

Curriculum Vita

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NASRI A. NESNAS, Ph.D.

Associate Professor

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(i) Professional Preparation

Manhattan College, Riverdale, NY	Major: I. Chemistry II. Biochemistry	B.S. 1994
Columbia University, NY, NY	Field: Bioorganic and synthetic chemistry	M.A. 1995
		M.Phil. 1998
		Ph.D. 1999
Columbia University, NY, NY	Postdoctoral research: (i) bioorganic studies in vision and (ii) Circular Dichroism	1999-2002

(ii) Appointments

Florida Institute of Technology, Melbourne, FL	Associate Professor	2008-present
Florida Institute of Technology, Melbourne, FL	Assistant Professor	2002-2008

(iii) Publications in Refereed Journals

Kinetics of the Oxidation of Endocrine Disruptor Nonylphenol by Ferrate(VI)

Sharma, V. K.; Anquandah, G.; Nesnas, N.

Environ. Chem. Lett. **2009**, in press.

Ferrate(VI) oxidation of recalcitrant compounds: removal of biological resistant organic molecules by ferrate(VI).

Sharma, Virender K.; Noorhasan, Nadine N.; Mishra, Santosh K.; Nesnas, Nasri.

ACS Symposium Series **2008**, 985, 339-349.

Analysis of Self-Assembled Monolayers on Gold Surfaces Using Direct Analysis in Real Time Mass Spectrometry

Kpegba, K.; Spadaro, T.; Cody, R. B.; Nesnas, N.; Olson, J. A.

Anal. Chem. **2007**, 79(14), 5479-5483

Synthesis of 11-cis-locked-biotinylated retinoid for sequestering 11-cis retinoid binding proteins

Matsuda, H.; Zhang, S.; Holmes, A. E.; Krane, S.; Itagaki, Y.; Nakanishi, K.; Nesnas, N.,.

Can. J. Chem. **2006**, 84(10), 1363-1370

Oxidation of Sulfonamide Antimicrobials by Ferrate(VI) [Fe^{VI}O₄²⁻]

Sharma, V. K.; Mishra, S. K.; Nesnas, N. *Env. Sci. Tech.* **2006**, 40 (23), 7222-7227

Aluminumoxyhydride: Improved Synthesis and Application as a Selective Reducing Agent.

Tewari, Brij B.; Shekar, Sukesh; Huang, Longchuan; Gorrell, Carolyn E.; Murphy, Timothy P.; Warren, Kevin; Nesnas, Nasri;

Wehmschulte, Rudolf J. *Inorg. Chem.* **2006**, 45(21), 8807-8811.

Cyclodextrin retinylidene: A biomimetic kinetic trap model for rhodopsin.

Kpegba, K.; Murtha, M.; Nesnas, N. *Bioorg. Med. Chem. Lett.* **2006**, 16 (6), 1523-1526

A Cleavable Affinity Biotinylating Agent Reveals a Retinoid Binding Role for RPE65.

Jahng, W. J.; David, C.; Nesnas, N.; Nakanishi, K.; Rando, R. R.

Biochemistry **2003**, 42(20), 6159-6168

Photochemical Gating of Heterologous Ion Channels: Remote Control over Genetically Designated Populations of Neurons.

Zemelman, B. V.; Nesnas, N.; Lee, G. A.; Miesenböck, G. *Proc. Nat. Acad. Sci. USA* **2003**, *100* (3), 1352-1357.

Synthesis of Biotinylated Retinoids for Cross-Linking and Isolation of Retinol Binding Proteins.

Nesnas, N.; Rando, R.; Nakanishi, K. *Tetrahedron*, **2002**, *58*, 6577-6584

The articles below were published prior to appointment as an assistant professor in Aug 2002 at Florida Tech.

Chiral Recognition by CD-Sensitive Dimeric Zinc Porphyrin Host. 1.

Chiroptical Protocol for Absolute Configurational Assignments of Monoalcohols and Primary Monoamines.

Kurtán, T.; Nesnas, N.; Li, Y.-Q.; Huang, X.; Nakanishi, K.; Berova, N.

J. Am. Chem. Soc. **2001**, *123*, 5962-5973.

Chiral Recognition by CD-Sensitive Dimeric Zinc Porphyrin Host. 2.

Structural Studies of Host-Guest Complexes with Chiral Alcohol and Monoamine Conjugates.

Kurtán, T.; Nesnas, N.; Koehn, F. E.; Li, Y.-Q.; Nakanishi, K.; Berova, N.

