John Bravman

Bing Centennial Prof, Freeman-Thornton Chair for Vice Provost for Undergrad Ed, & Dean of Fresh-Soph College, & Prof of Materials Sci & Eng, Emeritus

Materials Science and Engineering

Bio

BIO

https://www.bucknell.edu/meet-bucknell/bucknell-leadership/meet-president-bravman

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Materials Science and Engineering
- Member, Cardiovascular Institute

ADMINISTRATIVE APPOINTMENTS

- President, Bucknell University, (2010- present)

Publications

PUBLICATIONS

- **Stress relaxation in free-standing aluminum beams** *THIN SOLID FILMS*
  Lee, H. J., Zhang, P., Bravman, J. C.
  2005; 476 (1): 118-124
- **White beam analysis of coupling between precipitation and plastic deformation during electromigration in a passivated Al(0.5wt.% Cu) interconnect** *METALLOFIZIKA I NOVEISHIE TEKHNOLOGII*
  Barabash, R. I., Ice, G. E., Tamura, N., Valek, B. C., Bravman, J. C., Patel, J. R.
  2005; 27 (1): 75-94
- **Quantitative characterization of electromigration-induced plastic deformation in Al(0.5wt%Cu) interconnect** *Symposium on Characterization and Mechanical Reliability of Advanced Electronic Materials at Nanoscale*
  Barabash, R. I., Ice, G. E., Tamura, N., Valek, B. C., Bravman, J. C., Spolenak, R., Patel, J. R.
  ELSEVIER SCIENCE BV.2004: 24–30
- **Study on the strength and elongation of free-standing Al beams for microelectromechanical systems applications** *APPLIED PHYSICS LETTERS*
  Lee, H. J., Zhang, P., Bravman, J. C.
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- **Important factors for silane adhesion promoter efficacy: surface coverage, functionality and chain length** *JOURNAL OF ADHESION SCIENCE AND TECHNOLOGY*
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- **Quantitative analysis of dislocation arrangements induced by electromigration in a passivated Al (0.5 wt % Cu) interconnect** *JOURNAL OF APPLIED PHYSICS*
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- **Scanning X-ray microdiffraction with submicrometer white beam for strain/stress and orientation mapping in thin films** *JOURNAL OF SYNCHROTRON RADIATION*

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- **Tensile failure by grain thinning in micromachined aluminum thin films** *JOURNAL OF APPLIED PHYSICS*

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- **Electromigration-induced plastic deformation in passivated metal lines** *APPLIED PHYSICS LETTERS*

  Valek, B. C., Bravman, J. C., Tamura, N., MacDowell, A. A., Celestre, R. S., Padmore, H. A., Spolenak, R., Brown, W. L., Batterman, B. W., Patel, J. R.

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- **Effect of interface conditions on yield behavior of passivated copper thin films** *JOURNAL OF MATERIALS RESEARCH*

  Vinci, R. P., Forrest, S. A., Bravman, J. C.

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- **Subcritical debonding of polymer/silica interfaces under monotonic and cyclic loading** *Symposium on Computational Thermodynamics and Materials Design*

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  Pantelidis, D., Lee, H. J., Bravman, J. C.
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- **Stress-induced and electromigration voiding in nitride passivated Al interconnects** *5th International Workshop on Stress Induced Phenomena in Metallization*
  Lee, S. H., Lee, S., Bravman, J. C., Flinn, P. A., Marieb, T. N.
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- **Growth of single crystal YIG fibers by the laser heated pedestal growth method** *Symposium B on Phase Transformations and Systems Driven Far From Equilibrium at the Materials-Research-Society Fall Meeting*
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  Cornella, G., Lee, S., Kraft, O., Nix, W. D., Bravman, J. C.
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- **High voltage scanning electron microscopy for in-situ electromigration studies** *14th International Congress on Electron Microscopy*
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- **Comparisons of constraint effects on Al lines under various passivations** *4th International Workshop on Stress Induced Phenomena in Metallization*

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- **Finite element modeling of grain aspect ratio and strain energy density in a textured copper thin film** *Symposium on Thin Films - Stresses and Mechanical Properties VI, at the 1996 MRS Spring Meeting*
  Vinci, R. P., Bravman, J. C.
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- **Comparison of stresses in Al lines under various passivations** *Symposium on Materials Reliability in Microelectronics, at the 1997 MRS Spring Meeting*
  Lee, S., Bravman, J. C., Flinn, P. A., Marieb, T. N.
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- **Observation of electromigration voiding in Cu lines** *Symposium on Materials Reliability in Microelectronics, at the 1997 MRS Spring Meeting*
  Lee, S. H., Bravman, J. C., Flinn, P. A., Arnaud, L.
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  ZIELINSKI, E. M., Vinci, R. P., Bravman, J. C.
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