Graduate Programs
Chemistry & Biochemistry
Welcome to the Department of Chemistry and Biochemistry at UTA. We have a vibrant, young and growing department with 20 tenured and tenure-track faculty advising over 80 full-time graduate students, 20 or more post-doctoral fellows and visiting scientists, and a host of undergraduates getting their first exposure to scientific research at the highest level. We have active research programs in analytical, organic, biochemistry, physical, and inorganic chemistry, with most faculty having research programs which cross-over traditional divisional boundaries.

Currently we have research programs involving such varied and important topics as building analytical instrumentation for the Mars lander, investigating the environmental consequences of fracking on groundwater pollution, developing practical solar CO2 to liquid fuels technology, anti-cancer drug discovery and development, designing and testing green catalysts, developing a better understanding of enzyme kinetics and function, especially those incorporating transition metals in their active sites, total synthesis of complex natural molecules, and enhanced methods for chiral separations and quantification.

I invite you to look over the individual faculty members web pages to get a better idea of the range of research underway in the department and to identify faculty and research programs which interest you! Our students enjoy working closely with the faculty in a growing department that retains a small department, collegial atmosphere.

Not only are we proud of our faculty, undergraduate, and graduate students, the department enjoys state-of-the art laboratories and instrumentation including over $20M in modern instrumentation as part of the Shimadzu Institute for Research Technologies, plus a regular suite of high field NMRs, XRD, and surface analysis equipment.

An industrial internship is a required component of the doctoral degree at UTA and, in fact, is one of the more popular components of our program and distinguishes
You will spend 3 to 4 months interning at companies such as Merck, Alcon Labs, SABIC, GlaskoSmithKline, Bayer, Exxon-Mobil, to name some past participants. This internship is often invaluable in guiding and obtaining research positions at these same and related companies.

For example, our past graduate students and postdoctoral fellows have found employment at the following well-known companies: Abbvie, Proctor and Gamble, GlaskoSmithKline, Shimadzu Scientific Instruments, Inc., Apollo Path, LLC, Genentech, Eli Lilly and Company, SABIC (formerly GE Plastics), Armstrong Forensic labs, Sid Richardson Carbon and Energy Co., Mapei America, plus many other companies and academic institutions. We can also boast that many of our undergraduate majors have gone on to attend some of the finest graduate programs and medical schools in the country.

Whether you are interested in Chemistry and Biochemistry as an undergraduate major or for graduate school, we hope you will consider us for your education. We believe ourselves to be one of the best undergraduate and graduate programs in the North Texas region and are aiming to be among the best nationally.

We are also in the geographic center of the Dallas-Fort Worth Metroplex, 5 min from Cowboys stadium, 20 min from DFW Airport, and 30 min to either Dallas or Fort Worth. Living costs in Arlington are relatively inexpensive and we offer competitive scholarships with partial tuition remission for qualifying graduate students.

Please take some time to peruse our departmental website and to contact us at Chemgrad@uta.edu to explore attending UTA for your education.

My best,

Frederick MacDonnell

Frederick MacDonnell, Ph. D.
Department Chair and Professor
Department of Chemistry and Biochemistry

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**Graduate Programs**

- Ph.D. in Chemistry
- M.S. in Chemistry
- Interdisciplinary M.S. and Ph.D. Program
- Materials Science and Engineering Ph.D.
- Environmental and Earth Sciences M.S. and Ph.D.

**100% Success rate obtaining employment**

- Abbvie
- BASF
- Bristol Myers Squibb
- ExxonMobil
- GeneScript
- Gilead Sciences
- GlaxoSmithKline (GSK)
- Hexion
- Hexion
- Siemens
- U.S. Food & Drug Administration (FDA)
Overview

The Department of has comprehensive research and training activities in many areas of chemistry and biochemistry. State-of-the-art research facilities, excellent faculty and support staff, combined with generous external funding, allow advanced studies in a variety of disciplines.

Several advanced degree programs are offered but the most innovative is the PhD in chemistry which includes an industrial internship. The program is ideally suited for students interested in a career in chemical, pharmaceutical, biotech industries, government laboratories, or in academics.

