**SUSAN MACKAY, PH.D.** Email: susan.mackay@maine.edu

**Professional Experience and Education** Serial entrepreneur who has founded two different materials companies. Raised $5.5 million in private investment and secured $2.5 million in federal SBIR grants. Has experience in product development, Quality Manufacturing, research and development, technical marketing and project management.

Education

1990 Ph.D. Chemistry, University of North Carolina- Chapel Hill, NC

1985 B.S. Chemistry, College of William and Mary, Williamsburg, VA

Employment

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| 2020 – present  2011- 2020 | Senior Program Manager II, University of Maine, ASCC  CEO, Cerahelix, Inc., Directing day-to-day operations of ceramic membrane company. Responsibilities include business development activities, business strategy, project management, employee supervision, technical marketing, and fundraising. |
| 2006- 2011 | President and CEO, Zeomatrix, LLC |
| 2004-2005 | Research Scientist, University of Maine, Chemistry Department |
| 2003- 2004  2002  1992-1997 | Instructor, University of Maine, Chemistry Department  Consultant, Stillwater Scientific Instruments  Research Specialist, 3M Corporation |
| 1990-1992 | Associate Staff Scientist, Perkin-Elmer Physical Electronics Division |
| 1990 | Visiting Fellow, Stanford Research Institute |

Patents

1. US 8,431,509 (Issued 4/30/2013) Structure for Molecular Separations, IN Karl Bishop, Susan MacKay, Tyler Kirkmann
2. US 8,100,605 (Issued 1/24/2012) Zeolite Composite Materials for Waste Odor Control, IN Karl Bishop, Michael Bilodeau, Susan MacKay, Douglas Ruthven

Awards and Honors

* Winner, Plug and Play New Materials Batch 2 Accelerator Expo Day 2016
* Best Presenter, CleanTech Track, New York Venture Summit 2015
* SemiFinalist, Northeast CleanTech Open in 2012
* Finalist, MassChallenge Accelerator Competition in 2011
* Honoree, MassHighTech Woman to Watch 2011
* Honoree, MaineBiz Women to Watch, 2010
* Awardee, Maine Women and Technological Entrepreneurship Award, 2010
* Graduate, Maine Center for Enterprise Development “Top Gun” Entrepreneurial Development Program, 2009

Selected Publications

1. “Modern treatment advances trend towards decentralized reuse” Susan MacKay, WorldWater, 42, Issue 5, 20-21 (2019).
2. “Development of a Prototype Alternative Daily Cover”, Karl D. Bishop, Susan G. MacKay, and Michael A. Bilodeau, Proceedings of SWANA’s 12th Annual Landfill Symposium and Planning and Management Conference (2007).
3. "Coordination Chemistry in Thin Polymeric Films of poly-[Fe(vbpy)2(CN)2],poly-vbpy: Binding and Reduction to [Rh(COD)Cl] and PdCl2", M Bakir, B. Patrick Sullivan, Susan G. MacKay, R. W. Linton and Thomas J. Meyer, Chemistry of Materials, 8, 2461-2467 (1996).
4. “Numerical Methods for TOF-SIMS Analysis,” S. MacKay and R. Pranis in Microbeam Analysis- 1995, ed. by E. S. Etz,, John Wiley and Sons, Chichester (1995).
5. “Binding and Reduction of Silver Ions in Thin Polymeric Films of poly- [Fe(vbpy)2(CN)2],poly-vbpy,” M. Bakir, S. G. MacKay, R. W. Linton, B. P. Sullivan and T. J. Meyer, Inorg. Chem., 33, 3945-3951 (1994).
6. “Surface Analysis by Laser Ionization (SALI) Applied to Polymeric Material”, S. M. Daiser and S. G. MacKay, in Structure-Property Relations in Polymers: Spectroscopy and Performance, ed. by M. W. Urban and C. D. Craver, Advances in Chemistry Series, no. 236, pp. 727- 734, American Chemical Society, Washington, DC (1993).
7. “Surface Analysis by Laser Ionization. ”, MacKay, S. G., Becker, C. H., in Encyclopedia of Materials Characterization, Brundle, C., Evans, C. and Wilson, S., Eds., Materials Characterization Series- Surfaces, Interfaces, Thin Films, Vol. 1, pp. 559- 570 Butterworth-Heinemann: Stoneham (1992).

Presentations

“Ceramic filtration at the molecular level”, MacKay, Susan; Future of Manufacturing- Process Intensification and Modularization, Regional RAPID Workshop, Iowa State University, September 10, 2019.