J. Am. Chem. Soc. **2001**, *123*, 5974-5982.

The Binding of Cocaine to Cyclodextrins

Nesnas, N.; Lou, J.; Breslow, R. *Bioorg. Med. Chem. Lett.* **2000**, *10*, 1931-1933.

Burst Kinetics and Turnover in an Esterase Mimic

Breslow, R.; Nesnas, N. *Tetrahedron Lett.* **1999**, *40*, 3335-3338.

Letter in an ACS magazine:

Mass Spectrometry Application

Olson, J.A. and Nesnas, N.A. *Chem. Eng. News* **2007**, December 3rd issue page 6.

Book Chapters:

Sharma, Virender K.; Noorhasan-Smith, Nadine; Mishra, Santosh K.; Nesnas, Nasri.

Ferrate(VI) oxidation of recalcitrant organic compounds. Preprints of Extended Abstracts presented at the ACS National Meeting, American Chemical Society, Division of Environmental Chemistry **2006**, 46(2), 611-615.

“Catalysis of Organic Reactions in Water: Nature’s Choice of Solvent” Chapter 14 by Nasri Nesnas

in *How Science Can Support Environmental Protection?* Florida Tech-BME Partnership Programme Yearbook **2003**

Edited by Gordon Nelson and Imre Hronszky, Budapest, Hungary.

(iv) Invited Presentations:

2008 Seton Hall University, NJ (November 12)

2007 Stone middle School (October 11)

2006 University at Tampa, FL (April 20)

2006 Biology Department-FL Tech (Feb. 9)

2006 Council for Chemical Research (CCR) Meeting in Orlando (January 17th)

2005 Space Life Science-FL Tech Meeting (Jul. 27)

2005 Arctic Slope Regional Corp. (ASRC-NASA), FL Tech, FL (Mar.)

2005 OFF conference (Organic Faculty of Florida), UCF, Orlando, FL (Mar. 5)

2004 Daytona Beach Community College, Daytona Beach, FL (Nov. 11)

2004 Nova Southeastern University, Ft. Lauderdale-Davie, FL (Nov. 2)

2004 Florida International University, Miami, FL (Nov. 1)

2004 Barry University, Miami, FL (Nov. 1)

2002 Manhattan College, Riverdale, NY (Nov. 6)

2002 University of North Carolina, Wilmington, NC (Mar. 21)

- 2002 Dartmouth College, Hanover, NH (Feb. 19)
 2002 Florida Institute of Technology, Melbourne, FL (Feb. 7)
 2002 City University of New York, Queens College, NY (Jan. 30)
 2002 California State University, Los Angeles, CA (Jan. 28)
 2002 University of Miami, Coral Gables, FL (Jan. 14)
 2001 Columbia University, Wyeth Symposium (Mar. 7)
 1999 Columbia University, Industrial Associates Program Symposium (May 21)
 1999 University of Pennsylvania, Philadelphia, PA (Jan. 14)

Student presentations and Posters:

- 2007 Peter Cohen (FLACS- Florida ACS conference in Orlando)
 2007 Rui Guo (Poster presentation at FLACS in Orlando)
 2006 Longchuan Huang (FLACS conference in Orlando)

(v) Collaborators and Other Affiliations

(a) Collaborators and Coauthors:

Columbus Children's Research Institute, Ohio State U.	Brian K. Kaspar Matthew Murtha Mark Hester
Harvard Medical School	Robert R. Rando
Memorial Sloan Kettering Cancer Center ('99-Aug '04)	Gero Miesenböck, M. D.
Yale University (Aug. '04 – present)	
University of Oxford, UK	
Howard Hughes Medical Intitute, Janelia Farm	Boris Zemelman
Columbia University	Nina Berova Koji Nakanishi
John Jay College of Criminal Justice	Gloria Proni
Debrecen University, Hungary	Tibor Kurtàn
Univerisità di Pisa, Italy	Gennaro Pescitelli
Florida Institute of Technology	Virender K. Sharma James G. Mantovani Syed H. Murshid Joel A. Olson Rudolf J. Wehmschulte Ralph Turingan Junda Lin Frank E. Koehn
Wyeth Research, NJ	

(b) Graduate Advisor:

Ronald Breslow, University Professor of Chemistry, Columbia University

Postdoctoral Advisor:

Koji Nakanishi, Centennial Professor of Chemistry, Columbia University

(c) Current and Former Lab Personnel:

