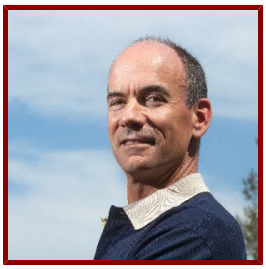
Stanford



Reinhold Dauskardt

Ruth G. and William K. Bowes Professor in the School of Engineering

Materials Science and Engineering

CONTACT INFORMATION

- **Administrator**

  Elizabeth Barbosa

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Bio

BIO

Dauskardt and his group have worked extensively on integrating new materials into emerging technologies including thin-film structures for nanoscience and energy technologies, high-performance composite and laminates for aerospace, and on biomaterials and soft tissues in bioengineering. His group has pioneered methods for characterizing adhesion and cohesion of thin films used extensively in device technologies. His research on wound healing has concentrated on establishing a biomechanics framework to quantify the mechanical stresses and biologic responses in healing wounds and define how the mechanical environment affects scar formation. Experimental studies are complimented with a range of multiscale computational capabilities. His research includes interaction with researchers nationally and internationally in academia, industry, and clinical practice.

ACADEMIC APPOINTMENTS

- Professor, Materials Science and Engineering
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Wu Tsai Human Performance Alliance
- Affiliate, Precourt Institute for Energy
- Affiliate, Stanford Woods Institute for the Environment
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Visiting Professor, Nanyang Technological Universit (2016)
- Ruth G. and William K. Bowes Professor, Stanford University (2013)
- Henry Maso Award, The International Federation of Societies of Cosmetic Chemists (2011)
- Shared University Research Award, IBM (2011)
- Elected Fellow, ASM International (2010)
- Structural Materials Distinguished Scientist/Engineer Award, The Metallurgical Society (2010)

- University Researcher Award, Semiconductor Industry Association (2010)
- Elected Fellow, American Ceramics Society (2008)
- Multilevel Interconnection (VMIC) International Conference Award, VLSI/ULSI (2008)
- Thin Film User Group Special Award, American Vacuum Society (2008)
- Distinguished Speaker, Department of Materials Science and Engineering, Penn State (2006)
- Faculty Award, IBM (2006)
- International Silver Medal, ASM (2003)
- Alexander von Humboldt Research Award, Alexander von Humboldt Foundation (2002)
- Dana Adams Griffin Award, Stanford University (1994)
- Outstanding Scientific Accomplishment Award in Ceramics and Metallurgy, U.S. Department of Energy (1989)

PROGRAM AFFILIATIONS

- Stanford SystemX Alliance

PROFESSIONAL EDUCATION

- PhD, UC Berkeley/Witwatersrand (1988)

LINKS

- http://dauskardt.stanford.edu/: http://dauskardt.stanford.edu/

Teaching

COURSES

2026-27

- Mechanical Properties of Materials: MATSCI 198, MATSCI 208 (Spr)
- Microstructure and Mechanical Properties: MATSCI 151, MATSCI 251 (Aut)

2025-26

- Fracture and Fatigue of Materials and Thin Film Structures: MATSCI 358, ME 258 (Win)
- Mechanical Properties of Materials: MATSCI 198, MATSCI 208 (Spr)
- Microstructure and Mechanical Properties: MATSCI 151, MATSCI 251 (Aut)

2024-25

- Mechanical Properties of Materials: MATSCI 198, MATSCI 208 (Spr)
- Microstructure and Mechanical Properties: MATSCI 151, MATSCI 251 (Win)

2023-24

- Fracture and Fatigue of Materials and Thin Film Structures: MATSCI 358, ME 258 (Win)
- Mechanical Properties of Materials: MATSCI 198, MATSCI 208 (Spr)
- Microstructure and Mechanical Properties: MATSCI 151, MATSCI 251 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Tony Li, Tharun Reddy, Christian Williams

Postdoctoral Faculty Sponsor

Austin Flick

Doctoral Dissertation Advisor (AC)

Sarah Bindon, William Cai, Ashley David, Shayna Grossman, Rachele Pia Russo, Vivian Worthington, Hee Won Youn, Jaeyoung Yun

Doctoral Dissertation Co-Advisor (AC)

Adam Barsotti, Kyrstyn Ong, Yifan Wei

Publications

PUBLICATIONS

- **In situ insights from non-equilibrium solution combustion synthesis: From semiconducting thin films to metallic nanostructures** *CHEM*
  Colburn, T. W., Carbone, A., Just, J., Bindon, S., Wainer, R., Miller, R. D., Dauskardt, R. H.
  2026; 12 (8)
- **Molecular Mechanismsof Stress Development in PolysaccharideFilms: Insights for Biopolymer Design in Cosmetic Applications** *ACS APPLIED POLYMER MATERIALS*
  Hendrickx-Rodriguez, S., Baynham, C., Yao, F., Liu, K., Vanegas, J., Mehling, A., Schunicht, C., Flormann, D., Dierker, M., Albers, T., Dauskardt, R. H.
  2026
- **Sex-Specific Differences in Stratum Corneum Structure and Function Inform Personalized Cosmetic Treatments**
  David, A., Luengo, G. S., Potter, A., Russo, R., Dauskardt, R.
  MOSBY-ELSEVIER.2026: AB403
- **Structural Analysis of Stratum Corneum Organization Across Skin Pigmentation: Implications for Atopic Dermatitis Susceptibility**
  Russo, R., David, A., Stephens, A., Dauskardt, R. H.
  MOSBY-ELSEVIER.2026: AB415
- **Beyond the Clean: How Mild Surfactants Outshine Harsh Cleansers in Skin Barrier Protection for Acne Skin**
  Dauskardt, R., David, A., Russo, R., Rayee, C., Singh, A., Fang, C., Baalbaki, N., Luengo, G. S., Potter, A.
  MOSBY-ELSEVIER.2026: AB75
- **Rapid solution combustion synthesis of ordered mesoporous oxide films with tunable architectures: formation dynamics revealed by in situ GISAXS** *JOURNAL OF MATERIALS CHEMISTRY A*
  Colburn, T. W., Bindon, S., Youn, H., Liu, K., Carbone, A., Miller, R. D., Dauskardt, R. H.
  2026
- **Challenging conventional assumptions in PV: a high-throughput open-air approach to low-cost perovskite module production** *ENERGY & ENVIRONMENTAL SCIENCE*
  Flick, A. C., Dauskardt, R. H.
  2026
- **High-Throughput Surface Modification of Ordered Mesoporous Alumina Enables Structural Stabilization and Selective Chemical Control.** *Nanomaterials (Basel, Switzerland)*
  Bindon, S., Colburn, T. W., Dauskardt, R. H.
  2026; 16 (4)
- **Rapid scalable plasma processing of thin-film Li-La-Zr-O solid-state electrolytes** *MATTER*
  Crane, G., Colburn, T. W., Holmes, S. E., Just, J., Cui, Y., Dauskardt, R. H.
  2025; 8 (11)
- **How to flatten and microbuckle a rough surface with polymer films: biomechanical mechanisms underlying skin anti-wrinkle formulations.** *Soft matter*
  Hendrickx-Rodriguez, S., Dauskardt, R. H.
  2025

- **Advancing Cross-Sectional Scanning Electron Microscopy of Perovskite Solar Cells.** *Microscopy and microanalysis : the official journal of Microscopy Society of America, Microbeam Analysis Society, Microscopical Society of Canada*
  Carbone, A., Sinclair, R., Dauskardt, R. H.
  2025; 31 (4)
- **Kinetically Controlled Mesoporous Silica Films for Quasi-3D Nanoconfinement of Semicrystalline Polymers below Their Lamellae Dimensions.** *ACS nano*
  Verschraegen, S., Collinson, D. W., Hesse, S. A., Takacs, C. J., De Buysser, K., D'hooge, D. R., De Clerck, K., Dauskardt, R. H.
  2025
- **Open-Air Combustion Synthesis with Rapid Plasma Processing of Large-Area Transparent Conducting Oxides.** *Small (Weinheim an der Bergstrasse, Germany)*
  Colburn, T. W., Flick, A. C., Just, J., Miller, R. D., Dauskardt, R. H.
  2025: e2503252
- **Porogen-Integrated Rapid Oxidation Enables Structured Mesoporous Metal Oxide Films.** *Advanced materials (Deerfield Beach, Fla.)*
  Collinson, D. W., Colburn, T. W., Miller, R. D., Dauskardt, R. H.
  2025: e2504719
- **Comment on "Mitigating Delamination in Perovskite/Silicon Tandem Solar Modules"** *SOLAR RRL*
  Li, M., Dauskardt, R. H., Printz, A. D., Rolston, N.
  2025
- **Open-air spray deposition of PCBM/BCP electron transport layer for inverted perovskite solar cells** *MATTER*
  Chen, J. P., Colburn, T. W., Risner-Jamtgaard, J., Vailionis, A., Barnum, A., Golding, M., Carbone, A., Flick, A. C., Dauskardt, R. H.
  2025; 8 (3)
- **Accelerating Low-Cost Perovskite Module Manufacturing with High Throughput Open-Air Techniques**
  Flick, A. C., Colburn, T. W., Carbone, A., Barrera, F., Cai, W., Dauskardt, R. H., IEEE
  IEEE.2025: 1359-1361
- **Advancing Steady-State and Sequenced Accelerated Aging for Assessing the Adhesion Degradation of Contemporary Encapsulants**
  Liu, K., Miller, D. C., Bosco, N., Newkirk, J. M., Dauskardt, R. H., IEEE
  IEEE.2025: 738-743
- **Investigating the Crosslinking, Degradation, and Adhesion Behavior of Photovoltaic Encapsulants Under Thermal Accelerated Aging** *IEEE JOURNAL OF PHOTOVOLTAICS*
  Liu, K., Miller, D. C., Bosco, N., Newkirk, J. M., Sakamoto, T., Dauskardt, R. H.
  2024
- **Mechanical Design Guidelines to Inhibit Fracture in Perovskite Solar Cells** *SOLAR RRL*
  Colburn, T., Liu, K., Carbone, A., Elsafty, O., Dauskardt, R.
  2024
- **Toughening Self-Healing Elastomers with Chain Mobility.** *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*
  Tan, M. W., Thornton, P. M., Thangavel, G., Bark, H., Dauskardt, R., Lee, P. S.
  2024: e2308154
- **Insights and mechanics-driven modeling of human cutaneous impact injuries.** *Journal of the mechanical behavior of biomedical materials*
  Elsafty, O., Berkey, C. A., Dauskardt, R. H.
  2024; 153: 106456
- **Indirect Liftoff Mechanism for High-Throughput, Single-Source Laser Scribing for Perovskite Solar Modules** *ADVANCED ENERGY MATERIALS*
  Flick, A. C., Rolston, N., Dauskardt, R. H.
  2024
- **Determining the Crosslinking and Degradation Reaction Kinetics in Photovoltaic Encapsulants Using Accelerated Aging**
  Liu, K., Miller, D. C., Bosco, N., Dauskardt, R. H., IEEE
  IEEE.2024: 0909-0914

- **Predicting encapsulant delamination in photovoltaic modules bridging photochemical reaction kinetics and fracture mechanics** *PROGRESS IN PHOTOVOLTAICS*
  Liu, K., Thornton, P., D'hooge, D. R., Dauskardt, R. H.
  2023
- **Water vapor transmission rate measurement for moisture barriers using infrared imaging** *MATERIALS CHEMISTRY AND PHYSICS*
  Pan, Z., Bora, M., Gee, R., Dauskardt, R. H.
  2023; 308
- **Carbon dioxide foam bubbles enhance skin penetration through the stratum corneum layer with mechanical mechanism.** *Colloids and surfaces. B, Biointerfaces*
  Berkey, C. A., Styke, C., Yoshitake, H., Sonoki, Y., Uchiyama, M., Dauskardt, R. H.
  2023; 231: 113538
- **Sensory neuron activation from topical treatments modulates the sensorial perception of human skin.** *PNAS nexus*
  Bennett-Kennett, R., Pace, J., Lynch, B., Domanov, Y., Luengo, G. S., Potter, A., Dauskardt, R. H.
  2023; 2 (9): pgad292
- **Environment assisted cyclic fatigue crack growth testing of polymer/ inorganic laminates under strain energy release rate control** *INTERNATIONAL JOURNAL OF FATIGUE*
  Riedl, G., Wallner, G. M., Pugstaller, R., Dauskardt, R. H.
  2023; 173
- **An open-source environmental chamber for materials-stability testing using an optical proxy** *DIGITAL DISCOVERY*
  Keesey, R., Tiihonen, A., Siemenn, A. E., Colburn, T. W., Sun, S., Hartono, N., Serdy, J., Zeile, M., He, K., Gurtner, C. A., Flick, A. C., Batali, C., Encinas, et al
  2023; 2 (2): 422-440
- **Linking Interfacial Bonding and Thermal Conductivity in Molecularly-Confined Polymer-Glass Nanocomposites with Ultra-High Interfacial Density.** *Small (Weinheim an der Bergstrasse, Germany)*
  Wang, Y., Collinson, D. W., Kwon, H., Miller, R. D., Lionti, K., Goodson, K. E., Dauskardt, R. H.
  2023: e2301383
- **Technology Roadmap for Flexible Sensors.** *ACS nano*
  Luo, Y., Abidian, M. R., Ahn, J. H., Akinwande, D., Andrews, A. M., Antonietti, M., Bao, Z., Berggren, M., Berkey, C. A., Bettinger, C. J., Chen, J., Chen, P., Cheng, et al
  2023
- **Methodology for local ageing and damage development characterization of solar glass/encapsulant interfaces under superimposed fatigue stresses and environmental influences** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Riedl, G., Wallner, G. M., Pugstaller, R., Saeckl, G., Dauskardt, R. H.
  2022; 248
- **Gas cluster etching for the universal preparation of polymer composites for nano chemical and mechanical analysis with AFM** *APPLIED SURFACE SCIENCE*
  Collinson, D. W., Nepal, D., Zwick, J., Dauskardt, R. H.
  2022; 599
- **Dependence of adhesion on degradation mechanisms of ethylene co-vinyl acetate encapsulants over the lifetime of photovoltaic modules** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Thornton, P., Moffitt, S. L., Schelhas, L. T., Dauskardt, R. H.
  2022; 244
- **The Natural and Accelerated Evolution of EVA Adhesion Through Intermediate Exposures** *IEEE JOURNAL OF PHOTOVOLTAICS*
  Thornton, P., Bosco, N., Dauskardt, R. H.
  2022
- **From decoding the perception of tightness to a clinical proof of soothing effects derived from natural ingredients in a moisturizer.** *International journal of cosmetic science*
  Hendrickx-Rodriguez, S., Connetable, S., Lynch, B., Pace, J., Bennett-Kennett, R., Luengo, G. S., Dauskardt, R., Potter, A.
  2022

- **Polyimide Hybrid Nanocomposites with Controlled Polymer Filling and Polymer-Matrix Interaction.** *ACS applied materials & interfaces*
  Wang, C., Kilic, K. I., Koerner, H., Baur, J. W., Varshney, V., Lionti, K., Dauskardt, R. H.
  2022
- **Insights into the Mechanical Properties of Ultrathin Perfluoropolyether-Silane Coatings.** *Langmuir : the ACS journal of surfaces and colloids*
  Zhao, O., Collinson, D. W., Ohshita, S., Naito, M., Nakano, N., Tortissier, G., Nomura, T., Dauskardt, R. H.
  2022
- **Machine learning with knowledge constraints for process optimization of open-air perovskite solar cell manufacturing** *JOULE*
  Liu, Z., Rolston, N., Flick, A. C., Colburn, T. W., Ren, Z., Dauskardt, R. H., Buonassisi, T.
  2022; 6 (4): 834-849
- **Topological supramolecular network enabled high-conductivity, stretchable organic bioelectronics.** *Science (New York, N.Y.)*
  Jiang, Y., Zhang, Z., Wang, Y. X., Li, D., Coen, C. T., Hwaun, E., Chen, G., Wu, H. C., Zhong, D., Niu, S., Wang, W., Saberi, A., Lai, et al
  2022; 375 (6587): 1411-1417
- **High-brightness all-polymer stretchable LED with charge-trapping dilution.** *Nature*
  Zhang, Z., Wang, W., Jiang, Y., Wang, Y., Wu, Y., Lai, J., Niu, S., Xu, C., Shih, C., Wang, C., Yan, H., Galuska, L., Prine, et al
  2022; 603 (7902): 624-630
- **Biomechanical Analysis of the Ross Procedure in an Ex Vivo Left Heart Simulator.** *World journal for pediatric & congenital heart surgery*
  Bryan, A. Y., Brandon Strong, E., Kidambi, S., Gilligan-Steinberg, S., Bennett-Kennett, R., Lee, J. Y., Imbrie-Moore, A., Moye, S. C., Hendrickx-Rodriguez, S., Wang, H., Dauskardt, R. H., Joseph Woo, Y., Ma, et al
  2022; 13 (2): 166-174
- **Ectoine disperses keratin and alters hydration kinetics in stratum corneum.** *Biochemistry and biophysics reports*
  Bow, J. R., Sonoki, Y., Uchiyama, M., Dauskardt, R. H.
  2021; 28: 101134
- **Robust, High-Performing Maize-Perovskite-Based Solar Cells with Improved Stability.** *ACS applied energy materials*
  Giuri, A., Rolston, N., Colella, S., Listorti, A., Esposito Corcione, C., Elmaraghi, H., Lauciello, S., Dauskardt, R. H., Rizzo, A.
  2021; 4 (10): 11194-11203
- **Robust, High-Performing Maize-Perovskite-Based Solar Cells with Improved Stability** *ACS APPLIED ENERGY MATERIALS*
  Giuri, A., Rolston, N., Colella, S., Listorti, A., Corcione, C., Elmaraghi, H., Lauciello, S., Dauskardt, R. H., Rizzo, A.
  2021; 4 (10): 11194-11203
- **Low-temperature sprayed SnOx nanocomposite films with enhanced hole blocking for efficient large area perovskite solar cells** *JOURNAL OF MATERIALS CHEMISTRY A*
  Zhang, J., Ding, Y., Jiang, G., Flick, A. C., Pan, Z., Scheideler, W. J., Zhao, O., Chen, J. P., Yang, L., Rolston, N., Dauskardt, R. H.
  2021
- **Low temperature open-air plasma deposition of amorphous tin oxide for perovskite solar cells** *THIN SOLID FILMS*
  Zhao, O., Ding, Y., Cheng, D., Zhang, J., Hilt, F., Rolston, N., Jiang, G., Dauskardt, R. H.
  2021; 730
- **Predicting hydration and moisturizer ingredient effects on mechanical behavior of human stratum corneum** *EXTREME MECHANICS LETTERS*
  Berkey, C., Biniek, K., Dauskardt, R. H.
  2021; 46
- **Computational prediction of the molecular configuration of three-dimensional network polymers.** *Nature materials*
  De Keer, L., Kilic, K. I., Van Steenberge, P. H., Daelemans, L., Kodura, D., Frisch, H., De Clerck, K., Reyniers, M., Barner-Kowollik, C., Dauskardt, R. H., D'hooge, D. R.
  2021
- **Perspectives of Open-Air Processing to Enable Perovskite Solar Cell Manufacturing** *FRONTIERS IN ENERGY RESEARCH*
  Rolston, N., Sleugh, A., Chen, J. P., Zhao, O., Colburn, T. W., Flick, A. C., Dauskardt, R. H.
  2021; 9

- **Comprehensive characterization of the structure and properties of human stratum corneum relating to barrier function and skin hydration: modulation by a moisturizer formulation.** *Experimental dermatology*
  Galliano, M., Tfayli, A., Dauskardt, R. H., Payre, B., Carrasco, C., Bessou-Touya, S., Baillet-Guffroy, A., Duplan, H.
  2021
- **Proceed with Caution: Mouse Deep Digit Flexor Tendon Injury Model.** *Plastic and reconstructive surgery. Global open*
  Titan, A. L., Fahy, E. n., Chen, K. n., Foster, D. S., Bennett-Kennett, R. n., Dauskardt, R. H., Gurtner, G. C., Chang, J. n., Fox, P. M., Longaker, M. T.
  2021; 9 (1): e3359
- **Durability of Polyolefin Encapsulation in Photovoltaic Modules with SmartWire Technology**
  Thornton, P., Tracy, J., Roraff, P., Choudhury, K., Dauskardt, R. H., IEEE
  IEEE.2021: 1170-1172
- **Rapid Open-Air Processing of Low-Cost Perovskite Solar Modules**
  Rolston, N., Scheideler, W. J., Flick, A., Chen, J. P., Elmaraghi, H., Sleugh, A., Zhao, O., Woodhouse, M., Dauskardt, R. H., IEEE
  IEEE.2021: 88-91
- **Rapid Open-Air Fabrication of Perovskite Solar Modules** *JOULE*
  Rolston, N., Scheideler, W. J., Flick, A. C., Chen, J. P., Elmaraghi, H., Sleugh, A., Zhao, O., Woodhouse, M., Dauskardt, R. H.
  2020; 4 (12): 2675–92
- **Scalable open-air deposition of compact ETL TiOx on perovskite for fullerene-free solar cells** *JOURNAL OF MATERIALS CHEMISTRY A*
  Chen, J. P., Hilt, F., Rolston, N., Dauskardt, R. H.
  2020; 8 (43): 22858–66
- **Mechanically reliable hybrid organosilicate glasses for advanced interconnects** *JOURNAL OF VACUUM SCIENCE & TECHNOLOGY B*
  Kilic, K., Dauskardt, R. H.
  2020; 38 (6)
- **Lipid Loss Increases Stratum Corneum Stress and Drying Rates.** *Skin pharmacology and physiology*
  Bow, J. R., Sonoki, Y., Uchiyama, M., Shimizu, E., Tanaka, K., Dauskardt, R. H.
  2020: 1–9
- **Self-aligned concentrating immersion-lens arrays for patterning and efficiency recovery in scaffold-reinforced perovskite solar cells** *APPLIED MATERIALS TODAY*
  Printz, A. D., Zhao, O., Hamann, S., Rolston, N., Solgaard, O., Dauskardt, R. H.
  2020; 20
- **Fully stretchable active-matrix organic light-emitting electrochemical cell array.** *Nature communications*
  Liu, J., Wang, J., Zhang, Z., Molina-Lopez, F., Wang, G. N., Schroeder, B. C., Yan, X., Zeng, Y., Zhao, O., Tran, H., Lei, T., Lu, Y., Wang, et al
  2020; 11 (1): 3362
- **Effect of Emulsifiers on Drying Stress and Intercellular Cohesion in Human Stratum Corneum.** *International journal of cosmetic science*
  Ansari, F., McGuiness, C., Zhang, B., Dauskardt, R. H.
  2020
- **Perspectives on intrinsic toughening strategies and passivation of perovskite films with organic additives** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Gutwald, M., Rolston, N., Printz, A. D., Zhao, O., Elmaraghi, H., Ding, Y., Zhang, J., Dauskardt, R. H.
  2020; 209
- **Durability of ionomer encapsulants in photovoltaic modules** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Tracy, J., Bosco, N., Delgado, C., Dauskardt, R.
  2020; 208
- **Multiaxial Lenticular Stress-Strain Relationship of Native Myocardium is Preserved by Infarct-Induced Natural Heart Regeneration in Neonatal Mice.** *Scientific reports*
  Wang, H., Bennett-Kennett, R., Paulsen, M. J., Hironaka, C. E., Thakore, A. D., Farry, J. M., Eskandari, A., Lucian, H. J., Shin, H. S., Wu, M. A., Imbrie-Moore, A. M., Steele, A. N., Stapleton, et al
  2020; 10 (1): 7319

