

Jennifer Milne

Director, Advanced Research Projects, Precourt Institute for Energy

Bio

BIO

Jennifer is a scientist with more than a decade's experience in identifying research needs in energy and shaping the energy research landscape at Stanford. Jennifer leads the Advanced Research Projects at the Precourt Institute for Energy, working with the Director of Precourt and other stakeholders to foster energy research to reduce greenhouse gases and enable the energy transition. In 2023, she joined the technology team of the Sustainability Accelerator, as a key team member tasked with identifying solutions with potential for impact across broad sustainability challenges.

Jennifer is a technical resource for energy related and carbon removal projects across the University and an advisor in the bioenergy area - this foundational experience she gained during her time as an energy analyst with the Global Climate and Energy Project. There, from 2007 onwards, she learned about energy supply, conversion, and exergy destruction. Jennifer led the bioenergy area of the portfolio and contributed more broadly to the development of a fundamental energy research portfolio across all energy areas. Prior to joining Global Climate and Energy Project she was a post-doctoral scholar at the Carnegie Institution for Science, Department of Plant Biology, at Stanford University. Jennifer is a biochemist and plant biologist, with extensive expertise in carbohydrate chemistry. Her thesis work included the discovery of a new role for polysaccharides in guard cell wall function. Jennifer earned a Ph.D. in Biology from the University of York, U.K. and a Bachelor of Science in Biochemistry (First Class Honors) from the University of Stirling, U.K.

HONORS AND AWARDS

- Dean's Award for Distinguished and Exemplary Service for Staff, Stanford Doerr School of Sustainability (June 2024)

EDUCATION AND CERTIFICATIONS

- Ph.D., University of York , Biology (2001)
- B.Sc., (First Class Honors), University of Stirling, U.K. , Biochemistry (1997)

Publications

PUBLICATIONS

- **Research priorities for negative emissions** *ENVIRONMENTAL RESEARCH LETTERS*
Fuss, S., Jones, C. D., Kraxner, F., Peters, G. P., Smith, P., Tavoni, M., van Vuuren, D. P., Canadell, J. G., Jackson, R. B., Milne, J., Moreira, J. R., Nakicenovic, N., Sharifi, et al
2016; 11 (11)
- **Simulating the Earth system response to negative emissions** *ENVIRONMENTAL RESEARCH LETTERS*
Jones, C. D., Ciais, P., Davis, S. J., Friedlingstein, P., Gasser, T., Peters, G. P., Rogelj, J., van Vuuren, D. P., Canadell, J. G., Cowie, A., Jackson, R. B., Jonas, M., Kriegler, et al
2016; 11 (9)
- **Biophysical and economic limits to negative CO2 emissions** *NATURE CLIMATE CHANGE*
Smith, P., Davis, S. J., Creutzig, F., Fuss, S., Minx, J., Gabrielle, B., Kato, E., Jackson, R. B., Cowie, A., Kriegler, E., Van Vuuren, D. P., Rogelj, J., Ciais, et al

2016; 6: 42-50

- **Algal Technologies for Biological Capture and Utilization of CO₂ Require Breakthroughs in Basic Research** *Symposium on Perspectives on Biofuels: Potential Benefits and Possible Pitfalls / 239th National Meeting of the American-Chemical-Society*
Milne, J. L., Cameron, J. C., Page, L. E., Benson, S. M., Pakrasi, H. B.
AMER CHEMICAL SOC.2012: 107–141
- **Mutations in UDP-Glucose: Sterol Glucosyltransferase in Arabidopsis Cause Transparent Testa Phenotype and Suberization Defect in Seeds** *PLANT PHYSIOLOGY*
DeBolt, S., Scheible, W., Schrick, K., Auer, M., Beisson, F., Bischoff, V., Bouvier-Nave, P., Carroll, A., Hematy, K., Li, Y., Milne, J., Nair, M., Schaller, et al
2009; 151 (1): 78-87
- **Identification of genes required for cellulose synthesis by regression analysis of public microarray data sets** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Persson, S., Wei, H. R., Milne, J., Page, G. P., Somerville, C. R.
2005; 102 (24): 8633-8638
- **A conserved functional role of pectic polymers in stomatal guard cells from a range of plant species** *PLANTA*
Jones, L., Milne, J. L., Ashford, D., McCann, M. C., McQueen-Mason, S. J.
2005; 221 (2): 255-264
- **Toward a systems approach to understanding plant-cell walls** *SCIENCE*
Somerville, C., Bauer, S., Brininstool, G., Facette, M., Hamann, T., Milne, J., Osborne, E., Paredes, A., Persson, S., Raab, T., Vorwerk, S., Youngs, H.
2004; 306 (5705): 2206-2211
- **Cell wall arabinan is essential for guard cell function** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Jones, L., Milne, J. L., Ashford, D., McQueen-Mason, S. J.
2003; 100 (20): 11783-11788