium on Computational Chemical Dynamics: From Gas Phase to Condensed Phase Systems which celebrated the 60th birthday of Professor Donald G. Truhlar. The symposium was held at the University of Minnesota in Minneapolis October 7-9, 2004. Bill's talk was entitled, "Role of Computational Chemistry in the Development of Unimolecular Rate Theory."
- participated in a November 2004 meeting of the Dean's Council for Excellence in the Sciences in the College of Arts and Sciences at New Mexico State University.
- traveled to South Africa in January 2005 and participated in an international conference, WATOC-2005. His invited lecture was entitled, "Chemical Reaction Mechanisms."
- organized and chaired the 2005 Gordon Research Conference on Gaseous Ions: Structures, Energetics, and Reactions that was held in Ventura, California February 27-March 4.
- served as a member of the NIH committee that reviewed proposals for National Centers for Biomedical Computing (NCBC), May 25-27, 2005 at the National Institutes of Health in Bethesda, Maryland.
- was appointed a member of the Pacific Northwest National Laboratory (PNNL) Directorate for 2005-2008. The Directorate met in June 2005 in Richland, Washington, to review the PNNL programs in Biological Sciences, Chemical Sciences, Atmospheric Science and Global Change, and Computational Sciences.

Louisa Hope-Weeks, Inorganic:

- was elected as Membership Secretary of the Colloid and Surface Chemistry Division of the American Chemical Society. Through this position, she becomes a member of the Executive Committee for the Division.
Guigen Li, Organic:

- gave an invited oral presentation at the 60th Regional American Chemical Society Meeting in Fort Worth in September 2004 entitled, "The Enantioselective Halo Aldol Reaction of Allenoates and Aldehydes," in the Session on Strategies and Tactics in Organic Synthesis.
- was named an outstanding faculty member in the August 2004 exit interviews for 94 graduating seniors conducted by the College of Arts and Sciences. These students identified particular faculty in response to the question, "If you would like to identify a professor or a class that you found particularly outstanding, please do so here."
- gave seminars at: the Department of Chemistry, University of California, Irvine; the Department of Biology, University of California, Davis; and the Department of Plant Physiology, The University of Turku, Finland. He also gave talks at the Western Regional Photosynthesis Conference, in Asilomar, CA; the International Meeting on Redoxin Proteins. In Aussois, France; and the Gordon Research Conference on Photosynthesis, in Smithfield, RI.

Carol Korzeniewski, Analytical:

- was awarded a $180,000, three-year, Department of Energy grant for the study, "Strategies for Probing Nanometer-Scale Electrocatalysis: From Single Particles to Catalyst-Membrane Architectures." This grant is funded by the DOE Hydrogen Program, which supports the President's Hydrogen Fuel Initiative.
- chaired the Young Investigator Session at the 2005 Gordon Research Conference on Electrochemistry in Ventura, California, and gave a presentation entitled, "Electrochemistry at Platinum and Platinum Bimetallic Nanoparticles."

Guigen Li, Organic:

- received a three-year renewal grant for $150,000 from the Welch Foundation for the study, "Mechanisms of Protein Disulfide/Dithiol Redox Reactions."
- had his renewal application to the US Department of Energy for, "Ferredoxin-Dependent Plant Metabolic Pathways" approved for $360,000 for a three-year period. With this renewal, David has 30 years of uninterrupted federal funding.
- received a $362,000 U.S. Dept. of Agriculture grant for the study, "Mechanisms of Electron Transport in Sulfate Assimilation."
- was notified that his full paper, "The First Enantioselective Halo Aldol Reaction of Ethyl Propiolate and Aldehydes," is among the top ten articles that are most often downloaded in the European Journal of Organic Chemistry.
- was invited to be a member of the Editorial Advisory Board of the new journal Chemical Biology & Drug Design.

Shaorong Liu, Analytical:

- was awarded a three-year $385,000 grant from the National Science Foundation for his project, "Liquid Behavior Unique to Nanochannels: Modeling and Applications."
Michael Mayer, Organic:

- was awarded a two-year, $35,000 Petroleum Research Fund Type G Starter Grant for his proposal entitled, "Linear Oligocatenanes and Catenane Dendrimers."
- participated on a NSF review panel examining proposals submitted for the Nanoscale Interdisciplinary Research Team Program in Washington, DC, in March 2005. He served as both a lead and general reviewer.