- **Comment on "Light-induced lattice expansion leads to high-efficiency perovskite solar cells".** *Science (New York, N.Y.)*
  Rolston, N., Bennett-Kennett, R., Schelhas, L. T., Luther, J. M., Christians, J. A., Berry, J. J., Dauskardt, R. H.
  2020; 368 (6488)
- **Thermal-Disrupting Interface Mitigates Intercellular Cohesion Loss for Accurate Topical Antibacterial Therapy.** *Advanced materials (Deerfield Beach, Fla.)*
  Hu, B., Berkey, C., Feliciano, T., Chen, X., Li, Z., Chen, C., Amini, S., Nai, M. H., Lei, Q., Ni, R., Wang, J., Leow, W. R., Pan, et al
  2020: e1907030
- **Crystallization kinetics of rapid spray plasma processed multiple cation perovskites in open air** *JOURNAL OF MATERIALS CHEMISTRY A*
  Hovish, M. Q., Rolston, N., Bruning, K., Hilt, F., Tassone, C., Dauskardt, R. H.
  2020; 8 (1): 169–76
- **Open-Air Plasma-Deposited Multilayer Thin-Film Moisture Barriers.** *ACS applied materials & interfaces*
  Zhao, O. n., Ding, Y. n., Pan, Z. n., Rolston, N. n., Zhang, J. n., Dauskardt, R. H.
  2020
- **Open-Air Plasma-Deposited Multilayer Thin Film Moisture Barriers for Perovskite Solar Cells**
  Zhao, O., Ding, Y., Pan, Z., Rolston, N., Zhang, J., Dauskardt, R. H., IEEE
  IEEE.2020: 2430-2432
- **Emollient Structure and Chemical Functionality Effects on the Biomechanical Function of Human Stratum Corneum.** *International journal of cosmetic science*
  Berkey, C. n., Kanno, D. n., Mehling, A. n., Koch, J. P., Eisfeld, W. n., Dierker, M. n., Bhattacharya, S. n., Dauskardt, R. H.
  2020
- **An Intrinsically Stretchable High-Performance Polymer Semiconductor with Low Crystallinity** *ADVANCED FUNCTIONAL MATERIALS*
  Zheng, Y., Wang, G., Kang, J., Nikolka, M., Wu, H., Tran, H., Zhang, S., Yan, H., Chen, H., Yuen, P., Mun, J., Dauskardt, R. H., McCulloch, et al
  2019
- **Role of sunscreen formulation and photostability to protect the biomechanical barrier function of skin.** *Biochemistry and biophysics reports*
  Berkey, C., Oguchi, N., Miyazawa, K., Dauskardt, R.
  2019; 19: 100657
- **High-performance hybrids at the extreme limits of molecular-scale confinement**
  Dauskardt, R.
  AMER CHEMICAL SOC.2019
- **Design of Ultrastiff Organosilicate Hybrid Glasses** *ADVANCED FUNCTIONAL MATERIALS*
  Kilic, K., Dauskardt, R. H.
  2019
- **Neonatal Heart Regeneration Preserves Native Ventricular Biomechanical Properties After Myocardial Infarction**
  Wang, H., Bennett-Kennett, R., Paulsen, M. J., Hironaka, C. E., Thakore, A. D., Farry, J. M., Eskandari, A., Lucian, H. J., Wu, M. A., Imbrie-Moore, A., Steele, A. N., Stapleton, L. M., Dauskardt, et al
  LIPPINCOTT WILLIAMS & WILKINS.2019
- **Surface Chemical Functionalization to Achieve Extreme Levels of Molecular Confinement in Hybrid Nanocomposites** *ADVANCED FUNCTIONAL MATERIALS*
  Wang, C., Isaacson, S. C., Wang, Y., Lionti, K., Volksen, W., Magbitang, T. P., Chowdhury, M., Priestley, R. D., Dubois, G., Dauskardt, R. H.
  2019; 29 (33)
- **Tearing and reliability of photovoltaic module backsheets** *PROGRESS IN PHOTOVOLTAICS*
  Yuen, P., Moffitt, S. L., Novoa, F. D., Schelhas, L. T., Dauskardt, R. H.
  2019; 27 (8): 693–705
- **Hole-Transport Layer Molecular Weight and Doping Effects on Perovskite Solar Cell Efficiency and Mechanical Behavior** *ACS APPLIED MATERIALS & INTERFACES*
  Lee, I., Rolston, N., Brunner, P., Dauskardt, R. H.
  2019; 11 (26): 23757–64

- **Open Air Plasma Deposition of Superhydrophilic Titania Coatings** *ADVANCED FUNCTIONAL MATERIALS*
  Hovish, M. Q., Hilt, F., Rolston, N., Xiao, I., Dauskardt, R. H.
  2019; 29 (19)
- **Rapid Aqueous Spray Fabrication of Robust NiOx: A Simple and Scalable Platform for Efficient Perovskite Solar Cells** *ADVANCED ENERGY MATERIALS*
  Scheideler, W. J., Rolston, N., Zhao, O., Zhang, J., Dauskardt, R. H.
  2019; 9 (19)
- **Molecular design and engineering of hybrids at the extreme limits of molecular-scale confinement**
  Dauskardt, R.
  AMER CHEMICAL SOC.2019
- **Environmental Influence on Module Delamination Rate** *IEEE JOURNAL OF PHOTOVOLTAICS*
  Bosco, N., Tracy, J., Dauskardt, R.
  2019; 9 (2): 469–75
- **Framework for predicting the photodegradation of adhesion of silicone encapsulants** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Cai, C., Miller, D. C., Tappan, I. A., Dauskardt, R. H.
  2019; 191: 486–92
- **High Performance Roll-to-Roll Produced Fullerene-Free Organic Photovoltaic Devices via Temperature-Controlled Slot Die Coating** *ADVANCED FUNCTIONAL MATERIALS*
  Na, S., Seo, Y., Nah, Y., Kim, S., Heo, H., Kim, J., Rolston, N., Dauskardt, R. H., Gao, M., Lee, Y., Vak, D.
  2019; 29 (6)
- **Understanding PV Polymer Backsheet Degradation through X-ray Scattering**
  Moffitt, S. L., Yuen, P., Owen-Bellini, M., Miller, D. C., Jenket, D. R., Maes, A. M., Hartley, J. Y., Sinha, A., Karin, T., Hacke, P., Dauskardt, R. H., Schelhas, L. T., IEEE
  IEEE.2019: 2394–97
- **Evaluating and predicting molecular mechanisms of adhesive degradation during field and accelerated aging of photovoltaic modules** *PROGRESS IN PHOTOVOLTAICS*
  Tracy, J., D'hooge, D. R., Bosco, N., Delgado, C., Dauskardt, R.
  2018; 26 (12): 981–93
- **High-Throughput Open-Air Plasma Activation of Metal-Oxide Thin Films with Low Thermal Budget** *ACS APPLIED MATERIALS & INTERFACES*
  Tak, Y., Hilt, F., Keene, S., Kim, W., Dauskardt, R. H., Salleo, A., Kim, H.
  2018; 10 (43): 37223–32
- **The Role of Catalyst Adhesion in ALD-TiO2 Protection of Water Splitting Silicon Anodes.** *ACS applied materials & interfaces*
  Tang-Kong, R., Winter, R., Brock, R., Tracy, J., Eizenberg, M., Dauskardt, R. H., McIntyre, P. C.
  2018
- **Engineering Stress in Perovskite Solar Cells to Improve Stability** *ADVANCED ENERGY MATERIALS*
  Rolston, N., Bush, K. A., Printz, A. D., Gold-Parker, A., Ding, Y., Toney, M. F., McGehee, M. D., Dauskardt, R. H.
  2018; 8 (29)
- **A novel micro-double cantilever beam (micro-DCB) test in an X-ray microscope to study crack propagation in materials and structures** *MATERIALS TODAY COMMUNICATIONS*
  Kutukova, K., Niese, S., Gelb, J., Dauskardt, R., Zschech, E.
  2018; 16: 293–99
- **Opportunities and challenges for reliable flexible and stretchable polymer devices**
  Dauskardt, R.
  AMER CHEMICAL SOC.2018
- **Open-air spray plasma deposited UV-absorbing nanocomposite coatings** *NANOSCALE*
  Ding, Y., Dong, S., Hilt, F., Dauskardt, R. H.

2018; 10 (30): 14525–33

- **Using Unentangled Oligomers To Toughen Materials.** *ACS applied materials & interfaces*
  Isaacson, S. G., Matsuda, Y., Lionti, K., Frot, T., Volksen, W., Dauskardt, R. H., Dubois, G.
  2018
- **A Silica-Aerogel-Reinforced Composite Polymer Electrolyte with High Ionic Conductivity and High Modulus** *ADVANCED MATERIALS*
  Lin, D., Yuen, P., Liu, Y., Liu, W., Liu, N., Dauskardt, R. H., Cui, Y.
  2018; 30 (32)
- **Rapid route to efficient, scalable, and robust perovskite photovoltaics in air** *ENERGY & ENVIRONMENTAL SCIENCE*
  Hilt, F., Hovish, M. Q., Rolston, N., Bruening, K., Tassone, C. J., Dauskardt, R. H.
  2018; 11 (8): 2102–13
- **Influence of Bulky Organo-Ammonium Halide Additive Choice on the Flexibility and Efficiency of Perovskite Light-Emitting Devices** *ADVANCED FUNCTIONAL MATERIALS*
  Zhao, L., Rolston, N., Lee, K., Zhao, X., Reyes-Martinez, M. A., Tran, N. L., Yeh, Y., Yao, N., Scholes, G. D., Loo, Y., Selloni, A., Dauskardt, R. H., Rand, et al
  2018; 28 (31)
- **Open-air spray plasma deposited UV-absorbing nanocomposite coatings.** *Nanoscale*
  Ding, Y., Dong, S., Hilt, F., Dauskardt, R. H.
  2018
- **Electrically Conductive Copper Core-Shell Nanowires through Benzenethiol-Directed Assembly.** *Nano letters*
  Xiao, Q., Burg, J. A., Zhou, Y., Yan, H., Wang, C., Ding, Y., Reed, E., Miller, R. D., Dauskardt, R. H.
  2018
- **Beyond Fullerenes: Indacenodithiophene-Based Organic Charge-Transport Layer toward Upscaling of Low-Cost Perovskite Solar Cells** *ACS APPLIED MATERIALS & INTERFACES*
  Angmo, D., Peng, X., Cheng, J., Gao, M., Rolston, N., Sears, K., Zuo, C., Subbiah, J., Kim, S., Weerasinghe, H., Dauskardt, R. H., Vak, D.
  2018; 10 (26): 22143–55
- **A Silica-Aerogel-Reinforced Composite Polymer Electrolyte with High Ionic Conductivity and High Modulus.** *Advanced materials (Deerfield Beach, Fla.)*
  Lin, D., Yuen, P. Y., Liu, Y., Liu, W., Liu, N., Dauskardt, R. H., Cui, Y.
  2018: e1802661
- **Measurement of the Biomechanical Function and Structure of Ex Vivo Drying Skin Using Raman Spectral Analysis and its Modulation with Emollient Mixtures.** *Experimental dermatology*
  Biniek, K., Tfayli, A., Vyumvuhore, R., Quatela, A., Galliano, M., Delalleau, A., Baillet-Guffroy, A., Dauskardt, R. H., Duplan, H.
  2018
- **Toward Sustainable Multifunctional Coatings Containing Nanocellulose in a Hybrid Glass Matrix.** *ACS nano*
  Ansari, F., Ding, Y., Berglund, L. A., Dauskardt, R. H.
  2018
- **Controlling Thin-Film Stress and Wrinkling during Perovskite Film Formation** *ACS ENERGY LETTERS*
  Bush, K. A., Rolston, N., Gold-Parker, A., Manzoor, S., Hausele, J., Yu, Z. J., Raiford, J. A., Cheacharoen, R., Holman, Z. C., Toney, M. F., Dauskardt, R. H., McGehee, M. D.
  2018; 3 (6): 1225–32
- **Degradation of multijunction photovoltaic gridlines induced via thermal cycling** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Brock, R. E., Hebert, P., Ermer, J., Dauskardt, R. H.
  2018; 179: 178–84
- **Optically Transparent Protective Coating for Plastics Using Dual Spray and Atmospheric Plasma Deposition** *ADVANCED MATERIALS INTERFACES*
  Ding, Y., Dong, S., Han, J., He, D., Zhao, Z., Dauskardt, R. H.
  2018; 5 (9)

- **Effect of Cation Composition on the Mechanical Stability of Perovskite Solar Cells** *ADVANCED ENERGY MATERIALS*
  Rolston, N., Printz, A. D., Tracy, J. M., Weerasinghe, H. C., Vak, D., Haur, L., Priyadarshi, A., Mathews, N., Slotcavage, D. J., McGehee, M. D., Kalan, R. E., Zielinski, K., Grimm, et al
  2018; 8 (9)
- **Poly(triarylamine) composites with carbon nanomaterials for highly transparent and conductive coatings** *THIN SOLID FILMS*
  Prolongo, S. G., Printz, A. D., Rolston, N., Watson, B. L., Dauskardt, R. H.
  2018; 646: 61–66
- **Molecular design of confined organic network hybrids with controlled deformation rate sensitivity and moisture resistance** *ACTA MATERIALIA*
  Ding, Y., Xiao, Q., Dauskardt, R. H.
  2018; 142: 162–71
- **Spray Plasma Processing of Barrier Films Deposited in Air for Improved Stability of Flexible Electronic Devices**
  Rolston, N., Printz, A. D., Hilt, F., Hovish, M. Q., Bruning, K., Tassone, C. J., Dauskardt, R. H., IEEE
  IEEE.2018: 138–40
- **Nonaffine Deformations in ULK Dielectric Glasses**
  Kilic, K. I., Dauskardt, R. H., IEEE
  IEEE.2018: 58–60
- **Effect of Composition and Microstructure on the Mechanical Stability of Perovskite Solar Cells**
  Rolston, N., Printz, A. D., Tracy, J. M., Dauskardt, R. H., IEEE
  IEEE.2018: 3509–13
- **Damp Heat, Temperature Cycling and UV Stress Testing of Encapsulated Perovskite Photovoltaic Cells**
  Cheacharoen, R., Bush, K. A., Rolston, N., Harwood, D., Dauskardt, R. H., McGehee, M. D., IEEE
  IEEE.2018: 3498–3502
- **Framework for Modelling Interface Degradation in Photovoltaic Modules at the Molecular Level**
  Tracy, J., D'hooge, D., Bosco, N., Dauskardt, R., IEEE
  IEEE.2018: 3548–51
- **Design and understanding of encapsulated perovskite solar cells to withstand temperature cycling** *ENERGY & ENVIRONMENTAL SCIENCE*
  Cheacharoen, R., Rolston, N., Harwood, D., Bush, K. A., Dauskardt, R. H., McGehee, M. D.
  2018; 11 (1): 144–50
- **Dense Vertically Aligned Copper Nanowire Composites as High Performance Thermal Interface Materials** *ACS APPLIED MATERIALS & INTERFACES*
  Barako, M. T., Isaacson, S. G., Lian, F., Pop, E., Dauskardt, R. H., Goodson, K. E., Tice, J.
  2017; 9 (48): 42067–74
- **Dense Vertically Aligned Copper Nanowire Composites as High Performance Thermal Interface Materials.** *ACS applied materials & interfaces*
  Barako, M. T., Isaacson, S. G., Lian, F., Pop, E., Dauskardt, R. H., Goodson, K. E., Tice, J.
  2017; 9 (48): 42067-42074
- **Scaffold-reinforced perovskite compound solar cells** *ENERGY & ENVIRONMENTAL SCIENCE*
  Watson, B. L., Rolston, N., Printz, A. D., Dauskardt, R. H.
  2017; 10 (12): 2500–2508
- **Improved stability and efficiency of perovskite solar cells with submicron flexible barrier films deposited in air** *JOURNAL OF MATERIALS CHEMISTRY A*
  Rolston, N., Printz, A. D., Hilt, F., Hovish, M. Q., Bruning, K., Tassone, C. J., Dauskardt, R. H.
  2017; 5 (44): 22975–83
- **Engineering the Mechanical Properties of Polymer Networks with Precise Doping of Primary Defects.** *ACS applied materials & interfaces*
  Chan, D., Ding, Y., Dauskardt, R. H., Appel, E. A.
  2017

- **Synthesis of Polyimides in Molecular-Scale Confinement for Low-Density Hybrid Nanocomposites** *NANO LETTERS*
  Isaacson, S. G., Fostvedt, J. I., Koerner, H., Baur, J. W., Lionti, K., Volksen, W., Dubois, G., Dauskardt, R. H.
  2017; 17 (11): 7040–44
- **Defining Threshold Values of Encapsulant and Backsheet Adhesion for PV Module Reliability** *IEEE JOURNAL OF PHOTOVOLTAICS*
  Bosco, N., Eafanti, J., Kurtz, S., Tracy, J., Dauskardt, R.
  2017; 7 (6): 1536–40
- **Encapsulant Adhesion to Surface Metallization on Photovoltaic Cells** *IEEE JOURNAL OF PHOTOVOLTAICS*
  Tracy, J., Bosco, N., Dauskardt, R.
  2017; 7 (6): 1635–39
- **Environmentally assisted crack growth in adhesively bonded composite joints** *COMPOSITES PART A-APPLIED SCIENCE AND MANUFACTURING*
  Tracy, J., Yin, Y., Yang, J., Osborne, J. C., Blohowiak, K. Y., Dauskardt, R.
  2017; 102: 368–77
- **The Effects of Terminal Groups on Elastic Asymmetries in Hybrid Molecular Materials** *JOURNAL OF PHYSICAL CHEMISTRY B*
  Burg, J. A., Dauskardt, R. H.
  2017; 121 (41): 9753–59
- **Hyperconnected molecular glass network architectures with exceptional elastic properties** *NATURE COMMUNICATIONS*
  Burg, J. A., Oliver, M. S., Frot, T. J., Sherwood, M., Lee, V., Dubois, G., Dauskardt, R. H.
  2017; 8: 1019
- **Broadband Emission with a Massive Stokes Shift from Sulfonium Pb-Br Hybrids** *CHEMISTRY OF MATERIALS*
  Smith, M. D., Watson, B. L., Dauskardt, R. H., Karunadasa, H. I.
  2017; 29 (17): 7083–87
- **Screening sunscreens: protecting the biomechanical barrier function of skin from solar ultraviolet radiation damage** *INTERNATIONAL JOURNAL OF COSMETIC SCIENCE*
  Berkey, C., Biniek, K., Dauskardt, R. H.
  2017; 39 (3): 269-274
- **Hyperconnected network architectures as a new route to exceptional mechanical properties**
  Burg, J., Dauskardt, R.
  AMER CHEMICAL SOC.2017
- **Reliability of polymer backsheet structures in photovoltaic modules**
  Yuen, P., Dauskardt, R.
  AMER CHEMICAL SOC.2017
- **Toughening hybrid nanocomposites with molecularly confined polymers by chemically tuning the polymer-surface interaction**
  Wang, C., Isaacson, S., Lionti, K., Volksen, W., Magbitang, T., Dauskardt, R., Dubois, G.
  AMER CHEMICAL SOC.2017
- **Combining spray and atmospheric plasma deposition of transparent bilayer protective coatings on plastics for exceptional adhesion and hardness**
  Ding, Y., Dong, S., He, D., Zhao, Z., Dauskardt, R.
  AMER CHEMICAL SOC.2017
- **Effects of network termination on elastic and thermal expansion asymmetries in hybrid molecular materials**
  Burg, J., Dauskardt, R.
  AMER CHEMICAL SOC.2017
- **Dual precursor atmospheric plasma deposition of organosilicate transparent functional coating on plastics**
  Dong, S., Ding, Y., He, D., Zhao, Z., Dauskardt, R.
  AMER CHEMICAL SOC.2017
- **An Artificial Solid Electrolyte Interphase with High Li-Ion Conductivity, Mechanical Strength, and Flexibility for Stable Lithium Metal Anodes.** *Advanced materials*

Liu, Y., Lin, D., Yuen, P. Y., Liu, K., Xie, J., Dauskardt, R. H., Cui, Y.
2017; 29 (10)

- **Understanding mechanical behavior and reliability of organic electronic materials** *MRS BULLETIN*
  Kim, J., Lee, I., Kim, T., Rolston, N., Watson, B. L., Dauskardt, R. H.
  2017; 42 (2): 115-123
- **Encapsulation and backsheet adhesion metrology for photovoltaic modules** *PROGRESS IN PHOTOVOLTAICS*
  Tracy, J., Bosco, N., Novoa, F., Dauskardt, R.
  2017; 25 (1): 87-96
- **Encapsulant Adhesion to Surface Metallization on Photovoltaic Cells**
  Tracy, J., Bosco, N., Dauskardt, R., IEEE
  IEEE.2017: 3200–3203
- **Defining Threshold Values of Encapsulant and Backsheet Adhesion for PV Module Reliability**
  Bosco, N., Eafanti, J., Kurtz, S., Tracy, J., Dauskardt, R., IEEE
  IEEE.2017: 3190–94
- **Improved mechanical adhesion and electronic stability of organic solar cells with thermal ageing: the role of diffusion at the hole extraction interface** *JOURNAL OF MATERIALS CHEMISTRY A*
  Greenbank, W., Rolston, N., Destouesse, E., Wantz, G., Hirsch, L., Dauskardt, R., Chambon, S.
  2017; 5 (6): 2911-2919
- **Degradation of thermally-cured silicone encapsulant under terrestrial UV** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Cai, C., Miller, D. C., Tappan, I. A., Dauskardt, R. H.
  2016; 157: 346-353
- **Mechanical integrity of solution-processed perovskite solar cells** *EXTREME MECHANICS LETTERS*
  Rolston, N., Watson, B. L., Bailie, C. D., McGehee, M. D., Bastos, J. P., Gehlhaar, R., Kim, J., Vak, D., Mallajosyula, A., Gupta, G., Mohite, A. D., Dauskardt, R. H.
  2016; 9: 353–58
- **Role of Carbon Bridge Length of Organosilicate Precursors on the Atmospheric Plasma Deposition of Transparent Bilayer Protective Coatings on Plastics** *PLASMA PROCESSES AND POLYMERS*
  Dong, S., Han, J., Zhao, Z., Dauskardt, R. H.
  2016; 13 (11): 1053-1060
- **Optical properties of metal oxynitride thin films grown with atmospheric plasma deposition** *JOURNAL OF PHYSICS D-APPLIED PHYSICS*
  Hovish, M. Q., Dauskardt, R. H.
  2016; 49 (39)
- **Cross-Linkable, Solvent-Resistant Fullerene Contacts for Robust and Efficient Perovskite Solar Cells with Increased J(SC) and V-OC** *ACS APPLIED MATERIALS & INTERFACES*
  Watson, B. L., Rolston, N., Bush, K. A., Leijtens, T., McGehee, M. D., Dauskardt, R. H.
  2016; 8 (39): 25896-25904
- **.** *ACS applied materials & interfaces*
  Watson, B. L., Rolston, N., Bush, K. A., Leijtens, T., McGehee, M. D., Dauskardt, R. H.
  2016; 8 (39): 25896-25904
- **Screening sunscreens: protecting the biomechanical barrier function of skin from solar ultraviolet radiation damage.** *International journal of cosmetic science*
  Berkey, C., Biniek, K., Dauskardt, R. H.
  2016
- **Elastic and thermal expansion asymmetry in dense molecular materials.** *Nature materials*
  Burg, J. A., Dauskardt, R. H.
  2016; 15 (9): 974-980
- **Effect of Mechanical Constraint on Tearing Energy of Polymer Membranes** *MACROMOLECULAR MATERIALS AND ENGINEERING*