The steady growth of the program, has led to development of new laboratory spaces and new buildings. The University of Texas at Arlington’s Chemistry and Biochemistry Department currently includes 18 full-time research active faculty members. Each year averages approximately two dozen postdoctoral fellows and visiting faculty. The Department currently has over $3 million per year in external grant support.

Department Core Facilities

Nuclear magnetic resonance (NMR) facilities are crucial to chemical research and our Department is well equipped with instrumentation for student use. The NMR Facility houses two high-field superconducting magnet FT-NMR instruments. The JOEL ECX300 (300 MHz) can handle liquid and solid samples. Liquid samples that require greater dispersion and sensitivity can use the JEOL ECA500 (500 MHz) for analysis. Each instrument is equipped with auto tune 5mm probes for collection of 1H, 19F, and 31P through 15N NMR data. Both instruments can utilize pulsed field gradients and have a working temperature range of -80 to 130 °C allowing for characterization of dynamic processes.

For those students interested in characterizing samples containing free radicals or paramagnetic materials, the department has a Bruker EMXplus X-band (9 GHz) EPR spectrometer equipped with a with a bimodal resonator (Bruker ER4116DM) for collection of data using microwave field polarization either transverse or parallel to the applied magnetic field. A double rectangular resonator (ER 4105DR) and high sensitivity X-band (ER 4102ST) are also available depending on experimental needs.

When I was applying for jobs, what set me apart and made me competitive was my hands-on experience with top-notch scientific instruments used in the industry. The UTA and Shimadzu partnership not only provided me with a wide array of instruments to work with, but also valuable training and connection to individuals within the industry.

UTA helped me to find my dream job - before I graduated.

- Evelyn H. Wang, Application Scientist at Shimadzu Scientific Instruments
Low temperature measurements can be made using either the Oxford ESR 900 (> 4 K) or ultra-low Oxford ESR 910 (> 2.2 K) liquid helium cryostats. In 2011 the Department installed a LHeP18 liquid helium recovery plant to offset the rapidly escalating cost and limited availability of liquid helium.

One of our greatest resources is our X-Ray Diffraction (XRD) facilities. This instrumentation is an essential tool for the structural analysis of synthetic organic and inorganic complexes. We currently house (3) XRD instruments for student research: The Bruker D8 QUEST fixed CHI XRD equipped with a PHOTON 100 CMOS area detector and TRIUMPH monochromator and the Bruker SMART Apex II XRD with MONOCAP glass capillary optics are both equipped with an Oxford Cryostream 700. Additionally, the Department also has a Bruker SMART X2S automated bench-top X-ray diffractometer equipped with a BREEZE air-cooled 4K CCD detector. Analysis of XRD data can be performed using the Bruker APEX2 software suite.

For elemental analysis of solid materials (2) X-Ray Photoelectron Spectrometers (XPS) equipped with a sputter gun are available for use. Our PHI 5300 XPS is essentially the ‘work-horse’ instrument and is equipped with a monochromatic source. Alternatively, the Kratos Ultra X-ray Photoelectron Spectrometer (ESCA) can utilize either monochromatic (Al source) or polychromatic sources (Mg and Al), this unit also has imaging capabilities.

The Department houses a variety of research spectrophotometers including circular dichroism (CD), fluorescence, dynamic light scattering (DLS), UV-Visible, UV-Vis-NIR, FT-IR and Raman.

The Shimadzu Center for Advanced Analytical Chemistry

The Department houses one of the world’s finest collections of equipment and instrumentation. The Shimadzu Center for Advanced Analytical Chemistry provides researchers with superb capability for detection and quantification of chemical components. The ultramodern instrumentation suite includes gas and liquid chromatograph-mass spectrometers, matrix-assisted laser desorption/ionization-mass spectrometers, and a variety of spectrophotometers. The center meets the needs of a wide variety of fields for the detection of small molecules, trace elements, proteins, lipids, and polymers. The laboratory was established in 2012 due to the generous support of Shimadzu Scientific Instruments and the University of Texas at Arlington. The $6 million mass spectrometry and analytical chemistry research center includes a large number of mass spectrometers, supporting peripherals, and other instrumentation.

The Shimadzu Center for Materials Genome is a state-of-the-art facility enabling efficient materials characterization, diagnostics, and prognosis methods relying on three-dimensional imaging and performance prediction based on accurate computational tools.

