

CURRICULUM VITAE

DAVID KISAILUS

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APPOINTMENTS

2015 – Present	Professor, Chemical and Environmental Engineering, UC Riverside
2015 – Present	Member of UNESCO Chair in Materials and Technologies for Energy Conversion, Saving and Storage (MATECSS)
2014 – Present	Director and Lead PI, Multi-University Research Initiative (MURI) Team
2014 – Present	Kavli Fellow of the National Academy of Sciences
2013 – 2015	Associate Professor, Chemical and Environmental Engineering, UC Riverside
2012 – Present	Member, Southern California Center for Water Research and Technology
2011 – Present	Winston Chung Endowed Chair of Energy Innovation, UC Riverside
2008 – Present	Undergraduate Advisor, Materials Science and Engineering, UC Riverside
2007 – Present	Faculty Member, Materials Science and Engineering, UC Riverside
2007 – 2012	Assistant Professor, Chemical and Environmental Engineering, UC Riverside
2005 – 2007	Research Scientist, HRL Laboratories, LLC, Malibu, CA
2002 – 2005	Post-Doctoral Research Associate, California NanoSystems Institute, UC Santa Barbara
1998 – 1998	Visiting Graduate Student Researcher, Max-Planck Institut Fuer Metallforschung, Stuttgart, Germany

EDUCATION

Ph.D. Materials Science and Engineering, 2002

Materials Department, University of California at Santa Barbara

Santa Barbara, CA

Thesis: "Novel Processing Methods for GaN Nanocrystals and Thin Films"

M.S. Materials Science and Engineering, 1999

Materials Department, University of Florida

Gainesville, FL

Thesis: "Processing and Properties of Borosilicate Glass/Silicon Nitride Composites Fabricated from Microcomposite Particles"

B.S. Chemical Engineering, 1993

Chemical Engineering Department, Drexel University

Philadelphia, PA

ACADEMIC EXPERIENCE

UNIVERSITY OF CALIFORNIA AT RIVERSIDE

Riverside, CA

Professor

- * Structure-mechanical property analyses of biomineralized organisms
- * Multifunctional biomimetic composites
- * Bio-inspired growth of nanoscale materials for energy storage and conversion
- * Environmental remediation of organics via photocatalysis
- * Investigations of crystal nucleation and growth mechanisms
- * Enzyme mediated synthesis of materials

UNIVERSITY OF CALIFORNIA AT SANTA BARBARA

Santa Barbara, CA

Post-Doctoral Researcher

- * Bio-inspired growth of metal oxide semiconductors
- * Biomimetic synthesis of hydrolytic enzymes
- * Soft matter templating and control of crystal growth
- * Protein structure-function investigation

Graduate Student

- * GaN thin film synthesis via chemical solution deposition
- * Nucleation and epitaxial growth on metal oxide substrates
- * Synthesis of magnetic nanoparticles

MAX-PLANCK INSTITUT FUER METALLFORSCHUNG

Stuttgart, Germany

Visiting Graduate Student

- * Deposition of GaN thin films
- * Transmission electron microscopy

UNIVERSITY OF FLORIDA

Gainesville, FL

Graduate Student

- * Processing and characterization of borosilicate - Si₃N₄ nanocomposites
- * Polycarbosilane precursor synthesis using various catalysts for SiC fiber production

DREXEL UNIVERSITY

Philadelphia, PA

Researcher/Student

- * Processing and rheological studies of colloidal ceramic composites
- * Sol-gel synthesis and passivation of piezoelectric nanoparticles
- * Design of a polystyrene production plant
- * Microencapsulation studies of a drug delivery system

PROFESSIONAL RESEARCH EXPERIENCE

HRL LABORATORIES LLC

Malibu, CA

Research Scientist

- * Bio-inspired templating, synthesis and self-assembly of nanomaterials for structural, battery, capacitor and catalytic applications
- * Design and synthesis of electrically conductive materials for hydrogen fuel cells
- * Self-assembly of catalytic nanoparticles for the growth of high density nanotube / nanowire arrays for thermoelectric and sensing materials

SUN OIL COMPANY

Marcus Hook, PA

Chemical Engineer Co-Op

- * Design and synthesis of an electron withdrawing di-nuclear metal complexes for dehydrogenation reactions