Yuen, P. Y., Dauskardt, R. H.
2016; 301 (9): 1096-1103

- **A stability study of roll-to-roll processed organic photovoltaic modules containing a polymeric electron-selective layer** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Weerasinghe, H. C., Rolston, N., Vak, D., Scully, A. D., Dauskardt, R. H.
  2016; 152: 133-140
- **Quantitative adhesion characterization of antireflective coatings in multijunction photovoltaics** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Brock, R., Rewari, R., Novoa, F. D., Hebert, P., Ermer, J., Miller, D. C., Dauskardt, R. H.
  2016; 153: 78-83
- **Organothiol-Based Hybrid-Layer Strategy for High-Performance Copper Adhesion and Stress-Migration via Simultaneous Oxide Reduction** *ADVANCED MATERIALS INTERFACES*
  Xiao, Q., Watson, B. L., Dauskardt, R. H.
  2016; 3 (14)
- **Role of Stress Factors on the Adhesion of Interfaces in R2R Fabricated Organic Photovoltaics** *ADVANCED ENERGY MATERIALS*
  Corazza, M., Rolston, N., Dauskardt, R. H., Beliatis, M. J., Krebs, F. C., Gevorgyan, S. A.
  2016; 6 (11)
- **Infiltration, imidization, and cross-linking of polyimides in molecular-scale confinement**
  Fostvedt, J., Isaacson, S., Dauskardt, R.
  AMER CHEMICAL SOC.2016
- **Controlling kinetics of heterogeneous sol-gel solution for high-performance adhesive hybrid films** *JOURNAL OF SOL-GEL SCIENCE AND TECHNOLOGY*
  Xiao, Q., Giachino, M., Dauskardt, R. H.
  2016; 77 (3): 620-626
- **Fundamental limits of material toughening in molecularly confined polymers.** *Nature materials*
  Isaacson, S. G., Lionti, K., Volksen, W., Magbitang, T. P., Matsuda, Y., Dauskardt, R. H., Dubois, G.
  2016; 15 (3): 294-298
- **Adhesion and debonding kinetics of photovoltaic encapsulation in moist environments** *PROGRESS IN PHOTOVOLTAICS*
  Novoa, F. D., Miller, D. C., Dauskardt, R. H.
  2016; 24 (2): 183-194
- **Carbon-Bridge Incorporation in Organosilicate Coatings Using Oxidative Atmospheric Plasma Deposition.** *ACS applied materials & interfaces*
  Cui, L., Dubois, G., Dauskardt, R. H.
  2016; 8 (2): 1309-1318
- **Del1 Knockout Mice Developed More Severe Osteoarthritis Associated with Increased Susceptibility of Chondrocytes to Apoptosis.** *PloS one*
  Wang, Z., Tran, M. C., Bhatia, N. J., Hsing, A. W., Chen, C., LaRussa, M. F., Fattakhov, E., Rashidi, V., Jang, K. Y., Choo, K. J., Nie, X., Mathy, J. A., Longaker, et al
  2016; 11 (8)
- **Fracture Mechanics and Testing of Interface Adhesion Strength in Multilayered Structures - Application in Advanced Solar PV Materials and Technology**
  Shivakumar, R., Tippabhotla, S., Handara, V., Illya, G., Tay, A. A. O., Novoa, F., Dauskardt, R. H., Budiman, A.
  edited by Budiman, A. S., Tay, A., Caldwell, A., Aberle, A., Dauskardt, R.
  ELSEVIER SCIENCE BV.2016: 47–55
- **Dual Precursor Atmospheric Plasma Deposition of Bilayer Organosilicate Protective Coatings on Plastics**
  Dong, S., Zhao, Z., Dauskardt, R., IEEE
  IEEE.2016: 192–94
- **Spray Deposition of Compositionally Graded Hybrid Layers for High-Performance Adhesion**

Ding, Y., Dauskardt, R. H., IEEE
IEEE.2016: 195–97

- **Transforming the P4 Process to Enhance Mechanical and Fracture Properties of ULKs**
  Isaacson, S. G., Wang, C., Lionti, K., Volksen, W., Magbitang, T. P., Dauskardt, R. H., Dubois, G., IEEE
  IEEE.2016: 150–52
- **Thermomechanical Asymmetries in ULK Dielectric Glasses**
  Burg, J. A., Dauskardt, R. H., IEEE
  IEEE.2016: 95–97
- **Development and First Results of the Width-Tapered Beam Method for Adhesion Testing of Photovoltaic Material Systems**
  Bosco, N., Tracy, J., Dauskardt, R., Kurtz, S., IEEE
  IEEE.2016: 106–10
- **Adhesion of Antireflective Coatings in Multijunction Photovoltaics**
  Brock, R., Miller, D. C., Dauskardt, R. H., IEEE
  IEEE.2016: 850–53
- **Degradation of Silicone Encapsulants in CPV Optics**
  Cai, C., Miller, D. C., Tappan, I. A., Dauskardt, R. H., IEEE
  IEEE.2016: 196–99
- **Thermal cycling effect on mechanical integrity of inverted polymer solar cells** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Balcaen, V., Rolston, N., Dupont, S. R., Voroshazi, E., Dauskardt, R. H.
  2015; 143: 418-423
- **Selective Deposition of Compositionally Graded Hybrid Adhesive Films** *ADVANCED MATERIALS INTERFACES*
  Giachino, M., Watson, B. L., Dubois, G., Dauskardt, R. H.
  2015; 2 (17)
- **Understanding age-induced alterations to the biomechanical barrier function of human stratum corneum** *JOURNAL OF DERMATOLOGICAL SCIENCE*
  Biniek, K., Kaczyinsky, J., Matts, P., Dauskardt, R. H.
  2015; 80 (2): 94-101
- **Understanding age-induced alterations to the biomechanical barrier function of human stratum corneum.** *Journal of dermatological science*
  Biniek, K., Kaczvinsky, J., Matts, P., Dauskardt, R. H.
  2015; 80 (2): 94-101
- **Nanoscale Interfacial Engineering for Flexible Barrier Films** *NANO LETTERS*
  Cai, C., Dauskardt, R. H.
  2015; 15 (10): 6751-6755
- **Dual Precursor Atmospheric Plasma Deposition of Transparent Bilayer Protective Coatings on Plastics.** *ACS applied materials & interfaces*
  Dong, S., Zhao, Z., Dauskardt, R. H.
  2015; 7 (32): 17929-17934
- **Dual Precursor Atmospheric Plasma Deposition of Transparent Bilayer Protective Coatings on Plastics** *ACS APPLIED MATERIALS & INTERFACES*
  Dong, S., Zhao, Z., Dauskardt, R. H.
  2015; 7 (32): 17929-17934
- **Entanglements in P3HT and their influence on thin-film mechanical properties: Insights from molecular dynamics simulations** *JOURNAL OF POLYMER SCIENCE PART B-POLYMER PHYSICS*
  Tummala, N. R., Risko, C., Bruner, C., Dauskardt, R. H., Bredas, J.
  2015; 53 (13): 934-942
- **Molecular-Scale Understanding of Cohesion and Fracture in P3HT:Fullerene Blends** *ACS APPLIED MATERIALS & INTERFACES*
  Tummala, N. R., Bruner, C., Risko, C., Bredas, J., Dauskardt, R. H.
  2015; 7 (18): 9957-9964

- **Molecular Design for Moisture Insensitivity of Compositionally Graded Hybrid Films** *ACS APPLIED MATERIALS & INTERFACES*
  Giachino, M., Dubois, G., Dauskardt, R. H.
  2015; 7 (12): 6812-6818
- **A catalytic alloy approach for graphene on epitaxial SiC on silicon wafers** *JOURNAL OF MATERIALS RESEARCH*
  Iacopi, F., Mishra, N., Cunning, B. V., Goding, D., Dimitrijev, S., Brock, R., Dauskardt, R. H., Wood, B., Boeckl, J.
  2015; 30 (5): 609-616
- **The relationship between water loss, mechanical stress, and molecular structure of human stratum corneum ex vivo** *JOURNAL OF BIOPHOTONICS*
  Vyumvuhore, R., Tfayli, A., Biniek, K., Duplan, H., Delalleau, A., Manfait, M., Dauskardt, R., Baillet-Guffroy, A.
  2015; 8 (3): 217-225
- **Biomechanics of the barrier function of human stratum corneum**
  Dauskardt, R. H.
  WILEY-BLACKWELL.2015: 141
- **Morphology and interdiffusion control to improve adhesion and cohesion properties in inverted polymer solar cells** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Dupont, S. R., Voroshazi, E., Nordlund, D., Dauskardt, R. H.
  2015; 132: 443-449
- **Low-Cost, Single-Step Hybrid Bond/Barrier Films for Cu Bondlines in Advanced Packaging**
  Xiao, Q., Watson, B., Dauskardt, R. H., IEEE
  IEEE.2015: 225–27
- **Decohesion Kinetics in Polymer Organic Solar Cells** *ACS APPLIED MATERIALS & INTERFACES*
  Bruner, C., Novoa, F., Dupont, S., Dauskardt, R.
  2014; 6 (23): 21474-21483
- **Loss of Keratinocyte Focal Adhesion Kinase Stimulates Dermal Proteolysis Through Upregulation of MMP9 in Wound Healing** *ANNALS OF SURGERY*
  Wong, V. W., Garg, R. K., Sorkin, M., Rustad, K. C., Akaishi, S., Levi, K., Nelson, E. R., Tran, M., Rennert, R., Liu, W., Longaker, M. T., Dauskardt, R. H., Gurtner, et al
  2014; 260 (6): 1138-1146
- **Loss of keratinocyte focal adhesion kinase stimulates dermal proteolysis through upregulation of MMP9 in wound healing.** *Annals of surgery*
  Wong, V. W., Garg, R. K., Sorkin, M., Rustad, K. C., Akaishi, S., Levi, K., Nelson, E. R., Tran, M., Rennert, R., Liu, W., Longaker, M. T., Dauskardt, R. H., Gurtner, et al
  2014; 260 (6): 1138-1146
- **Controlling Interdiffusion, Interfacial Composition, and Adhesion in Polymer Solar Cells** *ADVANCED MATERIALS INTERFACES*
  Dupont, S. R., Voroshazi, E., Nordlund, D., Vandewal, K., Dauskardt, R. H.
  2014; 1 (7)
- **Highly Transparent Multifunctional Bilayer Coatings on Polymers Using Low-Temperature Atmospheric Plasma Deposition** *ACS NANO*
  Cui, L., Lionti, K., Ranade, A., Larson-Smith, K., Dubois, G. J., Dauskardt, R. H.
  2014; 8 (7): 7186-7191
- **Conductive Transparent TiNx/TiO2 Hybrid Films Deposited on Plastics in Air Using Atmospheric Plasma Processing** *ADVANCED FUNCTIONAL MATERIALS*
  Dong, S., Watanabe, M., Dauskardt, R. H.
  2014; 24 (20): 3075-3081
- **Interface Structure of Cu Wire Bonding on Cu Substrate with Sn Plating** *JOURNAL OF THE JAPAN INSTITUTE OF METALS*
  Fujiwara, S., Dauskardt, R. H.
  2014; 78 (5): 177–82
- **Identifying the biomechanical effects of UV resistant nanoparticles on human skin**
  Nainar, S. J., Biniek, K., Dauskardt, R.

AMER CHEMICAL SOC.2014

- **Atmospheric plasma deposition of transparent semiconducting ZnO films on plastics in ambient air** *ORGANIC ELECTRONICS*
  Watanabe, M., Cui, L., Dauskardt, R. H.
  2014; 15 (3): 775-784

- **Abstract 33: Stress Offloading through Mechanomodulation is Associated with Down-Regulation of Inflammatory Pathways in a Large Animal Model.** *Plastic and reconstructive surgery*
  Januszyk, M., Wong, V. W., Bhatt, K., Vial, I. N., Dauskardt, R., Longaker, M. T., Gurtner, G. C.
  2014; 133 (3): 44-?

- **Decohesion Kinetics of PEDOT: PSS Conducting Polymer Films** *ADVANCED FUNCTIONAL MATERIALS*
  Dupont, S. R., Novoa, F., Voroshazi, E., Dauskardt, R. H.
  2014; 24 (9): 1325-1332

- **Role of Molecular Weight on the Mechanical Device Properties of Organic Polymer Solar Cells** *MACROMOLECULES*
  Bruner, C., Dauskardt, R.
  2014; 47 (3): 1117-1121

- **Toughening Thin-Film Structures with Ceramic-Like Amorphous Silicon Carbide Films** *SMALL*
  Matsuda, Y., Ryu, I., King, S. W., Bielefeld, J., Dauskardt, R. H.
  2014; 10 (2): 253-257

- **An ultra-sensitive resistive pressure sensor based on hollow-sphere microstructure induced elasticity in conducting polymer film.** *Nature communications*
  Pan, L., Chortos, A., Yu, G., Wang, Y., Isaacson, S., Allen, R., Shi, Y., Dauskardt, R., Bao, Z.
  2014; 5: 3002-?

- **Environmental mechanisms of debonding in photovoltaic backsheets** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Novoa, F. D., Miller, D. C., Dauskardt, R. H.
  2014; 120: 87-93

- **Highly Compressed Nano-Layers in Epitaxial Silicon Carbide Membranes for MEMs Sensors**
  Brock, R. E., Iacopi, F., Iacopi, A., Hold, L., Dauskardt, R. H., IEEE
  IEEE.2014: 241–43

- **Moisture-Assisted Failure Mechanisms in Underfill Epoxy/Silicon Systems for Microelectronic Packaging**
  Giachino, M., Paredes, F., Ananthakrishnan, N., Liff, S. M., Dauskardt, R. H., IEEE
  IEEE.2014: 359–61

- **An ultra-sensitive resistive pressure sensor based on hollow-sphere microstructure induced elasticity in conducting polymer film.** *Nature communications*
  Pan, L., Chortos, A., Yu, G., Wang, Y., Isaacson, S., Allen, R., Shi, Y., Dauskardt, R., Bao, Z.
  2014; 5: 3002-?

- **Hybrid coupling layers for bulk metallic glass adhesion** *JOURNAL OF MATERIALS RESEARCH*
  Yang, J., Dauskardt, R. H.
  2013; 28 (22): 3164-3169

- **Independent Control of Adhesive and Bulk Properties of Hybrid Silica Coatings on Polycarbonate** *ACS APPLIED MATERIALS & INTERFACES*
  Lionti, K., Cui, L., Volksen, W., Dauskardt, R., Dubois, G., Toury, B.
  2013; 5 (21): 11276-11280

- **Influence of network bond percolation on the thermal, mechanical, electrical and optical properties of high and low-k a-SiC:H thin films** *JOURNAL OF NON-CRYSTALLINE SOLIDS*
  King, S. W., Bielefeld, J., Xu, G., Lanford, W. A., Matsuda, Y., Dauskardt, R. H., Kim, N., Hondongwa, D., Olasov, L., Daly, B., Stan, G., Liu, M., Dutta, et al
  2013; 379: 67-79

- **Heterogeneous solution deposition of high-performance adhesive hybrid films.** *ACS applied materials & interfaces*

Giachino, M., Dubois, G., Dauskardt, R. H.
2013; 5 (20): 9891-9895

- **Evidence of a highly compressed nanolayer at the epitaxial silicon carbide interface with silicon** *ACTA MATERIALIA*
  Iacopi, F., Brock, R. E., Iacopi, A., Hold, L., Dauskardt, R. H.
  2013; 61 (17): 6533-6540
- **Improved adhesion of dense silica coatings on polymers by atmospheric plasma pretreatment.** *ACS applied materials & interfaces*
  Cui, L., Ranade, A. N., Matos, M. A., Dubois, G., Dauskardt, R. H.
  2013; 5 (17): 8495-8504
- **Tunable plasticity in amorphous silicon carbide films.** *ACS applied materials & interfaces*
  Matsuda, Y., Kim, N., King, S. W., Bielefeld, J., Stebbins, J. F., Dauskardt, R. H.
  2013; 5 (16): 7950-7955
- **Molecular Intercalation and Cohesion of Organic Bulk Heterojunction Photovoltaic Devices** *ADVANCED FUNCTIONAL MATERIALS*
  Bruner, C., Miller, N. C., McGehee, M. D., Dauskardt, R. H.
  2013; 23 (22): 2863-2871
- **Adhesion properties of inverted polymer solarcells: Processing and film structure parameters** *ORGANIC ELECTRONICS*
  Dupont, S. R., Voroshazi, E., Heremans, P., Dauskardt, R. H.
  2013; 14 (5): 1262-1270
- **A Mechanomodulatory Device to Minimize Incisional Scar Formation** *ADVANCES IN WOUND CARE*
  Wong, V. W., Beasley, B., Zepeda, J., Dauskardt, R. H., Yock, P. G., Longaker, M. T., Gurtner, G. C.
  2013; 2 (4): 185–94
- **A Mechanomodulatory Device to Minimize Incisional Scar Formation.** *Advances in wound care*
  Wong, V. W., Beasley, B., Zepeda, J., Dauskardt, R. H., Yock, P. G., Longaker, M. T., Gurtner, G. C.
  2013; 2 (4): 185-194
- **Tailored amorphous silicon carbide barrier dielectrics by nitrogen and oxygen doping** *THIN SOLID FILMS*
  Matsuda, Y., King, S. W., Dauskardt, R. H.
  2013; 531: 552-558
- **Moisture-assisted cracking and atomistic crack path meandering in oxidized hydrogenated amorphous silicon carbide films** *JOURNAL OF APPLIED PHYSICS*
  Matsuda, Y., King, S. W., Oliver, M., Dauskardt, R. H.
  2013; 113 (8)
- **Tailored Amorphous Silicon Carbide Barrier Dielectrics by Nitrogen and Oxygen Doping** *Thin Solid Films*
  Matsuda, Y., King, Sean, W., Dauskardt, Reinhold, H.
  2013; 531: 552 – 558
- **Evidence of a highly compressed nano-layer at the epitaxial silicon carbide interface with silicon** *Acta Materialia*
  Iacopi, F., Brock, R. E., Iacopi, A. V., Hold, L., Dauskardt, R. H.
  2013; 61: 6533–6540
- **Can understanding the effect of solar UV radiation on skin's biomechanical function help prevent skin damage?** *Expert Review of Dermatology*
  Biniek, K., Dauskardt, Reinhold, H.
  2013; 1 (8): 5-6
- **Adhesion Properties of Inverted Polymer Solar Cells: Processing and Film Structure Parameters** *Organic Electronics*
  Dupont, Stephanie, R., Voroshazi, E., Heremans, P., Dauskardt, Reinhold, H.
  2013; 14: 1262–1270
- **Atmospheric Plasma Deposited Dense Silica Coatings on Plastics** *ACS APPLIED MATERIALS & INTERFACES*
  Cui, L., Ranade, A. N., Matos, M. A., Pingree, L. S., Frot, T. J., Dubois, G., Dauskardt, R. H.
  2012; 4 (12): 6587-6598

- **Experimental study of interfacial fracture toughness in a SiN(x)/PMMA barrier film.** *ACS applied materials & interfaces*
  Kim, Y., Bulusu, A., Giordano, A. J., Marder, S. R., Dauskardt, R., Graham, S.
  2012; 4 (12): 6711-6719
- **Experimental Study of Interfacial Fracture Toughness in a SiNx/PMMA Barrier Film** *ACS APPLIED MATERIALS & INTERFACES*
  Kim, Y., Bulusu, A., Giordano, A. J., Marder, S. R., Dauskardt, R., Graham, S.
  2012; 4 (12): 6710-6718
- **Low-temperature Al-Ge bonding for 3D integration** *JOURNAL OF VACUUM SCIENCE & TECHNOLOGY B*
  Crnogorac, F., Pease, F. R., Birringer, R. P., Dauskardt, R. H.
  2012; 30 (6)
- **Solar UV radiation reduces the barrier function of human skin** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Biniek, K., Levi, K., Dauskardt, R. H.
  2012; 109 (42): 17111-17116
- **Film stresses and electrode buckling in organic solar cells** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Brand, V., Levi, K., McGehee, M. D., Dauskardt, R. H.
  2012; 103: 80-85
- **Scar Zones: Region-Specific Differences in Skin Tension May Determine Incisional Scar Formation** *PLASTIC AND RECONSTRUCTIVE SURGERY*
  Wong, V. W., Levi, K., Akaishi, S., Schultz, G., Dauskardt, R. H.
  2012; 129 (6): 1272-1276
- **Moisture-Insensitive Polycarbosilane Films with Superior Mechanical Properties** *ACS APPLIED MATERIALS & INTERFACES*
  Matsuda, Y., Rathore, J. S., Interrante, L. V., Dauskardt, R. H., Dubois, G.
  2012; 4 (5): 2659-2663
- **Cohesion and device reliability in organic bulk heterojunction photovoltaic cells** *SOLAR ENERGY MATERIALS AND SOLAR CELLS*
  Brand, V., Bruner, C., Dauskardt, R. H.
  2012; 99: 182-189
- **Contamination and moisture absorption effects on the mechanical properties of catalyst coated membranes in PEM fuel cells** *INTERNATIONAL JOURNAL OF HYDROGEN ENERGY*
  Jia, R., Dong, S., Hasegawa, T., Ye, J., Dauskardt, R. H.
  2012; 37 (8): 6790-6797
- **Environmentally assisted debonding of copper/barrier interfaces** *ACTA MATERIALIA*
  Birringer, R. P., Shaviv, R., Besser, P. R., Dauskardt, R. H.
  2012; 60 (5): 2219-2228
- **Interlayer adhesion in roll-to-roll processed flexible inverted polymer solar cells** *Conference on Global Organic Photovoltaics (GOPV)*
  Dupont, S. R., Oliver, M., Krebs, F. C., Dauskardt, R. H.
  ELSEVIER SCIENCE BV.2012: 171–175
- **Fracture properties of hydrogenated amorphous silicon carbide thin films** *ACTA MATERIALIA*
  Matsuda, Y., King, S. W., BIELEFELD, J., Xu, J., Dauskardt, R. H.
  2012; 60 (2): 682-691
- **Interface Structure of Cu Wire Bonding on Cu Substrate with Sn Plating** *MATERIALS TRANSACTIONS*
  Fujiwara, S., Dauskardt, R. H.
  2012; 53 (12): 2091–96
- **Film Stresses and Electrode Buckling in Organic Solar Cells** *Solar Energy Materials and Solar Cells*
  Brand, V., Levi, K., McGehee, M., Dauskardt, Reinhold, H.
  2012; 103: 80–85
- **Solar UV-Radiation Reduces the Barrier Function of Human Skin**

