Donald P. Visco, Jr.

Education

Ph.D., Chemical Engineering (University at Buffalo, SUNY) — May 1999
B.S., Chemical Engineering, *cum laude* (University at Buffalo, SUNY) — May 1992

Professional Experience

University of Akron (Akron, OH)

Professor of Chemical and Biomolecular Engineering — Jan 2011—Pre
Dean, College of Engineering — July 2017 – Aug 2018
Interim Dean, College of Engineering — July 2016 – Aug 2017
Assoc. Dean of Undergrad. Studies, College of Engineering — Jan 2011 – July 2016

Tennessee Technological University (Cookeville, TN)

Interim Associate Dean, College of Engineering — May 2010 – Dec 2010
Professor of Chemical Engineering — June 2008 – Dec 2010
Associate Professor of Chemical Engineering — June 2004 – June 2008
Assistant Professor of Chemical Engineering — Aug 1999 – June 2004

Graduate Program Coordinator — Mar 2008 – May 2010
Distinguished Faculty Fellow — Sep 2007 – Sep 2008
Undergraduate Program Coordinator — Jan 2003 – Mar 2008

University of Tennessee – Space Institute (Tullahoma, TN)

Adjunct Associate Professor of Chemical Engineering — July 2004 – Dec 2010

Sandia National Laboratories

University Summer Faculty Program (New Initiatives – Livermore, CA) — Summer 2001
University Summer Faculty Program (Computational Bio – Albuquerque, NM) — Summer 2000

AlliedSignal, Inc. (Buffalo, NY)

Research Engineer – Fluorine Products — May 1996 – Dec 1996

US Navy (Newport RI, Orlando FL, Ballston Spa NY)

Officer, Nuclear Propulsion Program — June 1992 – June 1994

Union Carbide Corporation (Seadrift, TX)

Engineering Intern — June 1991 – Aug 1991

Honors and Awards (*13 out of 35 total*)

- Fellow, AIChE, 2023
- Service to Chemical Engineering Education, AIChE, 2017
- Fellow, ASEE, 2015
- Stephen Brunauer Award, ACerS Cements Division, 2015
- Neva Gibbons Lectureship in Chemical Engineering Education, South Carolina, 2014
- National Outstanding Teaching Award, ASEE, 2009
- ASEE Zone 2 Outstanding Campus Representative 2007
- Ray E. Fahien Award, ASEE (National Chemical Engineering Division), 2006
- Brown-Henderson Outstanding Engineering Faculty Award (Tenn. Tech), 2006
- ASEE-SE New Faculty Research Award (1st Place), 2005
- Presidential Early Career Scientist and Engineer Award (PECASE) – DOE, 2004
- Letter of Commendation, United States Navy, 1993
- Western NY Student of the Year, AIChE, 1991

Refereed Journal Publications *(7 out of 63 total)*

- A. Mohamed, D.P. Visco Jr., K. Breimaier, and D.M. Bastidas, "Effect of Molecular Structure on the B3LYP-Computed HOMO-LUMO Gap: A Structure-Property Relationship Using Atomic Signatures", ACS Omega, 10, 2799 – 2808. (2025)
- A. Mohamed, **D. P. Visco**, Jr. and D. M. Bastidas, "Effect of cations on the activity coefficient of $NO2^-$/$NO3^-$ corrosion inhibitors in simulated concrete pore solution: An electrochemical thermodynamics study", *Corrosion Science*, **206,** 110476 (2022).
- H. Li, **D. P. Visco, Jr**. and N. Leipzig, "Confirmation of Predicted Activity for Factor XIa Inhibitors from a Virtual High-Throughput-Screening Approach", *AIChE J*, **60**, 2741 - 2746 (2014).
- D. Weis and **D. P. Visco, Jr**. "Computer-Aided Molecular Design Using the Signature Molecular Descriptor: Application to Solvent Selection", *Comput. & Chem. Eng.,* **34,** 1018 – 1029 (2010)
- P. Kannan, J. Biernacki and **D. P. Visco, Jr.** "Fast Pyrolysis Kinetics of Expanded Polystyrene Foam", *AIChE J,* **56**, 1569 - 1577 (2009).
- S. Swaminathan and **D. P. Visco, Jr.,** "Thermodynamic Modeling of Refrigerants Using the Statistical Associating Fluid Theory with Variable Range (SAFT-VR). II: Mixtures", *Ind. Eng. Chem. Res*. **44**, 4806 (2005)
- **D. P. Visco, Jr.,** D. A. Kofke, and R. R. Singh, "Thermal Properties of Hydrogen Fluoride from EOS + Association Model", *AIChE J.*, **43**, 2381 (1997).

