



Michael Ferreyros

Cell and gene therapy operations, and the systems underneath them

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Fifteen years running research operations for iPSC-based cell and gene therapy at an academic medical center, on the research half of a bench-and-cGMP pair built to mirror itself so programs could transfer. I also **ship production software into that environment**. My thesis: cell and gene therapy programs die before the IND, at GMP readiness, and a measurable share of that gate is knowledge transfer, which is the part FDA has now named out loud.

SYSTEMS BUILT AND RUNNING

GatesHub gateshub.company · live	Institute-wide staff portal at CU Anschutz with an asynchronous AI interview instrument that captures real workflow evidence before systems get changed. I built the access layer beneath it: default-deny module entitlements with row-level security and delegated admins, plus an SSO cutover moving the lab information management system behind the same identity. Next.js 16 · Supabase Postgres/RLS · Microsoft Entra SSO · SENAITE LIMS
FACT-Codex accreditation crosswalk	Maps standard operating procedures and evidence against FACT-JACIE cellular therapy standards carried verbatim, flags where evidence does not reach the requirement, and drafts remediation for human review. The engineering that matters is refusing to claim coverage the evidence does not support. TypeScript · Next.js · Neon Postgres · Clerk · Gemini 3 Pro + Claude
Knowledge Assistant my.ferreyros.me · CI-enforced tests	A compiled wiki of a few hundred pages exposed through a 38-tool MCP server I wrote, consumed by five surfaces. Hybrid retrieval with reciprocal rank fusion; on irreconcilable contradiction it escalates to a human rather than silently averaging. Python · Next.js 16 · Postgres 17 + pgvector · custom MCP server
Multi-model safety evaluation 8 models tested	Tested eight frontier models on destructive actions and turned the refuser/complier split into an enforced rule: refusers hold approval authority, compliers are sandboxed, enforced by tool permissions rather than instruction. The run exposed that my own approval gate was being bypassed; I closed it and re-ran the evaluation to verify .

EXPERIENCE

Assistant Director, Business & SOM Research Operations — Gates Institute, CU Anschutz · Research Program Manager, 2021–2025	2025 – present
- Direct a \$10M research portfolio across roughly twenty researchers on iPSC-based cell and gene therapy programs. Federal reporting across NIH, DOD, and the VA; compliance across animal, biosafety, human-subjects, and controlled-substance protocols. CU Anschutz representative to the VA: voting member, Institutional Biosafety Committee; IRB Subcommittee on Research Safety. - Research-side point of contact for a 10,000 sq ft facility buildout that the campus cGMP facility then mirrored, so programs could transfer without redesign; specified the liquid-to-vapor cryogenic handling system and capital equipment at \$500K–\$1M scale. - Automated lab ordering and receiving end-to-end, cutting ~80% of procurement time in the research lab; built equipment-alarm, procurement, and Power Automate workflows across the institute. - Championed the hub-and-spoke thesis now driving institute systems strategy: one identity layer and one data core with modules attached, replacing disconnected vendor tools.	
Co-Founder, AI MBA Club & Bi-weekly Seminar — CU Boulder, Leeds School of Business	2024 – present
- Bi-weekly executive sessions translating agent architecture, evaluation, and governance for leaders who do not write code, which is most of the people deciding whether any of this is real. Workshops for EMBA students, faculty, and advisory board.	
Senior Professional Research Assistant, Lab Manager — Gates Center for Regenerative Medicine (Dennis Roop Lab) · Professional Research Assistant, 2014–2017	2014 – 2021
- Co-first author on a novel mouse model of harlequin ichthyosis. Supported tech transfer of gene-corrected iPSC skin-graft work toward cGMP manufacturing; industry collaboration with AVITA Medical.	

EDUCATION

Executive MBA University of Colorado, Leeds School of Business · May 2026
BS Integrative Biology & Biochemistry University of Colorado Denver
BS Industrial/Organizational Psychology Colorado State University

SELECTED PUBLICATIONS

Zhang L, Ferreyros M , et al. Defects in stratum corneum desquamation are the predominant effect of impaired ABCA12 function in a novel mouse model of harlequin ichthyosis. <i>PLoS ONE</i> 2016 CO-FIRST AUTHOR
Pavlova M, ..., Ferreyros M , ..., Roop DR, Bilousova G. An advanced model for multilayer human skin reconstruction in vivo. <i>Bio-protocol</i> 2024
McGarvey SS, Ferreyros M , Kogut I, Bilousova G. Differentiating iPSCs toward mesenchymal stem/stromal cells. <i>Methods Mol Biol</i> 2022, and one further paper, <i>Biochim Biophys Acta</i> 2013