CATHERINE ASLESON DUNDON, PH.D.

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CAREER HISTORY

NordYeast, Inc. 2014 – Present

President & Founder

Founded a biotechnology consulting company to provide technical advice on projects that leverage yeast as a platform organism for producing commodity and high-value molecules. Provide clients with scientific best practices, intellectual property & regulatory support for all products, and any other necessary operational business guidance.

- Consultant with clients to select platform organisms/hosts, develop metabolic engineering plans to engineer hosts, design project plans to support patent applications, analyze results, and advise on regulatory and safety approval applications.
- Registered Patent Agent – 76,950
- Expert witness and co-author 37 CFR §1.132 Declarations in support of patent prosecution.
- Grant reviewer for US Department of Energy in the field of Bio-based Fuels & Chemicals.
- Patent searcher to provide clients with literature and patent searches on topics.

Clarivate, Inc. 2020 – 2024

Patent Analyst

Patent Analysts provide PCT Chapter I Search and Examination services contracted by the USPTO.

- Conduct patentability searches and document in "International Search Report" [ISA/210].
- Author "Written Opinion of the International Searching Authority" [ISA/237] for PCT Chapter I.

Gevo, Inc. 2008 – 2014

Director – Biocatalyst Development

Gevo is a leading company that produces renewable chemicals and advanced biofuels. Hired to manage a team of 25 high-performing individuals to engineer yeast to produce isobutanol at commercially relevant titers, yields, and rates that enabled commercial production. Also hired to protect yeast isobutanol intellectual property with issued patents.

- Inventor on 27 US Patents – 3 were issued via the Green Tech Accelerated Review Process, and seven were issued as worldwide patents. Many patents were successfully defended during litigation.
- Key contributor in both the prosecution and the litigation of Gevo's patent portfolio.
- Authored Department of Energy Grant Proposal that funded work to convert Gevo's isobutanol yeast to one that could utilize cellulosic sugars.
- Project management of internal Gevo research programs as well as numerous external projects executed by worldwide academic and contract research organizations (CRO).

NatureWorks LLC 2000 – 2008

Group Leader | Principal Scientist

NatureWorks is a leading biopolymer supplier with advanced materials from renewable, abundant feedstocks. Served as the Principal Scientist for the first seven years of tenure and was promoted to group leader for the remainder of time. Hired to engineer yeast strains to produce lactic acid at low pH and implement them at a commercial scale. Also responsible for regulatory submissions and authoring patent claims and examples.

- As the group leader, supervised a team of 9 molecular biologists to developed biocatalysts.
- Engineered yeast to produce lactic acid at low pH– successfully producing at commercial scale since 2008.
- Productively and virtually coordinated with external collaborators and colleagues.

EDUCATION

Post-Doctoral Research, University of Minnesota – Department of Plant Biology

Ph.D., University of Minnesota – Molecular, Cellular, Developmental Biology & Genetics

