

CURRICULUM VITAE

11/2012-L

Victor J. Hruby, Ph.D.

Personal Information

Office: 215 Old Chemistry Building
Department of Chemistry and Biochemistry
University of Arizona
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Education

University of North Dakota - B.S. 1960 - Chemistry, Mathematics

University of North Dakota - M.S. 1962 - Chemistry
Thesis Title: "The Chemistry of Sulfur Ylids"
Thesis Director: Dr. A. William Johnson

Cornell University - Ph.D. 1965 - Chemistry
Dissertation Title: "Some Aspects of Benzocyclobutene and Benzocyclobuta-
diene Chemistry"
Dissertation Director: Dr. Alfred Blomquist

Academic Appointments

Instructor: Department of Biochemistry, Cornell University
Medical College, New York, N.Y., 1965-1967;
Research Director: Dr. Vincent du Vigneaud.

Research Associate: Department of Chemistry, Cornell University
Ithaca, New York, 1967-1968; Research Director:
Dr. Vincent du Vigneaud.

Assistant Professor: Department of Chemistry, University of Arizona
Tucson, Arizona, 1968-1972

Associate Professor: Department of Chemistry, University of Arizona
Tucson, Arizona, 1972-1977.

Guest Worker: National Institutes of Health, Bethesda, Maryland
1975-1976; Sabbatical with Dr. Martin Rodbell.

Professor: Department of Chemistry and Biochemistry, University of Arizona
Tucson, Arizona, 1977-present.

Regents Professor: Department of Chemistry and Biochemistry, University of Arizona
Tucson, Arizona, 1989-present.

Professor: Department of Biochemistry, University of Arizona
(Joint Appointment): Tucson, Arizona, 1978-2010.

Professor: Arizona Research Laboratories, University of Arizona
(Joint Appointment) Tucson, Arizona, 1981-present.

- Professor: Program in Neuroscience, University of Arizona
(Joint Appointment) Tucson, Arizona, 1988-present.
- Professor: Department of Medical Pharmacology, University of Arizona
(Joint Appointment) Tucson, Arizona, 2005-present
- Professor: BIO5, University of Arizona
(Joint Appointment) Tucson, Arizona, 2005-present
- Rector's Lecturer: Free University of Brussels, Brussels, Belgium,
1979. Sponsors: Educational Commissions -
Fulbright-Hays.
- Visiting Professor: Harvard University, Department of Chemistry
Cambridge, Massachusetts, 1984-1985 (Guggenheim Fellow).
Sabbatical with Dr. Martin Karplus.
- Visiting Professor: California Institute of Technology, Department of Chemistry,
Pasadena, California, 1992
Sabbatical with Dr. Peter Dervan
- Visiting Professor: Technical University of Munich, Department of Chemistry and
Biochemistry, Garshing, Germany, 1999-2000 (Senior Humboldt
Fellow), Sabbatical with Dr. Horst Kessler

Areas of Interest

Physical/Chemical Basis for Information Transduction
 Host-Guest Relationships
 Peptide Hormone and Neurotransmitter Structure-Function
 Brain Chemistry
 Relation of Conformation to Biological Activity
 Amino Acid, Peptide and Protein Organic Synthesis
 NMR as a Structural Tool for Peptides and Proteins
 Peptides and Cancer - Multimeric Ligands
 Mechanisms of Hormone and Neurotransmitter Actions
 Peptides in the Central Nervous System and Gut - Peptides and Behavior
 Bioorganic Chemistry
 Molecular Mechanics and Molecular Dynamics of Peptides
 Peptide and Peptidomimetic Drug Design
 Asymmetric Synthesis
 Peptide G-Protein Coupled Receptors
 Peptide and Other Chemical Libraries
 Peptides and Cancer Therapy
 Combinatorial Chemistry
 Pain and Drug Abuse
 Topographical Considerations in Molecular Recognition
 De Novo Design of Peptide Mimetics
 The Chemical Basis for Behavior
 Obesity and Anorexia
 Pigmentation
 Erectile Function

