

David Tran, PhD

949-365-6619 | Oakland, CA

www.trandavid.com | tran.david.dan@gmail.com | [linkedin.com/in/davidtranphd](https://www.linkedin.com/in/davidtranphd)

Bioprocess engineer with 10+ years of expertise in cell culture process development. Proven track record of directing process optimization and characterization, and successful tech transfer to GMP manufacturing (pilot scaleup to 2000L). Adept at technical leadership, novel bioreactor development, team mentorship, and complex problem-solving in fast-paced biopharmaceutical environments.

EDUCATION

Ph.D. Chemical and Biochemical Engineering UC Irvine 2015

Functional Characterization of in vitro Models of Stem Cell-derived Cardiomyocytes

B.S. Chemical and Biomolecular Engineering UCLA 2009

PROFESSIONAL EXPERIENCE

Senior Manager - Process Development

Upside Foods, Berkeley, CA

September 2023- March 2025 (1.6 years)

- ♦ Led scientific experimental design for process development and optimization (increase yield, reduce costs and improve product quality) of animal cell suspension culture for cultivated meat
 - ♦ 3x increase in volumetric productivity (PCV/day) over fed-batch process
 - ♦ 30% reduction in cost of goods sold (COGS) by spent media analysis and lean media optimization
 - ♦ 4x improvement in product quality necessary for positive mouthfeel
- ♦ Directed tech transfer to and operated successful pilot scale bioreactors (2000L) at GMP manufacturing facility, leveraging bench-scale experiments for process ranging, risk mitigation and material validation
 - ♦ Wrote clear batch records and trained manufacturing team
 - ♦ Provided technical leadership by effectively collaborating with key stakeholders in manufacturing to plan operations
- ♦ Established bench scale perfusion bioreactor platform and increased experimental throughput by 6x through continuous platform improvement (e.g. mitigation of shear-induced cell death), RCA, and operational excellence
- ♦ Managed up to 6 FTEs providing career guidance, scientific coaching and constructive feedback
- ♦ Built productive cross-functional relationships between teams (Process Development, Process Engineering, Manufacturing, MSAT, Supply Chain, FSQA, Data and Food Research & Development) for strategy and prioritization of limited resources

Senior Process Development Engineer

Upside Foods, Berkeley, CA

March 2022 - September 2023 (1.6 years)

- ♦ Increased productivity up to 16x via clone selection, media optimization and process development
- ♦ Established next-gen bench-scale adherent bioreactor start-to-finish with continuous troubleshooting and improvement
- ♦ Bioreactor operations on Applikons, DASboxes, DASGIPs, and AES controller systems
- ♦ Conducted successful root cause analysis (RCA) in troubleshooting initial failures of tech transfer from bench to pilot scale
- ♦ Reduced team spending by \$500k/year by creating a custom bioreactor metadata system including an ELN, LabKey data input module, data lake and automated Tableau graphing for rapid data monitoring
- ♦ Improved sensory attributes and raw material characteristics of our biomass for improved cultivated meat product quality

Process Development Engineer 2

Upside Foods, Berkeley, CA

November 2020 - March 2022 (1.4 years)

- ♦ Increased product yields by 10x through process and media development
- ♦ Directed development of new scale-down adherent bioreactor, from concept, deliverables, commissioning of new bioreactor controllers and timeline management
- ♦ Re-established scale-down bioreactor by raising throughput (6x) and reducing variability

Biomedical Engineer

Novoheart Limited, Irvine, CA

January 2017 - November 2020 (3.9 years)

- ◆ Designed, fabricated and characterized novel *in vitro* stem cell-derived cardiac tissue strip imaging system (96-well plate)
- ◆ LabVIEW software development for hardware interface of numerous acquisition and control devices

Postdoctoral Researcher

University of Hong Kong, Hong Kong

September 2015 - January 2017 (1.4 years)

- ◆ CAD designed and fabricated multi-camera bioreactor for long term imaging of cardiac organoid pump function
- ◆ Coded image processing tools in MATLAB & LabVIEW to streamline drug screening, reduced time by 75%
- ◆ Tissue formation engineered cardiac tissues from human-derived cardiomyocytes from directed differentiated iPSC

PATENTS & PUBLICATIONS

Patents

- ◆ E Roberts, E Lee, D Tran, SY Mak, B Fermini, A Wong. "Support and system for engineered tissue". EP4179065A4, published Sept 11, 2024.
- ◆ Y Kurokawa, E Lee, D Tran, KD Costra, RA Li. "A multi-sample system for engineered tissue strip assays". WO2022015869A9, issued Jan 20, 2022.
- ◆ D Tran, KD Costa, RA Li "Bioreactor platform for monitoring multi-organoid function and modelling human systems biology". US20200369996A1, issued Nov. 26, 2020.
- ◆ M. Khine, E Lee, RA Li, D Tran, "Methods and apparatuses for prediction of mechanism of activity of compounds". US20180372724A1, issued Dec 27, 2018.

Publications

- ◆ E Roberts, SY Mak, A Want, D Tran, E Lee, Y Kurokawa, K Jennbacken, QD Wang, D Lieu, R Hajjar, KD Costa, RA Li. Ultra-Compliant Indwelling Elastomer Balloons Improve Stability and Performance of Bioengineered Human Mini-Hearts. Advanced Engineering Materials, 2022.
- ◆ E Lee, D Tran, W Keung, P Chan, G Wong, CW Chan, KD Costa, RA Li, M Khine. Machine learning of human pluripotent stem cell-derived engineered cardiac tissue contractility for automated drug classification. Stem Cell Reports, 2017.
- ◆ D. Tran, Moya, M, and S.C. George. An integrated in vitro model of perfused tumor and cardiac tissue. Stem Cell Research & Therapy, 2013.
- ◆ C Robertson, D Tran, SC George. Concise Review: Maturation Phases of Human Pluripotent Stem Cell-Derived Cardiomyocytes. Stem Cells, 2013.

SKILLS

- ◆ **Digital & Data Systems:** ELN (Benchling, LabKey), LIMS/SDMS integration, automated pipelines, cloud storage, FAIR data principles ◆
- ◆ **Data Analytics & Visualization:** Python, SQL, Tableau, JMP, VBA, automated dashboards, predictive modeling (scikit-learn)
- ◆ **Workflow Design & Automation:** Metadata strategy, instrument-to-cloud data transfer, workflow mapping (Visio, Lucidchart)
- ◆ **CMC Expertise:** Cell culture (suspension, perfusion), bioreactor development, process optimization, scale-up, GMP tech transfer
- ◆ **Leadership & Collaboration:** Cross-functional stakeholder engagement, project management (Jira, Smartsheet), team mentorship