The Center for Nanotechnology Research is a preeminent research center of its kind; with its class 100 cleanroom and superior instrument capabilities the center has application to all science and engineering disciplines in micrometer and nanometer scale.

Your only limitation is your mind. We have all the tools and all the equipment you need. Anytime I want to do something, I can because i have the instruments to do it and that is what research is about.

-Ines Santos,
Post-Doctorate Fellow
“You can’t go anywhere else in the country and get an experience like you can at UTA with the Shimadzu partnership. We’re in the business to prepare students to get jobs and we’ll take every advantage that we can.”

- Kevin Schug,
  Shimadzu Distinguished Professor of Analytical Chemistry
Dr. Daniel W. Armstrong
sec4dwa@uta.edu
Molecular and Chiral Recognition, Separation Science, Colloid Chemistry, Ionic Liquids, Enantiomeric and Microbial Separation

Dr. Saiful M. Chowdhury
schowd@uta.edu
Mass Spectrometry Method Development in Proteome Research, Protein-Protein and Protein-Ligand Interaction and Post-Translational Modifications

Dr. Purnendu K. Dasgupta
dasgupta@uta.edu
Atmospheric Chemistry, Trace Analysis, Thin Film Flow Devices Process Analyzers and Perchlorate in the Environment

Dr. H.V. Raslaka Dias
dias@uta.edu
Homogeneous Catalysis, Luminescent Materials, Conducting Polymers and Nanotechnology

Dr. He Dong
he.dong@uta.edu
Inorganic Colloidal Nanoparticles, Nanomaterials, Hydrogel Biomaterials, Supramolecular Assemblies

Dr. Frank W. Foss, Jr.
ffoss@uta.edu
Organic Synthesis, Medical Chemistry, Biomimetic Catalysis and Regulation of Biomolecular Interactions

Dr. Junha Jeon
jjeon@uta.edu
Tandem Reaction Design and Catalytic Processes, Medicinal and Biological Chemistry and Asymmetric Synthesis

Dr. Kayunta Johnson-Winters
kayunta@uta.edu
Enzyme Cofactors (F420), Structure Determination, Enzyme Kinetics and Reaction Intermediates

Dr. Morteza Khaledi
khaledi@uta.edu
Extraction, Enrichment and characterization of membrane proteins; Two-dimensional liquid chromatography, nonaqueous CE

Dr. Peter M. Kroll
pkroll@uta.edu
Computational Chemistry, Nanostructured Materials, Inorganic Networks and High Pressure Chemistry

Dr. Carl Lovely
lovely@uta.edu
Synthetic methodology, Heterocyclic chemistry, Natural product total synthesis

Dr. Robin Macaluso
robin.macaluso@uta.edu
Crystal growth of intermetallics, Synthesis of novel oxynitrides and Neutron and X-ray scattering

Dr. Frederick M. MacDonnell
macdonn@uta.edu
Metal-Directed Chiral and Supramolecular Coordination Chemistry, Photochemistry, Bioinorganic

Dr. Subhrangsu S. Mandal
smandal@uta.edu
Eukaryotic Transcription and Gene Expression in Humans, Chromatin Structure-Function, Histone Modification, Epigenetics and Cancer

Dr. Sherri A. McFarland
sheri.mcfarland@uta.edu
Medical Inorganic Chemistry, Photophysics and Photochemistry, Chemical Biology and Photomedicine, Cancer Drug Discovery

Dr. Kwangho Nam
kwangho.nam@uta.edu
Computational biochemistry, molecular biophysics and molecular simulations

Dr. Krishnan Rajeshwar
rajeshwar@uta.edu
Semiconductor Electrochemistry and Photocatalysis, Conducting Oxides and Polymers and Environmental Chemistry

Dr. Kevin A. Schug
kschug@uta.edu
Separations, Mass Spectrometry, Electrospray Ionization, Molecular Recognition, Natural Products Drug Discovery and Trace Analysis

Dr. Jongyun Heo
jheo@uta.edu
Redox Regulation of Small GTPases, Phosphatases and Kinases, Intervention of Anti-Cancer Drugs
Daniel W. Armstrong
Robert A. Welch
Professor