Book Chapters *(1 out of 4 total)*

- **D. P. Visco, Jr**. and J. J. Chen, "Ch. 11. The Signature Molecular Descriptor in Molecular Design: Past and Current Applications", Tools for Chemical Product Design, Elsevier (2016).

Books

- K. Dahm and **D. P. Visco, Jr**., Fundamentals of Chemical Engineering Thermodynamics, Cengage, 2014.

Books/Journals Edited

- D. P. Visco, Jr. and P. Wankat, Startup: A Collection of Important CEE Papers on Teaching for New Faculty, *Chemical Engineering Education*, 2014. (Virtual Issue)

Patents *(1 out of 3 total)*

- J. Biernacki, H. Kayello and **D. P. Visco**, Shrinkage Reducing Admixtures for Portland Cement Concrete, US Patent Filed 62/040,716 (August 2014)

Book Reviews *(1 out of 2 total)*

- D. P. Visco, Jr., Teaching Engineering, 2nd Edition (Wankat and Oreovicz), in *Chemical Engineering Education,* **50**, 97 (2016)

Conference Proceedings *(3 out of 30 total)*

- **D. Visco**, J. Carpenter, E. Litzler, D. Bohl, C. Henderson, A. Cheville, and R. Han, "ASEE Faculty Teaching Excellent Task Force: IUSE ICT Capacity Building grant results and Level 1 Registered Engineering Educator Pilot Rollout", ASEE Annual Meeting and Exposition Proceedings, 2025.
- **D. P. Visco, Jr**., N. Makki, J. Phillips, E. Stevic, E. Bonnema, D. Dunn, L. Carey and X. Liang, "Implementation of a Virtual Job Shadowing Experience for STEM Students Participating in a Corporate-STEM Connection Program.", ASEE Annual Meeting and Exposition Proceedings, 2022.
- B. Baburao, S. Swaminathan and **D. P. Visco**, Jr., "Graduate Students as Co-Instructor for an Undergraduate Course: Implementation and Assessment", ASEE Annual Meeting and Exposition Proceedings, 2006.

Invited Presentations *(2 out of 23 total)*

- "Training Engineering Faculty to be Effective Educators: History and Perspective", ***Neva Gibbons Lecture – University of South Carolina***, October 2014.
- "Incorporating Educational Innovation into the Classroom", NAE Frontiers of Engineering Education, UC – Irvine, November 2011.

Workshops Facilitated *(2 out of 24 total)*

- "Effective Teaching for New or Prospective Faculty", ***AIChE Annual Meeting***, San Diego, CA; November 2024. (with D. Silverstein and L. Bullard).
- "New Faculty Workshop", **University of Akron**, College of Engineering, January 2014.

Other Presentations *(4 out of 121 total)*

- "Effect of Cationic Species on the Activity and Inhibition Performance of NO_2/NO_3 Corrosion Inhibitors", ***AIChE Annual Meeting***, Phoenix, AZ; November 2022 (with A. Mohamed and D. Bastidas).
- "Virtual High-Throughput Screening Pipeline: Dataset Attribute Effects on Experimentally Validated Hit Rates", ***AIChE Annual Meeting***, Minneapolis, MN; October 2017 (with J. Chen and L. Schmucker).
- "An Innovative Computer-Aided Molecular Design Approach to the Rational Design of Novel Small Molecular Inhibitors of Amyloid-beta Aggregation", ***AIChE Annual Meeting***, Pittsburgh, PA; November 2012 (with H. Kayello, M. Moss, et al.).
- "Modeling and Experimentation of Polyol +Blowing Agent Systems", ***AIChE Annual Meeting***, Salt Lake City, UT; November 2007 (with S. Yellisetty).