Awards, Honors and Fellowships

Abbott Award; Coon Award; Amer. Chem. Soc. Award; Magna cum laude - University of North Dakota	1959-1960
NSF Summer Fellow, University of North Dakota	1961
Sigma Xi, University of North Dakota	1962
NSF Predoctoral Fellow, Cornell University	1963-1965
Fellow, American Association Advancement of Science	1972
Fellow, American Institute of Chemists	1974
U.S. Public Health Service Senior Research Fellowship, National Institutes of Health	1975-1976
Rector's Lectureship, Free University of Brussels	1978-1979
Fulbright-Hays Fellow	1979
Pfizer Lecturer, Clinical Research Institute of Montreal, Montreal, Quebec	1979
University Lecturer, University of Baghdad, Baghdad, Iraq	1979
Fellow, New York Academy of Sciences	1981
UNESCO Lecturer, Bangalore, India	1981-1982
Welsh Lectureship	1983
Karger Lecturer, University of Oklahoma	1984
Distinguished Alumni Lecturer, Univ. of North Dakota	1984
Guggenheim Fellow	1984-1985
University Lecturer, University of Texas	1985
American Diabetes Association Research Award	1986
DuPont Distinguished Lecturer, University of Indiana	1986
Javits Neuroscience Investigator Award	1987
MERIT Award - NIH	1988-1996
Merritt-Putnam Lectureship	1988
Doctor Honoris Causa, Free University of Brussels	1989
Regents Professor, University of Arizona	1989

Founder – Selectide Corporation	1989
University Distinguished Lecturer, Creighton University	1991
Pierce (ne Merrifield) Award in Peptide Science, APS	1993
Blomquist Lecturer, Cornell University	1996
Senior Humboldt Fellow, Germany	1999-2000
Siemans Lecturer, Germany	2000
Guest Editor (with Vadim Soloshonok) Tetrahedron. Asymmetric Synthesis of Novel Sterically Constrained Amino Acids	2001
Ralph F. Hirschmann Award in Peptide Chemistry, Amer. Chem. Society	2002
Cathay Award - China	2002
Karcher Lecturer, University of Oklahoma	2003
Abbott Lecturer, University of North Dakota	2003
Sommer Prize, University of Nebraska	2003
Fellow, Arizona Art, Science & Technology Academy	2005
Eminent Scholar Lecture, University of Arizona	2005
College of Science Distinguished Career Teaching Award, University of Arizona	2006
Anniversary Medal, Polish Academy Sciences	2006
Arthur C. Cope Scholar Award, American Chemical Society	2009
Arizona Technology Innovator of the Year	2009
Boehringer Ingelheim Lecturer, University of Montreal	2010
Goodman Scientific Excellence & Mentorship Award	2011
ACS Medicinal Chemistry Hall of Fame	2012
Meienhofer Award	2012

Current Research Grants

NIDA PO1 DA 06284 04/01/09-03/31/14	"New Modalities For Treatment of Pain and Drug Abuse" Program Project Grant P.I. with 6 other Principal Investigators Total - \$6,296,106.; Current Year - \$1,150,283.
NIDA DA 13449 02/15/11-01/31/16	"Novel Non-Peptide Opioid Ligands for Pain" Total - \$2,200,000.; Current Year - \$457,760. (with two Co-PIs)

NIH R01 CA97360-5A1
05/01/08-04/30/13

“Multimeric Ligands for Targeting Melanoma” subcontract with
Moffitt Cancer Center
Total - \$1,428,637.; Current Year - \$42,171. (Hruby)

Teaching Responsibilities

Chemistry 540 (Organic Synthesis)	1968-1977
Chemistry 543 (Organic Structure Determination)	1969-present
Chemistry 299, 399, 499 (H) (Undergraduate Research)	1969-present
Chemistry 241a,b (Organic Chemistry)	1973-1991
Chemistry 241a,b (Honors) (Organic Chemistry)	1970-1973
Chemistry 245a,b (Organic Chemistry Laboratory-Majors)	1970-1974
Chemistry 101b (Lectures in General Chemistry)	1973, 2001
Chemistry 446 (Organic Preparations)	1977, 1987-1991
Chemistry 440 (Qualitative Organic Analysis)	1980, 1986, 1987, 1989, 1991,1995
Biochemistry (Proteins, Enzymes, and Physical Biochemistry)	1978, 1980, 1982
Biochemistry (Biophysical Methods)	1985-1988
Chemistry 402/502 (Intermediate Organic Chemistry)	1985, 1986, 1996, 1997, 1998, 2002, 2003
Chemistry 696C (Organic Seminar)	1985, 1986, 1992, 1996
Chemistry 646X & 549A (Peptide and Protein Chemistry)	1990, 1994, 1997, 2000, 2009
Chemistry 436, 536 - Scientific and Ethical Aspects of Modifying Human Behavior	2004, 2006, 2008, 2010