B.S. 1972, Interdepartmental Science and Math
Washington & Lee University, Lexington, VA

M.S. 1974, Oceanography, Texas A&M University, College Station, TX

Ph.D. 1977, Chemistry, Texas A&M University, College Station, TX

Research
- Ionic Liquids
- Chromatography
- Mass Spectrometry
- Molecular and Chiral Recognition
- Separation Science
- Colloid Chemistry

Awards
- ACS Award in Chromatography (1999)
- Chirality Medal (2003)
- Vladimir J. Zuffa Medal for Pharmaceutical Chemistry (2004)
- Dal Nogare Award for Separation Science (2005)
- Medal of the Slovak Medical Society (2007)
- UTA Distinguished Record of Research or Creative Activity (2012)
- Named American Chemical Society Fellow (2013)
- ACS Award for Separation Science & Technology (2014)
- M.J.E. Golay Award (2014)
- W.T. Doherty Research & Service Award (2015)
- Named to Analytical Scientists Power List, Top 10 (2015)

Selected Publications


Research

- Proteomics and bio-analytical mass spectrometry research: Global and targeted discovery of protein-protein/protein ligand interactions by chemical cross-linking and mass spectrometry
- Identification and quantitative characterization of protein posttranslational modifications (PTMs)
- Elucidation of protein structures by mass spectrometry.
- Quantitative proteomics (bio-markers discovery)
- Host-defense interactome (toll-like receptors signaling) caused by environmental and external stimulus

Selected Publications


Separation of 5 common anions in 2 min – continuous repeat runs demonstrating reproducibility. 58 cm PMMA capillary, 19.5 id, 14 psi (1 atm), 131 pL inj, 100 ea fluoride, chloride nitrite, bromide, nitrate. This open tubular column can be dried, frozen, thawed, rewetted, and reused without loss of performance.

Awards
- ARCS Scientist of the Year Award, 2005
- Ion Chromatography Achievement Award 2005
- Best Science Paper of the Year Award, ES&T, 2006
- Japan Society for FIA honor medal, 2008
- UTA Distinguished Research award 2010
- ACS Chromatography Award 2011
- Dal Nogare Award in Chromatography, 2012
- State of Texas Senate Honor Proclamation, 2012
- ACS DFW section Dougherty Award, 2012
- UTA Academy of Distinguished Scholars 2013
- ACS Award in Chemical Education 2015
- Tech Titan Innovator Award 2016
- EAS Fields Award, 2016
Research

- Homogeneous Catalysis
- Luminescent Materials
- Isolable Reaction Intermediates
- Greener Oxidation Chemistry
- Nanomaterials
- Disinfection Science

Awards:

- UTA Academy of Distinguished Scholars, 2012
- Southwest Regional American Chemical Society Award, 2009
- Wilfred T. Doherty Award of the Dallas-Ft. Worth Section of the American Chemical Society, 2009
- Advisory Board of Dalton Transactions, 2009 - to date
- UTA Outstanding Research Achievement Award, 2007
- Editorial Advisory Board of Inorganic Chemistry, 2007-2009
- Outstanding Research Achievement, UTA College of Science, 2006
- The Robert A. Welch Foundation Lectureship, 2004-2005
- UTA Outstanding Academic Advisor, 2003
- Outstanding Teacher, UTA College of Science, 2000-2001

Selected Publications


Research

- Interface of chemistry, materials science and biology
- Emphasis on molecular self-assembly and supramolecular chemistry of soft matter nanomaterials.
- Supramolecular assemblies based on peptides, proteins and polymers
- Inorganic colloidal nanoparticles
- De novo peptide and protein mimetic design
- Antimicrobial and cell penetrating peptide design and self-assembly
- Nanomaterials for drug and gene delivery
- Hydrogel biomaterials and tissue engineering

Awards

- National Science Foundation Early Career Award, 2017
- John L. Margrave Outstanding Graduate Thesis Award, 2008
- Chinese Government Award for Outstanding Graduate Students Abroad, 2008

Selected Publications


Linhai Jiang, Su Yang, Reidar Lund, He Dong*, “Shape-specific Nanostructured Protein Mimics From de novo Designed Chimeric Peptides”, Biomaterials Science, 2018, 6, 272-279. (Featured on journal front cover)