Professional Activities and Service (*leadership positions listed only*)

- ***American Institute of Chemical Engineers***
  - Education and Accreditation Committee, Commissioner to EAC (2020 – present)
  - Education Division, Vice-Chair (2010-12), Chair (2012-14), Future Faculty Chair (2016-18)
  - Group 4 (Education), Area 4a Chair (2008), Vice-Chair (2009 – 10)

- ***American Society for Engineering Education***
  - Faculty Teaching Excellence Task Force, Chair (2020 – Present)
  - Chemical Engineering Division, Chair (2008), Summer School Organizing Committee (2012 – 2017)
  - University of Akron, Campus Representative (2011 – Present)
  - New Engineering Educators Division, Program Chair (2004), Chair (2005)
  - Southeastern Section, Technical Program Chair, Sectional Annual Meeting (2007)
  - Southeastern Section, Founding Chair, Chemical Engineering Division (2003)
  - Tennessee Technological University, Campus Representative (2000 – 2010)

- **Chemical Engineering Education (Journal)**
  - Asst. Editor (2016 – 18), Assoc. Editor, (2018 – 19), Editor (2019 – Present)

- **Sigma Xi**
  - TTU Chapter, President (2005 - 06)

Grants Awarded (PI and co-PI) *(5 out of 22 awarded in total, for $8.5M)*

- National Science Foundation, "A National Framework for Recognition of Engineering and Engineering Technology Faculty Instructional Excellence: Piloting a Registered Engineering Educator Designation" $399,999 (10/24 – 9/27). **PI**
- National Science Foundation, "*Zipping Towards STEM: Integrating Engineering Design into the Middle School Physical Science Curriculum*", $742,356 (9/15 – 9/19). **PI**
- National Science Foundation, "*I-Corps: Shrinkage Reducing Admixture Business Development*", $50,000 (1/14 – 6/ 15). **PI**
- Ohio Board of Regents, "*Replicating a Proven Model to Provide Experiential Opportunities for Student Success*", $2,600,000 ($932,000 State; $1,668,000 Industry) (1/13 – 6/14). **PI**
- American Chemical Society – Petroleum Research Fund, "*Evaluating the Thermodynamics Effects of Self and Cross-Clustering on Strongly Associating Systems*", $80,000 (01/05 – 08/07). **PI**

Research Students Supervised

- Graduate **(***5 out of 23 total students/project – 17 M.S. and 6 Ph. D.*)
  - A. Mohamed, *"Computer-Aided Molecular Design (CAMD) Using Signature Molecular Descriptors to Identify New Corrosion Inhibitors for Steel Reinforced Concrete"* (**Ph. D. – Summer 2023**) *co-advised*
  - J. Chen, "*Exploring Virtual HTS Environments Using Signature Molecular Descriptors*" (**Ph. D. – May 2018**)
  - S. Magadi, "*Use of an Integrate Method to Trace Coexistence Curves*" (**M.S. – August 2013)**
  - D. Weis, "*Optimizing Inverse Design Techniques Using Signature*" (**Ph.D. – May 2010**)
  - S. Swaminathan, "*Detailed Analysis of Pure Component Parameterization Methodology on Mixture Property Prediction*" (**Ph. D. – May 2007**)

- Undergraduate **(***5 out of 30 total students/project)*
  - J. Ebert, "*Utilizing Computer-Aided Molecular Design with Azido-Ester Plasticizers*" **(2022-23)**
  - N. Strinka, "*Experimental Evaluation of Corrosion Inhibitors in SCPS*", (**2021**)
  - L. Aichinger, "*Using Signature in BLOSUM Matrices*", (**2014-15**)
  - A. Meyers, "*Determining the Solubility of Cellulose in Ionic Liquids*", (**Fall 2008**)
  - C. Payne-Smith, "*Evaluating the Thermodynamic Consistency of an Aqueous-HF system*" (**Spring 2002**)

Courses Taught (4 *out of 24 unique courses total*)

- 4200:225 *Equilibrium Thermodynamics*; Spring 2013 – 16, 19, 20 (Akron)
- 4200:630 *Chemical Engineering Analysis*; Fall 2019 – 24 (Akron)
- CHE 1010 *Introduction to Chemical Engineering;* Fall 2005 – 2008 (Tenn. Tech)
- CHE 2210 *Intro. to Process Measurements (Lab)*; Spring 2000,2002,2005,2006 (Tenn. Tech)