



Reinhold Dauskardt

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

CONTACT INFORMATION

- **Administrator**

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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 University (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

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)

2022-23

- Mechanical Properties of Materials: MATSCI 198, MATSCI 208 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

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

Master's Program Advisor

Qizhen Lan

Publications

PUBLICATIONS

- **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., Vaillonis, 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-Wurtemberg, 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*
Keeseey, 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., Lioni, 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., Lioni, 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
- **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
- **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

- **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., McGuinness, 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., 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)

- **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.
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