

Daniele Malleo, PhD

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AI & SCIENTIFIC TECHNOLOGY EXECUTIVE

Technical executive and founding-stage systems builder with 15+ years of experience developing scientific platforms that integrate AI-enabled workflows, data, software, robotics, instrumentation, and biology.

Track record spanning hands-on architecture, customer-backed product launches, strategic technology partnerships, regulated development, and leadership of a 100+ person R&D organization with a \$50M–\$100M annual budget.

Currently lead product strategy for Lila Sciences' AI Science Factory at the interface between AI systems and physical experimentation.

Previously served as Cellares' highest-ranking technical executive, taking two flagship platforms from prototype through launch and supporting major customer and investor diligence.

LEADERSHIP FOCUS	SELECTED SCALE & OUTCOMES
Scientific AI strategy and productization • Autonomous experimentation • AI/ML, data, and workflow platforms • Lab automation and robotics • Platform architecture • Strategic partnerships and technical diligence • R&D organization building • Regulated product development • Investor communication and fundraising • IP strategy	Three scientific platforms advanced from early architecture to launch • 100+ person R&D organization • \$50M–\$100M annual R&D budget • \$350M+ Series B/C/D financing supported • \$380M strategic customer agreement • 20+ U.S. patents and applications

PROFESSIONAL EXPERIENCE

Lila Sciences | Vice President, AI Science Factory Product

Cambridge, MA

Apr 2025 – Present

- Lead product and platform strategy for Lila's AI Science Factory, connecting model-driven scientific intent with automated experimental execution across life and materials science.
- Define cross-domain capability roadmaps and deployment sequencing across instrumentation, automation, data, software, and AI/ML, aligning customer requirements with Lila's internal scientific and technical priorities.
- Formulated the global expansion strategy for deploying multiple AI Science Factories, including repeatable site architecture, capability phasing, operating assumptions, and regional deployment priorities.
- Developed the AISF productization and IP strategy, defining product boundaries, build-versus-partner choices, protectable differentiation, and models for deploying platform capabilities with external customers and partners.
- Lead selected customer and partner discovery and represent Lila in technical and strategic discussions with pharmaceutical, industrial, government, and research stakeholders.

Cellares | Senior Vice President, Research & Development

South San Francisco, CA

Mar 2020 – Apr 2025

- Joined as a single-digit employee and hands-on systems engineer/architect; defined the Cell Shuttle architecture and drove successive prototype iterations before progressing through Director, VP, and SVP roles.
- Became the company's highest-ranking technical executive after the founding CTO departed; led 100+ people through approximately ten directors and managed a \$50M–\$100M annual R&D budget.
- Led the Cell Shuttle and Cell Q from early architecture through customer-backed early-access programs and commercial launch, integrating robotics, software, data systems, fluidics, analytics, and GMP-ready operating controls.
- Owned platform architecture, systems integration, performance characterization, validation strategy, and technical risk retirement across manufacturing and quality-control products deployed in regulated environments.
- Provided technical leadership, executive presentations, demonstrations, and diligence supporting a Bristol Myers Squibb development and supply agreement valued at \$380M.
- Delivered the technical narrative and investor diligence for \$337M across Series B and C financings and supported investor engagement that preceded the Series D announced after departure.
- Spearheaded multi-year technology partnerships with Sony Biotechnology for flow cytometry and cell sorting and 908 Devices for inline Raman process analysis.
- Established systems engineering, project/program management, and product-management capabilities; expanded the IP portfolio from 2 to 20+ patent families in 24 months and was named on 12+ Cellares patents and applications.

BD Biosciences | Senior Manager, Systems Engineering

San Francisco Bay Area

Apr 2019 – Mar 2020

- Led a 12-person systems engineering team responsible for architecture, design, integration, characterization, validation, and sustaining engineering across clinical and research flow-cytometry and cell-sorting platforms.

- Supported the full product lifecycle across FACSLyric, FACSsymphony, FACSDuet, FACSMelody, and FACSaria systems, coordinating engineering with quality, clinical, manufacturing, service, and product teams.

