KARAMARIE FECHO, PHD

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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 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

- Advising academic, industry, nonprofit, and government collaborators on data integration, interoperability, governance, and sustainable, open, biomedical data ecosystems
- Cultivating cross-sector scientific and technical communities spanning dozens of institutions and hundreds of contributors engaged in collaborative open-science initiatives
- Developing community-oriented use cases, contributor engagement strategies, and outreach programs to expand adoption of open biomedical knowledge graph systems
- Driving community engagement efforts through publications, workshops, presentations, collaborative communications, and interactive engagement models such as hackathons and live demonstrations
- Facilitating collaboration among researchers, developers, data scientists, and domain experts and securing funding in support of distributed, 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, contributing to >$22M in federal funding (NIH, NSF)

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 using large-scale 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 directed research projects on pain and other neurosensory disorders

- Supervised and trained students in study design, data management, and statistical analysis

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

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

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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

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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*

June 2026