

OLGA LAVINDA, PhD

SCIENTIFIC AI | VALIDATION & TRUST | EVIDENCE ARCHITECTURE
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PROFILE

PhD scientist, principal investigator, and AI founder working at the boundary between model capability and trustworthy real-world use. Builds validation systems for scientific and high-stakes AI: defining what must be true, testing outputs against evidence and domain constraints, exposing failure modes and disagreement, preserving human review, and connecting deployment to ongoing monitoring. Combines computational chemistry and biomedical research with hands-on AI product development, evidence architecture, and lifecycle evaluation.

ROLE FIT: Scientific AI validation | Evidence architecture | Lifecycle evaluation | Responsible AI & governance

SELECTED FIT FOR SCIENTIFIC AI, VALIDATION & TRUST

Scientific AI validation	Chemistry-aware evaluation; reproducibility; structural plausibility; experimental controls; domain-grounded model assessment
Evidence & trust architecture	Evidence grading; provenance; contradiction and failure-mode analysis; confidence; auditable decisions; human review
Responsible AI & governance	Privacy and data handling; evidence quality; validation; human review; failure modes; monitoring; responsible-use frameworks
Lifecycle evaluation	Requirements; acceptance criteria; operational evidence; human-in-the-loop review; monitoring; drift and failure detection

PROFESSIONAL EXPERIENCE

Clinical Assistant Professor of Chemistry & Principal Investigator | Yeshiva University | New York, NY | 2025–Present

- Lead an AI-enabled computational chemistry and structural-biology research program; translate frontier-model outputs into reproducible validation pipelines, experiments, conference presentations, manuscripts, and grant proposals.
- Built a documented research-training system with explicit review gates and human judgment checkpoints; supervise teams using frontier AI, Python/automation, structural controls, and experimental validation.
- Developed and implemented responsible-AI and AI-literacy frameworks in two STEM courses and within the research program, teaching students to evaluate model outputs, recognize failure modes, verify evidence, and identify decisions that must remain subject to human judgment.
- Contribute to institutional AI adoption through responsible-use, research-access, security, faculty-readiness, and implementation discussions; translate emerging capabilities into practical guidance for users with different technical backgrounds.
- Serve as faculty advisor for the ACS student chapter and coordinate research, student development, presentations, and external scientific engagement across academic units and partner organizations.

Founder & CEO / Scientific AI Product & Programs Lead | Health AI | New York, NY | 2019–Present

- Founded and direct an independent scientific-AI company spanning evidence systems, high-stakes AI evaluation, workflow automation, and agent infrastructure; own validation strategy, product requirements, technical delivery, evidence architecture, and commercialization.
- Directed Clarity across 4M+ scannable products and 29K+ evidence-graded ingredient records, translating scientific evidence into structured requirements, acceptance criteria, provenance-aware outputs, controlled release, and user-facing decisions.
- Design AI-literacy, training, and workshop programs around role-specific workflows, critical evaluation, evidence, governance, and measurable adoption; translate user and organizational constraints into practical implementation and enablement.
- Won a competitive enterprise AI RFI and translated the customer workflow into a deployed field-scanning solution validated on 203 vehicles; published a dual-model consensus evaluation reaching ~95% accuracy on high-confidence agreed fields.
- Built RIGOR, a lifecycle-validation approach connecting requirements, implementation, governance, operational evidence, human review, and ongoing monitoring for high-stakes AI systems.

Operations Manager | Molecular Design Institute, New York University | New York, NY | 2016–2020

- Managed operations and stakeholder coordination across four drug-discovery initiatives, bridging investigators, research design, clinical collaborators, resourcing, project execution, and commercialization planning.
- Worked across technical and non-technical stakeholders in a highly funded interdisciplinary environment, developing practical fluency in project leadership, institutional processes, workflow coordination, and translation from discovery toward implementation.

NIH NRSA Postdoctoral Fellow | NYU Langone Health | New York, NY | 2016–2019

- Led collaborative computational drug-discovery and cutaneous-biology research spanning chemistry, structural modeling, experimental biology, and clinician collaboration; supported by two NIH Kirschstein NRSA awards.
- Worked across scientists, clinicians, trainees, research operations, and translational stakeholders; completed training in technology transfer, IP, business-plan development, and the institutional barriers between discovery and commercialization.

Director | NIDA-Sponsored Summer Undergraduate Research Program, NYU | New York, NY | 2017–2018

- Directed an NIH/NIDA-sponsored undergraduate research-training program, coordinating research placements, faculty and trainee engagement, program delivery, mentoring, and scientific development.

Life Sciences Consultant / Scientific Communications Liaison | GeneCentrix | New York, NY | 2018–2020

- Consulted with biotechnology leadership on scientific validation, partner materials, funding narratives, and commercialization strategy; contributed to grant and partnership work associated with \$1.5M in secured funding.

Faculty / Lecturer | CUNY and New York University | New York, NY | 2011–Present / 2016–2020

- Teach chemistry across multiple New York City campuses and learner populations; design curricula, coach students individually and in groups, and translate complex scientific and technical concepts for audiences with widely varying starting points.

SELECTED SCIENTIFIC AI, VALIDATION & TRUST WORK

- Scientific AI validation: evaluate AI-generated scientific outputs against reproducibility, chemistry, domain constraints, experimental evidence, and explicit human-review gates rather than model confidence alone.
- AI literacy & responsible use: developed and presented validation-first approaches that train users to evaluate model outputs, assumptions, evidence, privacy/data constraints, and failure modes rather than treating AI answers as authoritative.
- ACS Fall 2026: presented Teaching with AI Without Losing the Student, a structured framework for AI literacy integration emphasizing critical evaluation, failure-mode recognition, verification, and human judgment.
- Evidence architecture: connect AI-supported claims and decisions to graded evidence, provenance, contradictions, confidence, failure modes, review, and ongoing monitoring.

EDUCATION & PROFESSIONAL DEVELOPMENT

PhD, Chemistry — New York University, 2017 | Master's degree, Education & Psychology | Honors BA, Chemistry & Biology with CIS — CUNY, 2011
NYU Grossman School of Medicine — Health Innovations & Therapeutics; Essentials of Project Management; Managing Multiple Projects; Project Leadership: Managing Without Authority; Leading a Project Team
2× NIH Ruth L. Kirschstein NRSA Fellow | Eugene M. Farber Award, Society for Investigative Dermatology | Henry M. MacCracken Fellowship

TECHNICAL & DOMAIN FLUENCY

Scientific AI; AI evaluation and validation; evidence architecture; provenance; lifecycle validation; failure-mode analysis; responsible AI; governance and data handling; human-in-the-loop review; monitoring; OpenAI/Codex and frontier-model workflows; Python; SQL/Postgres; REST APIs; MCP; scientific communication; workshops and stakeholder enablement.

SELECTED PUBLICATIONS & RESEARCH OUTPUTS

Lavinda O. et al. "Biophysical Compatibility of a Heterotrimeric Tyrosinase–TYRP1–TYRP2 Metalloenzyme Complex." *Frontiers in Pharmacology* 12 (2021). Additional peer-reviewed publications in computational/organic chemistry and structural chemistry; 2026 work includes chemistry-aware AI structure validation, AI literacy in chemistry, and technical publications on scientific/enterprise AI evaluation.