MOBIL CHEMICAL COMPANY

Edison, NJ

Chemical Engineer Co-Op

- * Operation of a block co-polymer pilot plant (batch reactor synthesis of polystyrene-polybutadiene (PS-PB) block co-polymers via anionic dispersion)
- * Optimization of antioxidant stabilizers for PS-PB block copolymers

PRATT AND WHITNEY AIRCRAFT

Hartford, CT

Materials Engineer Co-Op

- * Optimization of heat treatment parameters for diffusion bonding of titanium alloys

TEACHING / RESEARCH INTERESTS

TEACHING

- * Undergraduate courses in Materials Chemistry, Heat Transfer Lab, Inorganic Chemistry, Nanoscale Science and Engineering, Mass and Energy Balances, Analytical Materials Characterization
- * Graduate course in materials (semiconductor, nanoparticle synthesis) processing, inorganic materials, and biomineralization and bionanotechnology

RESEARCH

- * Bio-inspired growth of nanoscale materials for energy storage and conversion
- * Environmental remediation of organics via photocatalysis
- * Structure-mechanical property analyses of biomineralized organisms
- * Multifunctional composites
- * Investigations of crystal nucleation and growth mechanisms
- * Enzyme mediated synthesis of materials

SYNERGISTIC ACTIVITIES / AWARDS / ACHIEVEMENTS

- * Kavli Fellow, National Academy of Sciences
- * Director and Lead PI, Multi-University Research Initiative (MURI) Team
- * Acquired more than **\$14.8M** in funding (more than \$13.8M as PI)
- * Procured **\$10,000,000** Endowment for UC Riverside from Chinese Donor
- * Endowed Chair: Winston Chung Endowed Chair of Energy Innovation, UC Riverside
- * Member of UNESCO Chair in Materials and Technologies for Energy Conversion, Saving and Storage (MATECSS)
- * Editorial Advisory Board of *Advanced Materials Interfaces* (2016 – present)
- * Executive Committee of the American Association for Crystal Growth (2015-2019)
- * Governing Board, Gordon Research Conference on Multifunctional Materials and Structures
- * Chancellor's Award for Excellence in Undergraduate Research and Creative Achievement (2016-2017; 2011-2012)
- * International Scientific Committee Member and Symposium Organizer (Co-chair), International Conference on Composite Materials, Copenhagen, Denmark (2015), Xi'an, China (2017)
- * Symposium Organizer (Co-chair), Advanced Ceramic Materials and Processing for Photonics and Energy, International Conference and Exposition on Advanced Ceramics and Composites, Winter 2016, 2017, 2018, Daytona Beach, FL, USA
- * Symposium Organizer (Co-chair), Materials Research Society, Spring 2016, Phoenix
- * Conference Chair, American Association for Crystal Growth, June 2014
- * Conference Organizer, American Association for Crystal Growth, June 2012, June 2016
- * Symposium Organizer (Chair), American Chemical Society Colloids Meeting, June 2013, Riverside, CA
- * Symposium Organizer (Chair), Materials Research Society, Spring 2009, San Francisco
- * Collaborator: Alliance for Education, Outreach to San Bernardino County High Schools / Riverside Middle Schools
- * American Institute for Chemical Engineers (AIChE) and Materials Research Society (MRS) Faculty Advisor
- * Initiated collaborative outreach program with Dr. Ralph Imondi of the Coastal Marine Biolabs (<http://coastalmarinebiolabs.org>) in Ventura, CA for K-12 educational programs.
- * Mentored more than 125 graduate, undergraduate and high school students as part of academic training (see UCR advisees below for recent and current list)
- * Graduated 7 Ph.D. and 4 M.S. students.

PUBLICATIONS

“A comparative analysis of the avian skull: Woodpeckers and chickens,” Jae-Young Jung, Andrei Pissarenko, Nicholas A Yaraghi, Steven E Naleway, **David Kisailus**, Marc A Meyers, Joanna McKittrick, *Journal of the Mechanical Behavior of Biomedical Materials*, **accepted**.

“Crack twisting and toughening strategies in Bouligand architectures,” Nobphadon Suksangpanya, Nicholas Yaraghi, Byron Pipes, David Kisailus, Pablo Zavattieri, *International Journal of Solids and Structures*, (2018) **accepted**.

