

Contact

www.linkedin.com/in/pydewals
(LinkedIn)

Top Skills

Geneious
Benchling
Protein Purification

Languages

French (Native or Bilingual)
English (Full Professional)

Publications

Site-saturation mutagenesis of Tyr-105 reveals its importance in substrate stabilization and discrimination in TEM-1 beta-lactamase

Modifying Enzyme Specificity by Combinatorial Active Site Mutations

High tolerance to simultaneous active-site mutations in TEM-1 beta-lactamase: Distinct mutational paths provide more generalized beta-lactam recognition

Analyses mutationnelles et cinétiques de la β -lactamase TEM-1 de Escherichia coli: Vers une meilleure compréhension du phénomène de résistance aux antibiotiques

Pierre-Yves De Wals

Molecular Biologist & Strain Engineer
Encinitas, California, United States

Summary

Molecular biologist with a master's degree in biochemistry. Strong metabolic pathway and strain engineering skills, genome editing, protein engineering, heterologous gene expression and an extensive track record of success in industrial biotechnology, delivering improved strain performance in highly dynamic & fast-paced environments.

Experience

Genomatica

5 years 11 months

Research Scientist II

July 2021 - May 2024 (2 years 11 months)

San Diego, California, United States

Genome editing (CRISPR) & metabolic pathway engineering to produce polyamide precursors in E. coli. High throughput recombineering to generate large collections of gene & expression variants.

Research Scientist I

July 2018 - July 2021 (3 years 1 month)

San Diego, California

Genome editing (CRISPR) & metabolic pathway engineering to produce cannabinoids in E. coli. High throughput automated DNA cloning to support custom plasmids requests for multiple internal R&D projects.

Verdezyne

9 years 6 months

Scientist I

April 2016 - May 2018 (2 years 2 months)

Carlsbad, CA

- Yeast genetic engineering for the production of carotenoids in yeast.
Combinatorial heterologous gene expression to identify required pathways and limiting reactions.

- Protein engineering, mutagenesis & library screening with demonstrated improvements in target molecule titers.
- Strain characterization through shake flask fermentation, qPCR, mRNA expression analysis.
- Training lab assistants to perform basic experiments (PCR, shake flask fermentations).

Senior Research Associate II

January 2013 - April 2016 (3 years 4 months)

Carlsbad, CA

- Yeast metabolic engineering to enable production of specific renewable chemicals from plant-based oil feedstocks
- Protein engineering/mutagenesis/library screening
- Strain characterization through shake flask fermentation, qPCR, mRNA expression analysis
- Downstream process development to improve purification scheme for target molecules (solubility determination, solvent extraction, recrystallization)
- Overseeing production of highly pure target molecule at 2000 L scale

Senior Research Associate I

September 2009 - January 2013 (3 years 5 months)

Research Associate II

December 2008 - September 2009 (10 months)

- Yeast metabolic engineering to enable production of ethanol and renewable chemicals from various feedstocks
- Yeast (*S. cerevisiae*) & bacterial (*E. coli*) protein expression
- Shake flask fermentations
- Enzyme kinetic assays (K_m & k_{cat} determination)

CODA Genomics

Research Associate II

July 2007 - December 2008 (1 year 6 months)

Laguna Hills, CA

- Production of synthetic genes for various life science purposes per customers' specifications
- Improvement of protein expression levels through proprietary technology

Education

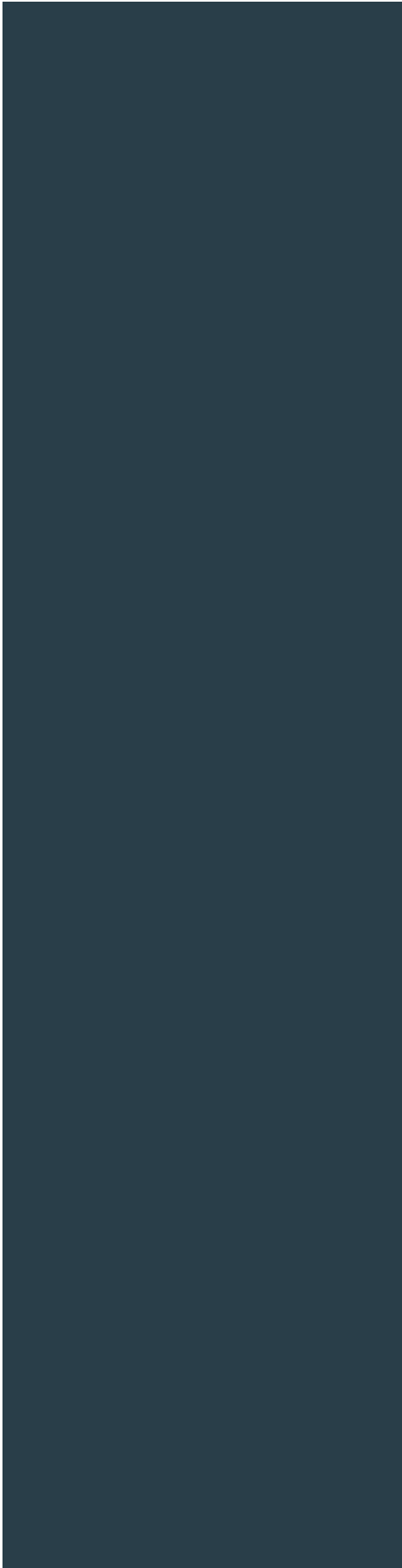
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Master of Science (MSc), Biochemistry · (2004 - 2007)

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Bachelor of Science (BSc), Biochemistry · (2001 - 2004)