Bioorganic Chemistry

Selected Publications


Selected Publications


"Insight into the 6-thiopurine-mediated Termination of the Invasive Motility of Tumor Cells Derived From Inflammatory Breast Cancer" Jongyun Heo, Michael Wey, and Inpyo Hong, *Biochemistry*, (2011) 50: 5731-5742

Research

- Mechanistic Studies of Redox Regulation of redox-active Small GTPases, Phosphatases and Kinases
- Investigation of Anti-cancer Drugs
Junha Jeon
Associate Professor

B.S. 2000, Chemistry
Sungkyunkwan University, Korea

M.S. 2002, Chemistry
Sungkyunkwan University, Korea

Ph.D. 2009, Chemistry
University of Minnesota
Prof. Thomas R. Hoye, Advisor

Post-Doctoral Research (2009-2011) University of Pennsylvania
Prof. Amos B. Smith, III, Advisor

Research
- Chemical Synthesis: Synthesis of Bioactive Complex Molecules and Synthetic Methodology
- Chemical Catalysis: Homogeneous Catalysis and Reaction Mechanisms
- Medicinal Chemistry
- Material Sciences: New nano-materials and polymers

Awards:
- President’s Award for Excellence in Teaching (2017)
- Outstanding Science Teaching Award for the College of Science (2017)
- ACS Young Organic Investigator, the Fall 2016 ACS meeting in Philadelphia (2016)
- Excellence in Teaching Award, Sigma Alpha Phi UTA (2015)
- ACS PRF Doctoral New Investigator (2014)

Selected Publications


Research
- Enzymes that use Cofactor F420
- Structure determination by spectroscopic techniques and X-ray crystallography
- Enzyme kinetics and mechanism by rapid-mixing pre-steady state and steady state methods.
- Investigation of reaction intermediates by kinetic isotope effects.

Project
Kinetics and Spectroscopy of Sulfite Oxidase and Related Molybdenum Enzymes

Awards
2016, National Institutes of Health (NIH) R15, 2011 National Science Foundation (NSF) RIG_BP, 2010, UTA Research Initiation Program (REP)

Selected Publications


doreductase: A kinetic analysis,” (2016) accepted
Morteza G. Khaledi
Professor and Dean College of Science

B.S., 1978, Chemistry, University of Shiraz
Ph.D. 1985, Chemistry, University of Florida
Post Doc., 1986, Chemistry, University of Florida,

Research
- Extraction, Enrichment, Separation, and Characterization of Membrane Proteins
- Two-Dimensional Liquid Chromatography
- Mechanistic Studies in Electokinetic Chromatography
- Nonaqueous Capillary Electrophoresis
- Multi-Variate Analysis of Structure – Retention – Property Relationships
- Organized Self-Assemblies of Amphiphilic Molecules
- Organic Synthesis and Catalysis in Aqueous Two-Phase Systems

Selected Publications


Selected Publications


**Research**

Our group’s research is firmly rooted in synthetic organic chemistry, specifically in the development and application of new synthetic methods to the total synthesis of bioactive natural products. Inventing enabling synthetic methods are a hallmark of our research. In recent years, our efforts have focused on heterocyclic chemistry and in particular to the construction of imidazole-containing natural products, including members of the oroidin and Leucetta families of marine alkaloids. The structures depicted below are representative of the types of molecules that we target.

Total Synthesis


Methodology


Selected Publications


Research

- Fuel Chemistry
- SPARC Chemistry: Photocatalysis for CO2 reduction to useful fuels.
- Fischer-Tropsch Catalysis
- Gas-to-liquid; Coal-to-liquid conversion technology
- Synthesis and study of metal-polypyridyl complexes for applications in cancer biology and anti-cancer drugs.