B.S., University of Nebraska-Lincoln – Biological Sciences

GRANTED PATENTS

US 11,691,817	Yeast cells having disrupted pathway from DHAP to glycerol	7/4/2023
US 10,899,544	Fermentation process using yeast cells having disrupted pathway … to glycerol	1/26/2021
US 9,657,315	Isobutanol production using yeasts with modified transporter expression	5/23/2017
US 9,926,577	Yeast organism producing isobutanol at a high yield	3/27/2018
US 9,506,074	Yeast microorganisms with reduced by-product accumulation for improve …	11/29/2016
US 8,273,565	Methods of increasing dihydroxy acid dehydratase activity to improve …	9/25/2012
US 8,071,358	Methods of increasing dihydroxy acid dehydratase activity to improve …	12/6/2011
US 9,249,420	Isobutanol production using yeasts with modified transporter expression	2/2/2016
US 8,153,415	Reduced by-product accumulation for improved production of isobutanol	4/10/2012
US 8,158,404	Reduced by-product accumulation for improved production of isobutanol	4/17/2012
US 8,133,715	Reduced by-product accumulation for improved production of isobutanol	3/13/2012
CA 2,789,583	Yeast microorganisms with reduced by-product accumulation for improved …	1/17/2017
GB 2,501,143	Yeast microorganisms genetically engineered to improve isobutanol biosynthesis	3/26/2014
DK 2,534,240	Yeast microorganisms with reduced by-product accumulation for improved …	8/5/2019
EP 2,534,240	Yeast microorganisms with reduced by-product accumulation for …	6/5/2019
GB 2,492,267	Yeast microorganisms with reduced by-product accumulation for …	5/1/2013
GB 2,487,889	Methods of increasing dihydroxy acid dehydratase activity to improve …	12/19/2012
US 8,017,376	Methods of increasing dihydroxy acid dehydratase activity to improve product…	9/13/2011
CA 2,781,131	Methods of increasing dihydroxy acid dehydratase activity to improve …	1/3/2017
EP 2,504,422	Methods of increasing dihydroxy acid dehydratase activity to improve …	1/27/2016
US 8,232,089	Cytosolic isobutanol pathway localization for the production of isobutanol	7/31/2012
US 8,455,239	Yeast organism producing isobutanol at a high yield	6/4/2013
CA 2,779,262	Engineered microorganisms capable of converting pyruvate to isobutanol …	9/7/2021
EP 2,346,998	Engineered microorganisms capable of producing target compounds …	1/27/2016
EP 2,235,193	Yeast organism producing isobutanol at a high yield	11/25/2015
ES 2,563,040	Yeast organism that produces isobutanol at high yield	3/10/2016
DK 2,235,193	Yeast organism PRODUCING ISO BUTANOL HIGH YIELD	2/29/2016
CA 2,710,359	Yeast organism producing isobutanol at a high yield	2/20/2018
US 8,017 375	Yeast organism producing isobutanol at a high yield	9/13/2011
ES 2,620,770	Fermentation process that uses yeast cells that have an altered route …	6/29/2017
DK 2,586,313	Fermentation process using yeast cells with interrupted conversion path …	3/27/2017
EP 2,001,992	Yeast cells having disrupted pathway from DHAP to glycerol	7/20/2016
EP 2,586,313	Fermentation process using yeast cells having disrupted pathway …	2/22/2017
US 8,137,953	Lactic acid-producing yeast … L- or D-lactate:ferricytochrome C …	3/20/2012
EP 1,960,516	Lactic acid-producing yeast …l-or d-lactate: ferricytochrome …	12/26/2012

AU 2003-240481	Methods and materials for the production of D-lactic acid in yeast	3/20/2008
DE 60,315,028	METHOD AND MATERIALS FOR THE PRODUCTION OF D-LACTIC ACID IN YEAST	8/30/2007
DE 60,315,028-	METHOD AND MATERIALS FOR THE PRODUCTION OF D-LACTIC ACID IN YEAST	4/10/2008
EP 1,513923	Methods and materials for the production of d-lactic acid in yeast	7/18/2007
AU 2003-240481	Methods and materials for the production of D-lactic acid in yeast	1/10/2008
ES 2,290,466	METHODS … FOR THE PRODUCTION OF D-LACTIC ACID IN YEAST	2/16/2008

ADDITIONAL PATENT FAMILIES IN PROSECUTION

1. US2023/0049887 A1 – Compositions and Methods for Producing Food Products With Recombinant Animal Protein.
2. US2020/0236971 A1-- Compositions and Methods for Producing Recombinant Animal Proteins in Prokaryotic Organisms for Use in Food and Feed

PUBLICATIONS & PRESENTATIONS

Asleson, Catherine M., Eric S. Bensen, Cheryl A. Gale, A.-S. Melms, Cornelia Kurischko, and Judith Berman (2001) “Candida albicans INT1-induced filamentation in Saccharomyces cerevisiae depends on Sla2p.” Molecular and Cellular Biology 21(4): 1272-1284.

Asleson, C.M., J.C. Asleson, E.H. Malandra, S. Johnston, and J. Berman (2000) “Filamentation in S. cerevisiae is regulated by extracellular manganese concentration.” Fungal Genetics and Biology 30(2):155-162.

Asleson, C.M. and P.A. Lefebvre, (1998) "Genetic analysis of flagellar length control in Chlamydomonas reinhardtii: a new LF locus and extragenic suppressor mutations.” Genetics 148:1-10.

Lefebvre, P.A., C.M. Asleson and L.-T. Tamm, "Control of flagellar length in Chlamydomonas." (1995), Seminars in Developmental Biology 6: 317-323.

Grabau, E., Asleson, C., and Gengenbach, B., “Nucleotide sequence and transcription of the soybean mitochondrial ATPase subunit 9 gene.” (1990), Plant Molecular Biology 15: 183-186.

Developing the Next Generation of Biofuels: Isobutanol, June 2010. Sixth International Conference on Renewable Resources and Biorefineries Düsseldorf, Germany

PROFESSIONAL AFFILIATIONS

Registered to practice with the USPTO: Agent No. 76,950

Society of Industrial Microbiology & Biotechnology – Member