

## Curriculum Vitae

**Carl J. Carrano****Personal:**

Born July 14, Rockville Centre, New York  
Married, three children

**Education:**

Postdoctoral Fellow, (1977-1979) Department of Chemistry  
University of California, Berkeley, CA 94720

Postdoctoral Fellow, (1976), Department of Chemistry  
Texas A&M University, College Station, Texas 77843

Ph.D., 1976, Texas A&M University  
College Station, Texas 77843

B.S., 1972, (honors), Chemistry, University of California  
Santa Barbara, CA 93106

**Professional Experience:**

2003-present: Professor and Chair, Department of Chemistry and Biochemistry, San Diego State University, San Diego, California 92182.

2001-2002: Professor, Department of Chemistry and Biochemistry, Southwest Texas State University, San Marcos, Texas 78666.

2000-2001: Visiting Scientist: Microbiology and Biotechnology, University of Tübingen, Tübingen, Germany and the Laboratory for Biological Magnetic Resonance, CERM, University of Florence, Florence Italy.

1988-2000: Professor and Chair, Department of Chemistry, Southwest Texas State University, San Marcos, Texas 78666.

1994: Visiting Scientist, Microbiology and Biotechnology, University of Tübingen, Tübingen, Germany.

1986: Visiting Professor, Department of Chemistry, University of Texas, Austin, Austin, Texas.

1985-1987: Associate Professor, Department of Chemistry, University of Vermont, Burlington, Vermont.

1979-1985: Assistant Professor, Department of Chemistry, University of Vermont, Burlington, Vermont.

- 1977-1979: Postdoctoral Fellow (Kenneth N. Raymond's Laboratory), University of California, Berkeley.
- 1976: Postdoctoral Fellow (Minoru Tsutsui's Laboratory), Texas A&M University, College Station.
- 1972-1976: Graduate Research Assistant, (Minoru Tsutsui), Texas A&M University, College Station.

### Honors:

NSF Graduate Fellowship, 1972-1973  
 Texas A&M University Health Fellowship, 1975-1976  
 North American Editor of the International Journal: BioMetals, 1996-present  
 Presidential Award for Scholarly/Creative Activity, SWTSU, 1998

### Professional Affiliations:

American Chemical Society, Inorganic Division  
 American Crystallographic Association  
 Society of Biological Inorganic Chemistry  
 American Society for Limnology and Oceanography

### Current Research Interests:

Metal Complexes as Models for Metalloproteins  
 Marine Bioinorganic Chemistry  
 Vanadium Biochemistry and Chemistry  
 Microbial Iron Transport and Storage  
 Materials Chemistry  
 X-ray Crystallography

### Research Support since 1988:

Research Corporation	1988-90	\$3,864
Army Office of Research	1988-89	\$15,000
Texas Advanced Technology Program	1990-92	\$106,899
Dreyfus Foundation	1990	\$10,000
National Science Foundation (X-ray Diffractometer)	1991-93	\$70,000
Texas Advanced Research Program	1992-94	\$171,000
National Institutes of Health	1992-94	\$50,000
Dreyfus Foundation	1995-97	\$60,000
DAAD (German Academic Exchange)	1989,94,01	\$9,000
ACS/PRF	1995-98	\$25,000
NSF-MRI (NMR)	1996-97	\$109,000
NIH Fogarty Senior Int. Fellowship	1997-00	\$55,000
NIH AREA	1997-00	\$75,000
Welch Foundation	1989-03	\$550,000
NSF	1998-02	\$156,000
Dreyfus Foundation	2001-05	\$80,000

NSF	2003-06	\$175,000
NSF-MRI (X-ray Diffractometer)	2004-06	\$215,324
NSF-MRI (co-PI, NMR)	2005-08	\$571,000
NOAASeaGrant	2006-10	\$313,557
Unilever Ltd.	2005-06	\$18,000
Naval Medical Center, S.D.	2007-09	\$120,834