Selected Publications


Subhrangsu S. Mandal

Professor

B.Sc. 1989, Chemistry, Midnapore College, India
M.Sc. 1992, Chemistry, Kalyani University, India
Ph.D. 1998, Chemistry, Indian Institute of Science, India

Post-Doctoral Fellow, 1998-1999, University of Alberta, Canada
Post-Doctoral Fellow, 2000-2005, Howard Hughes Medical Institute, UMDNJ, New Jersey

Member: American Chemical Society, American Society of Biochemistry and Molecular Biology, New York Academy of Sciences, Estrogen-research focus group

Research
- Epigenetics: Gene regulation, chromatin, and long-noncoding RNA
- Endocrinology: MLL histone methyl-transferases in steroid hormone signaling, cholesterol metabolism, endocrine disruption, neuroprotection, and cancer
- Drug discovery: Antisense based gene targeting, Anti-tumor activities of small molecules and metal-complexes for novel therapy (cell lines and mice model)

Selected Publications


We are a multidisciplinary team that is heavily involved in translational research aimed at solving unmet needs in cancer therapy and infection. We work in an exciting field called photomedicine, particularly in photodynamic therapy (PDT) and photochemotherapy (PCT). Our projects are focused on the design and development of targeted molecules (photosensitizers) that can be triggered by light to become powerful anticancer and antibacterial agents. Both our anticancer and antibacterial photosensitizers are in human Phase 2 clinical trials. We strive to provide our researchers with opportunities to become scientific experts in niche areas (synthesis and characterization, photophysics and photochemistry, or biological chemistry) and to develop the professional skills to become tomorrow’s innovators.

- Translational drug discovery
- Medicinal inorganic chemistry
- Photodynamic therapy (PDT), photochemotherapy (PCT)
- Excited state dynamics, photophysics and photochemistry, electrochemistry
- Science communication and entrepreneurship

Selected Publications


B.A. (1991-1995) Agriculture Chemistry Korea University, Seoul, South Korea

M.A. (1996-1998) Agriculture Chemistry Korea University, Seoul, South Korea

Ph.D. (2001-2006) Chemistry University of Minnesota, Minneapolis, MN

Post-Doc (2006-2011) Chemistry and Chemical Biology Harvard University, Cambridge, MA

Assistant Professor (2011-2016) Chemistry Umeå University, Umeå, Sweden

Research

- Semiconductor/electrolyte interfaces and solar energy conversion
- Heterogeneous photocatalysis and water/air purification
- Electrodeposition of semiconductor and nanocomposite thin films
- Materials and environmental chemistry

Selected Publications


Research

Research in our group crosses a broad spectrum of topics, encompassing the use of modern chromatographic separation techniques and molecular mass spectrometry to solve challenging analytical problems in the realm of biological, pharmaceutical, environmental, clinical, and physical chemistry. Our efforts are generally evenly split over fundamental (chromatographic separations; electrospray ionization; GC-VUV) and applied (trace quantitative analysis; protein analysis; environmental chemistry and microbiology) research topics.

Director, Collaborative Laboratories for Environmental Analysis & Remediation (CLEAR)

http://clear.uta.edu

Kevin A. Schug
Professor & Shimadzu Distinguished Professor of Analytical Chemistry

B.S. 1998, Chemistry, College of William and Mary

Ph.D. 2002, Chemistry, Virginia Tech Prof. Harold M. McNair, Advisor

Post-Doctoral Research 2003-2005 Institute for Analytical Chemistry, University of Vienna, Austria Prof. Wolfgang Lindner, Advisor

Regents’ Outstanding Teaching Award (2014), The University of Texas System Fellow (since 2016), The University of Texas System Academy of Distinguished Teachers

Selected Publications


Teaching
- Chemical Education
- CHEM 1400: INTRODUCTORY CHEMICAL PRINCIPLES
- CHEM 1441: GENERAL CHEMISTRY I
- CHEM 1442: GENERAL CHEMISTRY II
- CHEM 4311: BIOCHEMISTRY I

Awards
- 2014 Charles K. Baker Character Fellowship, The University of Texas at Arlington, Department of Chemistry and Biochemistry
- 2012 Graduate Teaching Award, The University of Texas at Arlington, Department of Chemistry and Biochemistry

Selected Publications
Joshua K. Crowell; Sinjinee Sardar; Mohammad S. Hossain; Frank W. Foss Jr.; Brad S. Pierce “Non-chemical proton-dependent steps prior to O2-actvaiton limit Azotobacter vinelandii 3-mercaptopropionic acid dioxygenase (MDO) catalysis” Arch Biochem Biophys. 2016 604, 86-94.