Nemoto, M. and **D. Kisailus**, Structural and proteomic analyses of iron oxide biomineralization in chiton teeth, In: Biological Magnetic Materials and Applications, T. Matsunaga, T. Tanaka and D. Kisailus, eds., Springer, (2018), **Forthcoming**.

“Electrocatalytic N-Doped Graphitic Nanofiber - Metal/Metal Oxide Nanoparticle Composites,” Hongjie Tang, Wei Chen, Jiangyan Wang, Thomas Dugger, Luz Cruz, **David Kisailus**, *Small*, (2017), *accepted*. DOI: [10.1002/smll.201703459](https://doi.org/10.1002/smll.201703459)

“Ecologically driven ultrastructural and hydrodynamic designs in stomatopod cuticles,” Lessa Kay Grunenfelder, Garrett Milliron, Steven Herrera, Isaias Gallana, Nicholas Yaraghi, Nigel Hughes, Kenneth Evans-Lutterodt, Pablo Zavattieri, **David Kisailus**, *Advanced Materials*, (2017), *accepted*. DOI: [10.1002/adma.201705295](https://doi.org/10.1002/adma.201705295)

“Methods of making metal-oxides and uses thereof for water treatment and energy applications,” Inventors: **David Kisailus**, Nichola Kinsinger. United States Patent # 9670069. (June 6, 2017).

“Twisting Cracks in Bouligand Structures,” Nobphadon Suksangpanya, Nicholas Yaraghi, **David Kisailus**, Pablo Zavattieri, *Journal of the Mechanical Behavior of Biomedical Materials*, **76**, (2017) 38-57. DOI: [10.1016/j.jmbbm.2017.06.010](https://doi.org/10.1016/j.jmbbm.2017.06.010)

“Low Temperature Continuous Process to Derive Size Controlled Lithium Ion Anodes and Cathodes,” Inventors: **David Kisailus**, Jianxin Zhu. United States Patent # 9666857. (May 30, 2017).

“Enhanced Toughening of the Crossed Lamellar Structure Revealed by Nanoindentation,” Christopher L. Salinas, Enrique Escobar de Obaldia, Chanhue Jeong, Pablo Zavattieri and **David Kisailus**, *Journal of the Mechanical Behavior of Biomedical Materials*, **76**, (2017) 58-68. DOI: [10.1016/j.jmbbm.2017.05.033](https://doi.org/10.1016/j.jmbbm.2017.05.033) <http://authors.elsevier.com/sd/article/S1751616117302308>

“Oriented Epitaxial TiO₂ Nanowires for Water Splitting,” Wenting Hou, Pablo Cortez, Richard Wuhner, Sam Macartney, Krassimir N. Bozhilov, Rong Liu, Leigh R Sheppard and **David Kisailus**, *Nanotechnology*, **28** (2017) 265602. DOI:10.1088/1361-6528/aa7356

“Porous metal oxide and metal oxide-organic nanocomposites, methods of making and uses thereof,” Inventors: **David Kisailus**, Nichola Kinsinger. United States Patent # 9,593,027. (March 14, 2017).

“Size and morphologically controlled nanostructures for energy storage,” Inventors: **David Kisailus**, Jianxin Zhu. United States Patent # 9,586,822. (March 7, 2017).

“Biomimetic Structural Materials: Inspiration from Design and Assembly,” Nicholas A. Yaraghi, **David Kisailus**, *Annual Reviews of Physical Chemistry*, (2017) *accepted*. DOI: [10.1146/annurev-physchem-040215-112621](https://doi.org/10.1146/annurev-physchem-040215-112621)

“Spines of the Porcupine Fish: Structure, Composition, and Mechanical Properties,” Frances Y. Su, Eric A. Bushong, Thomas J. Deerinck, Kyungah Seo, Steven Herrera, Olivia A. Graeve, **David Kisailus**, Vlado A. Lubarda, and Joanna M. McKittrick, *Journal of the Mechanical Behavior of Biomedical Materials*, **73**, (2017) 38-49. DOI: [10.1016/j.jmbbm.2017.02.029](https://doi.org/10.1016/j.jmbbm.2017.02.029)

“Effects of Nanostructured Biosilica in Rice Plant Mechanics,” Kanako Sato, Noriaki Ozaki, Kazuki Nakanishi, Yoshiyuki Sugahara, Yuya Oaki, Christopher Salinas, Steven Herrera, **David Kisailus**, Hiroaki Imai, *RSC Advances*, **7** (2017) 13065-13071. DOI:10.1039/C6RA27317C

“Microtruss based thermal heat spreading structures,” Inventors: William B. Carter, Adam F. Gross, Keith V. Guinn, Alan J. Jacobsen, **David Kisailus**. United States Patent #9,546,826. (January 17, 2017).