Biniek, K., Levi, K., Dauskardt, Reinhold, H.
2012

- **Moisture-Assisted Cracking and Atomistic Crack Path Meandering in Oxidized Hydrogenated Amorphous Silicon Carbide Films** *Journal of Applied Physics*
  Matsuda, Y., King, Sean, W., Oliver, M., Dauskardt, Reinhold, H.
  2012; 8 (113): 083521-1 - 7
- **Moisture Resistant Hybrid Layer for High-Performance Adhesion** *TECHCON*
  Paredes, F., Giachino, M., Ananthakrishnan, N., Liff, Shawna, M., Dauskardt, Reinhold, H.
  2012
- **Contamination and Moisture Absorption Effects on the Mechanical Properties of Catalyst Coated Membranes in PEM Fuel Cells** *International Journal of Hydrogen Energy*
  Jia, R., Dong, S., Hasegawa, T., Ye, J., Dauskardt, Reinhold, H.
  2012; 37: 6790 - 6797
- **Fracture Properties of Hydrogenated Amorphous Silicon Carbide Thin Films** *Acta Materialia*
  Matsuda, Y., King, Sean, W., Bielefeld, J., Xu, J., Dauskardt, Reinhold, H.
  2012; 60: 682–691
- **Atmospheric Plasma Deposited Dense Silica Coatings on Plastics** *ACS Applied Materials and Interfaces*
  Dauskardt, R., H., Cui, L., Ranade, A., Matos, M., Pingree, L., Dubois, T.
  2012; 4: 6587−6598
- **Low-Temperature Al-Ge Bonding for 3D Integration** *Journal of Vacuum Science and Technology B*
  Crnogorac, F., Birringer, R., Dauskardt, R., Pease, R., F. W.
  2012
- **The effect of anneal, solar irradiation and humidity on the adhesion/cohesion properties of P3HT:PCBM based inverted polymer solar cells** *38th IEEE Photovoltaic Specialists Conference*
  Dupont, Stephanie, R., Voroshazi, E., Heremans, P., Dauskardt, Reinhold, H.
  2012: 3-8
- **Microprobing the Mechanical Effects of Varying Dielectric Porosity in Advanced Interconnect Structures**
  Dauskardt, R., H., Hsing, A., Geisler, H., Ryan, V., Cheng, M., Machani, K.
  2012
- **Low-Temperature Al–Ge Bonding for 3D Integration** *Journal of Vacuum Science and Technology*
  Crnogoraca, F., Pease, Fabian, W., Birringer, Ryan, P., Dauskardt, Reinhold, H.
  2012; 6 (30)
- **Interlayer Adhesion in Roll-To-Roll Processed Flexible Inverted Polymer Solar Cells** *Solar Energy Materials and Solar Cells*
  Dupont, Stephanie, R., Oliver, M., Krebs, Frederik, C., Dauskardt, Reinhold, H.
  2012; 97: 171–175
- **Environmentally Assisted Debonding of Copper / Barrier Interfaces** *Acta Materialia*
  Birringer, R., Shaviv, R., Besser, P., Dauskardt, R.
  2012; 60: 2219–2228
- **Contamination and Moisture Absorption in Catalyst Coated Membranes in PEM Fuel Cells** *International Journal of Hydrogen Energy*
  Jia, R., Dong, S., Hasegawa, T., Ye, J., Dauskardt, Reinhold, H.
  2012; 37: 6790 - 6797
- **Cohesion and Device Reliability in Organic Bulk Heterojunction Photovoltaic Cells** *Solar Energy Materials and Solar Cells*
  Brand, V., Bruner, C., Dauskardt, Reinhold, H.
  2012; 99: 182–189
- **An Experimental Study of Interfacial Fracture Toughness in a SiNx/PMMA Barrier Film** *ACS Applied Materials and Interfaces*
  Kim, Y., Bulusu, A., Giordano, A., Marder, S., Dauskardt, R., Graham, S.
  2012; 4: 6711-6719

- **The effect of anneal, solar irradiation and humidity on the adhesion/cohesion properties of P3HT:PCBM based inverted polymer solar cells** *38th IEEE Photovoltaic Specialists Conference (PVSC)*
  Dupont, S. R., Voroshazi, E., Heremans, P., Dauskardt, R. H.
  IEEE.2012: 3259–3262
- **Microprobing the Mechanical Effects of Varying Dielectric Porosity in Advanced Interconnect Structures** *IEEE International Interconnect Technology Conference (IITC)*
  Hsing, A., Geisler, H., Ryan, V., Cheng, M., Machani, K., Breuer, D., Lehr, M. U., Paul, J., Iacopi, F., Dauskardt, R.
  IEEE.2012
- **Mechanical durability of proton exchange membranes with catalyst platinum dispersion** *JOURNAL OF POWER SOURCES*
  Jia, R., Han, B., Levi, K., Hasegawa, T., Ye, J., Dauskardt, R. H.
  2011; 196 (20): 8234-8240
- **Effects of barrier composition and electroplating chemistry on adhesion and voiding in copper/dielectric diffusion barrier films** *JOURNAL OF APPLIED PHYSICS*
  Birringer, R. P., Shaviv, R., Geiss, R. H., Read, D. T., Dauskardt, R. H.
  2011; 110 (4)
- **High yield four-point bend thin film adhesion testing techniques** *ENGINEERING FRACTURE MECHANICS*
  Birringer, R. P., Chidester, P. J., Dauskardt, R. H.
  2011; 78 (12): 2390-2398
- **Improving Cutaneous Scar Formation by Controlling the Mechanical Environment Large Animal and Phase I Studies** *ANNALS OF SURGERY*
  Gurtner, G. C., Dauskardt, R. H., Wong, V. W., Bhatt, K. A., Wu, K., Vial, I. N., Padois, K., Korman, J. M., Longaker, M. T.
  2011; 254 (2): 217-225
- **BIOMECHANICS OF THE BARRIER FUNCTION OF HUMAN SKIN: PREDICTING SKIN DAMAGE AND THE EFFECTS OF COSMETIC TREATMENTS** *JOURNAL OF COSMETIC SCIENCE*
  Dauskardt, R. H.
  2011; 62 (4): 422-423
- **Effect of cation contamination and hydrated pressure loading on the mechanical properties of proton exchange membranes** *JOURNAL OF POWER SOURCES*
  Jia, R., Han, B., Levi, K., Hasegawa, T., Ye, J., Dauskardt, R. H.
  2011; 196 (8): 3803-3809
- **Adhesion and degradation of hard coatings on poly (methyl methacrylate) substrates** *THIN SOLID FILMS*
  Kamer, A., Larson-Smith, K., Pingree, L. S., Dauskardt, R. H.
  2011; 519 (6): 1907-1913
- **Shear Microprobing of Chip-Package Interaction in Advanced Interconnect Structures** *Joint Conference on IEEE International Interconnect Technology Conference / 20th European Workshop on Materials for Advanced Metallization (IITC/MAM)*
  Hsing, A. W., Kearney, A. V., Li, L., Xue, J., BRILLHART, M., Dauskardt, R. H.
  IEEE.2011
- **Effect of Cation Contamination and Hydrated Pressure Loading on the Mechanical Properties of Proton Exchange Membranes** *Journal of Power Sources*
  Jia, R., Han, B., Levi, K., Hasegawa, T., Ye, J., Dauskardt, Reinhold, H.
  2011; 196: 3803–3809
- **Axially Graded Index LEns as a non-tracking solar concentrator** *SOLAR OSA (Optics for Solar Energy) Conference*
  Vaidya, N., Dauskardt, R., H., Solgaard, O.
  2011
- **Improving Cutaneous Scar by Controlling the Mechanical Environment: Large Animal and Phase I Studies** *Annals of Surgery*
  Gurtner, Geoffrey, C., Dauskardt, Reinhold, H., Wong, Victor, W., Bhatt, Kirit, A., Wu, K., Vial, Ivan, N.
  2011; 2 (254): 217 – 225
- **Functionally Graded Hybrid Glass Layers for High-Performance Polymer/Silicon Adhesion** *2011 TECHCON*

Giachino, M., Kim, T., Lui, Gillian, V., Ananthakrishnan, N., Liff, Shawna, M., Dauskardt, Reinhold, H.
2011

- **Adhesion and Degradation of Hard Coatings on Poly (methyl methacrylate) Substrates** *Thin Solid Films*
  Kamer, A., Larson-Smith, K., Pingree, Liam, S. C., Dauskardt, Reinhold, H.
  2011; 6 (519): 1907 - 1913
- **Effect of Glycerin on Drying Stresses in Human Stratum Corneum** *Journal of Dermatological Science*
  Levi, K., Kwan, A., Rhines, Allison, S., Gorcea, M., Moore, David, J., Dauskardt, Reinhold, H.
  2011; 2 (61): 129 - 131
- **New classes of ULK dielectrics with superior thermomechanical properties** *Advanced Metallization Conference*
  Dauskardt, R., H., Matsuda, Y., King, Sean, W., Dubois, G., Bielefeld, J., Interrante, J.
  2011
- **Shear Microprobing the Mechanical Effects Varying Dielectric Porosity in Advanced Interconnect Structures**
  Dauskardt, R., H., Hsing, A., Geisler, H., Ryan, V., Iacopi, F., Cheng, M.
  2011
- **Biomechanics of the Barrier Function of Human Stratum Corneum** *The Art and Science of Moisturizers*
  Levi, K., Dauskardt, Reinhold, H.
  2011
- **Scar Zones: Region-Specific Differences in Skin Tension May Determine Incisional Scar Formation** *Plastic and Reconstructive Surgery*
  Wong, Victor, W., Levi, K., Akaishi, S., Schultz, G., Dauskardt, Reinhold, H.
  2011; 6 (129): 1272 – 1276
- **High Yield Four-Point Bend Thin Film Adhesion Testing Techniques** *Engineering Fracture Mechanics*
  Birringer, R., P., Dauskardt, R., H.
  2011; 78: 2390 – 2398
- **Shear Microprobing of Chip-Package Interaction in Advanced Interconnect Structures**
  Hsing, A., W., Kearney, A., V., Li, L., Xue, J., Brillhartand, M., Dauskardt, R., H.
  2011
- **Mechanical Durability of Proton Exchange Membranes with Catalyst Platinum Dispersion** *Journal of Power Sources*
  Jia, R., Han, B., Levi, K., Hasegawa, T., Ye, J., Dauskardt, Reinhold, H.
  2011; 196: 8234 – 8240
- **Effects of Barrier Composition and Electroplating Chemistry on Adhesion and Voiding in Copper / Dielectric Diffusion Barrier Films** *Journal of Applied Physics*
  Birringer, R., Shaviv, R., Geiss, Roy, H., Read, D., Dauskardt, R.
  2011; 110: 044312
- **Future of PECVD and Spin-on ultra low-k Materials** *Joint Conference on IEEE International Interconnect Technology Conference / 20th European Workshop on Materials for Advanced Metallization (IITC/MAM)*
  Volksen, W., Frot, T., Magbitang, T., Gates, S., Oliver, M., Dauskardt, R., Dubois, G.
  IEEE.2011
- **Emollient molecule effects on the drying stresses in human stratum corneum** *BRITISH JOURNAL OF DERMATOLOGY*
  Levi, K., Kwan, A., Rhines, A. S., Gorcea, M., Moore, D. J., Dauskardt, R. H.
  2010; 163 (4): 695-703
- **Solution chemistry effects on cracking and damage evolution during chemical-mechanical planarization** *JOURNAL OF MATERIALS RESEARCH*
  Ong, M. D., Leduc, P., McKenzie, D. W., Farjot, T., Passemard, G., Maitrejean, S., Dauskardt, R. H.
  2010; 25 (10): 1904-1909
- **Molecular Origins of the Mechanical Behavior of Hybrid Glasses** *ADVANCED FUNCTIONAL MATERIALS*
  Oliver, M. S., Dubois, G., Sherwood, M., Gage, D. M., Dauskardt, R. H.
  2010; 20 (17): 2884-2892

- **Mechanical Fatigue of Hybrid Glasses** *SMALL*
  Oliver, M. S., Dauskardt, R. H.
  2010; 6 (17): 1892-1896
- **Molecular structure and fracture properties of ZrOX/Epoxysilane hybrid films** *JOURNAL OF SOL-GEL SCIENCE AND TECHNOLOGY*
  Oliver, M. S., Blohowiak, K. Y., Dauskardt, R. H.
  2010; 55 (3): 360-368
- **Bilayer metal gate electrodes with tunable work function: Adhesion and interface characterization** *JOURNAL OF APPLIED PHYSICS*
  Birringer, R. P., Lu, C., Deal, M., Nishi, Y., Dauskardt, R. H.
  2010; 108 (5)
- **Drying stress and damage processes in human stratum corneum.** *International journal of cosmetic science*
  Levi, K., Weber, R. J., Do, J. Q., Dauskardt, R. H.
  2010; 32 (4): 276-293
- **Application of substrate curvature method to differentiate drying stresses in topical coatings and human stratum corneum.** *International journal of cosmetic science*
  Levi, K., Dauskardt, R. H.
  2010; 32 (4): 294-298
- **Molecular Mobility under Nanometer Scale Confinement** *NANO LETTERS*
  Kim, T., Dauskardt, R. H.
  2010; 10 (5): 1955-1959
- **Bilayer metal gate electrodes with tunable work function: Mechanism and proposed model** *JOURNAL OF APPLIED PHYSICS*
  Lu, C., Wong, G. M., Birringer, R., Dauskardt, R., Deal, M. D., Clemens, B. M., Nishi, Y.
  2010; 107 (6)
- **Effects of e-beam curing on glass structure and mechanical properties of nanoporous organosilicate thin films** *INTERNATIONAL JOURNAL OF MATERIALS RESEARCH*
  Gage, D. M., Peng, L., Stebbins, J., Yim, K. S., Al-Bayati, A., Demos, A., Dauskardt, R. H.
  2010; 101 (2): 228-235
- **Micromechanics and Damage Processes in Interconnect Structures** *60th Electronic Components and Technology Conference*
  Hsing, A. W., Kearney, A. V., Li, L., Xue, J., BRILLHART, M., Dauskardt, R. H.
  IEEE.2010: 1303–1308
- **High Toughness and Moisture Insensitive Hydrogenated Amorphous Silicon Carbide Films for MEMS/NEMS** *Symposium on Chemical Sensors 9 - Chemical and Biological Sensors and Analytical Systems / Symposium on Microfabricated and Nanofabricated Systems for MEMS/ NEMS 9 held during the 218th Meeting of the Electrochemical-Society (ECS)*
  Matsuda, Y., King, S. W., Bielefeld, J., Dauskardt, R. H.
  ELECTROCHEMICAL SOC INC.2010: 257–61
- **Cohesive Toughness Of Low-k Film With Periodically Changing Elastic Modulus: Cube-Corner Indentation** *11th International Workshop on Stress-Induced Phenomena in Metallization*
  Yeap, K. B., Hangen, U., Ritz, Y., Kim, T., Dauskardt, R., Zsehech, E.
  AMER INST PHYSICS.2010: 159–165
- **Solution Chemistry Effects on Cracking and Damage Evolution during Chemical Mechanical Planarization** *Journal of Materials Research*
  Dauskardt, R., H., Ong, Markus, D., Leduc, P., McKenzie, Daniel, W., Farjot, T., Maitrejean, G.
  2010; 10 (25): 1904 - 1909
- **Molecular Mobility in Nanoporous Organosilicate Thin Films** *NanoLetters*
  Kim, T., Dauskardt, Reinhold, H.
  2010; 5 (10): 1955-1959
- **Molecular Design of Ultra-Low-k Hybrid Glasses**
  Oliver, M., Dubois, G., Dauskardt, R.
  2010

- **Emollient Molecule Effects on the Drying Stresses in Human Stratum Corneum** *British Journal of Dermatology*
  Levi, K., Kwan, A., Rhines, A., S., Gorcea, M., Moore, D., J., Dauskardt, R., H.
  2010; 4 (163): 695 – 703
- **Optimized Adhesive Bonding to Bulk Metallic Glass Substrates** *SAMPE 2010*
  Yang, J., Oliver, M., S., Dauskardt, R., H.
  2010
- **Bilayer Metal Gate Electrodes with Tunable Work Function– Mechanism and Proposed Model** *Journal of Applied Physics*
  Lu, C., Wong, Gloria, M. T., Birringer, Ryan, P., Dauskardt, R., Deal, M., Clemens, Bruce, M.
  2010; 107: 63710
- **Bilayer Metal Gate Electrodes with Tunable Work Function – Adhesion and Interface Characterization** *Journal of Applied Physics*
  Birringer, Ryan, P., Lu, C., Deal, M., Nishi, Y., Dauskardt, Reinhold, H.
  2010; 108: 53704
- **Microprobing the Mechanics of Complex Interconnect Structures**
  Hsing, A., W., Kearney, A., V., Li, L., Xue, J., Brillhart, M., Dauskardt, R., H.
  2010
- **High toughness and moisture insensitive hydrogenated amorphous silicon carbide films for MEMS/NEMS** *ECS Transactions*
  Matsuda, Y., King, Sean, W., Bielefeld, J., Dauskardt, Reinhold, H.
  2010; 8 (33): 257-261
- **Mechanical Properties of Hydrogenated Amorphous Silicon Carbide Thin Films**
  Matsuda, Y., King, Sean, W., Bielefeld, J., Dauskardt, Reinhold, H.
  2010
- **Molecular Structure and Fracture Properties of Hybrid Organic-Inorganic Films** *Journal of Sol-Gel Science and Technology*
  Oliver, Mark, S., Blohowiak, Kay, Y., Dauskardt, Reinhold, H.
  2010; 55: 360 - 368
- **Crack Growth Mechanisms in Sol-Gel Adhesive Coupling Layers** *SAMPE 2010*
  Oliver, M., S., Dauskardt, R., H.
  2010
- **Effects of e-Beam Curing on Glass Structure and Mechanical Properties of Nanoporous Organosilicate Thin Films** *International Journal of Materials Research*
  Dauskardt, R., H., Gage, David, M., Peng, L., Stebbins, J., Yim, K. S., Demos, A.
  2010; 101: 228 - 235
- **Application of Substrate Curvature Method to Differentiate Drying Stresses in Topical Coatings and Human Stratum Corneum** *International Journal of Cosmetic Science*
  Levi, K., Dauskardt, R., H.
  2010: 1-5
- **Integration Challenges of Nanoporous Low Dielectric Constant Materials** *47th Annual IEEE International Reliability Physics Symposium*
  Kim, T., Dauskardt, R. H.
  IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2009: 509–15
- **Surfactant-controlled damage evolution during chemical mechanical planarization of nanoporous films** *ACTA MATERIALIA*
  Kim, T., Konno, T., Dauskardt, R. H.
  2009; 57 (16): 4687-4696
- **Tailoring UV cure depth profiles for optimal mechanical properties of organosilicate thin films** *APPLIED PHYSICS LETTERS*
  Kim, T., Chumakov, D., Zschech, E., Dauskardt, R. H.
  2009; 95 (7)
- **Surfactant Mobility in Nanoporous Glass Films** *NANO LETTERS*
  Kim, T., Mackie, K., Zhong, Q., Peterson, M., Konno, T., Dauskardt, R. H.

2009; 9 (6): 2427-2432

- **Effects of thermal annealing and Si incorporation on bonding structure and fracture properties of diamond-like carbon films** *DIAMOND AND RELATED MATERIALS*
  Choi, H. W., Gage, D. A., Dauskardt, R. H., Lee, K., Oh, K. H.
  2009; 18 (4): 615-619

- **R&D for Solar Power** *ADVANCED MATERIALS & PROCESSES*
  Khan, R., Dauskardt, R. H., Geyer, M., Pearsall, T. P., Meerfeld, D. W.
  2009; 167 (1): 35-37

- **Solar Power R&D** *Advanced Materials and Processes*
  Khan, M., R., Dauskardt, R., H., Geyer, M., Pearsall, T., P., Merfeld, D., W.
  2009; 1 (167): 35 - 37

- **Tailoring UV Cure Depth Profiles for Optimal Mechanical Properties of Organosilicate Thin Films** *Applied Physics Letters*
  Kim, T., DmytroChumakov, Reinhold, E. Z.
  2009; 95: 71902

- **Drying Stress and Skin Damage in Human Stratum Corneum** *," International Journal of Cosmetic Science*
  Levi, K., Weber, Robert, J., Do, James, Q., Dauskardt, R., H.
  2009: 1-8

- **Surfactant-Controlled Damage Evolution during Chemical Mechanical Planarization of Nanoporous Films** *Acta Materialia*
  Kim, T., Konno, T., Dauskardt, Reinhold, H.
  2009; 57: 4687 - 4696

- **Adhesion, Cu Voiding, and Debonding Kinetics of Copper / Dielectric Diffusion Barrier Films** *Advanced Metallization Conference*
  Dauskardt, R., H., Birringer, R., Shaviv, R., Mountsier, T., Reid, J., Geiss, J.
  2009

- **Integration Challenges of Nanoporous Low Dielectric Constant Materials** *IEEE Transactions on Device and Materials Reliability*
  Kim, T., Dauskardt, Reinhold, H.
  2009; 4 (9)

- **Impact of CMP polish and pCMP Cleaning on adhesion of SiCN capping layer on PECVD-derived Porous OSG and Copper** *9th International Symposium on Ultra Clean Processing of Semiconductor Surfaces (UCPSS)*
  Gage, D. M., Thiel, A. D., Dauskardt, R. H., Haas, M. K., Matz, L. M., O'Neill, M. L., Wieder, T. M., Banerjee, G., Rao, M. B.
  TRANS TECH PUBLICATIONS LTD.2009: 377–380

- **Aluminum-Germanium Eutectic Bonding for 3D Integration** *IEEE International Conference on 3D Systems Integration*
  Crnogorac, F., Birringer, R., Dauskardt, R., Pease, F.
  IEEE.2009: 384–388

- **Pore size scaling for enhanced fracture resistance of nanoporous polymer thin films** *ACTA MATERIALIA*
  Kearney, A. V., Litteken, C. S., Mohler, C. E., Mills, M. E., Dauskardt, R. H.
  2008; 56 (20): 5946-5953

- **INNOVATIONS IN SOLAR POWER** *ADVANCED MATERIALS & PROCESSES*
  Khan, M. R., Merfeld, D. W., Pearsall, T. P., Geyer, M., Dauskardt, R. H.
  2008; 166 (11): 45-48

- **Superior mechanical properties of dense and porous organic/inorganic hybrid thin films** *14th International Sol-Gel Conference*
  Dubois, G., Volksen, W., Magbitang, T., Sherwood, M. H., Miller, R. D., Gage, D. M., Dauskardt, R. H.
  SPRINGER.2008: 187–93

- **Tuning depth profiles of organosilicate films with ultraviolet curing** *JOURNAL OF APPLIED PHYSICS*
  Kim, T., Tsuji, N., Matsushita, K., Kobayashi, N., Chumakov, D., Geisler, H., Zschech, E., Dauskardt, R. H.
  2008; 104 (7)

- **Molecular-controlled fracture and release of templated nanoporous organosilicate thin films** *ADVANCED MATERIALS*

Ong, M. D., Volksen, W., Dubois, G., Lee, V., Brock, P. J., Deline, V. R., Miller, R. D., Dauskardt, R. H.
2008; 20 (16): 3159-3164