Postdoc Kafui Kpegba (Togo, Africa) a US citizen

Graduate Students
 Hui Xie (China)
 Rui Guo (Grace) (China)
 Longchuan (Kristen) Huang (China)
 Shih Chang (Robin) Wu (China)
 Siddieg El-Siddieg (Sudan)
 Peter Cohen (US)
 Yannick Ouedraogo (Africa)
 Lakshmi Vedala (India)
 Aaron Funk (US)

Undergraduate Students
 Alvaro Mercado (US from Mexico), Cécile Morvan (France), Mariana Plazas-Mayorca (Venezuela)
 Matthew Murtha, Matthew Cargill, Steven Hitt, Melissa LeMay, Nicole Simpson (US), Nia Maruszak (US)
 Yannick Ouedraogo (Africa), Antoine Zufferey (Switzerland), Mark Goldbach (US), Nicole Miller (US).
 Karissa Albin (US), Stephanie Monaco (US), Samuel Breit (US), Sebastian Lombardi (US)

Awards, Honors, and Membership

2007	Student Affiliate section of ACS Faculty of the Year award
2001-present	American Chemical Society Member
1994-99	Faculty Fellowship for research in the Department of Chemistry, Columbia University
1995	<i>Phi Lambda Upsilon</i> : honorary chemical society, initiated as a member
1994	<i>Epsilon Sigma Pi</i> (highest academic honor society), Manhattan College
1994	<i>Sigma Xi</i> scientific research society member
1994	John Vincent Mahony Medal in Chemistry for excellence in research, Manhattan College

Grant History

NSF-NER “A Novel Biomimetic Molecular Photosensor: Fabrication of a Functional Nanodevice”
 July 2004-June 2006. (with Dr. Olson, Dr. Mantovani, and Dr. Syed Murshid)

FSEC “A Novel Biomimetic Molecular Photosensor”
 August 2004- July 2005. (with Dr. Olson)

College of Science undergraduate research on Fish Pheromones:
 June-August 2006.

FSEC “Developing Direct Techniques to Synthesize Light Absorbing Molecules”
 July 2006- June 2007.

Intel Corp. “Residue Analysis on Silicon Wafers” (with Dr. Babich)
 August 2007-July 2008.

Materials, Science and Nanotechnology Institute (Internal Funding)
“DART Mass Spectrometer Proposal for Infrastructure Enhancement”
July 2007.

DART Fund generated from running samples

Current Areas of Research:

1. **Vision:** the synthesis of novel visual pigments and their study in the native protein opsin
2. **Catalysis:** Exploring the potential of visual proteins in the generation of new retinoids
3. **Treatment of Lou Gehrig’s disease:** design of potent Retinoic Acid Receptor agonists in collaboration with Dr. B. K. Kaspar at Ohio State University
4. **Light Absorbing Molecules:** Design of molecular photosensors in collaboration with Dr. J. A. Olson
5. **Pheromones:** Synthesis of fish pheromones that are ultimately geared to aquaculture
6. **Natural Products:** Isolation and characterization of bioactive natural products from an African plant
7. **Mass Spec:** Pheromones studies
8. **Intel Corp.:** Collaborative Project

Mass Spectrometry:

Brought to Florida Institute of Technology the newest in Mass Spec technologies, namely, **DART** (Direct Analysis in Real Time) making the university the first research and Ph.D. granting institution to acquire such Award winning (Pittcon Gold Award in 2005) technology. New research areas were spun off the acquisition of this technology resulting in two published ACS manuscripts and four submitted proposals.

Hobbies:

Magic, Guitar, Piano, Drums, and Soccer.

Language Skill:

Fluent in English, Arabic, French, and basic understanding of Hebrew and German.

Teaching Experience:

Undergraduate Classes: (taught every semester from Fall 2002-present)

CHM 2001 Organic Chemistry I (enrollment ranged from 20-29 students)

CHM 2002 Organic Chemistry II (enrollment ranged from 14-22 students)

CHM 2011 Organic Chemistry Lab I (started in FA 2004 co-teaching with Dr. M. Baloga)

CHM 2012 Organic Chemistry Lab II (enrollment for both labs 8-20 students per lab)

Graduate Classes: (either of the two courses is generally taught once a year from Spring 2004-present)

CHM 5507 Natural Products Chemistry (enrollment: 4-9 students)

CHM 5508 Bioorganic Chemistry (enrollment: 6-8 students)