Stanford

Nick DeMello

Chemistry Instructor, Stanford Online High School

Bio

BIO

Nick received his chemistry B.S. from UC Berkeley and Ph.D. from the University of Pittsburgh. His research with Dennis Curran included the design of a programmable chiral auxiliary, algorithms for optimizing stereo-selection in free radical reaction and the development of molecular mechanics parameters that have since been incorporated into the industry standard software MacroModel.™ Post-doctoral quantum chemistry research with Ken Houk at UCLA focused on building molecular mechanics models for the transition state of epoxidation reactions and developing new technologies for molecular visualization.

A founding member of the UCLA Center for Digital Innovation (CDI) that brought together Hollywood production professionals, Silicon Valley software developers and university level educators. The CDI produced some of the first distance learning products. Nick's projects included work for the University of California, McGraw-Hill, the ministry of education of Malaysia, Sony Corporation, Hitachi Ltd and the development of CyberChem™ -- McGraw-Hills best selling distance learning product.

Using software of his own design, Nick developed molecular illustrations for the cover of Science Magazine, C&E News, Angewandte Chemie, Eyes on Chemistry, Genes & Development, the calendar of the American Chemical Society and other publications. Nick has worked at Lawrence Berkeley Laboratories and Design Science (the creators of MathType and the Equation Editor in every modern word processing program). He served as the editor-in-chief of MacTech Magazine, managed the largest retail presence at every MacWorld Expo for half a decade, and independently developed multimedia content under contract for Apple inc and others.

Current research projects include improved algorithms for adaptive learning exercises, student assessment using machine learning and augmented reality software for molecular visualization. Outside Stanford University OHS Nick enjoys alpine skiing, surfing, baking and restoring classic Macintosh computers.

CURRENT ROLE AT STANFORD

Chemistry Instructor

HONORS AND AWARDS

- Re-imagine Online Education Challenge, Top Proposal, California Community College Chancellor's Office (2019)
- Eagle Scout, Boy Scouts of America (1990)

EDUCATION AND CERTIFICATIONS

- Post-Doc, University of California, Los Angeles , Computational & Organic Chemistry (1997)
- Ph.D., University of Pittsburgh , Computational & Organic Chemistry (1996)
- B.S., University of California, Berkeley , Nuclear & Organic Chemistry (1990)

PERSONAL INTERESTS

Outside Stanford University OHS Nick enjoys skiing, surfing, baking and restoring classic Macintosh computers.

LINKS

- ChemLectures™: http://chem.ws/
- WrongAnswer™ Generator: http://demello.tech

Professional

PROFESSIONAL INTERESTS

Current research projects include improved algorithms for adaptive learning exercises, student assessment using machine learning and augmented reality software for molecular visualization.

WORK EXPERIENCE

- Adjunct Chemistry Faculty - Cañada College (2007 - present)
- Organic Chemistry Instructor - UC Berkeley Extension (2016 - present)
- Chemistry Instructor - De Anza College (4/2015 - 8/2016)

Publications

PUBLICATIONS

- **Stereoselection at the steady state by stereoconvergent reaction topography** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  DeMello, N. C., Curran, D. P.
  1998; 120 (2): 329-341
- **ORIGINS OF REGIOSELECTIVITY IN RADICAL REACTIONS OF AXIALLY TWISTED ANILIDES** *JOURNAL OF THE CHEMICAL SOCIETY-CHEMICAL COMMUNICATIONS*
  Curran, D. P., DeMello, N. C.
  1993: 1314-1317
- **Rotational features of carbon-nitrogen bonds in N-aryl maleimides. Atroposelective reactions of o-tert-butylphenylmaleimides** *TETRAHEDRON*
  Curran, D. P., Geib, S., DeMello, N.
  1999; 55 (18): 5681-5704
- **Stereoselection at the steady state. Group selective radical cyclizations of substrates containing two radical precursors and one radical acceptor** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Curran, D. P., Lin, C. H., DeMello, N., Junggebauer, J.
  1998; 120 (2): 342-351
- **Transition states of epoxidations: Diradical character, spiro geometries, transition state flexibility, and the origins of stereoselectivity** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Houk, K. N., Liu, J., DeMello, N. C., Condroski, K. R.
  1997; 119 (42): 10147-10152
- **SUBSTRATE-CONTROLLED GROUP-SELECTIVE RADICAL CYCLIZATIONS - A NEW STRATEGY FOR STEREOCONTROLLED TRANSFORMATIONS OF DIASTEREOMERIC REACTIVE INTERMEDIATES** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*

Curran, D. P., Qi, H. Y., DeMello, N. C., Lin, C. H.
1994; 116 (18): 8430-8431

- **ATROPOSELECTIVE THERMAL-REACTIONS OF AXIALLY TWISTED AMIDES AND IMIDES** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Curran, D. P., Qi, H. Y., Geib, S. J., DeMello, N. C.
  1994; 116 (7): 3131-3132
- **TRITIATED METHYLENE DIIODIDE - A NEW SYNTHETIC LABELING REAGENT** *JOURNAL OF THE CHEMICAL SOCIETY-CHEMICAL COMMUNICATIONS*
  Saljoughian, M., Morimoto, H., Williams, P. G., DeMello, N.
  1990: 1652-1654