

Rosalyn Lau

HTS Operations Lead

Summary

Experienced biotechnology professional in high-throughput screening operations, high-throughput plate-based assay development, and working with liquid handling platforms. Also experienced with miniaturizing enzymatic assays for industrial application needs. Strong communicator and team player in a fast-paced multicultural and global environment.

Past experience includes characterization of various enzyme families for industrial usage and algae strains for biofuels. Experienced in medium and large scale application research for Fabric & Household Care, particularly in laundry detergent and automatic dish washing products. Exposed to and knowledgeable in the development of developing and emerging markets, in the area of Fabric & Household Care.

Direct experience with facilitating process transfer and implementing operational methods from scratch, while managing and generating capital expenditure proposals to support technology transfer.

Specialties: High-throughput (HTS) assay development. Application research. Renewable Energy. Industrial enzymes. Algae for Biofuels. Laboratory Automation.

Experience

Operations Lead-HTS at Bolt Threads

December 2015 - Present (8 months)

- Operations lead of high-throughput screening team
- Develop and optimize cell-based assays to predict relative strain performances in the fermentation tanks.
- Plan, manage, and execute high-throughput screening operations.
- Maintain and troubleshoot all automation platforms.

Senior Research Associate at Bolt Threads

2015 - Present (1 year)

Focus on optimizing and implementing automation tools.

- Develop and optimize liquid handling methods on Beckman Coulter's Biomek FX/FXp platforms.
- Develop and optimize colony picking methods on Molecular Devices QPix system.
- Increased high-throughput screening capacity from 1000 bacterial strains per week to 5000 strains per week.

Research Associate-Strain Improvement at Aurora Algae, Inc

2013 - 2014 (1 year)

- Part of the Biofuels Project to conduct high-throughput screenings of mutagenized algal strains using colony picking and liquid handling platforms (Tecan Freedom Evo and Biomek NX systems).
- Developed algae liquid growth assay methods to improve algae biomass productivity.
- Tracked algal strains screening on internal LIMS system.
- Assisted in operating GC-PAL system to detect and analyze extracted fatty acid samples; also familiar with operating and writing methods for ARI Phoenix organic solvent liquid handling system

Research Associate at DuPont (DuPont Industrial Biosciences, formerly Genencor)

2011 - 2012 (1 year)

Project Task Leader

- Successfully led team in executing critical tasks to meet project goals in time for global product launch in Q3 of 2012. Led applications research team to
 - design and execute experimental methods to identify laundry performances for developing & emerging (D&E) markets, primarily China.
 - perform competitive analyses of household care products available in China, US, and EU.
 - design and coordinate experimental methods to identify fabric care benefits from cellulase addition (de-pilling, anti-graying, tensile strength) in Western EU laundry detergents.
- Worked with international vendor to design Chinese-specific stains.
- Managed and reviewed results with project leader and business team.
- Mentored team members to grow and develop new skills.
- Effectively coordinated, communicated, and managed technology sharing between R&D and global business teams.

Research & Development - Biochemistry

- Developed high-throughput biochemistry assays to identify new industrial enzyme potentials (amylase, protease, cellulase, xylanase, phytase, and mannanase).
- Miniaturized industrial assays to lab bench high-throughput enzyme assays.
- Involved in global high-throughput enzyme screening efforts using Biomek FX platforms.
- Played an integral role in discovering the next generation of enzymes for new product development.
- Authored invention disclosures and contributed towards patent applications/patent landscaping.
- Utilized TIBCO Spotfire software for data management and rapid data analysis.
- Strong communication skills - presented at high-level meetings and global project meetings.
- Trained new employees and peers.

Additional activities:

- Team Building Committee Chairperson - played key role in organizing first Team Building Event between two Shanghai research sites - Shanghai's DuPont CTC and DuPont IB's China Research Center.

Research Assistant at Genencor China Research Center, Danisco China

2008 - 2011 (3 years)

Research & Development - Biochemistry

- Part of the pioneer start-up team to grow and expand the Shanghai China Research Center in becoming the center of excellence for gene discovery.
- Developed, identified, and managed high-throughput screening methods for industrial enzymes (lipase, amylase, cellulase, protease, CBHs, xylanase) used in the areas of grain processing, cellulosic ethanol, animal feed, and laundry cleaning.
- Utilized SigmaPlot to analyze enzyme inhibition studies.
- Experienced with facilitation of technology transfer between two global R&D sites.
- Set-up and maintained Thermo Scientific's Konelab 20 Analyzer to perform enzymatic assays.

Research Assistant at Genencor, A Danisco Division

2007 - 2008 (1 year)

Applications Research

Conducted medium and large scale industrial application screening assays, with a focus in fabric and household care industry

--Part of a dynamic project team that researched and developed the next-generation of high-performing enzyme products in laundry detergents.

R&D Biochemistry

High-throughput assay development work

Volunteer Experience

Volunteer at Masonic Homes of California

February 2013 - Present

Education

University of California, Davis

BS, Biochemistry and Molecular Biology

Activities and Societies: Assistant Director for UC Davis Picnic Day, Undergraduate Researcher of Dr. Andrew Fisher's Lab

Languages

English

(Native or bilingual proficiency)

Chinese

(Professional working proficiency)

Cantonese

(Professional working proficiency)

Interests

Yoga, reading, writing

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[Contact Rosalyn on LinkedIn](#)