“Basic Research Needs for Synthesis Science for Energy Relevant Technology,” DOE Report for Basic Research Needs for Synthesis Science for Energy Relevant Technology Workshop. Department of Energy. Rockville, Maryland. (2016) 178p.

“Microstructural and geometric influences in the protective scales of *Atractosteus spatula*,” V.R. Sherman, N.A. Yaraghi, **D. Kisailus**, M.A. Meyers, *J. R. Soc. Interface*, **13 (125)** (2016) 20160595. DOI: 10.1098/rsif.2016.0595.

Yaraghi, N.A., Guarín-Zapata, N., Grunenfelder, L.K., Wuhner, R., Zavattieri, P.D., Kisailus, D. Biomimetic composites derived from an impact resistant crustacean. In *Insights and Innovations in Structural Engineering, Mechanics and Computation* (ed. A. Zingoni), Taylor & Francis Group, London, 2016, pp. 890-896. ISBN 978-1-138-02927-9. Proceedings of the Sixth International Conference on Structural Engineering, Mechanics and Computation (SEMC 2016), 5-7 September 2016, Cape Town, South Africa.

“Shock and Impact Resistant Materials,” Inventors: **David Kisailus** and Garrett Milliron. United States Patent #9,452,587. (September 27, 2016).

“Competing mechanism in the wear resistance behavior of biomineralized rod-like microstructures,” E. Escobar de Obaldia, S. Herrera, L. Grunenfelder, **D. Kisailus**, P.D. Zavattieri, *Journal of the Mechanics and Physics of Solids*, **96** (2016) 511-534.

“A Lightweight, Biological Structure with Tailored Stiffness: The Feather Vane,” T.N. Sullivan, A. Pissarenko, S.A. Herrera, **D. Kisailus**, V.A. Lubarda, M.A. Meyers, *Acta Biomaterialia*, **41**, (2016) 27-39. DOI: 10.1016/j.actbio.2016.05.022

“A Sinusoidally-Architected Helicoidal Biocomposite,” N.A. Yaraghi, N. Guarín-Zapata, L.K. Grunenfelder, E. Hintsala, S. Bhowmick, J.M. Hiller, M. Betts, E.L. Principe, J.Y. Jung, L. Sheppard, R. Wuhner, J. McKittrick, P.D. Zavattieri and **D. Kisailus**, *Advanced Materials*, **28** (32), (2016) 6835–6844. DOI: 10.1002/adma.201600786.

“X-Ray Mapping of an Impact-Resistant Crustacean-Derived Biocomposite,” N.A. Yaraghi, N. Guarín-Zapata, E. Hintsala, S. Bhowmick, L. Sheppard, P.D. Zavattieri, R. Wuhner, **D. Kisailus**, *Microscopy and Microanalysis*, **22** (S3), (2016) 98 – 99.

“Structural analysis of the tongue and hyoid apparatus in a woodpecker,” J.Y. Jung, S.E. Naleway, N.A. Yaraghi, S. Herrera, V.R. Sherman, E.A. Bushong, M.H. Ellisman, **D. Kisailus**, J. McKittrick, *Acta Biomaterialia*, **37**, (2016) 1-13. DOI: 10.1016/j.actbio.2016.03.030

“Peptide-mediated microalgae harvesting method for efficient biofuel production,” Y. Maeda T. Tateishi, Y. Niwa, M. Muto, T. Yoshino, **D. Kisailus**, T. Tanaka, *Biotechnology for Biofuels*, **9** (10), (2016) 1-9. DOI: 10.1186/s13068-015-0406-9.

“Controllable Synthesis of Mesostructures from TiO₂ Hollow to Porous Nanospheres with Superior Rate Performance for Lithium Ion Batteries,” H. Ren, J. Sun, R. Yu, M. Yang, L. Gu, P. Liu, H. Zhao, **D. Kisailus**, D. Wang, *Chem. Science*, **7**, (2016) 793-798. DOI: 10.1039/C5SC03203B.