Brad S. Pierce; Bishnu P. Subedi; Sinjinee Sardar; Joshua K. Crowell; “The ‘Gln-type’ thiol dioxygenase from Azotobacter vinelandii is a 3-mercaptopropionic acid dioxygenase” Biochemistry 2015 54(51):7477-90.

Joshua K. Crowell; Wei Li; Brad S. Pierce “Oxidative uncoupling in cysteine dioxygenase is gated by a proton-sensitive intermediate” Biochemistry 2014 53(48): 7541-8.

Wei Li; Elizabeth J. Blaesi; Michael D. Pecore; Joshua K. Crowell; Brad S. Pierce “Second-sphere interactions between the C93-Y157 cross-link and the substrate-bound Fe-site influence O2-coupling efficiency in mouse cysteine dioxygenase”; Biochemistry 2013 52 (51): 9104-9119.
Teaching
- Chemical Education
- CHEM 1465: CHEMISTRY FOR ENGINEERS
- CHEM 1441: GENERAL CHEMISTRY I
- CHEM 1442: GENERAL CHEMISTRY II
- CHEM 3317: DESCRIPTIVE INORGANIC CHEMISTRY
- CHEM 2321: ORGANIC CHEMISTRY I
- CHEM 2322: ORGANIC CHEMISTRY II
- CHEM 3321: PHYSICAL CHEMISTRY I

Awards
- Regents’ Outstanding Teaching Award, University of Texas System (2009)
- Favorite Professor Award, Pre-Dental Student Association (2005)
- Honorary Member of the Golden Key National Honor Society (2001)
- Provost’s Award for Excellence in Teaching (1998-1999)
- Outstanding Academic Advisor, Faculty Award (1997-1998)
- Outstanding Contribution to Student Retention, Vice Provost for Academic Affairs (1998)
- Most Helpful Faculty Award, UTA Chemistry and Biochemistry Society (1998)
- Outstanding Technical Achievement Award, ARCO (1997)

Selected Publications
Seiichiro Tanizaki

Professor of Instruction

B.A. (1993)
Mathematics & Chemistry, University of Maine at Farmington

Ph.D. (2003), Chemistry, Brandeis University

Teaching

- Chemical Education
- Teaches introductory chemistry courses targeted for science majors, non-science majors, and nursing-intended students.
- Onsite Director, Welch Summer Scholar Program (2013 – Present)
- Chair, Departmental Undergraduate Curriculum Committee (2012 – Present)

Awards

- Nominated for the President’s Award for Excellence in Distance Education Teaching (2014).
- The UT System Regents’ Outstanding Teaching Awards (2013).
- The Provost’s Award for Excellence in Teaching (2012).
- Honored by Freshman Leaders on Campus (FLOC) at the University of Texas at Arlington (2007/2010/2011/2012).
- Nominated for the 2009 – 2010 Outstanding Academic Advisor Award.

Selected Publications

Thank you for your interest in the Department of Chemistry & Biochemistry Doctoral Program at the University of Texas-Arlington. If you have not already done so, I invite you to review and research active faculty on our departmental website. You are also welcome (and encouraged) to contact faculty members directly with specific questions relating to research activities within their group(s).

Language Requirements
An applicant whose native language is not English must submit a TOEFL score of at least 550 or a score of at least 213 on the computer-based test. A TSE-A score of 45 or higher can be substituted for the TOEFL. Those who have completed their undergraduate education in English may be eligible for a TOEFL waiver based on the recommendation letters. Any questions about this should be directed to the Graduate Admissions Counselors [http://www.uta.edu/admissions/contact/graduate.php](http://www.uta.edu/admissions/contact/graduate.php).

Over the first year, graduate students receive financial assistance from the Department of Chemistry & Biochemistry in the form of a Graduate Teaching Assistant (GTA) position. This support is contingent on the applicant satisfying the minimum English proficiency required by the office of graduate studies at the time they start the graduate program. This is equivalent to a TOFEL IBT spoken score of 23 or higher.

GRE requirements
We have no ‘minimum requirement’ for our department's applicants. For instance, the average GRE verbal and quant scores for students accepted into the 2019 class were 155 and 159, respectively. These scores vary year-to-year depending on the pool of our incoming applicants. Therefore, it is not possible to provide a ‘minimum value’ for guaranteed acceptance.