David Nes, Biochemistry:

- was awarded a five-year grant from the National Science Foundation for his project, "Enzymatic C-Methylation of Sterols." The $811,000 research grant started September 2004.

Satomi Niwayama, Organic:

- presented a paper at the 229th American Chemical Society Meeting in San Diego, March 2005, entitled, "Effects of Counter Cations in Selective Monohydrolyses of Symmetric Diesters."
- gave invited seminars at the following seven institutions in Japan during July 2005: the Department of Chemistry, Tohoku University, Sendai; the Department of Chemistry, Gunma University, Kiryu; the Research Center for Advanced Science and Technology, University of Tokyo; the Department of Pharmaceutical Sciences, University of Shizuoka; the Department of Applied Chemistry, Okayama University; the Department of Chemistry, Hiroshima University; and the Department of Chemistry, Kyoto University.
- gave a presentation at the summer symposium of The Japanese Society for Process Chemistry in Tokyo in July, 2005, entitled "Practical Monohydrolysis Reaction of Symmetric Diesters." She was also selected by the Society to receive the 2005 Award for Excellence during symposium. Satomi will return to Japan to receive this award and deliver the award lecture in July 2006.

Paul Paré, Biochemistry:

- was promoted to Associate Professor and received tenure, effective September 1, 2005.

Bill Poirier, Physical:

- was honored for his excellence in teaching at the 2005 Tribute to Teachers in April 2005. Now in its 10th year, the annual Tribute to Teachers is billed as the premier event on the South Plains to honor the profession of teaching. Selected professors, teachers, administrators, and counselors from preschool through university level are honored with a dinner, a gift, and a certificate of appreciation.
Edward Quitevis, Physical:

- presented a paper at the 229th American Chemical Society Meeting in San Diego, March 2005, entitled, "Intermolecular Spectrum of Liquid Biphenyl Studied by Optical Kerr Effect Spectroscopy."
- Gave an invited talk, "Model-Independent Approaches to Understanding the Low-Frequency Spectra of Liquids," at the Telluride Research Center Workshop on Nonlinear Ultrafast Spectroscopy in Fluids, June 26 to July 1, 2005 in Telluride, CO. TSRC workshops provide an opportunity for informal but focused discussion that other scientific meetings usually cannot. The 30 invited scientists at the workshop are leading researchers in the field.

Robert Shaw, Biochemistry:

- gave an invited lecture, "Inhibition of Bacterial Metallo-beta-lactamase by Oligonucleotides," at the Department of Biophysics of the National Biomedical EPR Center at the Medical College of Wisconsin in August 2004.
- was invited to participate in an National Science Foundation-sponsored workshop, "Realizing the Vision: Leading Edge Technologies in Biological Systems," held in Washington, D.C., in December 2004.

Dennis Shelly, Analytical:

- was awarded the prestigious Alsop Award at the 101st Convention of the American Leather Chemists Association in August 2005. The Alsop Award, established in 1939 in memory of distinguished scientist, educator, and major contributor to leather science, Dr. W.K. Alsop, is the highest recognition for scientific excellence that the 100+ year-old professional organization can bestow upon one of its members. Dennis also serves as the ALCA’s Vice President and is on the Editorial Board.

Huazhong Shi, Biochemistry:

- received a four-year $217,689 grant from the U.S. Department of Agriculture to study, "Genes Controlling SOS MRNA Stability in Response to Abiotic Stresses." The grant began September 1, 2004, for investigations into the salt stress in plants.

Henry L. Shine, Professor Emeritus, Organic:

- received a three-year renewal grant for $50,000/year from the Welch Foundation.

Joachim Weber, Biochemistry:

- was awarded a $1.15 million, five-year research grant from the National Institutes of Health for the study, "Catalytic Mechanism of F\textsubscript{1}F\textsubscript{0}-ATP Synthase."