“Biological and Biomimetic Composites,” J. Rivera, B. Macdonald, **D. Kisailus**, *CAMX-Conference on Composites and Advanced Materials Expo*. Dallas, Texas, October 26-29, 2015. American Composites Manufacturers Association & Society for the Advancement of Material and Process Engineering. CD-ROM-pp.

“Crystal Growth of Aspirin Using a Temperature-Controlled Microfluidic Device,” T. Tokuhisa, M. Kawasaki, **D. Kisailus**, M. Yuda, T. Matsunaga, A. Arakaki, *Crystal Growth and Design*, **15** (9), (2015) 4549–4555. DOI: 10.1021/acs.cgd.5b00805

“Shear Wave Filtering in Naturally-Occurring Bouligand Structures,” N. Guarín-Zapata, J. Gomez, N. Yaraghi, **D. Kisailus**, P.D. Zavattieri, *Acta Biomaterialia*, **23** (2015), 11-20.

“Analysis of the mechanical response of biomimetic materials with highly oriented microstructures through 3D printing, mechanical testing and modeling,” E. Escobar de Obaldia, C. Jeong, L. Grunenfelder, **D. Kisailus** and P. Zavattieri, *Journal of the Mechanical Behavior of Biomedical Materials*, **48** (2015) 70-85.

“Elemental and Phase Analysis of the Stomatopod Dactyl Club by X-Ray Mapping,” N.A. Yaraghi, L. Grunenfelder, N. Suksangpanya, N. Guarin, S. Herrera, G. Milliron, P. Zavattieri, L. Sheppard, R. Wuhler, **D. Kisailus**, *Microscopy and Microanalysis*, **21** (2015) 2007 – 2008.

“Crystal Structure and Size Effects on the Performance of Li[Ni_{1/3}Co_{1/3}Mn_{1/3}]O₂ Cathodes,” J. Zhu, K. Yoo, A. Denduluri, W. Hou, J. Guo, **D. Kisailus**, *Journal of Materials Research*, **30** (2) (2015) 286-294. DOI:10.1557/jmr.2014.370

“Solution Deposition of Thin Carbon Coatings on LiFePO₄,” J. Zhu, K. Yoo, I. El-halees, **D. Kisailus**, *ACS Applied Materials & Interfaces*, **6** (23) (2014) 21550-21557. DOI: [10.1021/am506498p](https://doi.org/10.1021/am506498p)

“Multi-shelled TiO₂ Hollow Microspheres as Anodes with Superior Reversible Capacity for Lithium Ion Batteries,” H. Ren, R. Yu, J. Wang, Q. Jin, M. Yang, D. Mao, **D. Kisailus**, H. Zhao and D. Wang, *Nano Lett.*, **14** (11) (2014) 6679-6684. DOI: 10.1021/nl503378a.

“Improved solid-state photomechanical materials by fluorine substitution of 9-anthracene carboxylic acid,” L. Zhu, F. Tong, C. Salinas, F. Tham, **D. Kisailus**, R. O. Al-Kaysi and C.J. Bardeen, *Chem. Mater.* **26** (20) (2014) 6007-6015. DOI: [10.1021/cm502866e](https://doi.org/10.1021/cm502866e)

“Stress and Damage Mitigation from Oriented Nanostructures within the Radular Teeth of *Cryptochiton stelleri*,” L.K. Grunenfelder, E. Escobar de Obaldia, Q. Wang, D. Li, B. Weden, C. Salinas, R. Wuhler, P. Zavattieri and **D. Kisailus**, *Adv. Funct. Mater.*, **24** (39) (2014) 6093-6104. **(Cover Issue)**. DOI: 10.1002/adfm.201401091

“Crustacean-derived biomimetic components and nanostructured composites,” L.K. Grunenfelder, S. Herrera, **D. Kisailus**, *Small*, **10** (16) (2014) 3207-3232. DOI: 10.1002/sml.201400559.