- **Effects of UV cure on glass structure and fracture properties of nanoporous carbon-doped oxide thin films** *JOURNAL OF APPLIED PHYSICS*
  Gage, D. M., Stebbins, J. F., Peng, L., Cui, Z., Al-Bayati, A., MacWilliams, K. P., M'saad, H., Dauskardt, R. H.
  2008; 104 (4)
- **Fatigue damage initiation and growth from artificial defects in Zr-based metallic glass** *ACTA MATERIALIA*
  Menzel, B. C., Dauskardt, R. H.
  2008; 56 (13): 2955-2965
- **Depth dependence of ultraviolet curing of organosilicate low-k thin films** *JOURNAL OF APPLIED PHYSICS*
  Kim, T., Tsuji, N., Kemeling, N., Matsushita, K., Chumakov, D., Geisler, H., Zschech, E., Dauskardt, R. H.
  2008; 103 (6)
- **Characteristic of silver doped DLC films on surface properties and protein adsorption** *DIAMOND AND RELATED MATERIALS*
  Choi, H. W., Dauskardt, R. H., Lee, S., Lee, K., Oh, K. H.
  2008; 17 (3): 252-257
- **Quantitative roadmap for optimizing CMP of ultra-low-k dielectrics** *IEEE International Interconnect Technology Conference*
  Kim, T., Konno, T., Yamanaka, T., Dauskardt, R. H.
  IEEE.2008: 171–173
- **Tuning Depth Profiles of Organosilicate Films with Ultraviolet Curing** *Journal of Applied Physics*
  Dauskardt, R., H., Kim, T., Tsuji, N., Matsushita, K., Chumakov, D., Zschech, H.
  2008; 104: 74113
- **Fatigue Damage Initiation and Growth from Artificial Defects in Zr-Based Metallic Glass** *Acta Materialia*
  Menzel, B., Dauskardt, R., H.
  2008; 56: 2955 – 2965
- **Innovations in Solar Power** *Advanced Materials and Processes*
  Khan, M., R., Merfeld, D., W., Pearsall, T., P., Geyer, M., Dauskardt, R., H.
  2008; 11 (166): 45 - 48
- **Effects of Current Density, Environments and Temperature on Adhesion and Debonding Kinetics of Cu / Barrier Interfaces** *Advanced Metallization Conference*
  Birringer, R., Shaviv, R., Dauskardt, Reinhold, H.
  2008: 331-336
- **Characteristic of Silver Doped DLC Films on Surface Properties and Protein Adsorption** *Diamond and Related Materials*
  Choi, H., W., Dauskardt, R., H., Lee, S, C., Lee, K. R., Oh, K., H.
  2008
- **Pore Size Scaling for Enhanced Fracture Resistance of Nanoporous Polymer Thin Films** *Acta Materialia*
  Kearney, A., V., Litteken, C., S., Mohler, C., E., Mills, M., E., Dauskardt, R., H.
  2008; 56: 5946–5953
- **Effects of UV Cure on Glass Structure and Fracture Properties of Nanoporous Carbon-Doped Oxide Thin Films** *Journal of Applied Physics*
  Dauskardt, R., H., Gage, D., M., Stebbins, J., F., Peng, L., Cui, Z., MacWilliams, A.
  2008; 104: 43513
- **Depth Dependence of Ultraviolet (UV) Curing of Organosilicate Low-K Films** *Journal of Applied Physics*
  Kim, T., Tsuji, N., Matsushita, K., Chumakov, D., Zschech, E., Dauskardt, Reinhold, H.
  2008; 103: 64108
- **Tuning Depth Profiles of Low-k Dielectrics with UV Curing** *Advanced Metallization Conference*
  Dauskardt, R., H., Kim, T., Tsuji, N., Hilst, J. d., Kobayashi, K. N., Geisler, D.
  2008: 337-340

- **Reliability of Adhesive Interphases for Titanium-Graphite Laminates** *SAMPE 2008*
  Oliver, Mark, S., Blohowiak, Kay, Y., Dauskardt, Reinhold, H.
  2008
- **Optimizing CMP for Ultra-Low-k Dielectrics** *13th International Chemical Mechanical Planarization Conference for ULSI Multilevel Interconnection*
  Kim, T., Konno, T., Yamanaka, T., Dauskardt, Reinhold, H.
  2008
- **Molecular Controlled Fracture and Release of Templated Nanoporous Organosilicate Thin Films** *Advanced Materials*
  Dauskardt, R., H., Ong, M., Volksen, W., Dubois, G., Lee, V., Deline, P., J.
  2008; 20: 3159–3164
- **Effect of Corneodesmosome Degradation on the Intercellular Delamination of Human Stratum Corneum** *Journal of Investigative Dermatology*
  Levi, K., Baxter, J., Meldrum, H., Misra, M., Pashkovski, E., Dauskardt, R., H.
  2008; 9 (128): 2345 – 2347
- **The Role of Friction and Loading Parameters on Four-Point Bend Adhesion Measurements** *Journal of Materials Research*
  Gage, D., M., Kim, K., Litteken, C., S., Dauskardt, R., H.
  2008; 1 (23): 87 – 96
- **UV, e-beam, and thermal curing of low-k organosilicates: Effects on glass structure and mechanical properties** *24th Advanced Metallization Conference 2007 (AMC)*
  Gage, D. M., Yim, K. S., Al-Bayati, A., Demos, A., M'saad, H., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2008: 433–438
- **Depth dependence of UV curing of organosilicate low-k thin films** *24th Advanced Metallization Conference 2007 (AMC)*
  Kim, T., Tsuji, N., van der Hilst, J., Kemeling, N., Matsushita, K., Kobayashi, N., Chumakov, D., Geisler, H., Zschech, E., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2008: 455–458
- **Role of friction and loading parameters in four-point bend adhesion measurements** *JOURNAL OF MATERIALS RESEARCH*
  Gage, D. M., Kim, K., Litteken, C. S., Dauskardt, R. H.
  2008; 23 (1): 87-96
- **Molecular network reinforcement of sol-gel glasses** *ADVANCED MATERIALS*
  Dubois, G., Volksen, W., Magbitang, T., Miller, R. D., Gage, D. M., Dauskardt, R. H.
  2007; 19 (22): 3989-?
- **Time-dependant intercellular delamination of human stratum corneum** *JOURNAL OF MATERIALS SCIENCE*
  Wu, K. S., Li, J., Ananthapadmanabhan, K. P., Dauskardt, R. H.
  2007; 42 (21): 8986-8994
- **Response to comments on "The fatigue endurance limit of a Zr-based bulk metallic glass"** *SCRIPTA MATERIALIA*
  Menzel, B. C., Dauskardt, R. H.
  2007; 57 (1): 69-71
- **Adhesion between template materials and UV-cured nanoimprint resists** *JOURNAL OF VACUUM SCIENCE & TECHNOLOGY B*
  Houle, F. A., Guyer, E., Miller, D. C., Dauskardt, R.
  2007; 25 (4): 1179-1185
- **Anomalous debonding behavior of a polymer/inorganic interface** *ACTA MATERIALIA*
  Sharratt, B. M., Wang, L. C., Dauskardt, R. H.
  2007; 55 (10): 3601-3609
- **Aqueous solution diffusion in hydrophobic nanoporous thin-film glasses** *JOURNAL OF MATERIALS RESEARCH*
  Guyer, E. P., Gantz, J., Dauskardt, R. H.
  2007; 22 (3): 710-718
- **Thermomechanical properties of thin organosilicate glass films treated with ultraviolet-assisted cure** *ACTA MATERIALIA*
  Iacopi, F., Beyer, G., Travaly, Y., Waldfried, C., Gage, D. M., Dauskardt, R. H., Houthoofd, K., Jacobs, P., Adriaensens, P., Schulze, K., Schulz, S. E., List, S., Carlotti, et al

2007; 55 (4): 1407-1414

- **Assessing the effect of die sealing in Cu/low-k structures** *10th Annual International Interconnect Technology Conference (IITC)*
  Kearney, A. V., Vairagar, A. V., Geisler, H., Zschech, E., Dauskardt, R. H.
  IEEE.2007: 138–140
- **Non-uniform UV curing effects on mechanical and fracture properties of organosilicate low-k thin films** *Advanced Metallization Conference 2006*
  Kim, T., Tsuji, N., Kemeling, N., Matsushita, K., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2007: 389–394
- **Diffusion of Aqueous Solutions into Hydrophobic Nanoporous Thin-Films** *Journal of Materials Research*
  Guyer, E., P., Gantz, J., Dauskardt, R., H.
  2007; 3 (22): 710-718
- **Adhesion between template materials and UV-cured nanoimprint resists** *J. Vac. Sci. Technol. B*
  Houle, F., A., Guyer, E., P., Miller, D., C., Dauskardt, R., H.
  2007; 4 (25): 1179
- **A Novel Bonding Technique Using Metal-Induced Crystallization of Amorphous Silicon** *Mater. Res. Soc. Symp. Proc.*
  Ong, Markus, D., Dauskardt, Reinhold, H.
  2007
- **Stress and Slurry Chemistry Effects on CMP Damage of Ultra-Low-k Dielectrics**
  Kim, T., Zhong, Q., Peterson, M., Tam, H., Konno, T., Dauskardt, Reinhold, H.
  2007
- **Effect of Silane Functional Group on Adhesion of Selected Epoxies for Microelectronic Packaging** *Journal of Microelectronics and Electronic Packaging*
  Borrego, M., Jenkins, Dauskardt, R., H., Bravman, J., C.
  2007; 1 (4): 8-15
- **Anomalous Debonding Behavior of a Polymer/Inorganic Interface** *Acta Materialia*
  Sharratt, B., M., Wang, L., C., Dauskardt, R., H.
  2007; 55: 3601–3609
- **Response to Comments on The Fatigue Endurance Limit of a Zr-Based Bulk Metallic Glass** *Scripta Materialia*
  Menzel, B., Dauskardt, R., H.
  2007; 57: 69–71
- **Molecular Network Reinforcement of sol-gel glasses** *Advanced Materials*
  Dubois, G., Volksen, W., Magbitang, T., Miller, R., D., Gage, D., M., Dauskardt, R., H.
  2007; 19: 3989–3994
- **Assessing the Effect of Die Sealing in Cu/Low-k Structures**
  Kearney, Andrew, V., Vairagar, Anand, V., Geisler, H., Zschech, E., Dauskardt, Reinhold, H.
  2007
- **Thermo-mechanical properties of thin organosilicate glass films treated with Ultra-Violet –assisted cure** *Acta Materialia*
  Iacopia, F., Beyer, G., Travaly, Y., Waldfried, C., Gage, D., M., Dauskardt, R., H.
  2007; 4 (55): 407-1414
- **Stress and slurry chemistry effects on CMP damage of ultra-low-k dielectrics** *10th Annual International Interconnect Technology Conference (IITC)*
  Kim, T., Zhong, Q., Peterson, M., Tam, H., Konno, T., Dauskardt, R. H.
  IEEE.2007: 129–131
- **A novel bonding technique using metal-induced crystallization of amorphous silicon** *Symposium on Amorphous and Polycrystalline Thin-Film Silicon Science and Technology held at the 2007 MRS Spring Meeting*
  Ong, M. D., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2007: 109–114

- **Influence of porosity and film thickness on adhesion of nanoporous organic dielectrics** *Advanced Metallization Conference 2006*
  Kearney, A. V., Chang, H., Mills, M. E., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2007: 517–520
- **Effect of UV cure on adhesive and cohesive failure of low-k films: Implications for integration** *Advanced Metallization Conference 2006*
  Gage, D. M., Stebbins, J. F., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2007: 327–330
- **Non-uniform UV curing effects on mechanical and fracture properties of organosilicate low-k thin films** *Advanced Metallization Conference 2006*
  Kim, T., Tsuji, N., Kemeling, N., Matsushita, K., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2007: 389–394
- **Graded delamination behavior of human stratum corneum** *BIOMATERIALS*
  Wu, K. S., Stefik, M. M., Ananthapadmanabhan, K. P., Dauskardt, R. H.
  2006; 27 (34): 5861-5870
- **Mode II fracture behavior of a Zr-based bulk metallic glass** *JOURNAL OF THE MECHANICS AND PHYSICS OF SOLIDS*
  Flores, K. M., Dauskardt, R. H.
  2006; 54 (11): 2418-2435
- **The fatigue endurance limit of a Zr-based bulk metallic glass** *SCRIPTA MATERIALIA*
  Menzel, B. C., Dauskardt, R. H.
  2006; 55 (7): 601-604
- **Fracture of nanoporous methyl silsesquioxane thin-film glasses** *JOURNAL OF MATERIALS RESEARCH*
  Guyer, E. P., Patz, M., Dauskardt, R. H.
  2006; 21 (4): 882-894
- **Short-ranged structural rearrangement and enhancement of mechanical properties of organosilicate glasses induced by ultraviolet radiation** *JOURNAL OF APPLIED PHYSICS*
  Iacopi, F., Travaly, Y., Eyckens, B., Waldfried, C., Abell, T., Guyer, E. P., Gage, D. M., Dauskardt, R. H., Sajavaara, T., Houthoofd, K., Grobet, P., Jacobs, P., Maex, et al
  2006; 99 (5)
- **Stress-life fatigue behavior of a Zr-based bulk metallic glass** *ACTA MATERIALIA*
  Menzel, B. C., Dauskardt, R. H.
  2006; 54 (4): 935-943
- **Fatigue damage in bulk metallic glass I: Simulation** *SCRIPTA MATERIALIA*
  Cameron, K. K., Dauskardt, R. H.
  2006; 54 (3): 349-353
- **Fatigue damage in bulk metallic glass II: Experiments** *SCRIPTA MATERIALIA*
  Hess, P. A., Menzel, B. C., Dauskardt, R. H.
  2006; 54 (3): 355-361
- **Mechanical properties of human stratum corneum: Effects of temperature, hydration, and chemical treatment** *BIOMATERIALS*
  Wu, K. S., van Osdol, W. W., Dauskardt, R. H.
  2006; 27 (5): 785-795
- **UV curing effects on glass structure and mechanical properties of organosilicate low-k thin films** *9th International Interconnect Technology Conference (IITC)*
  Gage, D. M., Guyer, E. P., Stebbins, J. F., Cui, Z., Al-Bayati, A., Demos, A., MacWilliams, K. P., Dauskardt, R. H.
  IEEE, ELECTRON DEVICES SOC & RELIABILITY GROUP.2006: 149–151
- **Adhesion between template materials and UV-cured nanoimprint resists** *Conference on Advances in Resist Technology and Processing XXIII*
  Houle, F. A., Guyer, E., Miller, D. C., Dauskardt, R., Rice, E., Hamilton, J.
  SPIE-INT SOC OPTICAL ENGINEERING.2006: U548–U555

- **Short-ranged structural rearrangement and enhancement of mechanical properties of organosilicate glasses induced by UltraViolet radiation** *Journal of Applied Physics*
  Dauskardt, R., H., Iacopi, F., Travaly, Y., Eyckens, B., Waldfried, C., Guyer, T.
  2006; 99: 053511-1 - 053511-7
- **Adhesion between template materials and UV-cured nanoimprint resists**
  Houle, F., A., Guyerb, E., Millera, D., C., Dauskardt, R., H., Rice, E., Hamilton, J.
  2006
- **Stress and Slurry Chemistry Effects on Cracking and Damage Evolution during CMP: Implications for Next Technology Nodes** *Twelfth International Conference on Chemical-Mechanical Polish (CMP) Planarization for ULSI Multilevel Interconnection (CMP-MIC)*
  Dauskardt, Reinhold, H., Kim, T., Zhong, Q., Peterson, M., Tam, H., Konno, T.
  2006
- **Non-Uniform UV Curing Effects on Mechanical and Fracture Properties of Organosilicate Low-k Thin Films**
  Kim, T., Tsuji, N., Kemeling, N., Matsushita, K., Dauskardt, R., H.
  2006
- **Effect of UV Cure on Adhesive and Cohesive Failure of Low-k Films: Implications for Integration**
  Gage, D., M., Stebbins, J., F., Dauskardt, R., H.
  2006
- **Fracture of Nanoporous Methyl Silsesquioxane Thin-Film Glasses** *Journal of Materials Research*
  Guyer, E., P., Patz, M., Dauskardt, R., H.
  2006; 4 (21)
- **The Role of Nanoscale Confinement of Adhesion Promoting Molecules on the Adhesion and Resistance to Moisture Attack at the Polymer/ Silicon Nitride Interface**
  Sharratt, B., M., Dauskardt, R., H.
  2006
- **Influence of Porosity and Film Thickness on Adhesion of Nanoporous Organic Dielectrics**
  Kearney, Andrew, V., Chang, H., Mills, Michael, E., Dauskardt, Reinhold, H.
  2006
- **Stress-Life Fatigue Behavior of a Zr-Based Bulk Metallic Glass** *Acta Materialia*
  Menzel, B., Dauskardt, R., H.
  2006; 4 (54): 935 - 943
- **Mode II Fracture Behavior of a Zr-Based Bulk Metallic Glass** *Journal of the Mechanics and Physics of Solids*
  Flores, K., M., Dauskardt, R., H.
  2006; 11 (54): 2418 – 2435
- **Effects of Nonionic Surfactants on the Fracture of Nanoporous Methylsilsesquioxane Thin-Film Glasses** *International Conference of Planarization/CMP Technology*
  Kim, T., Zhong, Q., Peterson, M., Tam, H., Konno, T., Dauskardt, Reinhold, H.
  2006
- **The Fatigue Endurance Limit of a Zr-Based Bulk Metallic Glass** *Scripta Materialia*
  Menzel, B., Dauskardt, R., H.
  2006; 55: 601 - 604
- **UV-assisted curing: an effective technique for toughening low-k organosilicate films** *22nd Annual Advanced Metallization Conference (AMC)*
  Iacopi, F., Waldfried, C., Houthoofd, K., Guyer, E. P., Gage, D. M., Carlotti, G., Travaly, Y., Abell, T., Escorcia, O., Beyer, G., Berry, I., Dauskardt, R. H., Maex, et al
  MATERIALS RESEARCH SOCIETY.2006: 247–254
- **Fracture properties of porous MSSQ films: Impact of porogen loading and burnout** *Symposium on Materials, Technology and Reliability of Low-k Dielectrics and Copper Interconnects held at the 2006 MRS Spring Meeting*
  Ong, M. D., Jousseaume, V., Maitrejean, S., Dauskardt, R. H.

MATERIALS RESEARCH SOCIETY.2006: 15–20

- **Residual stress effects on plastic deformation and interfacial fracture in thin-film structures** *ACTA MATERIALIA*
  Litteken, C. S., Strohband, S., Dauskardt, R. H.
  2005; 53 (7): 1955-1961
- **Indentation fracture toughness of amorphous steel** *JOURNAL OF MATERIALS RESEARCH*
  Hess, P. A., Poon, S. J., Shiflet, G. J., Dauskardt, R. H.
  2005; 20 (4): 783-786
- **Effect of solution pH on the accelerated cracking of nanoporous thin-film glasses** *JOURNAL OF MATERIALS RESEARCH*
  Guyer, E. P., Dauskardt, R. H.
  2005; 20 (3): 680-687
- **Comparison of the telephone cord delamination method for measuring interfacial adhesion with the four-point bending method** *ACTA MATERIALIA*
  Lee, A., Litteken, C. S., Dauskardt, R. H., Nix, W. D.
  2005; 53 (3): 609-616
- **Effect of porosity on reducing cohesive strength and accelerating crack growth in ultra low-k thin-films** *IEEE International InterconnectTechnology Conference 2005*
  Guyer, E. P., Dauskardt, R. H.
  IEEE.2005: 223–225
- **Effects of Friction and Loading Parameters on Four-Point Bend Adhesion Measurements of Low-k Thin Film Interconnect Structures**
  Gage, D., M., Kim, K., Litteken, C., S., Dauskardt, R., H.
  2005
- **Indentation Fracture Toughness of Amorphous Steel** *Journal of Materials Research*
  Hess, P., A., Poon, S., J., Shiflet, G., J., Dauskardt, R., H.
  2005; 4 (20): 783 – 786
- **Benchmarking Four Point Bend Adhesion Testing: The Effect of Test Parameters On Adhesion Energy** *2005 International Conference on Characterization and Metrology for ULSI Technology*
  Dauskardt, R., H., Cui, Z., Dixit, G., Xia, L., Demos, A., Witty, B., H.
  2005
- **Mechanical Properties of Human Stratum Corneum: Effects of Temperature, Hydration, and Chemical Treatment** *Biomaterials*
  Wu, K., S., Osdol, W., W. van, Dauskardt, R., H.
  2005; 5 (27): 785-795
- **Effects of friction and loading parameters on four-point bend adhesion measurements of low-k thin film interconnect structures** *IEEE International InterconnectTechnology Conference 2005*
  Gage, D. M., Kim, K., Litteken, C. S., Dauskardt, R. H.
  IEEE.2005: 42–44
- **Effect of interface chemistry and thermomechanical loading on debonding of polymer/silicon interfaces: Implications for device reliability.**
  Sharratt, B., M., Wang, L., C., Dauskardt, R., H.
  2005
- **Effects of Friction and Loading Parameters on Four-Point Bend Adhesion Measurements of Low-k Thin Film Interconnect Structures**
  Gage, D., M., Kim, K., Litteken, C., S., Dauskardt, R., H.
  2005
- **Indentation Fracture Toughness of Amorphous Steel** *Journal of Materials Research*
  Hess, P., A., Poon, S., J., Shiflet, G., J., Dauskardt, R., H.
  2005; 4 (20): 783 – 786
- **Benchmarking Four Point Bend Adhesion Testing: The Effect of Test Parameters On Adhesion Energy** *2005 International Conference on Characterization and Metrology for ULSI Technology*
  Dauskardt, R., H., Cui, Z., Dixit, G., Xia, L., Demos, A., Witty, B., H.