Abbott Diagnostics, Hematology | Senior R&D Manager / Chief Architect

Apr 2015 – Apr 2019

Santa Clara, CA

- As Principal Systems Engineer and Chief Architect, led requirements, architecture, technical risk retirement, integration, verification, and validation for Alinity hq, taking Abbott's flagship clinical hematology analyzer through commercial launch in two years.
- Coordinated decisions across hardware, software, quality, clinical/medical, manufacturing, marketing, and service organizations; led technical reviews, defect prioritization, test strategy, and design-of-experiments work.
- Built and led post-launch sustaining and reliability programs; resolved line-down, ship-hold, CAPA, and recall situations through systematic root-cause analysis, generating more than \$10M in savings.

Berkeley Lights (acquired by Bruker) | Technology Lead / Systems Architect

Sep 2012 – Apr 2015

Emeryville, CA

- Joined at company inception and led systems architecture for the Beacon platform, integrating optoelectronics, imaging, motion control, fluidics, semiconductor consumables, sensors, and closed-loop software for massively parallel single-cell analysis.
- Developed and evaluated system architectures and customer workflows with cell biologists, biochemists, and bioengineers; worked across engineering, manufacturing, marketing, external vendors, and early customers to move the platform toward commercialization.
- Inventor on foundational platform IP, including microfluidic sequestration pens and combined dielectrophoresis/electrowetting; named inventor on 10+ patents and applications.

Fluxion Biosciences (acquired by Cell Microsystems) | Senior Systems Engineer

Feb 2011 – Sep 2012

South San Francisco, CA

- Led software development, release, testing, quality assurance, and sustaining engineering for the IonFlux automated electrophysiology platform; managed local and offshore developers and reduced software-development costs by approximately 50%.

Oxford Gene Technology (acquired by Sysmex) | Senior Research Engineer

Aug 2008 – Feb 2011

Oxford, UK

- Invented and developed microfluidic devices and analytical methods for single-cell capture, nucleic-acid extraction, non-amplified gene-expression analysis, and proteomics under Sir Edwin Southern.

SELECTED IP

Named inventor on 20+ U.S. patents and applications, with related international filings, across autonomous cell processing, scientific instrumentation, microfluidics, single-cell analysis, and workflow automation.

- Cellares** — Systems and Methods for Cell Processing: US 12,350,667 and US 12,350,668 (granted 2025).
- Cellares** — Parallel Workflows in Automated Cell Processing: US 2024/0279588, US 2024/0254426, and WO 2024/152008; Conditional Execution for Cell Processing: US 2025/0059492.
- Cellares** — Automatic Cell Sorting: US 12,337,321 (granted 2025) and WO 2025/041064; additional families cover cartridge architecture, fluid transfer, analytics, and automated workcell scheduling.
- Berkeley Lights** — Systems for Operating Electrokinetic Devices: US 10,384,204 and EP 3229962 B1; Combined DEP and Electrowetting in a Single Apparatus: US 10,245,588 and EP 3134739 B1.
- Berkeley Lights** — Microfluidic Sequestration Pens: US 10,010,882, US 10,646,871, and EP 3473700 B1; Capturing Specific Nucleic Acids from Individual Biological Cells: US 11,318,479.
- Berkeley Lights** — Exporting Selected Micro-Objects from a Microfluidic Device: US 10,252,907 and EP 3060926 B1; additional families cover movement, selection, culture, and biological-activity assays in microfluidic devices.
- Oxford Gene Technology** — Picowell-based devices and methods for capture, isolation, and analysis of individual cells and particles.

EDUCATION & EXECUTIVE DEVELOPMENT

The Wharton School, University of Pennsylvania — Chief Technology Officer Executive Program

2023 – 2024

University of Southampton, UK — PhD, Electronic Engineering

2004 – 2008

University of California, Berkeley — Graduate Visiting Scholar, Bioengineering

2005 – 2008

University of Southampton, UK — MSc, Microelectronics Engineering, with Distinction

2003 – 2004