“Bio-Inspired Impact Resistant Composites,” L.K. Grunenfelder, N. Suksangpanya, C. Salinas, G. Milliron, N. Yaraghi, S. Herrera, K. Evans-Lutterodt, S.R. Nutt, P. Zavattieri, **D. Kisailus**, *Acta Biomaterialia*, **10** (9) (2014) 3997-4008. DOI: 10.1016/j.actbio.2014.03.022

“Solvothermal Synthesis, Development and Performance of LiFePO₄ Nanostructures,” J. Zhu, J. Fiore, D. Li, N. Kinsinger, Q. Wang, E. DiMasi, J. Guo, **D. Kisailus**, *Crystal Growth and Design*, **13** (11) (2013) 4659–4666.

“Three-dimensional biological scaffold and method of making the same,” Inventors: **David Kisailus**, Alan J. Jacobsen, Chaoyin Zhou. United States Patent # 8,541,015. (September 24, 2013).

“Biologically Inspired Synthesis of Highly Branched Zinc Oxide Nanowires,” W. Hou, L. Lancaster, D. Li, A. Bowlus, K. Bozhilov, **D. Kisailus**, *Bioinspired, Biomimetic and Nanobiomaterials*, **3** (1) (2013) 10-18. DOI: 10.1680/bbn.13.00019.

“Synthesis of Highly Branched Zinc Oxide Nanowires,” W. Hou, L. Lancaster, D. Li, A. Bowlus, **D. Kisailus**, *10th Pacific Rim Conference on Ceramics and Glass Technology Proceedings Symposium 23* (2013).

“Synergistic Effect of pH and Phase in a Nanocrystalline Titania Photocatalyst,” N. Kinsinger, A. Dudchenko, A. Wong, **D. Kisailus**, *ACS Applied Materials and Interfaces*, **5** (13) (2013) 6247–6254. DOI: 10.1021/am401247h.

“The Influence of Materials Science and Engineering Undergraduate Research Experiences on Public Communication Skills,” M. Ing, W. Fung, **D. Kisailus**, *Journal of STEM Education: Innovations and Research*. **14** (2) (2013) 16-20.

“Accurate Control of Multi-shelled Co₃O₄ Hollow Microspheres for High-Performance Anode Materials in Lithium Ion Batteries,” J. Wang, N. Yang, H. Tang, Z. Dong, **D. Kisailus**, Z. Tang, D. Wang, *Angew. Chem. Int. Ed.*, **52** (25) (2013) 6417–6420. DOI:10.1002/anie.201301622.

“Fracture mitigation strategies in gastropod shells,” C. Salinas and **D. Kisailus**, *Journal of Materials*, **65** (4) (2013) 473-480. DOI: 10.1007/s11837-013-0570-y

“Growth mechanism of highly branched titanium dioxide nanowires via oriented attachment,” D. Li, F. Soberanis, J. Fu, W. Hou, J. Wu, **D. Kisailus**, *Crystal Growth and Design*, **13** (2) (2013) 422–428. <http://dx.doi.org/10.1021/cg301388e>

“Phase transformations and structural developments in the radular teeth of *Cryptochiton stelleri*,” Q. Wang, M. Nemoto, D. Li, J.C. Weaver, B. Weden, J. Stegemeier, K.N. Bozhilov, L.R. Wood, G.W. Milliron, C.S. Kim, E. DiMasi, **D. Kisailus**, *Adv. Funct. Mater.*, **23** (2013) 2908–2917. DOI: 10.1002/adfm.201202894. (Cover Issue).

“Composite structures with ordered three-dimensional (3D) continuous interpenetrating phases,” Inventors: Robert Cumberland, Adam Gross, Alan Jacobsen, Bill Carter, Kevin Kirby, **David Kisailus**. United States Patent #8,320,727. (January 15, 2013).

“Three-dimensional biological scaffold comprising polymer waveguides,” Inventors: **David Kisailus**, Alan Jacobsen, Chaoyin Zhou. United States Patent #8,287,895. (October 16, 2012).

“Urease Mediated, Room Temperature Synthesis of Nano-crystalline Titanium Dioxide,” J. Johnson, N. Kinsinger, C. Sun, D. Li, **D. Kisailus**, *J. Am. Chem. Soc.*, **134** (34) (2012) 13974-13977. <http://dx.doi.org/10.1021/ja306884e>.

“A proteomic analysis from the mineralized radular teeth of the giant Pacific chiton, *Cryptochiton stelleri* (Mollusca),” M. Nemoto, Q. Wang, D. Li, S. Pan, T. Matsunaga, **D. Kisailus**, *Proteomics*, **12** (18) (2012) 2890-2894.

