



## Reinhold Dauskardt

Ruth G. and William K. Bowes Professor in the School of Engineering and Professor, by courtesy, of Surgery  
Materials Science and Engineering

### CONTACT INFORMATION

- **Administrator**

Yusong Rogers - Administrative Associate

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### Bio

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#### 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
- 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)

## PROFESSIONAL EDUCATION

- PhD, UC Berkeley/Witwatersrand (1988)

## LINKS

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

## Teaching

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### COURSES

#### 2019-20

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

#### 2018-19

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

#### 2017-18

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

#### 2016-17

- Fracture and Fatigue of Materials and Thin Film Structures: MATSCI 358 (Win)
- Materials Science Colloquium: MATSCI 230 (Aut)
- Mechanical Properties of Materials: MATSCI 198, MATSCI 208 (Spr)
- Microstructure and Mechanical Properties: MATSCI 151, MATSCI 251 (Aut)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Yong Deng, Jaewan Mun, David Wu

#### Postdoctoral Faculty Sponsor

Christopher Berkey

#### Doctoral Dissertation Advisor (AC)

Ross Bennett-Kennett, Justin Chen, Omar El Safty, Austin Flick, Sebastian Hendrickx-Rodriguez, Karsu Kilic, Joseph Pace, Ziyi Pan, Nick Rolston, Patrick Thornton, Yang Wang, Oliver Zhao

**Doctoral Dissertation Co-Advisor (AC)**

Caleb Boyd, Motoki Osada, Jiechen Wang, Melody Wang, Yikai Yin

**Master's Program Advisor**

Han Cui, Jing Fu, Sean Hsu, Siyuan Liu

**Doctoral (Program)**

Jason Casar, Justin Chen, Risa Hocking, Patrick McQuade, Motoki Osada, Patrick Thornton, Melody Wang

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## Publications

### PUBLICATIONS

- **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
- **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
- **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., Lioni, 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)
- **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-TiO<sub>2</sub> 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
- **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)
- **Using Unentangled Oligomers To Toughen Materials.** *ACS applied materials & interfaces*  
Isaacson, S. G., Matsuda, Y., Lioni, K., Frot, T., Volksen, W., Dauskardt, R. H., Dubois, G.  
2018

- **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
- **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., Lioni, 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., Lioni, 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
- **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

- **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
- **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
- **Organothioliol-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., Lioni, 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*  
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