2005

- **Mechanical Properties of Human Stratum Corneum: Effects of Temperature, Hydration, and Chemical Treatment** *Biomaterials*
  Wu, K., S., Osdol, W., W. van, Dauskardt, R., H.
  2005; 5 (27): 785-795
- **Effects of friction and loading parameters on four-point bend adhesion measurements of low-k thin film interconnect structures** *IEEE International InterconnectTechnology Conference 2005*
  Gage, D. M., Kim, K., Litteken, C. S., Dauskardt, R. H.
  IEEE.2005: 42–44
- **Electrical technique for monitoring crack growth in thin-film fracture mechanics specimens** *JOURNAL OF MATERIALS RESEARCH*
  Guyer, E. P., Dauskardt, R. H.
  2004; 19 (11): 3139-3144
- **Failure of medullary tubes - A materials analysis** *INJURY-INTERNATIONAL JOURNAL OF THE CARE OF THE INJURED*
  Taub, M., Wera, G., Dauskardt, R. H., Mohler, D. G.
  2004; 35 (9): 878-882
- **Fatigue crack growth in micro-machined single-crystal silicon** *JOURNAL OF MATERIALS RESEARCH*
  Renuart, E. D., Fitzgerald, A. M., Kenny, T. W., Dauskardt, R. H.
  2004; 19 (9): 2635-2640
- **Mechanisms of elevated temperature fatigue crack growth in Zr-Ti-Cu-Ni-Be bulk metallic glass** *ACTA MATERIALIA*
  Hess, P. A., Dauskardt, R. H.
  2004; 52 (12): 3525-3533
- **Toughening of nanoporous glasses using porogen residuals** *NATURE MATERIALS*
  Maidenberg, D. A., Volksen, W., Miller, R. D., Dauskardt, R. H.
  2004; 3 (7): 464-469
- **Fracture and deformation of bulk metallic glasses and their composites** *International Symposium on Intermetallic and Advanced Materials*
  Flores, K. M., Dauskardt, R. H.
  ELSEVIER SCI LTD.2004: 1025–29
- **Accelerated crack growth of nanoporous low-k glasses in CMP slurry enviromments** *7th Annual International Interconnect Technology Conference*
  Guyer, E. P., Dauskardt, R. H.
  IEEE.2004: 236–238
- **The prospects for mechanical ratcheting of bulk metallic glasses** *Symposium on Amorphous and Nanocrystalline Metals held at the 2003 MRS Fall Meeting*
  Wright, W. J., Dauskardt, R. H., Nix, W. D.
  MATERIALS RESEARCH SOCIETY.2004: 319–324
- **Accelerated Crack Growth of Nanoporous Low-k Glasses in CMP Slurry Environment**
  Guyer, E., P., Dauskardt, R., H.
  2004
- **Reliability of Thin-Film Structures for Device Technologies: Adhesion, New Materials and Length Scale Challenges** *Interfaces In Electronic Materials, Electrochemical Society*
  Guyer, E., P., Litteken, C., Maidenberg, D., Dauskardt, R., H.
  2004
- **Effect of Aqueous Solution Chemistry on the Accelerated Cracking of Lithographically Patterned Arrays of Copper and Nanoporous Thin-Films** *MRS Symposium ProceedingsMaterials Research Society*
  Guyer, E., P., Dauskardt, R., H.
  2004
- **Electrical Resistance Technique to Measure Crack Length in Fracture Mechanics Specimens Containing Thin-Film Structures** *Journal of Materials Research*

Guyer, E., P., Dauskardt, R., H.
2004; 11 (19): 3139-3144

- **Fatigue Loading Effects on Underfull/Passivation Interface Reliability for High Density Packaging**
  Sharratt, B., Dauskardt, R., H.
  2004
- **Debonding under fatigue loading at polymer/inorganic interfaces.**
  Sharratt, B., M., Dauskardt, R., H.
  2004
- **Accelerated Crack Growth of Nanoporous Low-k Glasses in Aqueous Solutions**
  Guyer, E., P., Dauskardt, R., H.
  2004
- **Fracture and Deformation of Metallic Glasses and their Composites** *Intermetallics*
  Flores, K., M., Dauskardt, R., H.
  2004; 7-9 (12): 1025-1029
- **Failure of Medullary Tubes: A Materials Analysis** *Injury, International Journal of the Care of the Injured*
  Taub, M., B., Wera, G., Dauskardt, R., H., Mohler, D., G.
  2004; 35: 878 – 882
- **Fatigue Crack Growth in Micro-Machined Single Crystal Silicon Specimens** *Journal of Materials Research*
  Renuart, E., Fitzgerald, A., M., Kenny, T., W., Dauskardt, R., H.
  2004; 9 (19): 2635-2640
- **Toughening of Nanoporous Glasses Using Porogen Residuals** *Nature Materials*
  Maidenberg, D., A., Volksen, W., Miller, R., D., Dauskardt, R., H.
  published online.2004: 464–469
- **Important Factors for Silane Adhesion: Surface Coverage, Functionality, and Chain Length** *Journal of Adhesion Science and Technology*
  Jenkins, M., L., Dauskardt, R., H., Bravman, J., C.
  2004; 13 (18): 1483 -1588
- **Fracture of Nanoporous Thin-Film Glasses** *Nature Materials*
  Guyer, E., P., Dauskardt, R., H.
  2004; 3: 53–57
- **Elevated Temperature Fatigue Crack Propagation of a Zr-Based Bulk Metallic Glass** *Acta Materialia*
  Hess, P., A., Dauskardt, R., H.
  2004; 12 (52): 3525-3533
- **Effect of aqueous solution chemistry on the accelerated cracking of lithographically patterned arrays of copper and nanoporous thin-films** *Synposium on Materials, Technology and Reliability for Advanced Interconnects and Low-k Dielectrics held at the 2004 MRS Spring Meeting*
  Guyer, E. P., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2004: 303–308
- **Transient fatigue crack-growth behavior and damage zones in Zr-based bulk metallic glass** *Symposium on Amorphous and Nanocrystalline Metals held at the 2003 MRS Fall Meeting*
  Hess, P. A., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2004: 325–330
- **Debonding under fatigue loading at polymer/inorganic interfaces** *Symposium on Nanoscale Materials and Modeling held at the 2004 MRS Spring Meeting*
  Sharratt, B. M., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2004: 363–368
- **Special issue on fatigue of advanced materials - Preface** *MECHANICS OF MATERIALS*
  Soboyejo, W. O., Dauskardt, R., Ritchie, R. O.
  2004; 36 (1-2): 1-1

- **Important factors for silane adhesion promoter efficacy: surface coverage, functionality and chain length** *JOURNAL OF ADHESION SCIENCE AND TECHNOLOGY*
  JENKINS, M. L., Dauskardt, R. H., Bravman, J. C.
  2004; 18 (13): 1497-1516
- **Fracture of nanoporous thin-film glasses** *NATURE MATERIALS*
  Guyer, E. P., Dauskardt, R. H.
  2004; 3 (1): 53-57
- **Fracture and fatigue behavior of a Zr-Ti-Nb ductile phase reinforced bulk metallic glass matrix composite** *SCRIPTA MATERIALIA*
  Flores, K. M., Johnson, W. L., Dauskardt, R. H.
  2003; 49 (12): 1181-1187
- **Stress wave interference effects during fracture of silicon micromachined specimens** *EXPERIMENTAL MECHANICS*
  Fitzgerald, A. M., Kenny, T. W., Dauskardt, R. H.
  2003; 43 (3): 317-322
- **Temperature dependence of positron annihilation in a Zr-Ti-Ni-Cu-Be bulk metallic glass** *JOURNAL OF MATERIALS RESEARCH*
  Suh, D., Dauskardt, R. H., Asoka-Kumar, P., Sterne, P. A., Howell, R. H.
  2003; 18 (9): 2021-2024
- **Comments on "Mechanical relaxation time scales in a Zr-Ti-Ni-Cu-Be bulk metallic glass" by Daewoong Suh and Reinhold H. Dauskardt [J. Mater. Res. 17, 1254 (2002)] - Reply to the comments of K. Schroter** *JOURNAL OF MATERIALS RESEARCH*
  Suh, D., Dauskardt, R. H.
  2003; 18 (8): 2000-2001
- **Notch strength insensitivity of self-setting hydroxyapatite bone cements** *JOURNAL OF MATERIALS SCIENCE-MATERIALS IN MEDICINE*
  Morgan, J. P., Dauskardt, R. H.
  2003; 14 (7): 647-653
- **Interface separation in residually-stressed thin-film structures** *INTERFACE SCIENCE*
  Strohband, S., Dauskardt, R. H.
  2003; 11 (3): 309-317
- **Effects of open-volume regions on relaxation time-scales and fracture behavior of a Zr-Ti-Ni-Cu-Be bulk metallic glass** *Annual Meeting of the Minerals-Metals-and-Materials-Society*
  Suh, D., Dauskardt, R. H.
  ELSEVIER SCIENCE BV.2003: 181–86
- **Fracture nanomechanics - Preface** *INTERNATIONAL JOURNAL OF FRACTURE*
  Gerberich, W. W., Dauskardt, R. H.
  2003; 119 (4-2): VII-VII
- **Effects of templating byproducts on adhesion of nanoporous dielectric films** *6th Annual International Interconnect Technology Conference*
  Maidenberg, D., Volksen, W., Miller, R., Dauskardt, R.
  IEEE.2003: 48–50
- **Interactions of hydrogen with amorphous nano-structure and their effects on relaxation behavior of Zr-Ti-Ni-Cu-Be bulk metallic glass alloys** *International Conference on Hydrogen Effects on Material Behavior and Corrosion Deformation Interactions*
  Suh, D., Dauskardt, R. H.
  MINERALS, METALS & MATERIALS SOC.2003: 183–190
- **Effect of CMP slurry environments on subcritical crack growth in ultra low-k dielectric materials** *6th Annual International Interconnect Technology Conference*
  Guyer, E. P., Dauskardt, R. H.
  IEEE.2003: 89–91
- **The effect of atomic-scale open-volume on flow and fracture processes in a Zr-Ti-Ni-Cu-Be bulk metallic glass** *Symposium on Supercooled Liquids, Glass Transition and Bulk Metallic Glasses*
  Suh, D., Dauskardt, R. H.

MATERIALS RESEARCH SOCIETY.2003: 249–255

- **Multi-scale simulations of interfacial fracture of nanoscale thin-film structures: Effect of length scales and residual stresses** *Symposium on Mechanical Properties Derived from Nanostructuring Materials held at the 2003 MRS Spring Meeting*
  Strohband, S., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2003: 303–308
- **Elevated temperature fatigue crack propagation of a Zr-Ti-Cu-Ni-Be bulk metallic glass** *Symposium on Supercooled Liquids, Glass Transition and Bulk Metallic Glasses*
  Hess, P. A., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2003: 237–242
- **Effect of moisture and graded-layer mechanical properties on deformation and interfacial adhesion** *Symposium on Mechanical Properties Derived from Nanostructuring Materials held at the 2003 MRS Spring Meeting*
  Wang, L. C., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2003: 227–232
- **Adhesion of polymer thin-films and patterned lines** *INTERNATIONAL JOURNAL OF FRACTURE*
  Litteken, C. S., Dauskardt, R. H.
  2003; 119 (4-2): 475-485
- **Stress Wave Interference Effects during Fracture of Silicon Micromachined Specimens** *Journal of Experimental Mechanics*
  Fitzgerald, A., M., Dauskardt, R., H., Kenny, T., W.
  2003; 3 (43): 317 – 322
- **Notch Strength Insensitivity of Self-Setting Hydroxyapatite Bone Cements** *Journal of Materials Science: Materials in Medicine*
  Morgan, J., P., Dauskardt, R., H.
  2003; 14: 647 – 653
- **Temperature Dependence of Positron Annihilation in a Zr-Ti-Ni-Cu-Be Bulk Metallic Glass: Shallow versus Deep Traps** *Journal of Materials Research*
  Suh, D., Asoka-Kumar, P., Sterne, P., A., Howell, R., H., Dauskardt, R., H.
  2003; 9 (18): 2021-2024
- **Interfacial adhesion of thin-film patterned interconnect structures** *6th Annual International Interconnect Technology Conference*
  Litteken, C., Dauskardt, R., Scherban, T., Xu, G., Leu, J., GRACIAS, D., Sun, B.
  IEEE.2003: 168–170
- **Effects of templating byproducts on adhesion of nanoporous dielectric films** *6th Annual International Interconnect Technology Conference*
  Maidenberg, D., Volksen, W., Miller, R., Dauskardt, R.
  IEEE.2003: 48–50
- **Interactions of hydrogen with amorphous nano-structure and their effects on relaxation behavior of Zr-Ti-Ni-Cu-Be bulk metallic glass alloys** *International Conference on Hydrogen Effects on Material Behavior and Corrosion Deformation Interactions*
  Suh, D., Dauskardt, R. H.
  MINERALS, METALS & MATERIALS SOC.2003: 183–190
- **Effect of CMP slurry environments on subcritical crack growth in ultra low-k dielectric materials** *6th Annual International Interconnect Technology Conference*
  Guyer, E. P., Dauskardt, R. H.
  IEEE.2003: 89–91
- **The effect of atomic-scale open-volume on flow and fracture processes in a Zr-Ti-Ni-Cu-Be bulk metallic glass** *Symposium on Supercooled Liquids, Glass Transition and Bulk Metallic Glasses*
  Suh, D., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2003: 249–255
- **Multi-scale simulations of interfacial fracture of nanoscale thin-film structures: Effect of length scales and residual stresses** *Symposium on Mechanical Properties Derived from Nanostructuring Materials held at the 2003 MRS Spring Meeting*
  Strohband, S., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2003: 303–308

- **Elevated temperature fatigue crack propagation of a Zr-Ti-Cu-Ni-Be bulk metallic glass** *Symposium on Supercooled Liquids, Glass Transition and Bulk Metallic Glasses*
  Hess, P. A., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2003: 237–242

- **Effect of moisture and graded-layer mechanical properties on deformation and interfacial adhesion** *Symposium on Mechanical Properties Derived from Nanostructuring Materials held at the 2003 MRS Spring Meeting*
  Wang, L. C., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2003: 227–232

- **Adhesion of polymer thin-films and patterned lines** *INTERNATIONAL JOURNAL OF FRACTURE*
  Litteken, C. S., Dauskardt, R. H.
  2003; 119 (4-2): 475-485

- **Flow and fracture in Zr-based bulk metallic glasses** *ANNALES DE CHIMIE-SCIENCE DES MATERIAUX*
  Suh, D., Dauskardt, R. H.
  2002; 27 (5): 25-40

- **Opportunities for materials characterization using high-energy positron beams** *APPLIED SURFACE SCIENCE*
  Asoka-Kumar, P., Howell, R., Nieh, T. G., Sterne, P. A., Wirth, B. D., Dauskardt, R. H., Flores, K. M., Suh, D., ODETTE, G. R.
  2002; 194 (1-4): 160-167

- **Mechanical relaxation time scales in a Zr-Ti-Ni-Cu-Be bulk metallic glass** *JOURNAL OF MATERIALS RESEARCH*
  Suh, D. W., Dauskardt, R. H.
  2002; 17 (6): 1254-1257

- **Subcritical debonding of polymer/silica interfaces under monotonic and cyclic loading** *Symposium on Computational Thermodynamics and Materials Design*
  Snodgrass, J. M., Pantelidis, D., JENKINS, M. L., Bravman, J. C., Dauskardt, R. H.
  PERGAMON-ELSEVIER SCIENCE LTD.2002: 2395–2411

- **Characterization of free volume in a bulk metallic glass using positron annihilation spectroscopy** *JOURNAL OF MATERIALS RESEARCH*
  Flores, K. M., Suh, D., Dauskardt, R. H., Asoka-Kumar, P., Sterne, P. A., Howell, R. H.
  2002; 17 (5): 1153-1161

- **Subcritical crack growth in single-crystal silicon using micromachined specimens** *JOURNAL OF MATERIALS RESEARCH*
  Fitzgerald, A. M., Iyer, R. S., Dauskardt, R. H., Kenny, T. W.
  2002; 17 (3): 683-692

- **The effects of hydrogen on viscoelastic relaxation in Zr-Ti-Ni-Cu-Be bulk metallic glasses: implications for hydrogen embrittlement** *ACTA MATERIALIA*
  Daewoong, S., Asoka-Kumar, P., Dauskardt, R. H.
  2002; 50 (3): 537-551

- **Moisture-assisted subcritical debonding of a polymer/metal interface** *JOURNAL OF APPLIED PHYSICS*
  Kook, S. Y., Dauskardt, R. H.
  2002; 91 (3): 1293-1303

- **Adhesion and reliability of underfill/subtrate interfaces in flip chip BGA packages: Metrology and characterization** *27th Annual International Electronics Manufacturing Technology Symposium (IEMT)*
  Nagarajan, K., Dauskardt, R. H.
  IEEE.2002: 206–214

- **Effect of Composition and Bead Settling on Debonding of Underfill Layers**
  Wang, L., Dauskardt, R., H.
  2002

- **Interactions of Hydrogen with Amorphous Nano-Structure and Their Effects on Relaxation Behavior of Zr-Ti-Ni-Cu-Be Bulk Metallic Glass** *International Conference On Hydrogen Effects on Material Behavior and Corrosion Deformation Interactions, Jackson Lake Lodge Moran*
  Suh, D., Dauskardt, R., H.

2002

- **The Effects of Hydrogen on Viscoelastic Relaxation in Zr-Ti-Ni-Cu-Be Bulk Metallic Glasses: Implications for Hydrogen Enbrittlement** *Acta Materialia*
  Suh, D., Asoka-Kumar, P., Dauskardt, R., H.
  2002; 3 (50): 537-551
- **Characterization of Free Volume in Bulk Metallic Glass Using Positron Annihilation Spectroscopy** *Journal of Materials Research*
  Flores, K., M., Suh, D., Asoka-Kumar, P., Sterne, P., A., Howell, R., Dauskardt, R., H.
  2002; 5 (17): 1153-1161
- **The Effect of Atomic-Scale Open-Volume on Flow and Fracture Processes in a Zr-Ti-Ni-Cu-Be Bulk Metallic Glass**
  Suh, D., Dauskardt, R., H.
  2002
- **Mechanical Relaxation Times Scales in a Zr-Ti-Ni-Cu-Be Bulk Metallic Glass** *Journal of Materials Research*
  Suh, D., Dauskardt, R., H.
  2002; 6 (17): 1254-1257
- **Subcritical Crack Growth in Single Crystal Silicon using Micro-Machined Specimens** *Journal of Materials Research*
  Fitzgerald, A., M., Iyer, R., S., Dauskardt, R., H., Kenny, T., W.
  2002; 3 (17): 683-692
- **Moisture-Assisted Debonding of a Polymer/Metal Interface** *Journal of Applied Physics*
  Kook, S. -Y., Dauskardt, R., H.
  2002; 3 (91): 1293-1303
- **Studies of silane adhesion promoters on silica filler particles for use in microelectronic packaging** *Symposium on Polymer Interfaces and Thin Films held at the 2001 MRS Fall Meeting*
  Jenkins, M., DeVries, G., Dauskardt, R. H., Bravman, J. C.
  MATERIALS RESEARCH SOCIETY.2002: 159–164
- **Mechanical and microstructural properties of stratum corneum** *Symposium on Biological and Biomimetic Materials - Properties to Function held at the 2002 MRS Spring Meeting*
  Wu, K. S., Van Osd, W. W., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.2002: 27–33
- **Crack-tip plasticity in bulk metallic glasses** *12th International Conference on the Strength of Materials (ICSMA 12)*
  Flores, K. M., Dauskardt, R. H.
  ELSEVIER SCIENCE SA.2001: 511–515
- **The effects of hydrogen on deformation and fracture of a Zr-Ti-Ni-Cu-Be bulk metallic glass** *12th International Conference on the Strength of Materials (ICSMA 12)*
  Suh, D., Dauskardt, R. H.
  ELSEVIER SCIENCE SA.2001: 480–483
- **Environmental effects on interfacial adhesion** *12th European Symposium on the Reliability of Electron Devices, Failure Physics and Analysis (ESREF 2001)*
  Lane, M. W., Snodgrass, J. M., Dauskardt, R. H.
  PERGAMON-ELSEVIER SCIENCE LTD.2001: 1615–24
- **Mean stress effects on flow localization and failure in a bulk metallic glass** *ACTA MATERIALIA*
  Flores, K. M., Dauskardt, R. H.
  2001; 49 (13): 2527-2537
- **Effects of pre-charged hydrogen on the mechanical and thermal behavior of Zr-Ti-Ni-Cu-Be bulk metallic glass alloys** *Bulk Metallic Glasses Conference*
  Suh, D., Dauskardt, R. H.
  JAPAN INST METALS.2001: 638–41
- **Flow and fracture of bulk metallic glass alloys and their composites** *Bulk Metallic Glasses Conference*

Flores, K. M., Suh, D., Howell, R., Asoka-Kumar, P., Sterne, P. A., Dauskardt, R. H.
JAPAN INST METALS.2001: 619–22

- **Effects of an adhesion promoter on the debond resistance of a metal-polymethylmethacrylate interface** *JOURNAL OF BIOMEDICAL MATERIALS RESEARCH*
  Ohashi, K. L., Yerby, S. A., Dauskardt, R. H.
  2001; 54 (3): 419-427
- **Adhesion of benzocyclobutene-passivated silicon in epoxy layered structures** *JOURNAL OF MATERIALS RESEARCH*
  Hohlfelder, R. J., Maidenberg, D. A., Dauskardt, R. H., Wei, Y. G., Hutchinson, J. W.
  2001; 16 (1): 243-255
- **Studies of Silane Adhesion Promoters on Silica Filler Particles for use in Microelectronic Packaging**
  Jenkins, M., DeVries, G., A., Dauskardt, R., H., Bravman, J., C.
  2001
- **The Effects of Hydrogen on Deformation and Fracture of a Zr-Ti-Cu-Ni-Be Bulk Metallic Glass** *Materials Science and Engineering*
  Suh, D., Dauskardt, R., H.
  2001: A319 – 321, 480 – 483
- **The Effects of Pre-Charged Hydrogen on the Mechanical and Thermal Behavior of Zr-Ti-Cu-Ni-Be Bulk Metallic Glass Alloys** *Materials Transactions, JIM*
  Suh, D., Dauskardt, R., H.
  2001; 4 (42): 638-641
- **Adhesion and Debonding of Pressure Sensitive Adhesives Used in Transdermal Drug Delivery Systems**
  Taub, M., Dauskardt, R., H.
  2001
- **Adhesion Mechanisms of Silane Adhesion Promoters in Microelectronic Packaging**
  Jenkins, M., Snodgrass, J., Chesterman, A., DeVries, G., Dauskardt, R., H., Bravman, J., C.
  2001
- **Fatigue Processes in Single Crystal Silicon MEMS Devices**
  Renuart, E., Fitzgerald, A., M., Kenny, T., W., Dauskardt, R., H.
  2001
- **Crack Tip Plasticity in Bulk Metallic Glass** *Materials Science and Engineering*
  Flores, K., M., Dauskardt, R., H.
  2001: A319 - 321, 511 – 515
- **Plasticity contributions to interface adhesion in thin-film interconnect structures** *JOURNAL OF MATERIALS RESEARCH*
  Lane, M., Dauskardt, R. H., Vainchtein, A., Gao, H. J.
  2000; 15 (12): 2758-2769
- **Effects of fatigue loading and PMMA precoating on the adhesion and subcritical debonding of prosthetic-PMMA interfaces** *JOURNAL OF BIOMEDICAL MATERIALS RESEARCH*
  Ohashi, K. L., Dauskardt, R. H.
  2000; 51 (2): 172-183
- **Fracture toughness and crack growth phenomena of plasma-etched single crystal silicon** *10th International Conference on Solid-State Sensors and Actuators*
  Fitzgerald, A. M., Dauskardt, R. H., Kenny, T. W.
  ELSEVIER SCIENCE SA.2000: 194–99
- **Fracture and subcritical crack-growth behavior of Y-Si-Al-O-N glasses and Si3N4 ceramics** *JOURNAL OF THE AMERICAN CERAMIC SOCIETY*
  BHATNAGAR, A., Hoffman, M. J., Dauskardt, R. H.
  2000; 83 (3): 585-596
- **Hydrogen effects on the mechanical and fracture behavior of a Zr-Ti-Ni-Cu-Be bulk metallic glass** *SCRIPTA MATERIALIA*