“The Stomatopod Dactyl Club: A Formidable Damage-Tolerant Biological Hammer,” J. Weaver, G. Milliron, A. Miserez, K. Evans-Lutterodt, S. Herrera, I. Gallana, W. Mershon, B. Swanson, P. Zavattieri, E. DiMasi, **D. Kisailus**, *Science*, **336** (2012) 1275-1280.

“Crystal Growth of $\text{Li}[\text{Ni}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}]\text{O}_2$ as a Cathode Material for High-Performance Lithium Ion Batteries,” J. Zhu, T. Vo, D. Li, N. Kinsinger, L. Xiong, Y. Yan, **D. Kisailus**, *Crystal Growth and Design*, **12** (3) (2012) 1118-1123.

“Solvothermal Synthesis of a Highly Branched Ta-doped TiO_2 ,” S. Arab, D. Li, N. Kinsinger, F. Zaera, **D. Kisailus**, *Journal of Materials Research*, **26** (20) (2011) 2653-2659.

“Photocatalytic Titanium Dioxide Composite,” N. Kinsinger, A. Tantuccio, Minwei Sun, Yushan Yan, **D. Kisailus**, *J. Nanoscience and Nanotechnology*, **11** (8) (2011) 7015-7021.

“Insight into On-Wafer Crystallization of Pure-Silica-Zeolite Films through Nutrient Replenishment,” C.M. Lew, Y. Liu, **D. Kisailus**, G.M. Kloster, G. Chow, B. Boyanov, M. Sun, J. Wang, Y. Yan, *Langmuir*, **27** (7) (2011) 3283-3285.

“Hierarchically Ordered Macro-Mesoporous TiO_2 -Graphene Composite Films: Improved Mass Transfer, Reduced Charge Recombination, and Their Enhanced Photocatalytic Activities,” J. Du, X. Lai, N. Yang, J. Zhai, **D. Kisailus**, F. Su, D. Wang, L. Jiang, *ACS Nano*, **5** (1) (2011) 590-596.

“Nucleation and crystal growth of nanocrystalline anatase and rutile phase TiO_2 from a water soluble precursor,” N. Kinsinger, A. Wong, D. Li, F. Villalobos, **D. Kisailus**, *Crystal Growth and Design*, **10** (12) (2010) 5254-5261.

“Wide-field SEM of semiconducting minerals,” J. Weaver, W. Mershon, M. Zadrazil, M. Kooser, **D. Kisailus**, *Materials Today*, **13** (10) (2010) 54-61.

“Unifying Design Strategies in Demosponge and Hexactinellid Skeletal Systems,” J. Weaver, G. Milliron, P. Allen, A. Miserez, A. Rawal, J. Garay, P. Thurner, J. Seto, B. Mayzel, L. Friesen, B. Chmelka, P. Fratzl, J. Aizenberg, Y. Dauphin, **D. Kisailus**, D. Morse, *Journal of Adhesion*, **86** (2010) 72-95.

“Porous Platinum Nanotubes for Oxygen Reduction and Methanol Oxidation Reactions,” S. Alia, G. Zhang, **D. Kisailus**, D. Li, S. Gu, K. Jensen, and Y. Yan, *Adv. Funct. Mat.*, **20**, (2010) 3742-3746.

“Analysis of an ultra hard magnetic biomineral in chiton radular teeth,” J. Weaver, QQ. Wang, A. Miserez, A. Tantuccio, R. Stromberg, KN. Bozhilov, P. Maxwell, R. Nay, ST. Heier, E. DiMasi, **D. Kisailus**, *Materials Today*, **13** (2010) 42-52.

“Sucker Rings from the Humboldt Squid *Dosidicus gigas*: The Role of Nanotubule Architecture on the Mechanical Properties,” A. Miserez, J. Weaver, **D. Kisailus**, H. Birkedal, *MRS Proceedings Symposium KK*, (2009).

“Microstructural and Biochemical Characterization of the Nano-porous Sucker Rings from *Dosidicus gigas*,” A. Miserez, J. Weaver, P.B. Pedersen, T. Schneeberk, R.T. Hanlon, **D. Kisailus***, H. Birkedal*, *Adv. Mat.*, **21** (2009) 1-6. **(Cover Issue)**; *Co-corresponding author.

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AFFILIATIONS

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