

## **Analytics for Shared Research Infrastructure: A Decade of Lessons at the University of Pennsylvania Singh Center for Nanotechnology**

**Prof Gerald G. Lopez**

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University of Pennsylvania | Singh Center for Nanotechnology, Philadelphia, USA.

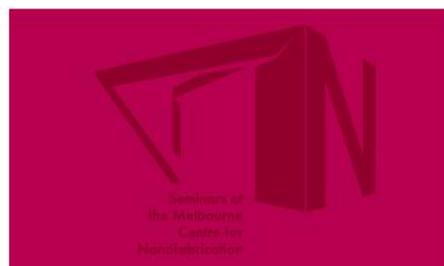
11:00am, 28/01/2026

Melbourne Centre for Nanofabrication

151 Wellington Road, Clayton, 3168

Zoom link: [click here](#)

Meeting ID: 850 6101 0181 and passcode: 080753



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**Abstract:** The Singh Center for Nanotechnology at the University of Pennsylvania (Penn) is a shared, multi-core research facility featuring a 1000 square meter cleanroom and an additional 1000 square meter characterization wing, all of which support advanced nanofabrication, electron microscopy, and scanning probe capabilities in the heart of Philadelphia, Pennsylvania, USA. Since joining the U.S. National Science Foundation (NSF) National Nanotechnology Coordinated Infrastructure (NNCI)—a national network of open-access nanotechnology facilities—the Center has evolved its operating model to align institutional priorities with national research infrastructure objectives, maintaining sustainable, high-quality user access at scale. Now marking a decade of operation, this talk distills practical lessons on governance, rate-setting, and cost recovery, and how user behavior and operational data have guided leadership. We will share our strategies to improve access, tool availability, training outcomes, and long-term facility resilience—highlighting how analytics have helped to accelerate and support nanotechnology research and innovation at Penn.

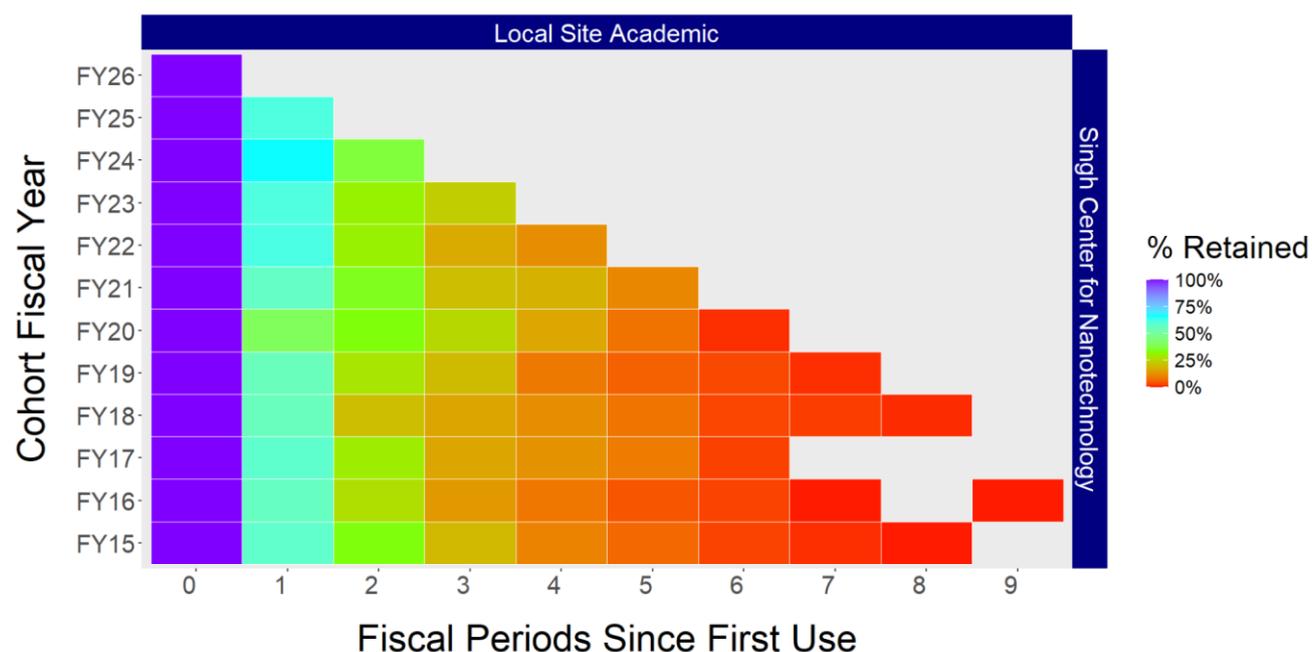


Figure 1. Cohort Analysis of internal users (Local Site Academic) at the Singh Center for Nanotechnology reveals a retention rate pattern.

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**About the speaker:**

Dr. Gerald Lopez is Director of Operations and Business Development and is the inaugural Associate Director of the Singh Center for Nanotechnology at the University of Pennsylvania. He leads the Center's operations and strategy, supporting 100+ tools and 400+ users through sustainable access, governance, and continuous improvement. Externally, Dr. Lopez co-founded MAEBL and is the Operations Trustee for the International Conference on Electron, Ion and Photon Beam Technology and Nanofabrication (EIPBN), where he served as Conference Chair in 2021. His professional experience spans academia and industry in engineering, product development, sales, and consulting. He is passionate about education, mentorship, connectivity, and operational excellence. Dr. Lopez received his Ph.D. and M.S. in Electrical & Computer Engineering from the Georgia Institute of Technology and his B.S. in Computer Engineering cum laude from the University of Maryland, Baltimore County.