

MELANIE JEMISON MOSER

Instructional Professor
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Texas A&M University at Galveston
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EDUCATION

UNIVERSITY OF HOUSTON
Houston, Texas

PhD in Organic Chemistry
December 1977 (GPA 3.64/4.0)

Accomplishments:

Synthesized very reactive heterocyclic model compounds for the coenzyme biotin.
Studied the chemical reactivity of model compounds and related to a theoretical mechanism of biotin action.

Awards:

Lynne Murray Scholarship for Outstanding Scholastic Achievement, 1976.

LAMAR UNIVERSITY
Beaumont, Texas

BS in Chemistry
May 1972 (GPA 3.3/4.0)

Awards:

Frank Jolly Award for Outstanding Scholarship and Service, 1972.
Who's Who in American Colleges and Universities, 1971-1972

Accomplishments:

President of the student affiliate chapter of the American Chemical Society, 1972.

EXPERIENCE

TEXAS A&M UNIVERSITY AT GALVESTON

May 1983 - present

Accomplishments:

- Chair of Foundational Sciences May 2019 to present. Interim chair from May 2017 – May 2019 and instrumental in establishing it as a working division.
- Interim department head of Marine Sciences fall 2013 to fall 2014.
- Assistant department head of Marine Sciences 1996-2013 and fall 2014 to summer 2017.
- Elected councilor (3 year terms) of the Industrial and Engineering Chemistry Division of the American Chemical Society, 1994-2017.
- Director and co-organizer of TAMUG Regional Science Olympiad initiated in 2008, 2008-2018.
- Chairman of the Commencement Committee, Fall 1993-2013.
- One of 8 TAMU/TAMUG faculty in Phase I of the Learning Management System Transition 2012
- Appointed to the US Coast Guard Chemical Transportation Advisory Committee for two 3 year terms ('89-'95), as a result of development of "Waterborne Transportation of Hazardous Chemicals" (MARS 405), a senior elective course, complete with a seminar series of industrial, governmental and academic speakers.
- Co-chair of the annual Galveston County Science and Engineering Fair 1994-1999.
- Organized and presented science demonstrations in area schools.
- Coordinator of education advising and course offerings on TAMUG campus in partnership with Texas A&M University at Commerce, 2001-2005.
- TAMUG representative to the TAMUS Distance Learning Council, 2001-2003.
- TAMUG representative to the TAMU University Curriculum Committee 2016-present.
- A TAMUG representative to the TAMU IT Governance Committee, member of its Enterprise Applications Subcommittee 2017-present.

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Awards:

- American Chemical Society Fellow, Class of 2010
- Outstanding Classroom Teaching Award, 1994
- William Paul Ricker Distinguished Faculty Award, 1994

EXXON RESEARCH AND ENGINEERING

1977-1982

Senior Chemist in the Enhanced Oil Recovery Section

Accomplishments:

- Trained group members to use nuclear magnetic resonance (NMR) spectrometer, saving \$15,000/year in outside fees.
- Proposed, synthesized and analyzed novel surfactants for Enhanced Oil Recovery, and model compounds were devised and compared to surfactant component types by kinetic modeling.
- Directed the quality control lab for a semi-commercial plant: wrote the procedures manual, trained the technicians and reported the results to the customer.

PUBLICATIONS

A. T. Balaban, M. J. Lesko, "Is there any connection between the *da Vinci Code* and the tetrahedral bond angle? A simple geometrical construction of the latter." *Chem. Educator*, 2008, 13, 1–2 (web)1.

A. T. Balaban, M. J. Lesko, I. Ghiviriga, and W. A. Seitz, "2,6-Dialkyl-4-methylpyrylium and 6-alkyl-2,4-dimethylpyrylium salts, and the corresponding N-alkylpyridinium salts, as new ionic liquids." *Revista de Chimie* (Bucharest), **57**(1), 25-28 (2006).

A.T. Balaban, R.E. Garfield, M. J. Lesko and W.A. Seitz, "Synthesis and Spectral Data of Some New N-Nitroso-N-Phenylhydroxylamine (Cupferron) Derivatives," in *Organic Preparations and Procedures Int.*, **30**(4), 439-446 (1998).

M. J. Lesko, "Stereoisomer Bubbles," in *Journal of Chemical Education*, **73**(5), 429 (1996).

A. T. Balaban, M. Cravey and I. Ghiviriga, "Reaction of Pyrylium Salts with Nucleophiles. Part 24. Spectral Study of Pyridinium Salts with a Long Linear (para-n-Alkyl)-Phenyl Group", in *Heterocyclic Communications*, **1**, 17 (1994).

M. J. Cravey, "Science Demonstrations" in Partnerships in Chemical Research and Education, ed. J.E. McEvoy, *American Chemical Society Symposium Series No. 478*, Washington, D.C., 1992.

D. J. Klein, M. J. Cravey and G. E. Hite, "Fractal Benzenoids", *Polycyclic Aromatic Hydrocarbons*, **2**, 163 (1991).

M. J. Cravey, "Nalco/Texas A&M Program for K-8", *Synergy*, **2**, 1 (1990).

M.J. Cravey and D.J. Doss, "A One Step Route to (E)-1,2-bis-(9-Anthryl) Ethene", *J. Org. Chem.*, **53**, 5963 (1988).

James Kanz and M.J. Cravey, "Oil Well Drilling Fluids, Their Physical and Chemical Properties and Biological Impact" in *Hazard Assessment of Chemicals: Vol. 5*, ed. J. Saxena, Hemisphere Publishing, N.Y., 1987.

H. L. Kohn and M. J. Cravey, "Model Studies on the Mechanisms of Biotin Dependent Carboxylations. 2. Site of Protonation vs. CO₂ Transfer." *J. Amer. Chem. Soc.*, **102**, 3928 (1980).

