DAVID J. COLLINS

ACADEMIC APPOINTMENTS

Franciscan University of Steubenville, Steubenville, OH **2013-present**
Chair, Department of Mathematics and Physical Sciences 2022-present
Chair, Department of Chemistry, Physics, and Engineering 2016-2022
Professor 2017-present
Associate Professor 2013-2017

State University of New York College at Cortland, Cortland, NY **2008-2013**
Assistant Professor of Chemistry

EDUCATION

Ph.D., Chemistry **2008**
Miami University, Oxford, OH
Dissertation: "Synthesis of heterobimetallic clusters and coordination networks via hard-soft interactions" link

Houston Baptist University, Houston, TX **1998**
Graduate coursework: education technology, curriculum development

University of St. Thomas, Houston, TX **1997**
Graduate coursework: education theory and practice

B.S., Materials Science and Engineering, with Honors, *summa cum laude* **1995**
Ohio State University, Columbus, OH
Honors thesis: "Synthesis and characterization of ceramic-based NO_x sensors"

ADMINISTRATIVE and LEADERSHIP EXPERIENCE

Franciscan University of Steubenville

Department Chair **2016-present**

Lead a department of 10 full-time faculty, 7 part-time faculty, 2 full-time staff, and 8 student workers, with annual combined budget > $1m

Manage degree programs in Chemistry (BS/BA), Mathematics (BS/BA) Biochemistry (BS), Software Engineering (BS), Mechanical Engineering (BS), Natural & Applied Science (AS), and five 2+2 and 3+2 engineering partnership programs

- Largest department in School of Natural & Applied Sciences
- Create and manage course and staffing schedules across multiple disciplines; coordinate with Registrar
- Manage and update existing curriculum, create new curriculum
  - Four new degree programs created, approved, accredited, and launched
  - One degree program redesigned, approved, and launched
- Manage search committees for full-time faculty, directly hire part-time faculty
  - Four successful tenure-track faculty searches, two underway
- Coordinate course assessment and program assessment
- Perform annual faculty and staff evaluation and merit ratings
- Work directly with Admissions and Marketing & Communications for recruiting strategies and materials
- Coordinate with Dean and other department chairs in the School of Natural & Applied Sciences, and with chairs and deans outside the School, to ensure student success and create new opportunities

Faculty Council – Natural & Applied Sciences representative **2022-present**

Primary consultative body to the University President on issues that affect the University and the Faculty in particular.

Compensation Committee **2022-present**

Faculty Welfare Committee – Natural & Applied Sciences representative **2018-2022**

Committee charged with representing the interests of the whole faculty to administration; responsibilities include monitoring of and need-driven changes to shared governance framework, maintenance of and changes to faculty handbook, and negotiation with administration for changes to faculty compensation.

ADMINISTRATIVE and LEADERSHIP EXPERIENCE, continued

Franciscan University of Steubenville

Faculty Standards Committee **2015-2019**

Develop and review standards and procedures for annual faculty evaluation, promotion, and tenure; develop and review policies regarding faculty qualifications, rights, and duties (including Academic Freedom and Social Media policies); Acting Chair, 2018

Curriculum Committee – Natural & Applied Sciences representative **2014-2020**

State University of New York College at Cortland

College of Arts & Sciences Curriculum Committee (Chair 2012-13) **2010-2013**

Faculty Search Committee Chair **2013**

NCATE SPA Re-Accreditation Committee, Adolescent Science Education **2008-2011**

TEACHING EXPERIENCE

Franciscan University of Steubenville **2013-present**

Full-time, tenured professor; 8-15 contact hours per semester

Inorganic Chemistry, General Chemistry, Materials Science, General Physics, University Physics, Survey of Physical Science, Survey of Earth & Space Science, Science Education Practicum, Matrix Theory I

Course designer for online General Chemistry I course; regular online instructor

State University of New York College at Cortland **2008-2013**

Full-time, tenure-track assistant professor; 9-10 contact hours per semester

General Chemistry, Inorganic Chemistry, Synthesis Lab, Advanced Laboratory

General Chemistry Laboratory Coordinator, 2011-2013

Miami University, Oxford OH **2003-2007**

Graduate Teaching Assistant, 3-9 contact hours per semester

Inorganic Chemistry, General Chemistry

Colerain High School, Northwest Local School District, Cincinnati OH **2002-2003**

Physics, Physical/Earth Science

Stephen F. Austin High School, Fort Bend ISD, Sugar Land TX **1995-2002**

Advanced Placement Chemistry, Advanced Placement Physics, Chemistry, Physics, Physical Science; Curriculum Author and Trainer, Physics

GRANTS AWARDED

Ohio EPA Division of Air Quality **2017-present**
Air Quality Monitoring Stations in Upper Ohio Valley (Co-PI) $45,000/yr
Data collection and daily operations for three air quality monitoring stations in the upper Ohio valley

Spectroscopy Society of Pittsburgh **2017**
PittCon College Equipment Grants Program (Co-PI) $6,000
Acquisition of a UV-Vis Spectrophotometer