The Department of Chemistry and Biochemistry hosts a Graduate Recruiting weekend every spring semester. In April 2005, 13 prospective students met with faculty and current students. 77% of these visiting students chose to make TTU their graduate school home! Visiting students, current students, and faculty are pictured here in the Organic Library in the Chemistry Building.
Student Awards

- **Natchanon Amornthammarong**, a visiting student from Mahidol University, Thailand, in Horn Professor Sandy Dasgupta’s analytical group, received the best student poster award at the International Conference on Flow Injection Analysis (Las Vegas, NV, April, 2005) for his work done at Texas Tech, “Measurement of Ammonia by Hybrid-FIA.”

- MS biochemistry student **Mitchel Cottenoir** was awarded a $5000 ARCS Foundation scholarship for academic year 2004-05. Mitch worked for biochemistry professor **Bob Shaw**.

- The honor society Phi Kappa Phi inducted new faculty, alumnus, and student members at its banquet and initiation ceremony on April 14, 2005. Initiates included PhD chemistry students **Dianjun Chen** and **Ademola David Idowu**, and undergraduate chemistry major **Ryan Jacobs**. Dianjun works for organic professor **Guigen Li** and Ademola is in Sandy Dasgupta’s analytical group; Ryan received his BA in chemistry in May 2005.

- **Ademola Idowu** was awarded a $500 Sandy Land Water Conservation Research Scholarship and **Kalyani Martinelango** was awarded a $3000 Cash Family Endowed Fellowship for the 2005-06 academic year. Ademola and Kalyani are doctoral students in the analytical research group of **Sandy Dasgupta**.

- **Colin Jennings**, BS chemistry major, was awarded a Chemistry National Science Foundation-Research Experience for Undergraduates (NSF-REU) to present his REU summer research (conducted at Chulalongkorn University in Thailand) at the Spring 2005 National Meeting of the American Chemical Society in San Diego.

- **Kalyani Martinelango** won two awards in the 4th Annual Graduate Research Poster Competition sponsored by the TTU Graduate School in April, 2005. She and **Andrea Kirk** (now a post-doc in Sandy Dasgupta’s analytical group) won 1st prize for their poster in the Biological Sciences category. Kalyani also won 2nd prize in the same category.

- **Kalyani Martinelango** received the Student Travel Award to the International Ion Chromatography Symposium, Montreal, Canada, September 2005 for presentation of her paper, "Selective and Sensitive Measurement of Perchlorate by Ion Chromatography - Ion Association-Electrospray Ionization-Mass Spectrometry"; she also received a check for $500 and complimentary registration. The same paper received the Best Student Oral Paper Presentation Award at the South Central regional meeting of the Society of Environmental Toxicologists and Chemists in Marble Falls, Texas, May 2005, where Kalyani received a check for $300 and a certificate. She received the Award of Excellence for her paper "Gas Phase Ion Association Provides Increased Selectivity and Sensitivity for Measuring Perchlorate by Mass Spectrometry" in recognition of outstanding research performed as a student and reported before the division of environmental chemistry at the 230th national meeting of the American Chemical Society, Washington D.C., August 2005. This is the paper for which she also won the best graduate student paper award at the March 2005 national ACS meeting. In addition, Kalyani received a 2005 Graduate Student Award in Environmental Chemistry from the Environmental Chemistry Division of the ACS. She received a certificate for her award and a free annual subscription to Environmental Science and Technology.

- **Geneva Peterson**, a BS chemistry and BA German double-major who works for Dom Casadonte, and Stefanie Alley, a biology and math double-major who has worked for physical chemistry professor **Ed Quitevis**, were named Goldwater Scholars for the 2005-06 academic year. Geneva was previously awarded a $6000 Hach Scholarship from the ARCS Foundation for the 2004-05 academic year.

- Biochemistry MS candidate **Kenneth Seal** and analytical PhD candidate **SM Rahmat Ullah** were selected by the TTU Graduate School to receive 2005 Summer Dissertation/Thesis Research Awards in the amount of $2300 each. Kenneth worked for biochemistry professor **Bob Shaw** and SM Rahmat works for analytical professor **Sandy Dasgupta**.
**Products in High Yield: Alumni News**

**Frankie Geneva Boyd** (BS 1955) received her MS in 1968 and her JD in 1975 from St. Mary’s University in San Antonio. She writes, “I have not retired yet. I am still practicing law.”