### Research Students Supervised:

#### Undergraduate

Ms. M.G. Patch	M.S., U.C. Berkeley, patent law, San Diego, CA.
Mr. George A. Bartlett	PhD program UT Health Science Center S.A
Mr. K.S. Simolo	PhD University of Rochester, present whereabouts unknown
Ms. N. Kim Van	B.S., technical assistant, City of Hope Hospital L.A.
Mr. R. Abbott	PhD Texas A&M University, group leader, Chevron, Houston, TX
Mr. Dennis Jurek	M.S. program, SWT
Ms. Kate Baptie	PhD program N.C. State University, present whereabouts unknown
Mr. Chris Warthen	PhD program Univ. of Colorado
Mr. M. Carroll	Medical School, present whereabouts unknown
Ms. Megan Jordan	B.S. technical assistant, Austin, TX
Mr. Martin DeRusha	Medical School, present whereabouts unknown
Mr. Vincent Dyamuga	present undergraduate, SWT
Mr. Gilbert Valdez	B.S., chemist, Radian Corp. Austin, TX
Ms Jennifer Cooper	B.S. present whereabouts unknown
Mr. Wilfredo Ramirez	B.S., U.S. Army
Mr. Steven Holmes	PhD Illinois, Assoc. Prof. University of Missouri, St. Louis
Mr. Ladd Mokry	present whereabouts unknown
Ms Jennifer Pointer	M.S. Univ. Oregon
Mr. Jeff Thompson	B.S., Process Engineer, Celenese Corp. Clearlake, TX
Ms Tina Smeal	B.S., product specialist, Thermo-Finnegan Corp.
Ms. J. Raynak	PhD Stanford, present whereabouts unknown
Ms. Shiela J. Heater	B.S., M.S. SWT, presently research associate at University of Texas.
Ms. Tamara Tarbox	B.S. SWT
Mr. Justin Hoffman	B.S. SDSU
Mr. Tim Dwight	B.S. SDSU
Mr. Andrew Drake	present UG
Ms. Kelly Laggner	B.S. SDSU
Mr. Adam Mark	present UG
Mr. Ariel Romano	present UG

#### M.S. Students

Mrs. Elaine Zhou
Mr. Ruben Verastgue
Ms. Sheila Heater
Ms. Jennifer Smith
Mr. Justin Hoffman, presently PharmD program, UCSD
Ms. Rebekah McGirk
Mr. Ba L. Tran, presently PhD program, Indiana University
Ms. Yukiko Uchida-present student
Ms. Madura Rane-present student

Mr. Suhk Singh-present student

PhD Students

Dr. Carl Marrese

Dr. Chris Baily

Dr. Joseph Bonadies

Dr. Ellen Kime-Hunt

Mr. Shady Amin- present student

Mr. Guillermo A. Santillán-present student

Postdoctoral Fellows

Dr. Madan Mohan

Dr. Amrit Jhanji

Dr. Marc Bond

Dr. Thomas Otieno

Dr. Norman Dean

Dr. Tim Higgs

Dr. Brian Hammes

Dr. V. Manivannan

Dr. Xuemei Luo

Dr. Zahida Shirin

Dr. Bal Chohan

Dr. Wenfeng Zhou

**Papers Presented Since 1988:**

- a) "Resonance Raman Spectra of Low Spin Iron Phenolates," C. J. Carrano, M. S. Carrano, K. Spartalian, K. Sharma, and J. S. Loehr.
- b) "Vanadium Trispyrazolylborates," C. J. Carrano, **J. Raynak, M. DeRusha, G. Valdez**, C. M. Nunn, and E. Kime-Hunt.

Both a) and b) presented at the "Metals in Biology" Gordon Research Conference, Ventura, CA, Jan. 23-27,1989.

- c) "Trispyrazolylborato Complexes of Vanadium," C. J. Carrano, **M. DeRusha**, and E. Kime-Hunt, presented at the 197th National Meeting of the ACS, Dallas, Texas, April 9-14,1989.
- d) "The Reaction of Vanadium(IV) Trispyrazolylborato Complexes with t-butyl-hydroperoxide," **M. DeRusha, G. Valdez**, and C. J. Carrano, Presented at the 3rd National Conference on Undergraduate Research, San Antonio, Texas, April 26-28, 1989.
- e) "Photoinhibition of ferrioxamine B Mediated Iron Transport in E. Coli." M. Nelson, C. J. Carrano, and P. J. Szaniszlo.
- f) "Shuttle Mediated Siderophore-Iron Transport by Oat Roots." D. E. Crowley, C. J. Carrano, and P. J. Szaniszlo.