Courses Developed

Chemistry 543 - Organic Structure Determination
Chemistry 245a; 245b - Organic Chemistry Laboratory
Chemistry 440 - Organic Qualitative Analysis
Chemistry 646 - Peptide and Protein Chemistry
Chemistry 402/502 - Intermediate Organic Chemistry
Chemistry 436/536 - Scientific and Ethical Aspects of Modifying Human Behavior

Departmental Committees

Seminar Committee, 1968-1973; Chairman, 1969-1973
Safety Committee, 1968-1973
Ad Hoc Committee on Laboratory Renovations, 1971-1972

Travel and Recruiting Committee, 1973-1975; Chairman, 1973-1975
Undergraduate Advisor, 1973-1975
Graduate Study Committee, 1976-1978; Chairman, 1977-1978
Faculty Search Committee, 1978-1979; Chairman, 1978-1979; 1979-1980;
1985-1986: Chairman 1985-1987; Chairman 1986-1987; Chairman, 1987-1988.
NMR Committee, 1979-1999.
Research Committee, 1979-1982, 1988-1990
Ad Hoc Committee on Faculty Recruiting, 1980
Space Committee, 1981-1983
Steering Committee, 1981-1988
Head, Organic Division, 1982-1986
Promotion and Tenure, 1983-1992 (For Different Professors); 1999-present
Faculty Advisory Committees, 1984-present (For Asst. Professors)
Department Head Search, Chairman, 1988-1990
Computer Graphics Facility, 1990-2005
Safety Committee, 1991-1992
Computer Graphics Facility Committee, Chairman, 1995-1999, 2000-2004
Chair, Faculty Search Committee, 2003-present
Committee for Faculty Hiring Plan-Chair-2003-present

University Committees

University Conciliation Panel, 1971-1975, Head
University Committee on Graduate Study, 1976-1980
Pre-Health Professional Committee, 1979-1983
Liberal Arts College Promotion and Tenure Committee, 1981-1984
Chairman, 1982-1983
Arizona Research Laboratory, Member, 1981-present
Department Head Search Committee, Chemistry, 1982-1983
Biotechnology Committee, 1982-1985
Sequencing Facility, 1983-1987
Technology Transfer Committee, 1986-1990
User Group Committee, Molecular Biology Support Facility, Biotechnology Center,
1987-1993
User Group Committee, Molecular Design Facility, Biotechnology Center,
1987-1996
University Promotion and Tenure Committee, 1987-1990
University Committee on Ethics and Commitment, 1989-1991; Acting Chair, 1990-1991
University Committee to Evaluate the Department of Nutrition and Food Science, 1988
Faculty of Science Committee to Evaluate Dean, 1989
Research Policy Committee, 1990-1991
Committee on Academic Freedom and Tenure, 1994-1997
Biology 21 Committee, 1994-2002
Organizing Principles Committee, 1994-1996
Faculty Chair's Task Force on Faculty Salaries, 1997-2001
Undergraduate Centennial Achievement Award Committee, 1998
Biological Chemistry Program - Co Chair - 2001-present
Biotechnology Search Committee - 2001-2004
Institute for Biomedical Science and Biotechnology - 2003-2004
Executive Committee - ARIBI, 2005-present

National Committees

Public Health Service Consultant, Site Visits, Ad Hoc	1977-present
Physiological Chemistry Study Section, National Institutes of Health	1980-1984
National Executive Committee, American Peptide Symposium	1979-1990
Chairman, American Peptide Symposium	1981-1983
Secretary, American Peptide Symposium	1985-1989
Bioorganic and Natural Products Chemistry Study Section, National Institutes of Health	1985-1989
Committee of Editors of Biochemical Journals, IUPAC	1988-2004
Grants Program Advisory Board, Research Corporation	1988-1994
American Chemical Society, Canvassing Committee, Hirschmann Award	1988-1993
American Peptide Society, Council - President	1990-1991
American Peptide Society - Liaison Committee - Chair	1991-1993
American Peptide Society - Council	1997-2003
NRC Study Committee, Stress in Science, University of Arizona, Faculty Rep.	1993-1994
du Vigneaud Award Committee	1993-1995
American Chemical Society, Medicinal Chemistry - Councilor	1994-1997
Awards Committee, Chair, APS	1995-1997
American Peptide Society, Awards Committee, Chair	1996-1998
Cathay Award Committee	1997-2001
Special Emphasis Panel, Molecular Neuropharmacology & Signaling, National Institutes of Health	2000-2005
Special Emphasis Panel, Drug Discovery for the Nervous System, National Institutes of Health	2007-present

