

Naim Matasci, PhD

Applied AI, Computational Biology & Research Platform Executive

Research data infrastructure that makes AI-driven scientific discovery compound

Claremont, California · naim.matasci@gmail.com · ORCID 0000-0003-4416-048X

Computational biologist and research-platform leader. Builds the data and AI infrastructure that research organizations run on, and has done it twice in unrelated fields: the NSF's national cyberinfrastructure program for the plant sciences, and cancer research at the Ellison Medical Institute. Works at the junction of AI capability and scientific programs — molecular design, digital pathology, genomics and clinical data — translating technically complex initiatives into decision-ready choices for executive leadership. Experience spans non-profit research institutes, university-affiliated translational medicine, and national scientific infrastructure.

LEADERSHIP PROFILE

- Builds enduring capability rather than point solutions: platforms, workflows, standards and operating models that outlast the projects that prompted them.
- Reports to C-level and operates across the executive team: program direction with the CEO and Chief Medical Officer; accountable to the CFO for the institute's cloud infrastructure contract.
- Manager of managers. Develops judgment and autonomy in direct reports; nine direct and indirect reports across six technical disciplines.
- Trusted translator among scientists, engineers, clinicians and executives — reduces ambiguity and makes tradeoffs explicit without flattening the science.
- Portfolio-oriented: helps leadership frame priorities, opportunity cost, sequencing, risk and stopping conditions under real uncertainty.
- Practiced public speaker across scientific, industry, policy and general audiences — invited talks from SLAS and Oracle CloudWorld to the Smithsonian and FASEB, five conference oral presentations, and 12 training workshops as instructor or organizer. Served as communications director for a national research program.

CORE AREAS

Applied AI strategy • Research data platforms • Digital pathology • Computational biology • Bioinformatics • AI-driven molecular design • Translational oncology • Multimodal data systems • Scientific infrastructure at national scale • Executive communication • Cross-functional portfolio leadership • Manager development • Research IP governance

EXPERIENCE

Ellison Medical Institute

2014 – present

Senior Director, Applied AI Research (2024–) · Director, Applied AI (2023–24) · Director, Bioinformatics & Computational Biology (2019–23) · Director, Data Management & Analytics (2014–19)

Until 2021 under USC as the Lawrence J. Ellison Institute for Transformative Medicine

- Lead the applied AI function: nine direct and indirect reports across AI/ML, computational biology, digital pathology, genomics, bioinformatics and research data engineering.
- Own the research data platform the institute's AI work runs on: cloud AI data environment for molecular design, LIMS automation and MCP-based access, and clinical and genomic data pipelines.
- Lead AI-driven molecular design programs against multiple targets in prostate cancer and inflammation, carrying them from computational design through feasibility rounds to multiple lead candidates.
- Lead the computational pathology program alongside clinical leadership: foundation-model studies in HER2-positive and obesity-associated breast cancer and in colorectal metastases, each with an associated manuscript pipeline.
- Chaired the Internal Inventions Committee; advise the General Counsel on intellectual property. Named inventor on a provisional application.
- Restructured the group in 2025, moving the analytics function to Research Operations to concentrate the team on discovery science.

iPlant Collaborative (later CyVerse), University of Arizona

2010 – 2014

Scientific Lead & Communications Director (2014) · Scientific Lead (2011–14) · Engagement Team Analyst (2010–11)

- Scientific lead for the NSF's national cyberinfrastructure program for the life sciences, responsible for scientific enablement across the plant-science research community.
- Led the phylogenetics and Tree of Life platform, including the Taxonomic Name Resolution Service.
- First author on the 1,000 Plants data-access paper; contributor to the 1KP *Nature* flagship and the PNAS land-plants study.

Max Planck Institute for Evolutionary Anthropology

2009

Postdoctoral Fellow, Department of Evolutionary Genetics — Max Planck Society Foreign Postdoctoral Fellow

ACADEMIC APPOINTMENTS

- **Harvey Mudd College** — Visiting Scholar (2026–); Adjunct Assistant Professor — Engineering (2025–26), Computer Science (2023–25), Biology (2019–20); Visiting Scientist (2014–20); Faculty Advisor, Clinic Program.
- **University of Arizona** — Adjunct Assistant Professor, Ecology & Evolutionary Biology (2011–14).

