Wayne S. Seames
Distinguished Professor of Chemical Engineering, University of North Dakota
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Education and Training

University of Arizona, Chemical Engineering, BSChE 1979 and PhD. ChE 2000

Research and Professional Experience

Distinguished Professor	University of North Dakota	2011-present
Visiting Professor and Fulbright Distinguished Chair Scholar	University of Leeds, UK	2014-2015
Professor	University of North Dakota	2008-2011
Associate Professor	University of North Dakota	2004-2008
Assistant Professor	University of North Dakota	2000-2004
Independent Consultant	Seaway Consulting	1995-2000
Project Manager	Saudi Arabian Oil Company	1992-1995
Engineering Supervisor	Ras Tanura Refinery ARAMCO	1988-1992
Operations/Project Eng	Ras Tanura Refinery ARAMCO	1985-1988
Process Engineer	Aramco Services Co.	1982-1985
Chemical Engineer	Radian Corp.	1979-1982

Areas of Expertise: Sustainable energy technologies including the invention and development of renewable fuel, chemical, and materials processes; the environmental impact and remediation technologies of both organic and inorganic chemicals and coal; research center management; project management, design engineering, technical & commercial feasibility analyses. Current work focused on biomass/lignin-derived carbon fibers, the production of fuels and chemicals from microalgae, and the production of fuel/chemical intermediates from biomass.

Accomplishments:

1. Dr. Seames has been awarded 87 grants valued at $21,680,000 as a faculty member at UND.
2. Named inventor on eight approved patents, five related to renewable fuels and chemicals; over 50 peer-reviewed research publications; one academic textbook.
3. **Awards**: 2018 UND Award for Excellence in Individual Teaching, 2017 Fellow of the American Academy of Inventors, 2014/15 Fulbright Distinguished Chair Scholar, Univ. of Leeds, UK; 2013 UND Faculty Scholar Award (Professor of the year); 2012 UND Award for Interdisciplinary Collaboration in Research; 2007 UND Award for Excellence in Individual Research (University Researcher of the Year); 2006 UND School of Engineering and Mines Professor of the Year (Outstanding teacher); "Award for Excellence at the Student Interface" from the Univ. of Arizona College of Engineering and Mines, 1999 (Outstanding faculty teaching award); 2004-2005 Olson Professor for Excellence in Research and Scholarship, UND SEM.

Key Patents:

1. Inventors: R. Parker and **W. Seames**, Method for Creating High Carbon Content Products from Crop Oils, US Patent # 8,333,949, issued 12/18, 2012.
2. Inventors: **W. Seames** and T. Aulich, Method for Cold Stable Biojet Fuel, US Patent #9206367 B2 issued December 8, 2015.

Recent Publications

1. Sara Pourjafar, Jasmine Kreft, Bilek Honza, Evguenii Kozliak, and Wayne Seames (2018), "Exploring Larger Pore Size Catalysts for the Decomposition of Lignin", submitted to AIMS Energy, 6(6):993-1008. Wayne Seames, Swapnil Fegade, Inna Sakodynskaya, Darrin Muggli, Brian Tande, Alena Kubátová, Evguenii Kozliak (2018), "The Aromatization of Propene Via Nano-Size HZSM-5", American Journal of Applied Chemistry, 6(5):175-188.
2. S. Amsley-Benzie, S. Fegade, B.Tande, A. Kubatova, E. Kozliak, **W. Seames** (2018), "Catalytic 1-Tetradecene Reforming with HZSM-5 to Aromatic Hydrocarbons. " J. Oil Chemists Soc, 95(9):1201-1211.
3. Wayne Seames, Michael Linnen, Blake Sander, Robert Wills, Alena Kubatova (2017), "The Impact of Fatty Acid Composition on Transportation Fuel Yields via the Non-Catalytic Cracking of Triacylglyceride Oils", Journal of the Oil Chemists Society, 94(3):497-503