Suh, D., Dauskardt, R. H.
2000; 42 (3): 233-240

- **Adhesion and reliability of copper interconnects with Ta and TaN barrier layers** *JOURNAL OF MATERIALS RESEARCH*
  Lane, M., Dauskardt, R. H., Krishna, N., Hashim, I.
  2000; 15 (1): 203-211
- **Flow and Fracture of Bulk Metallic Glass Alloys and Their Composites**
  Flores, K., M., Suh, D., Howell, R., Asoka-Kumar, P., Sterne, P., A., Dauskardt, R., H.
  2000
- **Adhesion of Benzocyclobutine-Passivated Silicon in Epoxy Layered Structures** *Journal of Materials Research*
  Hohlfelder, R., J., Maidenberg, D., A., Dauskardt, R., H., Wei, Y., Hutchinson, J., W.
  2000; 1 (16): 243-255
- **The effect of Fatigue on The Adhesion and Subcritical Debonding of Benzocyclobutene/Silicon Dioxide Interfaces**
  Snodgrass, J., Dauskardt, R., H.
  2000
- **Chemical and Structural Characterization of Silane Adhesion Promoting Films for Use in Microelectronic Packaging**
  Jenkins, M., Snodgrass, J., Dauskardt, R., H., Bravman, J., C.
  2000
- **Effects of an Adhesion Promoter on the Debond Resistance of a Metal-PMMA Interface** *Journal of Biomedical Materials Research*
  Ohashi, K., L., Yerby, S., A., Dauskardt, R., H.
  2000; 12: 419-427
- **Adhesion and Reliability of Underfill/Substrate interfaces in Microelectronic Packages: Metrology and Characterization** *SRC Consortium Meeting, Albany, New York*
  Nagarajan, K., Dauskardt, R., H.
  2000
- **Hydrogen Effects on the Mechanical and Fracture Behavior of a Zr-Ti-Cu-Ni-Be Bulk Metallic Glass** *Scripta Materialia*
  Suh, D., Dauskardt, R., H.
  2000; 3 (42): 233-240
- **Fracture and Subcritical Crack-Growth Behavior of Y-Si-Al-O-N Glasses and Si3N4 Ceramics** *Journal of the American Ceramics Society*
  Bhatnagar, A., Hoffmann, M., J., Dauskardt, R., H.
  2000; 3 (83): 585-596
- **Atomic Force Microscopy Studies of Fracture Surfaces from Oxide/Polymer Interfaces**
  Jenkins, M., Snodgrass, J., Chesterman, A., Dauskardt, R., H., Bravman, J., C.
  2000
- **Adhesion of Pressure Sensitive Adhesives with Application in Transdermal Drug Delivery**
  Taub, M., Dauskardt, R., H.
  2000
- **Adhesion and Reliability of Methylsilsesquioxane Dielectric Materials**
  Maidenberg, D., A., Volksen, W., Miller, R., D., Dauskardt, R., H.
  2000
- **Short Range Chemical Ordering in Bulk Metallic Glasses**
  Dauskardt, R., H., Sterne, P., A., Asoka-Kumar, P., Hartley, J., H., Howell, R., H., Nieh, T., G.
  2000
- **Hydrogen Embrittlement in a Zr-Ti-Cu-Ni-Be Bulk Metallic Glass**
  Suh, D., Dauskardt, R., H.
  2000

- **Effects of Fatigue Loading and PMMA Precoating on the Adhesion and Subcritical Debonding of Prosthetic/PMMA Interfaces** *Journal of Biomedical Materials Research*
  Ohashi, K., L., Dauskardt, R., H.
  2000; 51: 172-183
- **Strength, Toughness and Fatigue of an Apatite Cement**
  Jew, V., Morgan, J., P., Dauskardt, R., H.
  2000
- **Fatigue and environmental effects on subcritical debonding of polymer interfaces** *SEM 9th International Congress on Experimental Mechanics*
  Snodgrass, J. M., Dauskardt, R. H.
  SOC EXPERIMENTAL MECHANICS INC.2000: 900–903
- **Study of crack propagation at an oxide/polymer interface under varying loading conditions** *Symposium V on Thin Films-Stresses and Mechanical Properties VIII held at the 1999 MRS Fall Meeting*
  Pantelidis, D., Snodgrass, J., Dauskardt, R. H., Bravman, J. C.
  MATERIALS RESEARCH SOCIETY.2000: 407–412
- **High-resolution measurement of crack growth in micro-machined single crystal silicon** *Symposium MM on Materials Science of Microelectromechanical Systems (MEMS) Devices II held at the 1999 MRS Fall Meeting*
  Fitzgerald, A. M., Dauskardt, R. H., Kenny, T. W.
  MATERIALS RESEARCH SOCIETY.2000: 43–48
- **Adhesion and mechanical reliability of microelectronic devices and their packages** *SEM 9th International Congress on Experimental Mechanics*
  Dauskardt, R. H.
  SOC EXPERIMENTAL MECHANICS INC.2000: 888–888
- **Enhanced toughness due to stable crack tip damage zones in bulk metallic glass** *SCRIPTA MATERIALIA*
  Flores, K. M., Dauskardt, R. H.
  1999; 41 (9): 937-943
- **Fatigue crack-growth behavior of materials in viscous fluid environments** *JOURNAL OF THE MECHANICS AND PHYSICS OF SOLIDS*
  Yi, K. S., Cox, B. N., Dauskardt, R. H.
  1999; 47 (9): 1843-1871
- **Local heating associated with crack tip plasticity in Zr-Ti-Ni-Cu-Be bulk amorphous metals** *JOURNAL OF MATERIALS RESEARCH*
  Flores, K. M., Dauskardt, R. H.
  1999; 14 (3): 638-643
- **Subcritical debonding of multilayer interconnect structures: Temperature and humidity effects** *Materials Reliability in Microelectronics IX Symposium at the 1999 MRS Spring Meeting*
  Lane, M., Dauskardt, R., Ma, Q., Fujimoto, H., Krishna, N.
  MATERIALS RESEARCH SOCIETY.1999: 251–256
- **Subcritical Debonding of Multilayer Interconnect Structures: Temperature and Humidity Effects**
  Lane, M., Dauskardt, R., H., Ma, Q., Fujimoto, H., Krishna, N.
  1999
- **The Effect of Environment and Fatigue on the Adhesion and Subcritical Debonding of Dielectric Polymers**
  Snodgrass, J., M., Pantelidis, D., Bravman, J., C., Dauskardt, R., H.
  1999
- **Environmental and Stress State Effects on Fracture and Fatigue Crack-Growth in Zr-Ti-Ni-Cu-Be Bulk Amorphous Metals**
  Flores, K., M., Suh, D., Dauskardt, R., H.
  edited by Inoue, A., Johnson, W., Liu, C., T.
  1999
- **Study of Crack Propagation at an Oxide/Polymer Interface under Varying Loading Conditions**
  Pantelidis, D., Snodgrass, J., Dauskardt, R., H., Bravman, J., C.

1999

- **Fracture Toughness of Plasma-Etched Single Crystal Silicon and Implications for MEMS Design** *in Symposium on Microelectromechanical Systems, Transducers 99 10th International Conference on Solid-State Sensors and Actuators, Sendai*
  Fitzgerald, A., M., Dauskardt, R., H., Kenny, T., W.
  1999: 928-931
- **High-resolution measurement of crack growth in micromachined single crystal silicon**
  Fitzgerald, A., M., Dauskardt, R., H., Kenny, T., W.
  1999
- **Adhesion and Progressive Debonding of Polymer/Metal Interfaces: Effects of Temperature and Environment**
  Kook, S.-Y., Kirtikar, A., Dauskardt, R., H.
  1999
- **Effect of Nitrogen on Adhesion of the Ta/SiO2 Interface**
  Lane, M., Krishna, N., Hashim, I., Dauskardt, R., H.
  1999
- **Fracture Toughness of Plasma-Etched Single Crystal Silicon and Implications for MEMS Design** *in Symposium on Microelectromechanical Systems, Transducers 99 10th International Conference on Solid-State Sensors and Actuators*
  Fitzgerald, A., M., Dauskardt, R., H., Kenny, T., W.
  1999: 928-931
- **The effects of environment and fatigue on the adhesion and subcritical debonding of dielectric polymers** *Symposium O: Low-Dielectric Constant Materials at the 1999 MRS Spring Meeting*
  Snodgrass, J. M., Pantelidis, D., Bravman, J. C., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.1999: 123–128
- **Effect of nitrogen content on interfacial adhesion of the Ta/SiO2 interface** *Symposium N on Advanced Interconnects and Contacts, at the 1999 MRS Spring Meeting*
  Lane, M., Dauskardt, R., Krishna, N., Hashim, I.
  MATERIALS RESEARCH SOCIETY.1999: 281–286
- **Reliability of electroless processed thin layered solder joints** *Materials Reliability in Microelectronics IX Symposium at the 1999 MRS Spring Meeting*
  Wang, L. C., Mei, Z., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.1999: 3–8
- **Adhesion and progressive debonding of polymer/metal interfaces: Effects of temperature and environment** *Materials Reliability in Microelectronics IX Symposium at the 1999 MRS Spring Meeting*
  Kook, S. Y., Kirtikar, A., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.1999: 263–268
- **Subcritical growth of microstructurally small cracks in silicon nitride ceramics** *3rd Engineering Foundation International Conference on Small Fatigue Cracks*
  Haubensak, F. G., BHATNAGAR, A., Dauskardt, R. H.
  ELSEVIER SCIENCE BV.1999: 271–282
- **Ion irradiation effects for two pyrochlore compositions: Gd2Ti2O7 and Gd2Zr2O7** *Symposium on Microstructural Processes in Irradiated Materials, at the 1998 Fall MRS Meeting*
  Wang, S. X., Wang, L. M., Ewing, R. C., Kutty, K. V.
  MATERIALS RESEARCH SOCIETY.1999: 355–360
- **Adhesion and reliability of polymer/inorganic interfaces** *JOURNAL OF ELECTRONIC PACKAGING*
  Kook, S. Y., Snodgrass, J. M., Kirtikar, A., Dauskardt, R. H.
  1998; 120 (4): 328-335
- **Adhesion and reliability of interfaces in cemented total joint arthroplasties** *JOURNAL OF ORTHOPAEDIC RESEARCH*
  Ohashi, K. L., Romero, A. C., McGowan, P. D., Maloney, W. J., Dauskardt, R. H.
  1998; 16 (6): 705-714

- **Adhesion and debonding of multi-layer thin film structures** *Special Session on Nanomechanics and Nanofracture, at the 9th International Conference on Fracture*
  Dauskardt, R., Lane, M., Ma, Q., Krishna, N.
  PERGAMON-ELSEVIER SCIENCE LTD.1998: 141–62
- **Debonding of interfaces in multilayer interconnect structures** *Symposium on Advanced Interconnects and Contact Materials and Processes for Future Integrated Circuits*
  Lane, M., Ni, W., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.1998: 141–141
- **Adhesion and Subcritical Debonding of Interfaces for Die Attach Applications**
  Snodgrass, J., M., Dauskardt, R., H.
  1998
- **Fracture and Sub-Critical Crack Growth Behavior of Micromachined Single Crystal Silicon Structures** *in Symposium on Microelectromechanical Systems, 1998 ASME International Mechanical Engineering Congress &Exopsition*
  Fitzgerald, A., M., Iyer, R., Suryanarayanan, Dauskardt, R., H., Kenny, T., W.
  1998: 395-399
- **Adhesion and subcritical debonding of polymer interfaces for microelectronic packaging** *10th Symposium on Electronic Packaging Materials Science at MRS Spring Meeting*
  Snodgrass, J. M., Hotchkiss, G., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.1998: 37–43
- **Effects of interface nonplanarity on the interface fracture energy of the TiN/SiO2 system** *Symposium on Thin-Films - Stresses and Mechanical Properties VII at the MRS Fall Meeting*
  Lane, M., Ni, W., Dauskardt, R., Ma, Q., Fujimoto, H., Krishna, N.
  MATERIALS RESEARCH SOCIETY.1998: 357–362
- **Observations of low cycle fatigue of Al thin films for MEMS applications** *Symposium on Microelectromechanical Structures for Materials Research*
  Cornella, G., Vinci, R. P., Iyer, R. S., Dauskardt, R. H., Bravman, J. C.
  MATERIALS RESEARCH SOCIETY.1998: 81–86
- **New adhesion measurement technique for coated cutting tool materials** *INTERNATIONAL JOURNAL OF REFRACTORY METALS & HARD MATERIALS*
  Mroz, J., Dauskardt, R. H., Schleinkofer, U.
  1998; 16 (4-6): 395-402
- **Fracture and Sub-Critical Crack Growth Behavior of Micromachined Single Crystal Silicon Structures** *in Symposium on Microelectromechanical Systems, 1998 ASME International Mechanical Engineering Congress &Exopsition*
  Fitzgerald, A., M., Iyer, R., Suryanarayanan, Dauskardt, R., H., Kenny, T., W.
  1998: 395-399
- **Adhesion and subcritical debonding of polymer interfaces for microelectronic packaging** *10th Symposium on Electronic Packaging Materials Science at MRS Spring Meeting*
  Snodgrass, J. M., Hotchkiss, G., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.1998: 37–43
- **Effects of interface nonplanarity on the interface fracture energy of the TiN/SiO2 system** *Symposium on Thin-Films - Stresses and Mechanical Properties VII at the MRS Fall Meeting*
  Lane, M., Ni, W., Dauskardt, R., Ma, Q., Fujimoto, H., Krishna, N.
  MATERIALS RESEARCH SOCIETY.1998: 357–362
- **Observations of low cycle fatigue of Al thin films for MEMS applications** *Symposium on Microelectromechanical Structures for Materials Research*
  Cornella, G., Vinci, R. P., Iyer, R. S., Dauskardt, R. H., Bravman, J. C.
  MATERIALS RESEARCH SOCIETY.1998: 81–86
- **New adhesion measurement technique for coated cutting tool materials** *INTERNATIONAL JOURNAL OF REFRACTORY METALS & HARD MATERIALS*

Mroz, J., Dauskardt, R. H., Schleinkofer, U.
1998; 16 (4-6): 395-402

- **Mechanical properties of carbonated apatite bone mineral substitute: strength, fracture and fatigue behaviour** *JOURNAL OF MATERIALS SCIENCE-MATERIALS IN MEDICINE*
  Morgan, E. F., Yetkinler, D. N., Constantz, B. R., Dauskardt, R. H.
  1997; 8 (9): 559-570
- **Reliability of PMMA bone cement fixation: fracture and fatigue crack-growth behaviour** *JOURNAL OF MATERIALS SCIENCE-MATERIALS IN MEDICINE*
  Nguyen, N. C., Maloney, W. J., Dauskardt, R. H.
  1997; 8 (8): 473-483
- **Subcritical crack growth in glasses under cyclic loads: Effect of hydrodynamic pressure in aqueous environments** *ACTA MATERIALIA*
  Yi, K. S., Dill, S. J., Dauskardt, R. H.
  1997; 45 (7): 2671-2684
- **Fracture and fatigue crack-growth behavior of single crystal NiAl** *SCRIPTA MATERIALIA*
  Flores, K. M., Dauskardt, R. H.
  1997; 36 (12): 1377-1382
- **Subcritical crack-growth behavior of borosilicate glass under cyclic loads: Evidence of a mechanical fatigue effect** *JOURNAL OF THE AMERICAN CERAMIC SOCIETY*
  Dill, S. J., Bennison, S. J., Dauskardt, R. H.
  1997; 80 (3): 773-776
- **Microstructural mechanisms of cyclic fatigue-crack propagation in grain-bridging ceramics** *CERAMICS INTERNATIONAL*
  Gilbert, C. J., Dauskardt, R. H., Ritchie, R. O.
  1997; 23 (5): 413-418
- **Adhesion measurement of interfaces in multilayer interconnect structures** *Symposium on Materials Reliability in Microelectronics, at the 1997 MRS Spring Meeting*
  Ma, Q., Bumgarner, J., Fujimoto, H., Lane, M., Dauskardt, R. H.
  MATERIALS RESEARCH SOCIETY.1997: 3–14
- **Subcritical Crack-Growth Behavior in Glasses and Ceramics: Effect of Hydrodynamic Pressures in Aqueous Environments** *Acta Metallurgicaet Materialia*
  Yi, K., S., Dill, S., J., Dauskardt, R., H.
  1997; 7 (45): 2671-2684
- **Subcritical Crack-Growth Behavior of Borosilicate Glass under Cyclic Loads: Evidence of a Mechanical Fatigue Effect** *Journal of the American Ceramics Society*
  Dill, S., J., Bennison, S., J., Dauskardt, R., H.
  1997; 3 (80): 773-76
- **Microstructural Mechanisms of Cyclic Fatigue-Crack Propagation in Grain Bridging Ceramics** *Ceramics International*
  Gilbert, C., J., Dauskardt, R., H., Ritchie, R., O.
  1997; 23: 413-418
- **Mechanical Properties of Carbonated Hydroxyapatite Bone Mineral Substitute: Strength, Fracture and Fatigue Behavior** *Journal of Materials Science: Materials in Medicine*
  Morgan, E., Yetkinler, D., N, Constantz, B., R, Dauskardt, R., H
  1997; 9 (8): 559-570
- **Adhesion Measurement of Interfaces in Multilayer Interconnect Structures**
  Ma, Q., Bumgarner, J., Fujimoto, H., Lane, M., Dauskardt, R., H.
  1997
- **Reliability of PMMA Bone Cement Fixation: Fracture and Fatigue Crack-Growth Behavior** *Journal of Materials Science: Materials in Medicine*
  Nguyen, N., C., Maloney, W., J., Dauskardt, R., H.
  1997; 8 (8): 473-483

- **Adhesion and Reliability of Polymer/Inorganic Interfaces in Microelectronic Applications**
  Snodgrass, J., M., Kook, S., -Y., Kirtikar, A., Dauskardt, R., H.
  1997
- **Adhesion and progressive delamination of polymer/metal interfaces** *Symposium on High Cycle Fatigue of Structural Materials in Honor of Professor Paul C Paris, Held During Materials Week 97*
  Dauskardt, R. H., Kook, S. Y., Kirtikar, A., Ohashi, K. L.
  MINERALS, METALS & MATERIALS SOC.1997: 479–498
- **Quantitative stress mapping in alumina composites by optical fluorescence imaging** *ACTA MATERIALIA*
  Dauskardt, R. H., Ager, J. W.
  1996; 44 (2): 625-641
- **Adhesion and Reliability of Interfaces in Cemented Total Joint Arthroplasties**
  Ohashi, K., L., Romero, A., C., McGowan, P., D., Maloney, W., J., Dauskardt, R., H.
  1996
- **BEHAVIOR OF CYCLIC FATIGUE CRACKS IN MONOLITHIC SILICON-NITRIDE** *JOURNAL OF THE AMERICAN CERAMIC SOCIETY*
  Gilbert, C. J., Dauskardt, R. H., Ritchie, R. O.
  1995; 78 (9): 2291-2300
- **FRACTURE OF SYNTHETIC DIAMOND** *JOURNAL OF APPLIED PHYSICS*
  DRORY, M. D., Dauskardt, R. H., Kant, A., Ritchie, R. O.
  1995; 78 (5): 3083-3088
- **GRAIN-SIZE EFFECTS ON CYCLIC FATIGUE AND CRACK-GROWTH RESISTANCE BEHAVIOR OF PARTIALLY-STABILIZED ZIRCONIA** *JOURNAL OF MATERIALS SCIENCE*
  Hoffman, M. J., Mai, Y. W., Dauskardt, R. H., Ager, J., Ritchie, R. O.
  1995; 30 (13): 3291-3299
- **MICROSTRUCTURAL DAMAGE AND FRACTURE PROCESSES IN A COMPOSITE SOLID ROCKET PROPELLANT** *JOURNAL OF SPACECRAFT AND ROCKETS*
  BENCHER, C. D., Dauskardt, R. H., Ritchie, R. O.
  1995; 32 (2): 328-334
- **CYCLIC FATIGUE IN MONOLITHIC ALUMINA - MECHANISMS FOR CRACK ADVANCE PROMOTED BY FRICTIONAL WEAR OF GRAIN BRIDGES** *JOURNAL OF MATERIALS SCIENCE*
  Gilbert, C. J., PETRANY, R. N., Ritchie, R. O., Dauskardt, R. H., Steinbrech, R. W.
  1995; 30 (3): 643-654
- **Fracture of Synthetic Diamond** *Journal of Applied Physics*
  Drory, M., D., Dauskardt, R., H., Kant, A., Ritchie, R., O.
  1995; 5 (78): 3083-88
- **Fracture, fatigue and indentation behavior of pyrolytic carbon for biomedical applications** *Symposium on Mechanical Behavior of Diamond and Other Forms of Carbon*
  Ritchie, R. O., Dauskardt, R. H., Gerberich, W. W., Strojny, A., Lilleodden, E.
  MATERIALS RESEARCH SOC.1995: 229–254
- **Quantitative measurement of interface fracture energy in multi-layer thin film structures** *5th Symposium on Materials Reliability in Microelectronics, at the 1995 MRS Spring Meeting*
  Ma, Q., Fujimoto, H., Flinn, P., Jain, V., AdibiRizi, F., Moghadam, F., Dauskardt, R. H.
  MATERIALS RESEARCH SOC.1995: 91–96
- **Grain Size Effects on Cyclic Fatigue and Crack-Growth Resistance Behavior of Partially Stabilized Zirconia** *Journal of Materials Science*
  Hoffman, M., J., Mai, Y., W., Dauskardt, R., H., Ager, J., Ritchie, R., O.
  1995; 30: 3291-99
- **Quantitative Measurement of Interface Fracture Energy in Multi-Layer Thin Film Structures**
  Dauskardt, R., H., Ma, Q., Fujimoto, H., Flinn, P., Jain, V., Adibi-Rizi, F.

