

Haim H. Bau

Professor
Mechanical Engineering and Applied Mechanics (MEAM)

[Email](#) | [Research Webpage](#)

Honors and Awards: Fellow of the ASME, Presidential Young Investigator Award - 1984, ASME-Heat Transfer Division Best Paper Award - 1982

Research Expertise: [Computational Mechanics](#) | [Fluid Mechanics](#) | [Mechanics of Materials](#)

Haim's current research interests are in nano- and macro-fluidics, with applications in biology and medicine. His lab has developed means for the directed positioning of individual molecules, and the study of their mechanical and electrical properties. They have also developed methods to transport liquids and particles through nanopipes. They are working on carbon nanopipe-based devices for cell surgery, and are constructing laboratories on chips for disease detection at the point of care.

Member of:

- [Nano/Bio Interface Center \(NBIC\)](#)
- [Institute for Medicine and Engineering \(IME\)](#)

Education:

PhD Mechanical Engineering 1980 - Cornell University
MS Mechanical Engineering 1973 - Technion in Haifa Israel
BS Mechanical Engineering 1969 - Technion in Haifa Israel

Recent Publications 

- [Bubble and pattern formation in liquid induced by an electron beam](#), Grogan, J.M. | Schneider, N.M. | Ross, F.M. | Bau, H.H., Nano Letters, 2014
- [Membrane-based, sedimentation-assisted plasma separator for point-of-care applications](#), Liu, C. | Mauk, M. | Gross, R. | Bushman, F.D. | Edelstein, P.H. | Collman, R.G. | Bau, H.H., Analytical Chemistry, 2013
- [Caenorhabditis-in-drop array for monitoring C. elegans quiescent behavior](#), Belfer, S.J. | Chuang, H.-S. | Freedman, B.L. | Yuan, J. | Norton, M. | Bau, H.H. | Raizen, D.M., Sleep, 2013
- [Orienting actin filaments for directional motility of processive myosin motors](#), Yuan, J. | Pillarisetti, A. | Goldman, Y.E. | Bau, H.H., Nano Letters, 2013
- [A low-cost microfluidic chip for rapid genotyping of malaria-transmitting mosquitoes](#), Liu, C. | Mauk, M.G. | Hart, R. | Bonizzoni, M. | Yan, G. | Bau, H.H., PLoS ONE, 2012

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