Andrea Loehr, Ph.D.

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I am a physicist by training, with two decades of experience spanning research, leadership, data analysis, and software engineering in two fields: astrophysics and oncology. As I have been learning more about AI safety, I have developed a passionate sense of urgency to contribute to the safe and responsible development of AI. I bring a wide range of transferrable skills and a proven track record of peer-reviewed publications, patents, and FDA approvals. I am committed to donating pro bono hours of my focused, productive work time to an AI safety project with an organization that moves the needle in the field.

PROFESSIONAL EXPERIENCE

AI Safety Collaborations, ongoing

- Building Consensus on AI Evaluation Practices: Leading the writing and analysis of a Systematic Review
- Apart Research Fellowship: Improving Genomic Foundation Model robustness
- AI Safety Camp: Contributing to the Meaningstack Foundation's Agentic Collaboration Governance Protocol, an open infrastructure for portable, participatory AI governance
- Project: Exploring Gaps in Model Safety Evaluation: Findings from Red-Teaming the SALAD-Bench Benchmark for Large Language Models

pharma&, Barcelona/San Francisco, *Consultant, Translational Medicine and Companion Diagnostics*, October 2024 – present

- pharma& acquired the PARPi rucaparib after the bankruptcy of Clovis Oncology; continuing to provide translational medicine support for the prostate cancer program

AstraZeneca, Barcelona, *Senior Director - Lead, Precision Medicine, Oncology,* April 2023- May 2024

- Global companion diagnostics strategist for for Phase 2 and 3 oncology clinical studies

Clovis Oncology, San Francisco/Barcelona (2021-2023), *Senior Director, Translational Medicine and Molecular Diagnostics,* May 2015 – Jan 2023

- Responsible for strategy and execution of all translational medicine and companion diagnostics activities in the development of the PARP inhibitor rucaparib in prostate cancer (TRITON program), including regulatory drug and device filings; scientific input to commercial, regulatory, publishing, and operational strategies; leadership of cross-functional global teams; conception, management, and execution of research programs generating peer-reviewed publications, conference presentations
- Promoted three times from Principal Scientist to Senior Director

Onyx Pharmaceuticals, San Francisco, *Senior Scientist I Translational Genomics,* May 2013 – April 2015

- Hypothesis-driven biomarker discovery and validation through analysis of RNASeq gene expression data
- Applied machine learning techniques to gene expression profiles to discover biomarkers predictive of response

GigaGen Inc., San Francisco, *Sr. Bioinformatics Scientist,* May 2011 – May 2013

- Designed and developed alignment algorithm for GigaGen's T cell receptor repertoire from single cell sequencing
- Generated multi-variate simulation of microfluidics processes to optimize product design and maximize efficiency

Ion Torrent, San Francisco, *Software Engineer,* Aug. 2009 – Jan. 2011

- Conceptualized and established the Ion Torrent Personal Genome Machine™ sequence alignment pipeline: at each stage of product development identified and built appropriate software tools, defined quality metrics and graphs

Harvard Medical School – George Church Lab, *Volunteer,* Oct. 2008 – Aug. 2009

- Performed data analysis for the Personal Genome Project PGP open source software 'Swift' which increased yield and reduced error rates

- Compared commercial Illumina Genome Analyzer Pipeline 1.3.2 and 'Swift' to enable users to understand the primary data for the optimization and validity of their scientific work

Harvard-Smithsonian Center for Astrophysics, *Postdoctoral Fellow/Staff Scientist,* 2003 – Aug. 2009

- AST/RO project: Scientific leader of South Pole winter-over team of three; lived at geographic South Pole (Antarctica) for 13 months, operating astronomical observatory in extreme conditions (winter temperatures below -100 F); defined scientific projects for the 2004/5 season and managed all aspects of site operation independently
- PISCO project and South Pole Telescope project: software development for data processing

Software Engineer, *Consultant*, 2000 - 2003

- Pioneered signal extraction algorithm for customer (EADS), method patented and applied as real-time noise filter (complexity *O(N)*) in naval radar systems

Max-Planck-Institute for Radioastronomy, Bonn, Germany, *Scientific Aid*, 1999 - 2000

- Obtained, processed, and analyzed radio-wavelength data from single dish telescopes (Effelsberg 100m telescope, Bonn, Germany; Heinrich-Hertz Telescope, Az, USA) and interferometer (VLA, NM, USA)

EDUCATION

- 2003: Ph.D. Physics (summa cum laude), University of Bonn, Germany

PATENTS & AWARDS

- WO2015021376A1 - Immunoglobulin Expression Levels as Biomarker for Proteasome Inhibitor (2016)
- DE 102 38 896 B4 - Method for the Analysis of Radar Data (2006)
- Antarctica Service Medal of the United States of America , 2005

TECHNICAL SKILLS

- R, Perl, bash, awk, Linux, Windows, google colab, AI-assisted: jupyter notebook, Python, C

AI SAFETY UPSKILLING

- Course: Technical AI Safety by BlueDot Impact (Jan. 2026)
- Course: AGI Strategy by BlueDot Impact (Oct. 2025)
- Course: AI Safety, Ethics and Society by the Center for AI Safety (May 2025)
- Certificate: ChatGPT Prompt Engineering and Advanced Data Analysis (Coursera, 2023)

LANGUAGES

- German (native), English (fluent), Spanish (B2), Catalan (A2)

CITIZENSHIP

- Germany, USA (legal right wo work in EU and USA)
- Legal resident of Spain

PUBLICATIONS

- Available at Google Scholar