1995

- **Microstructural Mechanisms of Cyclic Fatigue-Crack Propagation in Grain Bridging Ceramics**
  Gilbert, C., J., Dauskardt, R., H., Ritchie, R., O.
  1995
- **Mechanics and Mechanisms of Crack Growth At on Near Interfaces in Cemented Load Bearing Prosthetics,**
  Dauskardt, R., H., Nguyen, N., Christine, Maloney, W., J.
  1995
- **Cyclic Fatigue in Monolithic Alumina: Mechanisms for Crack Advance Promoted by Frictional Wear of Grain Bridges** *Journal of Materials Science*
  Gilbert, C., J., Petrany, R., N., Dauskardt, R., H., Steinbrech, R., W., Ritchie, R., O.
  1995; 30: 643-54
- **Cyclic Fatigue and Fracture in Pyrolytic Carbon-Coated Graphite Mechanical Heart-Valve Prostheses: Role of Small Cracks in Life Prediction** *Journal of Biomechanical Materials Research*
  Dauskardt, R., H., Ritchie, R., O., Takemoto, J., K., Brendzel, A., M.
  1995; 5 (29): 676-678
- **Microstructural Damage and Fracture Processes in a Composite Solid Rocket Propellant** *Journal of Spacecrafts and Rockets*
  Bencher, C., D., Dauskardt, R., H., Ritchie, R., O.
  1995; 2 (32): 328-34
- **Behavior of Cyclic Fatigue Cracks in Monolithic Silicon Nitride** *Journal of the American Ceramics Society*
  Gilbert, C., J., Dauskardt, R., H., Ritchie, R., O.
  1995; 9 (78): 2291-300
- **CYCLIC FATIGUE BEHAVIOR AND FRACTURE-TOUGHNESS OF SILICON-NITRIDE CERAMICS SINTERED WITH RARE-EARTH-OXIDES** *ACTA METALLURGICA ET MATERIALIA*
  CORNELISSEN, B. E., Dauskardt, R. H., Ritchie, R. O., Thomas, G.
  1994; 42 (9): 3055-3064
- **CYCLIC FATIGUE AND FRACTURE IN PYROLYTIC CARBON-COATED GRAPHITE MECHANICAL HEART-VALVE PROSTHESES - ROLE OF SMALL CRACKS IN LIFE PREDICTION** *JOURNAL OF BIOMEDICAL MATERIALS RESEARCH*
  Dauskardt, R. H., Ritchie, R. O., TAKEMOTO, J. K., Brendzel, A. M.
  1994; 28 (7): 791-804
- **FATIGUE-CRACK PROPAGATION BEHAVIOR IN MONOLITHIC AND COMPOSITE CERAMICS AND INTERMETALLICS** *MATERIALS SCIENCE*
  Ritchie, R. O., Dauskardt, R. H., Rao, K. T.
  1994; 30 (3): 277-300
- **BACK-FACE STRAIN COMPLIANCE AND ELECTRICAL-POTENTIAL CRACK LENGTH CALIBRATIONS FOR THE DISK-SHAPED COMPACT-TENSION DC(T) SPECIMEN** *JOURNAL OF TESTING AND EVALUATION*
  Gilbert, C. J., McNaney, J. M., Dauskardt, R. H., Ritchie, R. O.
  1994; 22 (2): 117-120
- **High temperature fatigue-crack growth experiments in ceramics and ceramic-matrix composites** *1994 SEM Spring Conference on Experimental Mechanics*
  Dauskardt, R. H., Mitchell, M. R.
  SOC EXPERIMENTAL MECHANICS INC.1994: 685–690
- **Fatigue-Crack Propagation Behavior in Monolithic and Composite Ceramics and Intermetallics**
  Ritchie, R., O., Dauskardt, R., H., Rao, K., T. Venkateswara
  edited by Panasyuk, V., V., Rao, P., Pama, Taplin, D., M. R.
  1994
- **Back-Face Strain Compliance and Electrical-Potential Crack Length Calibrations for the Disk-Shaped Compact-Tension DC(T) Specimen** *Journal of Testing and Evaluation*
  Gilbert, C., J., McNaney, J., M., Dauskardt, R., H., Ritchie, R., O.
  1994; 3: 117-120

- **Fatigue-Crack Propagation Behavior in Ceramic Materials.** *Transactions of the Materials Research Society of Japan*
  Ritchie, R., O., Dauskardt, R., H.
  1994; 14A: 359-364
- **Crack Path and Fracture Energies in Ceramic-Metal Sandwich Geometries** *Journal of the American Ceramic Society*
  Cannon, R., M., Dalgleish, B., J., Dauskardt, R., H., McNaney, J., M., Ritchie, R., O.
  1994; 76
- **On the Strength and Toughness of Structural Ceramics Bonded to Metals** *Transactions of the Materials Research Society of Japan*
  Ritchie, R., O., Cannon, R., M., Dalgleish, B., J., Dauskardt, R., H., McNaney, J., M.
  1994; 14A: 409-412
- **High Temperature Fatigue-Crack Growth Experiments in Ceramics and Ceramic-Matrix Composites**
  Dauskardt, R., H., Mitchell, M., R.
  1994
- **CYCLIC FATIGUE-CRACK GROWTH IN SI3N4-CERAMICS** *NATO Advanced Research Workshop on Tailoring of High Temperature Properties of Si3N4 Ceramics*
  Dauskardt, R. H.
  SPRINGER.1994: 365–378
- **Fatigue-Crack Propagation Behavior in Monolithic and Composite Ceramics and Intermetallics**
  Ritchie, R., O., Dauskardt, R., H., Rao, K., T. Venkateswara
  edited by Panasyuk, V., V., Rao, P., Pama, Taplin, D., M. R.
  1994
- **Back-Face Strain Compliance and Electrical-Potential Crack Length Calibrations for the Disk-Shaped Compact-Tension DC(T) Specimen** *Journal of Testing and Evaluation*
  Gilbert, C., J., McNaney, J., M., Dauskardt, R., H., Ritchie, R., O.
  1994; 3: 117-120
- **Fatigue-Crack Propagation Behavior in Ceramic Materials.** *Transactions of the Materials Research Society of Japan*
  Ritchie, R., O., Dauskardt, R., H.
  1994; 14A: 359-364
- **Crack Path and Fracture Energies in Ceramic-Metal Sandwich Geometries** *Journal of the American Ceramic Society*
  Cannon, R., M., Dalgleish, B., J., Dauskardt, R., H., McNaney, J., M., Ritchie, R., O.
  1994; 76
- **On the Strength and Toughness of Structural Ceramics Bonded to Metals** *Transactions of the Materials Research Society of Japan*
  Ritchie, R., O., Cannon, R., M., Dalgleish, B., J., Dauskardt, R., H., McNaney, J., M.
  1994; 14A: 409-412
- **High Temperature Fatigue-Crack Growth Experiments in Ceramics and Ceramic-Matrix Composites**
  Dauskardt, R., H., Mitchell, M., R.
  1994
- **CYCLIC FATIGUE-CRACK GROWTH IN SI3N4-CERAMICS** *NATO Advanced Research Workshop on Tailoring of High Temperature Properties of Si3N4 Ceramics*
  Dauskardt, R. H.
  SPRINGER.1994: 365–378
- **FATIGUE OF ADVANCED MATERIALS .2.** *ADVANCED MATERIALS & PROCESSES*
  Dauskardt, R. H., Ritchie, R. O., Cox, B. N.
  1993; 144 (2): 30-35
- **MECHANICS AND MECHANISMS OF CRACK-GROWTH AT OR NEAR CERAMIC-METAL INTERFACES - INTERFACE ENGINEERING STRATEGIES FOR PROMOTING TOUGHNESS** *WORKSHOP ON GRAIN BOUNDARY AND INTERFACE PHENOMENA IN THE HIGH TEMPERATURE PLASTICITY OF SOLIDS*
  Ritchie, R. O., Cannon, R. M., Dalgleish, B. J., Dauskardt, R. H., McNaney, J. M.

ELSEVIER SCIENCE SA.1993: 221–35

- **FATIGUE OF ADVANCED MATERIALS .1.** *ADVANCED MATERIALS & PROCESSES*
  Dauskardt, R. H., Ritchie, R. O., Cox, B. N.
  1993; 144 (1): 26-?
- **CYCLIC FATIGUE-CRACK PROPAGATION IN A SILICON-CARBIDE WHISKER-REINFORCED ALUMINA COMPOSITE - ROLE OF LOAD RATIO** *JOURNAL OF MATERIALS SCIENCE*
  Dauskardt, R. H., Dalgleish, B. J., Yao, D., Ritchie, R. O., Becher, P. F.
  1993; 28 (12): 3258-3266
- **Cyclic Fatigue-Crack Growth in Grain Bridging Ceramics** *Engineering Materials and Technology*
  Dauskardt, R., H.
  1993; 115: 244-251
- **FATIGUE-CRACK PROPAGATION IN ADVANCED MATERIALS** *5th International Conference on Fatigue and Fatigue Thresholds*
  Ritchie, R. O., Venkateswara, K. T., Dauskardt, R. H.
  ENGINEERING MATERIALS ADVISORY SERVICES LTD.1993: 1899–1918
- **ROLE OF SMALL CRACKS IN THE STRUCTURAL INTEGRITY OF PYROLYTIC CARBON HEART-VALVE PROSTHESES** *6th International Symposium on Ceramics in Medicine*
  Dauskardt, R. H., Ritchie, R. O., Brendzel, A. M.
  BUTTERWORTH-HEINEMANN.1993: 229–236
- **Matrix and Interfacial Fatigue-Crack Growth in Advanced Structural Materials**
  Ritchie, R., O., Dauskardt, R., H., Rao, K, T. Venkateswara
  1993
- **Effect of Encapsulation Processing on Toughness and Crack Growth Behavior of Silicon Carbide/Polymethacrylate Particulate Composites** *Journal of Material Science*
  Sheu, C., Dauskardt, R., H., Jonghe, L., C. De
  1993; 28: 2196-2206
- **Fatigue-Crack Propagation in Advanced Materials**
  Ritchie, R., O., Rao, K., T. Venkateswara, Dauskardt, R., H.
  edited by Bailon, J. -P., Dickson, J., I.
  1993
- **Cyclic Fatigue-Crack Propagation in a Silicon Carbide Whisker-Reinforced Alumina Composite: Role of Load Ratio** *Journal of Materials Science*
  Dauskardt, R., H., Dalgleish, B., J., Yao, D., Ritchie, R., O., Becher, P., F.
  1993; 28: 3258-3266
- **A Frictional-Wear Mechanism For Fatigue-Crack Growth in Grain Bridging Ceramics** *Acta Metallurgicaet Materialia*
  Dauskardt, R., H.
  1993; 9 (41): 2765-2781
- **Fracture and Fatigue-Crack Propagation Behavior in High-Temperature Ceramics and Intermetallics**
  Ritchie, R., O., Rao, K., T. Venkateswara, Dauskardt, R., H.
  edited by Kishi, T., Takada, N., Kagawa, Y.
  1993
- **Pyrolytic Carbon Coatings** *An Introduction to Bioceramics*
  Dauskardt, R., H., Ritchie, R., O.
  World Scientific Publishing Co..1993: 261–279
- **Fatigue of Advanced Materials: Part II** *Advanced Materials and Processes*
  Dauskardt, R., H., Ritchie, R., O., Cox, B., N.
  1993; 8 (144): 30-35

- **Mechanics and Mechanisms of Crack Growth at or near Ceramic-Metal Interfaces: Interface Engineering Strategies for Promoting Toughness** *Materials Science and Engineering A*
  Ritchie, R., O., Cannon, R., M., Dalgleish, B., J., Dauskardt, R., H., McNaney, J., M.
  1993; A166: 221-235
- **Role of Small Cracks in the Structural Integrity of Pyrolytic Carbon Heart-Valve Prostheses**
  Dauskardt, R., H., Ritchie, R., O., Brendzel, A., M.
  edited by Ducheyne, P., Christiansen, D.
  1993
- **A Review of the Mechanics and Mechanisms of Cyclic Fatigue-Crack Propagation in Transformation-Toughened Zirconia Ceramics**
  Hoffman, M., J., Dauskardt, R., H., Mai, Y. -W., Ritchie, R., O.
  edited by Badwal, S., P. S., Bannister, M., J., Hannink, R., H. J.
  1993
- **Fatigue of Advanced Materials: Part I** *Advanced Materials and Processes*
  Dauskardt, R., H., Ritchie, R., O., Cox, B., N.
  1993; 7 (144): 26-31
- **CYCLIC FATIGUE-CRACK GROWTH IN A SIC-WHISKER-REINFORCED ALUMINA CERAMIC COMPOSITE - LONG-CRACK AND SMALL-CRACK BEHAVIOR** *JOURNAL OF THE AMERICAN CERAMIC SOCIETY*
  Dauskardt, R. H., James, M. R., PORTER, J. R., Ritchie, R. O.
  1992; 75 (4): 759-771
- **On the Fractography of Overload, Stress Corrosion and Cyclic Fatigue Failures in Pyrolytic-Carbon Materials used in Prosthetic Heart-Valve Devices** *Journal of Biomedical Materials Research*
  Ritchie, R., O., Dauskardt, R., H., Pennisi, F., J.
  1992; 26: 69-76
- **ON THE FRACTOGRAPHY OF OVERLOAD, STRESS-CORROSION, AND CYCLIC FATIGUE FAILURES IN PYROLYTIC-CARBON MATERIALS USED IN PROSTHETIC HEART-VALVE DEVICES** *JOURNAL OF BIOMEDICAL MATERIALS RESEARCH*
  Ritchie, R. O., Dauskardt, R. H., PENNISI, F. J.
  1992; 26 (1): 69-76
- **Cyclic Fatigue-Crack Growth in Pyrolytic-Carbon Materials: Implications for Prosthetic Heart-Valve Devices**
  Dauskardt, R., H., Ritchie, R., O.
  1992
- **Cyclic Fatigue-Crack Growth in SiC-Whisker-Reinforced Alumina Composite: Long and Small-Crack Behavior** *Journal of the American Ceramic Society*
  Dauskardt, R., H., James, M., R., Porter, J., R., Ritchie, R., O.
  1992; 75: 759-71
- **Small-Crack Behavior and Safety Critical Design Criteria for Cyclic Fatigue in Mg-PSZ,** *Cyclic Deformation, Fracture and Non-Destructive Evaluation of Advanced Materials*
  Steffen, A., A., Dauskardt, R., H., Ritchie, R., O.
  American Society for Testing and Materials, Philadelphia.1992: 69–81
- **CYCLIC FATIGUE OF CERAMICS - A FRACTURE-MECHANICS APPROACH TO SUBCRITICAL CRACK-GROWTH AND LIFE PREDICTION** *NIPPON SERAMIKKUSU KYOKAI GAKUJUTSU RONBUNSHI-JOURNAL OF THE CERAMIC SOCIETY OF JAPAN*
  Ritchie, R. O., Dauskardt, R. H.
  1991; 99 (10): 1047-1062
- **CYCLIC FATIGUE-CRACK PROPAGATION ALONG CERAMIC METAL INTERFACES** *ACTA METALLURGICA ET MATERIALIA*
  Cannon, R. M., Dalgleish, B. J., Dauskardt, R. H., Oh, T. S., Ritchie, R. O.
  1991; 39 (9): 2145-2156
- **CYCLIC FATIGUE LIFE AND CRACK-GROWTH BEHAVIOR OF MICROSTRUCTURALLY SMALL CRACKS IN MAGNESIA-PARTIALLY-STABILIZED ZIRCONIA CERAMICS** *JOURNAL OF THE AMERICAN CERAMIC SOCIETY*
  STEFFEN, A. A., Dauskardt, R. H., Ritchie, R. O.

1991; 74 (6): 1259-1268

- **Cyclic Fatigue of Ceramics**
  Dauskardt, R., H., Ritchie, R., O.
  edited by Cox, B., N., Dauskardt, R., H., Ritchie, R., O.
  1991

- **Cyclic Fatigue-Crack Propagation along Ceramic/Metal Interfaces** *Acta Metallurgica et Materialia*
  Cannon, R., M., Dalgleish, B., J., Dauskardt, R., H., Oh, T., S., Ritchie, R., O.
  1991; 9 (39): 2145-2156

- **Cyclic Fatigue Life and Crack- Growth Behavior of Microstructurally-Small Cracks in Mg-PSZ Ceramics** *Journal of the American Ceramic Society*
  Steffen, A., A., Dauskardt, R., H., Ritchie, R., O.
  1991; 6 (74): 1259-68

- **Cyclic Fatigue-Crack Propagation in Ceramics and Ceramic Composites**
  Dauskardt, R., H., Ritchie, R., O.
  1991

- **Ceramic/Metal Interfaces: Monotonic and Cyclic Fracture Resistance**
  Cannon, R., M., Dalgleish, B., J., Dauskardt, R., H., Fisher, R., M., Oh, T., S., Ritchie, R., O.
  edited by Dauskardt, R., H, Ritchie, R., O.
  1991

- **Cyclic Fatigue of Ceramics: A Fracture Mechanics Approach to Subcritical Crack Growth and Life Prediction** *Journal of the Ceramic Society of Japan*
  Ritchie, R., O., Dauskardt, R., H.
  1991; 10 (99): 1047-1062

- **TRANSIENT SUBCRITICAL CRACK-GROWTH BEHAVIOR IN TRANSFORMATION-TOUGHENED CERAMICS** *ACTA METALLURGICA ET MATERIALIA*
  Dauskardt, R. H., Carter, W. C., Veirs, D. K., Ritchie, R. O.
  1990; 38 (11): 2327-2336

- **CRACK-TIP TRANSFORMATION ZONES IN TOUGHENED ZIRCONIA** *JOURNAL OF THE AMERICAN CERAMIC SOCIETY*
  Marshall, D. B., Shaw, M. C., Dauskardt, R. H., Ritchie, R. O., Readey, M. J., HEUER, A. H.
  1990; 73 (9): 2659-2666

- **CYCLIC FATIGUE-CRACK GROWTH-BEHAVIOR OF SHORT CRACKS IN SIC-REINFORCED LITHIUM ALUMINOSILICATE GLASS-CERAMIC COMPOSITE** *JOURNAL OF MATERIALS SCIENCE LETTERS*
  LUH, E. Y., Dauskardt, R. H., Ritchie, R. O.
  1990; 9 (6): 719-725

- **CYCLIC FATIGUE-CRACK PROPAGATION IN MAGNESIA-PARTIALLY-STABILIZED ZIRCONIA CERAMICS** *JOURNAL OF THE AMERICAN CERAMIC SOCIETY*
  Dauskardt, R. H., Marshall, D. B., Ritchie, R. O.
  1990; 73 (4): 893-903

- **ON THE INTERPRETATION OF THE FRACTAL CHARACTER OF FRACTURE SURFACES** *ACTA METALLURGICA ET MATERIALIA*
  Dauskardt, R. H., HAUBENSAK, F., Ritchie, R. O.
  1990; 38 (2): 143-159

- **CYCLIC FATIGUE-CRACK PROPAGATION, STRESS-CORROSION, AND FRACTURE-TOUGHNESS BEHAVIOR IN PYROLYTIC CARBON-COATED GRAPHITE FOR PROSTHETIC HEART-VALVE APPLICATIONS** *JOURNAL OF BIOMEDICAL MATERIALS RESEARCH*
  Ritchie, R. O., Dauskardt, R. H., Yu, W. K., Brendzel, A. M.
  1990; 24 (2): 189-206

- **Cyclic Fatigue-Crack Growth Behavior of Short Cracks in SiC- Reinforced LAS Glass-Ceramic Composites** *Journal of Materials Science Letters*
  Luh, E., Y., Dauskardt, R., H., Ritchie, R., O.

1990; 9: 719-725

- **Crack Tip Transformation Zones in Toughened Zirconia** *Journal of the American Ceramics Society*
  Marshall, D., B., Shaw, M., C., Dauskardt, R., H., Ritchie, R., O., Readey, M., Heuer, A., H.
  1990; 9 (73): 2659-666
- **Cyclic Fatigue-Crack Propagation in Ceramics: Long and Small Crack Behavior**
  Steffen, A., A., Dauskardt, R., H., Ritchie, R., O.
  edited by Kitagawa, H., Tanaka, T.
  1990
- **Cyclic Fatigue-Crack Propagation, Stress-Corrosion and Fracture-Toughness Behavior in Pyrolytic Carbon-Coated Graphite For Prosthetic Heart Valve Applications** *Journal of Biomedical Materials Research*
  Ritchie, R., O., Dauskardt, R., H., Yu, W., Brendzel, A., M.
  1990; 2 (24): 189-206
- **Transient Subcritical Crack-Growth Behavior in Transformation-Toughened Ceramics** *Acta Metallurgicaet Materialia*
  Dauskardt, R., H., Carter, C., Veirs, D., K., Ritchie, R., O.
  1990; 11 (38): 2327-336
- **Cyclic Fatigue-Crack Propagation in Mg-PSZ Ceramics** *Journal of the American Ceramics Society*
  Dauskardt, R., H., Marshal, D., B., Ritchie, R., O.
  1990; 4 (73): 893-903
- **Crack Tip Transformation Zones in Toughened Zirconia** *Journal of the American Ceramics Society*
  Marshall, D., B., Shaw, M., C., Dauskardt, R., H., Ritchie, R., O., Readey, M., Heuer, A., H.
  1990; 9 (73): 2659-666
- **Cyclic Fatigue-Crack Propagation in Ceramics: Long and Small Crack Behavior**
  Steffen, A., A., Dauskardt, R., H., Ritchie, R., O.
  edited by Kitagawa, H., Tanaka, T.
  1990
- **SPATIALLY RESOLVED RAMAN-SPECTROSCOPY STUDY OF TRANSFORMED ZONES IN MAGNESIA-PARTIALLY-STABILIZED ZIRCONIA** *JOURNAL OF THE AMERICAN CERAMIC SOCIETY*
  Dauskardt, R. H., Veirs, D. K., Ritchie, R. O.
  1989; 72 (7): 1124-1130
- **FRACTURE-TOUGHNESS, FATIGUE CRACK-PROPAGATION AND CREEP-RUPTURE BEHAVIOR IN THICK SECTION WELDMENTS OF 3CR-MO PRESSURE-VESSEL STEELS DEVELOPED FOR HIGH-TEMPERATURE HIGH-PRESSURE HYDROGEN SERVICE** *HIGH TEMPERATURE TECHNOLOGY*
  SPENCER, P. N., Dauskardt, R. H., Parker, E. R., Ritchie, R. O.
  1989; 7 (1): 17-26
- **Application of Spatially Resolved Raman Spectroscopy in the Study of Transformation Zones in PSZ** *Journal of the American Ceramics Society*
  Dauskardt, R., H., Veirs, D., K., Ritchie, R., O.
  1989; 7 (72): 1124-30
- **Effects of In Situ Phase Transformation on Fatigue-Crack Propagation in Titanium-Nickel Shape-Memory Alloys**
  Dauskardt, R., H., Duerig, T., W., Ritchie, R., O.
  edited by Otsuka, K., Shimiza, K.
  1989
- **Cyclic Fatigue-Crack Growth Behavior in Ceramics** *Closed Loop*
  Dauskardt, R., H., Ritchie, R., O.
  1989; 2 (17): 7-17
- **Fracture-Toughness, Fatigue-Crack Propagation and Creep-Rupture Behavior in Thick-Section Weldments of 3Cr-Mo Pressure-Vessel Steels Developed for High-Temperature/High-Pressure Hydrogen Service** *High Temperature Technology*
  Spencer, P., N., Dauskardt, R., H., Parker, E., R., Ritchie, R., O.

1988; 2 (8): 17-26

- **Two-Dimensional Spatially Resolved Raman Spectroscopy of Solid Materials**
  Veirs, D., K., Rosenblatt, G., M., Dauskardt, R., H., Ritchie, R., O.
  edited by Newburg, D., E.
  1988

- **EFFECTS OF PREEXISTING GRAIN-BOUNDARY MICROVOID DISTRIBUTIONS ON FRACTURE-TOUGHNESS AND FATIGUE CRACK-GROWTH IN LOW-ALLOY STEEL** *ACTA METALLURGICA*
  Dauskardt, R. H., Pendse, R. D., Ritchie, R. O.
  1987; 35 (9): 2227-2242

- **Effects of Pre-Existing Grain Boundary Microvoid Distributions on Crack Growth under Monotonic and Cyclic Loading** *Acta Metallurgicaet Materialia*
  Dauskardt, R., H., Pendse, R., D., Ritchie, R., O.
  1987; 9 (35): 2227-42

- **Fatigue Crack Propagation in Transformation-Toughened Zirconia Ceramic** *Journal of the American Ceramics Society*
  Dauskardt, R., H., Yu, W., Ritchie, R., O.
  1987; 10 (70): C-248 - C-252

- **Fatigue Crack Propagation Behavior in Pressure Vessel Steels for High Pressure Hydrogen Service**
  Dauskardt, R., H., Ritchie, R., O.
  edited by Nisbett, E., G.
  1986

- **Laboratory-Scale Semi-Continuous Casting of Aluminum Alloys** *Metals and Materials*
  Damm, O. F. R., A., Dauskardt, R., H., Garrett, G., G.
  1986; 9 (2): 565-6