Both e) and f) presented at the Spring National Meeting of the American Society of Microbiology, New Orleans, LA, May, 1989.

- g) "Models for Vanadium-Tungsten Chemistry." C. J. Carrano and E. Kime-Hunt presented, 4th International Conference on Bioinorganic Chemistry, Cambridge A, July 24-28, 1989.
- h) "Stabilization of Low and High Valent Oxidation States of Vanadium Trispyrazolylborato Complexes." C. J. Carrano, M. Mohan, and **S. M. Holmes**, presented 93rd Annual Texas Academy of Sciences Meeting, San Marcos, TX, March 2-3, 1990.
- i) "Models for Bromoperoxidase Enzymes." C. J. Carrano, **S. M. Holmes**, and M. Mohan, presented "Texas Chemistry Forum," May 24-25, 1990.
- j) "Vanadium Complexes of Trispyrazolylborate Ligands." Madan Mohan, **Steven M. Holmes**, and C. J. Carrano presented 47th Southwest Regional ACS Meeting, San Antonio, TX, Oct. 2-4, 1991.
- k) "Some Phosphate Bridged Complexes of V(III) and (IV)." C. J. Carrano, M. R. Bond, **L. M. Mokry**, M. Mohan, and **J. Thompson**. 207th ACS Meeting, San Diego, CA, March 1994.
- l) "Stereochemical Control of Cluster Size in Vanadium Phosphates," C. J. Carrano, **J. Thompson**, M. R. Bond, T. Otieno, M. Mohan, and **L. M. Mokry**. 1st International Conference on Progress in Inorganic and Organometallic Chemistry, Polanica Zdroj, Poland, Sept. 1994.
- m) "N<sub>2</sub>O and N<sub>2</sub>S Zn(II) Complexes of Two New Heteroscorpionate Ligands," B. Hammes, **C. Warthen**, and C.J. Carrano. 9<sup>th</sup> International Conference on Biological Inorganic Chemistry, Minneapolis, MN, July, 1999.
- n) "Alkyl Group Transfer to Pseudotetrahedral Zinc Thiolates: Kinetics and Biological Relevance" **C. Warthen**, B. Hammes, and C.J. Carrano. Contemporary Coordination Chemistry II, Texas A&M University, March 2000.
- o) "Synthesis, Structure, and reactivity of Molybdenum Complexes of Two New Heteroscorpionate Ligands." B. Hammes, **C. Warthen**, and C.J. Carrano. Contemporary Coordination Chemistry II, Texas A&M University, March 2000.
- p) "Scorpionate" Ligands: The Next Generation" C. J. Carrano, PacifiKen 2002, Berkeley, CA, January 2002.
- q) Many others too numerous to list

#### Invited Talks Since 1988

- a) Session Chairman, 3rd National Conference on Undergraduate Research, San Antonio, Texas, April 26-28, 1989.
- b) Symposium Speaker, Texas Branch ASM Meeting, Junction, TX, March 24-25, 1989.
- c) University of Houston 9/4/90  
Baylor University 3/30/90

Trinity University	2/9/90
University California Santa Barbara	1/23/89
University of Houston	4/17/89
Texas A&M University	5/4/93
University of Tübingen, Germany	1994, 1998, 2001
University of Liepzig, Germany	1994
University of Strasbourg, France	1995
University of Amsterdam, Netherlands	1995
Texas Womens University	1996
Texas A&M Commerce	1996
University of Texas, Arlington	1997
University of Denver	2000
Colorado State University	2000
Max Plank Institute, Mühlheim, Germany	2000
Medical University of Lübeck, Germany	2000
University of Freiburg, Germany	2001
University of Nottingham, UK	2001
San Diego State University	2002
UCSD	2003
UC Irvine	2005
LACC	2005
University of Edinbrough	2005
Unilever Ltd	2005
Cal State Northridge	2006
Scottish Association for Marine Science	2007
Scripps Institute for Oceanography	2007