National Science Foundation MRI (Major Research Instrumentation) Grant **2009-2010**
EAR-0922814: Acquisition of a Powder X-Ray Diffractometer to Enhance Faculty and Undergraduate Research and Education in Geology and Chemistry at SUNY Cortland **(**Co-PI) $100,097

JOURNAL ARTICLES

1. "Construction of metal-organic frameworks with 1D chain, 2D grid, and 3D porous framework based on a flexible imidazole ligand and rigid benzenedicarboxylates." He, H.; Collins, D.; Dai, F.; Zhao, X.; Zhang, G.; Ma, H.; Sun, D. *Cryst. Growth Des.*, 2010, *10*, 895. link
2. "Designing, Teaching, and Evaluating a Unit of Symmetry and Crystallography in the High School Classroom." Grove, N. P.; Collins, D. J.; Guerin, N. P. **; López, J. J.*; Bretz, S. L.; Zhou, H.-C. *J. Chem. Ed.*, 2009, *86*, 946. link
3. "After 118 years, the isolation of two common radical anion reductants as simple, stable solids" Scott, T. A.; Ooro, B. A.; Collins, D. J.; Shatruk, M.; Yakovenko, A.; Dunbar, K. R.; Zhou, H.-C. *Chem. Commun.* 2009, 65. link
4. "Hydrogen storage in metal-organic frameworks." Collins, D. J.; Zhou, H.-C. *J. Mater. Chem.*, 2007, *17*, 3154. link
5. "Construction of robust open metal-organic frameworks with chiral channels and permanent porosity." Sun, D.; Ke, Y.; Collins, D. J.; Lorigan, G. A.; Zhou, H.-C. *Inorg. Chem.*, 2007, *46*, 2725. link
6. "An interweaving metal-organic framework with high hydrogen uptake." Sun, D.; Ma, S.; Ke, Y.; Collins, D. J.; Zhou, H.-C. *J. Am. Chem. Soc.*, 2006, *128*, 3896. link

7. "(10,3)-a non-interpenetrated network built from a Piedfort ligand pair." Ke, Y.; Collins, D. J.; Sun, D.; Zhou, H.-C. *Inorg. Chem.*, 2006, *45*, 1897. link
8. "Construction of metal-organic frameworks based on pre-designed carboxylate isomers: From achiral to chiral nets." Sun, D.; Collins, D. J.; Ke, Y.; Zuo, J.-L.; Zhou, H.-C. *Chem. Eur. J.*, 2006, *12*, 3768. link
9. "Synthesis and structure of cuboctahedral and anticuboctahedral cages containing 12 quadruply-bonded dimolybdenum units." Ke, Y.; Collins, D. J.; Zhou, H.-C. *Inorg. Chem.*, 2005, *44*, 4154. link

* indicates undergraduate student co-author
** indicates in-service high school teacher co-author

BOOK CHAPTERS

1. "Hydrogen and methane storage in metal-organic frameworks." Collins, D. J.; Ma, S..; Zhou, H.-C. In *Metal-Organic Frameworks: Design and Application;* MacGillivray, L. R., Ed.; Wiley: New York, 2010.
2. "Nano/microporous materials: Transition metal cyanide cages." Lu, T; Collins, D. J.; Zhou, H.-C. In *Nanomaterials: Inorganic and Bioinorganic Perspectives*; Lukehart, C. M., Scott, R. A., Eds.; Wiley: New York, 2008.
3. "Nano/microporous materials: Hydrogen storage materials." Collins, D. J.; Zhou, H.-C. In *Nanomaterials: Inorganic and Bioinorganic Perspectives*; Lukehart, C. M., Scott, R. A., Eds.; Wiley: New York, 2008.
4. "Iron-sulfur models of protein active sites." Collins, D. J.; Zhou, H.-C. In *Encyclopedia of Inorganic Chemistry*, 2nd Ed.; King, R. B., Ed.; Wiley: New York, 2006.
5. "Ceramic Oxides as Potential Hydrocarbon and NO_x Sensors." Akbar, S. A.; Wang, C. C.; Wang, L.; Collins, D. J.* In *Ceramic Transactions vol 65: Role of Ceramics in Advanced Electrochemical Systems,* American Ceramic Society: Westerville OH, 1997.

AFFILIATIONS, CERTIFICATIONS, and LICENSURES

- Society of Catholic Scientists, 2018-present
- American Chemical Society (ACS), 2004–present
  - Pittsburgh Local Section
  - Division of Chemistry Education, Division of Inorganic Chemistry
- Ohio Teaching License: 7-12 Integrated Science, currently active
- Texas Educator Certificate, Secondary Science Composite (Grades 6-12), currently active
- Texas Educator Certificate, Secondary Mathematics (Grades 6-12), 2002-2007

COMMUNITY ACTIVITIES

- Member, Blessed Sacrament Parish, Wintersville OH
- RCIA, Diocese of Steubenville, 2016
- Science Fair judge:
  - BJKM-JH School Science Fair, 2023
  - Mary Seat of Wisdom Co-op School Science Fair, 2016
  - Southwest Ohio Regional Science Fair, 2003
  - Science & Engineering Fair of Houston, 1999-2001
- Eagle Scout, 1990