

EXECUTIVE PROFILE

Science and technology leader specializing in biomedical data and knowledge systems, community-driven open-science infrastructure, cross-sector collaboration, and biomedical and technical communications

- Served in leadership roles on large-scale, multi-institutional, open-science and AI infrastructure initiatives involving academia, industry, nonprofit organizations, and government partners
 - Helped secure tens of millions of dollars in federally funded programs supporting open biomedical data infrastructure and scalable biomedical discovery platforms
 - Established proficiencies across a broad range of **biomedical domains**, including neurobiology, anesthesiology, immunology, pharmacology, psychology, psychoneuroimmunology, and toxicology, and **data science domains**, including data modeling, data integration, data governance, FAIR principles, privacy and security, federated knowledge systems, and sustainable data ecosystems
-

EDUCATION

PhD, Neurobiology

School of Medicine, University of North Carolina at Chapel Hill (UNC Chapel Hill)

BA, Psychology & Mathematics (*summa cum laude*)

Rutgers College, Rutgers University

PROFESSIONAL EXPERIENCE

Founder & CEO, Copperline Professional Solutions, LLC | 2010–present

Leading a biomedical data science and communications consulting firm focused on building open, community-driven, AI and data infrastructure to accelerate the translation of clinical and biomedical knowledge into scalable, interoperable, and mission-oriented solutions

- Cultivating cross-sector scientific and technical communities spanning dozens of institutions and hundreds of contributors engaged in collaborative open-science initiatives
 - Facilitating collaboration among researchers, developers, data scientists, and domain experts
 - Developing community-oriented use cases and outreach programs to guide development and expand adoption of open biomedical data ecosystems
 - Driving communications through publications, workshops, presentations, collaborative communications, and interactive engagement models such as hackathons
 - Securing funding in support of open-source, biomedical data ecosystems
-

Research Affiliate, Renaissance Computing Institute (RENCI), UNC Chapel Hill | 2012–present

- Contributing to open-source, biomedical data platforms and knowledge graph ecosystems
 - Advancing standards-based data integration and AI-ready infrastructure
 - Developing proposals from concept to award, securing >\$22M in federal funding (NIH, NSF; 2016–2025)
-

Assistant Professor and Director of Medical Student & Resident Research, Department of Anesthesiology, School of Medicine, UNC Chapel Hill | 2004–2010

- Developed and directed data-driven patient safety initiatives, leveraging large hospital perioperative datasets
 - Developed and directed a medical student and resident physician research training program
-

Assistant Professor and Fellow, Neurosensory Disorders, School of Dentistry, UNC Chapel Hill | 2002–2003

- Developed and conducted research projects on pain and other neurosensory disorders
 - Supervised and trained students in study design, data management, and statistical analysis
-

Assistant Professor, Department of Psychology and Neuroscience, UNC Chapel Hill | 1998–2002

- Developed and directed research projects on neural, endocrine, and immune system interactions
 - Developed and taught undergraduate courses on drugs and human behavior, biopsychology, and biology
-

COMMUNITY-BUILDING LEADERSHIP: EXAMPLE

NIH NCATS Biomedical Data Translator Program (2016–present)

Leadership roles across a major, open-source, federal data initiative:

- Lead, Translator Ambassadors & Champions Program
- Lead, Translator Relationships and Outreach for Visible Engagement and Resources (ROVER) Group
- Chair / Co-Chair, Publications Committee
- Lead Author, Translator Consortium portfolio of publications
- Contributor, Large Language Models Working Group

Impact:

- Advanced national-scale open infrastructure for biomedical knowledge graphs and biomedical discovery
 - Helped shape approaches to data integration and interoperability, AI integration, and open data ecosystems
 - Led community engagement and cross-sector collaboration strategies
-

SELECT FUNDING SUPPORT (2020–present)

Key contributor and/or senior personnel on major, federally funded, open-source initiatives:

- DOGSLED: Data, Ontologies, and Graphs Supporting Learning and Enhanced Discovery (NIH, 2024–2029)
 - ROBOKOP: Reasoning Over Biomedical Objects linked in Knowledge Oriented Pathways (NIH, 2022–2027)
 - BioBricks-OKG: An Open Knowledge Graph for Cheminformatics and Chemical Safety (NSF, 2023–2026)
 - ICEES: Integrated Clinical and Environmental Exposures Service (NIH, 2020–2024)
 - Translator SRI: Standards and Reference Implementation, a Common Dialect (NIH, 2016–2024)
-

PUBLICATIONS & TECHNICAL CONTRIBUTIONS

- 170+ scientific publications and products, including peer-reviewed journal articles, peer-reviewed conference papers and proceedings, white papers, and technical reports (primarily first/senior author)
 - 100+ pharmaceutical and biotechnology publications and products (medical/technical writer)
 - 10+ open-source biomedical data and software systems (designer/contributor)
-

SELECT PROFESSIONAL ACTIVITIES (2020 – present)

- Associate Editor (2026), *Frontiers in Systems Biology*, section on Data and Model Integration
 - Editorial Board Member (2026), *Discover Artificial Intelligence*
 - Invited Speaker, ISMB/ECCB (2025) – “Building sustainable solutions for federally-funded open-source biomedical tools and technologies”
 - Invited Speaker, Environmental Health Language Collaborative (2022), “Biolink Model: an open-source standardized data model for semantic harmonization, integration, and interoperability across datasets”
 - Panelist, National Academy of Sciences Workshop (2021), “Leveraging Advances in Remote Geospatial Technologies to Inform Precision Environmental Health Decisions”
-

ADDITIONAL EXPERTISE

- AI & Data Policy: data governance, FAIR principles, open science
- Technologies: knowledge graphs, biomedical informatics, open-source software
- Domains: environmental health, clinical research, patient safety
- Leadership: large-scale collaboration, stakeholder engagement, program development
- Communications: collaborative publications, community engagement, interactive outreach activities

**ChatGPT-5.3 was used to condense the original version of this document and restructure it as a first draft (04:12 PM ET, 04/07/2026), for subsequent review, editing, and formatting*