Application Terms and Deadlines
If you intend on applying for the Fall 2020 term, please note that while the university deadline for Domestic applications is [June 15, 2020](http://www.uta.edu/admissions/contact/graduate.php), and the deadline for International, Permanent Residents, and Resident Aliens is [April 15, 2020](http://www.uta.edu/admissions/contact/graduate.php), prospective students are encouraged to submit materials for their formal application early.

We will begin reviewing completed applications on [December 19th, 2019](http://www.uta.edu/admissions/contact/graduate.php). Initial offers of acceptance will be sent out starting in January 2020 and will continue until all available positions are filled. We cannot guarantee departmental review of application materials if received past April 31, 2020.

Also, please be aware that Spring and Summer term admissions in any calendar year are generally not considered without the unconditional support of a faculty member within the Chemistry & Biochemistry department.

Additional Documents
In addition to a completed application to the graduate school, and in order for the committee to review you as a candidate, you will need to arrange for your CV, statement of purpose, and letters of recommendation to be sent to the following email address: [chemgrad@uta.edu](mailto:chemgrad@uta.edu) or the physical location:

**ATTN: Stephanie Henry, Graduate Recruiting**
The University of Texas at Arlington
Room 130, Chemistry & Physics Building (CPB)
700 Planetarium Place
Arlington, Texas 76019-0065 USA

Checklist
Due to the large number of quality applications we receive every year, only applicants that have successfully completed the following will be considered by the committee for acceptance to the program:

- Complete an application to UTA
- Submit all official documents to the GRADUATE SCHOOL (not to the committee)
- Submit additional documents to the graduate committee

Admissions FAQ

Where do I apply?
To apply to the program you will need to complete an application to UTA. More information can be found in the following link: [https://www.applytexas.org](https://www.applytexas.org)
Is there a fee to apply?
Yes, a $70 fee for candidates with only US transcripts and $90 for candidates with foreign transcripts.

When is the admission deadline?
The admission deadline varies depending on whether you are an international or domestic candidate and can be found at [http://www.uta.edu/admissions/deadlines.php](http://www.uta.edu/admissions/deadlines.php). However, Ph.D. positions are usually filled by this time. In order to maximize your chance at acceptance, please complete the entire checklist below by January.

Does the department offer financial assistance?
Students accepted to the program are typically offered some form of fellowship/scholarship that supports much of the estimated tuition. In addition, Ph.D. candidates are typically given a Graduate Teaching or Graduate Research Assistantship to support them on a monthly basis.

When will I know if I am accepted to the program?
The process of selecting graduate students takes some time. We begin the selection process in late December and begin issuing offer letters of acceptance in January. We will continue this process until all available positions have been filled. This process may take until the end of April or May.

Do I need to send official documents, or are copies sufficient?
Unofficial copies of your transcripts and official scores are not sufficient for your application to the graduate school.

My TOEFL is below the value required from the graduate school. Can I still apply?
In the past, you could. However, now you will not be issued an I-20, or be allowed to participate in any Teaching Assistantships that would allow the department to assist you financially. (effectively, the answer is “no”)

I have another question. Is there someone I can ask?
Stephanie Henry is the Graduate Program Coordinator. You may reach her at stephanie.henry@uta.edu. Any questions regarding the graduate application should be directed to the graduate school. [http://www.uta.edu/admissions/contact/graduate](http://www.uta.edu/admissions/contact/graduate)

Once I complete the application, do I need to do anything else?
In addition to a completed application to the graduate school, and in order for the committee to review you as a candidate, you will need to arrange for copies of your CV, statement of purpose, unofficial transcripts, and letters of recommendation to be sent to the following email address: chemgrad@uta.edu or the physical location.

Please also review the ‘Related information’ link on the ‘Doctor of Philosophy in Chemistry?’ website listed below. Several frequently asked questions are addressed on this page; your attention to this information could save a great deal of time in future correspondence.

Index:
[www.uta.edu/chemistry/graduate/graduate-programs/phd-in-chemistry.php](http://www.uta.edu/chemistry/graduate/graduate-programs/phd-in-chemistry.php)

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