EDUCATION

- **PhD, Biology** (*Dr. rer. nat., magna cum laude*), International Max Planck Research School "The Leipzig School of Human Origins", University of Leipzig, 2009. Advisor: Svante Pääbo, 2022 Nobel laureate in Physiology or Medicine.
- **MSc, Molecular Biology**, minors in computer science and biomathematics, University of Zurich, 2004.

SELECTED PUBLICATIONS — 17 peer-reviewed; 5,800+ citations

- Monitoring the rate and variability of somatic genomic alterations using long-read sequencing. *Scientific Reports*, 2025. Co-corresponding author.
- CanvOI, an oncology intelligence foundation model: scaling FLOPS differently. Preprint, 2024.
- Recommendations for Generative AI in the Biological and Biomedical Sciences. FASEB, 2025. Task force co-author.
- Imaging-based machine learning analysis of patient-derived tumor organoid drug response. *Frontiers in Oncology*, 2021.
- One thousand plant transcriptomes and the phylogenomics of green plants. *Nature*, 2019. Consortium author.
- Data access for the 1,000 Plants (1KP) project. *GigaScience*, 2014. First author.
- The taxonomic name resolution service. *BMC Bioinformatics*, 2013.
- The iPlant Collaborative: cyberinfrastructure for plant biology. *Frontiers in Plant Science*, 2011.

FUNDED PROGRAMS

Roles below are co-investigator or senior personnel. Neither NIH RePORTER nor NSF Award Search indexes these positions, and BCRF recognizes a single

investigator per award.

- **Breast Cancer Research Foundation** — BCRF-19-002, BCRF-20-002, BCRF-21-002, BCRF-22-002. Four consecutive cycles applying machine learning to histopathology: lymph node status from 3D tumor structure, HER2-targeted therapy response, clinical data element extraction, BRCA1/2 histopathologic signatures. *Co-investigator*.
- **U.S. Department of Defense, Defense Health Program** — HU00011820032 (HU0001-18-2-0032), administered through the Uniformed Services University of the Health Sciences. *Senior personnel*.
- **National Science Foundation** — DBI-0735191 and DBI-1265383, the iPlant Collaborative and its renewal, \$50M each. *Senior personnel*.

SELECTED RECENT PRESENTATIONS

- Prediction of pathologic complete response from histopathology images of HER2+ breast cancer using an AI foundation model. *San Antonio Breast Cancer Symposium*, 2025. Last author.
- Detecting obesity-associated histopathology characteristics in breast cancer using an AI foundation model. *AACR Special Conference: Artificial Intelligence and Machine Learning*, 2025. Last author.
- An AI research platform for computational pathology. *Digital Pathology & AI Congress USA*, 2024. Co-author.
- SPE3D: a distributed and scalable 2D/3D digital pathology platform. *Pacific Symposium on Biocomputing*, 2023.

SERVICE, ADVISORY AND INVITED TALKS

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| <ul style="list-style-type: none">• FASEB Generative AI Task Force, 2024.• FASEB DataWorks! Advisory Committee, 2022–24.• External scientific advisor, Project EAGER (NIH/NHGRI), 2026–.• Innovation Accelerator Laboratory for Emerging Health Technology, Harvey Mudd College.• Peer reviewer, <i>npj Breast Cancer</i> and <i>Scientific Data</i>. Member, AACR and SMBE. | <ul style="list-style-type: none">• An interactive multidimensional image data management and analysis system to support AI applications — SLAS International Conference, San Diego, 2023; SLAS AI Data Pipelines for Life Sciences Symposium, Seattle, 2022.• Unleashing the power of AI in digital pathology for cancer care — Oracle CloudWorld, Las Vegas, 2022.• Digitizing your lab — FASEB DataWorks! Salon, 2022. |
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