H. L. Kohn, M. J. Cravey, J. H. Arceneaux, R. L. Cravey, and M. R. Willcott, III, "The Synthesis and Spectral Properties of Substituted Imidazolidones and Imidazolines." *J. Org. Chem.*, **42**, 941 (1977).

Ph.D. Dissertation: "Model Studies on the Mechanism of Biotin Dependent Carboxylations. Site of Protonation versus CO₂ Transfer." (1977)

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PROFESSIONAL ASSOCIATIONS

American Chemical Society (ACS):

Industrial and Engineering Chemistry Division (I&EC): Active member since 1979. Councilor, 1993-2017; Chairman, 1991; Secretary, 1986-1989; Awards Symposium Organizer, 1991-2001. Member of the ACS Membership Activities Committee, 2014-2017, and vice-chair in 2016-2017, Associate 2013; Member of the Meetings and Expositions Committee of the ACS Council, 2005-2012; Member of the Divisional Activities Committee of the ACS Council, 1999-2004; Member of the Women's Chemist Committee of the ACS Council, 1993-2002; Member of the Constitution and By-Laws Committee of the ACS Council, 1997-1998. Canvassing committee for the ACS Industrial Chemistry Award, 2001-2003 (chair in 2003). Currently Division of Chemical Education (CHED) member, former member of POLY and ORGN.

Member of the organizing committee for the Southwest Regional Meeting of the ACS, Nov 2016 and chair of the exposition subcommittee.

Other:

Chemical Transportation Advisory Committee (CTAC) to the US Coast Guard, appointed member 1989-1995.

EDITORIAL BOARDS

Chemistry (formerly *Reaction Times*, The College Science Newsletter), Published by The American Chemical Society 1998-2002.

PATENTS

R.E. Garfield, A.T. Balaban, W.A. Seitz, D.J. Klein and M. Lesko, "N-Nitroso-N-Substituted Hydroxylamines as Nitric Oxide Donors", US Patent 5,698,738 issued December 16, 1997.

REFEREED PRESENTATIONS

M.J. Moser, "Designing Tactile and Collaborative In-Class Exercises, with Examples" presentation with demonstration on April 17, 2018 at the Transformational Teaching and Learning Conference in College Station, TX.

M.J. Moser and Bill Elizondo, "The MEAT of the Flip" presentation at the Teaching with Technology conference on March 4-5, 2015 in College Station, TX.

M.J. Lesko, "Mixing organic chemistry and water!" invited talk for ACS Fellows Symposium at the 244th national meeting of the ACS in Philadelphia, PA (I&EC #39) 2012.

M.J. Lesko and Ashley D. Bradley, "Can a Smartphone be a Scientific Research Tool in the Field?" Presented at the 241st national meeting of the ACS in Anaheim, CA (I&EC #68) 2011.

J.P. Mileski, W. McMullen, M. Lesko and D.C. Lang, "Assessing a Crisis: The Process of Event Assessment for Hurricane Ike at Texas A&M University at Galveston," a panel presentation for the 10th Annual Texas A&M University Assessment Conference in College Station, TX, Feb. 22, 2010.

M.J. Lesko, "A Reaction to Ike: Use More Collaborative Learning and Technology" presented at the 238th national meeting of the ACS in Washington, DC, (CHED #66) August 2009.

M.J. Lesko, "Getting More Mileage from Synthesis Problems in Sophomore Organic Chemistry." Presented at the 227th national meeting of the ACS in Anaheim, CA (CHED #77) 2004.

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A.T. Balaban, M. J. Lesko and W.A. Seitz, "New Ionic Liquids: Alkyl-substituted Pyrillium Salts and their conversion into Pyridinium Salts." presented (by Balaban) at the 221st meeting of the ACS in San Diego, CA, April 3, 2001.

M.J. Lesko, W.A. Seitz and A.T. Balaban, "New Classes of Ionic Liquids," presented at the 220th meeting of the ACS in Washington, D.C., August 2000, I&EC #44.

M.J. Lesko, "Educated Consumers," presented at the 211th meeting of the ACS in New Orleans, LA, April 1996, CHED # 706.

H.L. Kohn and M.J. Cravey, "Model Studies on the Mechanism of Biotin Dependent Carboxylations. Reactivity of N-Methyl-N-Carbomethoxy-2-ethoxyimidazolinium fluoroborate." Presented by M.J. Cravey at the 172nd meeting of the ACS in San Francisco, CA, Sept. 1976, ORGN # 252.

SYMPOSIA ORGANIZED

"Issues Facing Women Professionals", co-organized with Deborah Carter (Pace International), with 12 speakers (two half-day sessions) at the 218th National ACS Meeting in New Orleans, Fall 1999.

UNREFEREED ARTICLES, REPORTS AND POSTER PRESENTATIONS

M.J. Lesko. "Industrial & Engineering Chemistry Division" Poster presentations at the 209th, 210th, 211th and 212th meetings of the American Chemical Society in Anaheim (I&EC #18), Chicago (I&EC #24), New Orleans (I&EC #30) and Orlando (I&EC #6), respectively, 1995-1996.

M.J. Lesko, Book Review on "A Pill for People, Pets and Bugs..." by Carl Djerassi, published in the Women Chemists Newsletter, May 1995.

M.J. Cravey, "I&EC Division, or How Do I Apply.....?" Poster presentation at the 208th meeting of the American Chemical Society in Washington, D.C., Aug. 1994, I&EC #10.

M.J. Cravey, "Fire Fighting Foams" report presented to the Chemical Transportation Advisory Committee of the United States Coast Guard, 1992.