**Kent Chambers** (PhD Blake 2005) received the first PhD in Chemical Education from TTU. He has accepted a tenure-track faculty position at Hardin-Simmons University in Abilene, TX.

**Robin L. Cooper** (BS 1983) is an Associate Professor of Biology at the University of Kentucky. He writes, “Since I had such a great experience with Dr. (Bob) Holwerda as an undergraduate researcher, I now welcome undergraduates in my lab to work on projects. Dr. Holwerda was so kind to include my name on a paper for my efforts that I do the same for my undergraduates. In the past 8 years as a faculty member, I have had over 30 undergraduates work in my lab and about 10 have their own 1st authored publications. Some were even awarded 17K in salary from the Beckman Foundation as Beckman Scholars. Thank you, faculty of TTU chem department, for making my undergraduate years so memorable that I stuck with academics and enjoy working with students.”

**Mitchel Cottenoir** (MS Shaw 2005) is teaching high school and college chemistry at New Mexico Military Institute in Roswell, NM.

**Tim Evans** (BA 1967) received his JD degree in 1969 from the TTU Law School. He has been selected as one of the “Top 100 Super Lawyers in Texas” by *Texas Monthly* magazine for the last two years.

**George Holmes, Jr.** (BS 1954) lives in Bullard, Texas, where he serves on the board of the Emerald Bay community. His wife, Marijann Forrest Holmes, is president of her P.E.O. International chapter.

**Glen E. Hunt** (MS Shine 1957) was listed in the April 11, 2005 issue of *C & E News* as a 50-year member of the American Chemical Society.

**Jess E. Jones** (PhD Casadonte 2004) is a postdoctoral associate at the University of Tennessee. He and former TTU PhD student **Amanda Frank** were married in Las Vegas in May 2005.

**Jeremy Mason** (MS Knaff 2005) has been appointed as the undergraduate advisor for the Department of Chemistry & Biochemistry at TTU.

**Carrie Gembler Paine** (BS BICH 2000) graduated from the University of Texas-Houston Medical School in May 2004 and is now a family practice resident at the Texas Tech University Health Sciences Center. Her husband’s name is Chris.

**Alan R. Puls** (BA 1976) is an interventional cardiologist at the Cardiovascular Clinic in Oklahoma City, Oklahoma.

**Alberta B. Thomas** (BS 1940) entered Texas Tech in 1936 at the age of 16. She and her late husband have two sons, and lived in Michigan, Ohio, Mississippi, Oklahoma and Louisiana.

**Howard Vogel** (PhD Bartsch 2004) is working as an Assistant Professor at Oklahoma Christian University.

One of our newest alums, **Eddie Kalmykov**, shows off the BS Biochemistry diploma he received May 2005.

**Mitchel Cottenoir**, left, receives the Fall 2004 Outstanding TA Award from chairman Dr. **Richard Bartsch**.
Alumni & Friends Update Form

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Last                                                 First                                       Middle                                     Maiden

TTU Degree(s):  Please circle  BA Chem       BA Bich       BS Chem       BA Bich       MS       PhD

Year(s) of Degree(s): ______________________________________________________________________________

Research Advisor:_________________________________________________________________________________

(Please provide for graduate and postdoc positions; if not at TTU, please give school name)

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Years Employed/Position: _____________________________________________________________________________

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Box 41061, Lubbock TX 79409-1061

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### A Fold of Chairs:
The Chairmen of the Department of Chemistry and Biochemistry:

- William T. Read: 1925-1930
- Robert C. Goodwin: 1930-1950
- Joe Dennis: 1950-1969
- David B. Knaff: 1990-1996
- Richard A. Bartsch: 1998-2005
- Dominick J. Casadonte, Jr.: 2005-

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### Fall 2005
By the Numbers

- Tenure-track Faculty ..... 27
- Emeritus Faculty ........ 4
- Temporary Faculty ...... 4
- Staff .................... 16
- Research Associates and Research Aides........ 19
- Post-docs ................ 21
- Graduate Students ........ 85
- Chemistry Majors ....... 174
- Biochemistry Majors ..... 207