Professional Activities

American Chemical Society	
Joint Board-Council Committee on Patents and Related Matters	1997-present
Academic Councilor-Medicinal Chemistry	1994-2000
Alternate Councilor - Medicinal Chemistry	1997-2001
Southern Arizona Section	Secretary 1972 President-Elect, 1973 President, 1974
American Institute of Chemists (Fellow)	
American Association for Advancement of Science (Fellow)	
New York Academy of Science (Fellow)	
Society of Sigma Xi	
American Society of Biochemistry and Molecular Biology	
Biophysical Society	
American Peptide Symposium	President, 1982-1984 Vice President, 1984-1985 Secretary, 1985-1989 Chairman, 1987
Marvel Symposium	
International Union of Pure and Applied Chemistry,	1989-present
Selectide Corporation	Founding Scientist, 1990 Chairman, Scientific Advisory Board, 1991-1995 President, 1990-1991 Liaison Committee, 1991-1993 Honorary Member, 1993-present
American Peptide Society	

Protein Society	Awards Committee, Chairman, 1996-1999
Keystone Symposium	Publications Committee, 1995-2003
	Council, 1997-2003
	1990-present
	1992, Chairman and Organizer with Gary Olson, Peptide Mimetics Board, 1994-present
The International Neuropeptide Society	1996-2001, 2006-present
The Cathay Award International Committee	1998-1999
Task Force for Review of J. Med. Chem.	Am. Peptide Symposium - 1997-1999
Organizing Committees	Chinese Peptide Symposium - 1995-present
	Intl. Peptidomimetic Symposium - 1990-2002
Gordon Research Conference on Peptide Chemistry and Biology	Co-Chair - 2002

Editorial Activities

Editor-in-Chief	<u>The Journal of Peptide Research</u> , 1997 -
Editor-in-Chief	<u>International Journal of Peptide and Protein Research</u> , 1988-1996
Associate Editor	<u>International Journal of Peptide and Protein Research</u> , 1981 - 1988
Editorial Boards	<u>Journal of Protein Chemistry</u> , 1981-2005
	<u>Life Sciences</u> , 1984-1990
	<u>J. Med. Chem.</u> , 1987-1991
	<u>Peptide Research</u> , 1988-2006
	<u>Journal of Receptor and Signal Transduction Research</u> , 1991-2006
	<u>Peptide Science</u> , 1993-present
	<u>Drug Design and Discovery</u> , 1993-present
	<u>Current Topics in Medicinal Chemistry</u> , 1994-present
	<u>Heterocyclic Communications</u> , 1994-present
	<u>Combinatorial Chemistry and High Throughput Screening</u> , 1997-present
	<u>I Drugs, The Investigational Drugs Journal</u> , 1998-present
	<u>Chemical Biol & Drug Design</u> , 2006-present
	<u>Drug Design, Development & Therapy</u> , 2007-present
	<u>Open Medicinal Chemistry Journal</u> , 2007-present
	<u>Biologics: Targets & Therapy</u> , 2006 – present
	<u>Drug Design, Development & Treatment</u> , 2007 – present
	<u>Drug Design & Reviews Online</u> , 2003 – present
	<u>Peptides</u> – 2010-present
	Several Others

Referee articles on a regular basis:

J. Am. Chem. Soc.
 J. Org. Chem.
 Science
 Biochemistry
 Proc. Natl. Acad. Sci. U.S.A.
 Biopolymers
 Org. Magn. Res.
 Life Sciences
 J. Med. Chem.
 Tetrahedron Letters
 Tetrahedron
 Bioorg. & Med. Chem. Letters
 Organic Letters

Nature
Angew. Chemie
Several Biological Journals

External Consulting

U.S. Public Health Service 1977-present
COBRE, NDSU 2001-2006
Several chemical and biotechnology companies (currently three) – 1975-present

People in Research Group

Research Professors – 3
Postdoctorals – 2
Graduate Students - 4
Undergraduate Students - 10
Visiting Scientists - 2

Publications (Bibliography available on request.)

Over 1 200 papers in refereed journals, monographs and proceedings – list available on request
Over 450 abstracts from meetings and symposia.
Editor of 3 books
Co-author of 1 book
Over 15 patents

REFERENCES AVAILABLE UPON REQUEST