C. JEFFREY BRINKER**A. Professional Preparation**

**Institution Major/Area Degree & Year**

Rutgers University, New Brunswick, NJ Ceramic Science B.S., 6/72 (with High Honors).

Rutgers University, New Brunswick, NJ Ceramic Science M.S., 12/75

Rutgers University, New Brunswick, NJ Ceramic Science Ph.D., 12/78; Thesis Topic: "Alkali Metal

Corrosion of Glass"

**B. Current Appointments**

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| Distinguished and Regent’s Professor, *Emeritus* Departments of Chemical and Biological Engineering, Chemistry, Molecular Genetics and Microbiology, Co-Director Center for Micro-Engineered MaterialsThe University of New Mexico, Albuquerque, NM. 87131; 505-277-6266 (office); jbrinker@unm.edu | Sandia Fellow, *Emeritus* Science and Technology OfficeSandia National Laboratories, 1001 University Blvd SE, Albuquerque, NM 87106. 505-272-7627 (office); 505-259-4182 (mobile) |

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| **C. Appointments and Affiliations:** |
| **2010 – Current:** Member UNM Cancer Center**2018 – Current:**  Distinguished Professor of Chemical and Biological Engineering and Molecular Genetics and Microbiology, *Emeritus,* the University of New Mexico (UNM), Albuquerque, NM. **2008 - 2018**: Distinguished Professor of Chemical and Biological Engineering and Molecular Genetics and Microbiology, the University of New Mexico (UNM), Albuquerque, NM. Highest UNM distinction. Research activities include self- and directed-assembly of 2D and 3D nanoscale materials and assemblies, molecular templating, atomic layer deposition, nano/micro/macro integration, and bio/nano interfaces. |
| **2006-Current:** Distinguished Affiliate Scientist at the Center for Integrated Nanotechnologies (CINT), a Department of Energy/Office of Science Nanoscale Science Research Center (NSRC).**2006–Current:** Regent’s Professor of Chemical and Biological Engineering and Molecular Genetics and Microbiology, UNM. Co-developed new graduate curriculum in nanoscience and Microsystems. Led statewide NSF EPSCOR program on nanoscience and nanotechnology. |
| **2003–2019**, Laboratory Fellow (1 of 4 among 10K employees – highest technical distinction), Sandia National Laboratories (SNL), Albuquerque, NM. Serves as resource for and provides guidance to SNL materials science and nanotechnology programs. |
| **1999 – 2006**, Professor of Chemistry and Chemical and Nuclear Engineering, UNM |
| **1999 – 2003**, Senior Scientist, Chemical Synthesis and Nanomaterials Department, SNL |
| **1991 – 1999**, Distinguished National Laboratory Professor of Chemistry and Chemical and Nuclear Engineering, UNM |
| **1991 – 1998**, Distinguished Member of the Technical Staff, Direct Fabrication Dept, SNL |
| **1979 – 1991**, Member of the Technical Staff, Chemistry and Ceramics Department, SNL |

D. **Honors and Awards**

**Awards and Honors**

* 1988 W.H. Zachariasen Award for best contribution to the glass literature 1985-87, awarded by the Journal of Non-Crystalline Solids.
* 1986 Department of Energy Basic Energy Sciences Award for Outstanding Scientific
 Accomplishment in Metallurgy and Ceramics
* 1992 Elected Fellow of the American Ceramic Society
* 1993 Directeur de Recherche Universite Pierre et Marie Curie, Paris VI
* 1994 Department of Energy Basic Energy Sciences Award for Significant Implications for DOE
 Related Technologies in Metallurgy and Ceramics.
* 1995 Department of Energy Basic Energy Sciences Award for Sustained Outstanding
 Research in Metallurgy and Ceramics.
* 1996 American Chemical Society Ralph K. Iler Award in the Chemistry of Colloidal Materials.
* 1996 R&D 100 Award: Low Temperature/Pressure Aerogel Process
* 1996 Lockheed Martin NOVA Award
* 1998 Motorola/CMEM Research Mentorship Award
* 1998 Department of Energy Basic Energy Sciences Award for Outstanding Scientific
 Accomplishment in Metallurgy and Ceramics
* 2001 Collegiate Inventors Competition Award for Optically-Adjustable Nanostructures
* 2002 Elected to the National Academy of Engineering
* 2002 DOE Ernest O. Lawrence Memorial Award in Materials Science
* 2003 Materials Research Society MRS Medal
* 2005 University of New Mexico Research Excellence Award
* 2006 Directeur de Recherche Universite Pierre et Marie Curie, Paris VI
* 2006 Rutgers University Distinguished Alumnus Award
* 2007 R&D 100 Award: Self-Assembling Process for Fabricating Tailored Thin Films
* 2008 R&D100 Award: Patterned Superhydrophobic Surfaces
* 2008 Edward R. Orton Jr. Memorial Award, American Ceramic Society and ASM
* 2009 IBM Distinguished Lecturer in Materials Science and Engineering
* 2009 Named Fellow of the Materials Research Society
* 2010 Robert B. Sosman Award, American Ceramic Society
* 2011 R&D100 Award Biomimetic Water Purification Membranes
* 2012 Médaille du Collège de France, Paris
* 2012 Federal Laboratory Consortium, Notable Technology Development Award – Biomimetic Membranes
* 2013 Federal Laboratory Consortium, Outstanding Regional Partnership – UNM
Health Sciences Center/Sandia National Laboratories Partnership
* 2014 Federal Laboratory Consortium, Notable Technology Development Award, Nano-Stabilized Enzymatic Membrane for CO2 Capture
* 2014 Elected to Board of Directors, Materials Research Society (3 year term)
* 2015 Elected Fellow of the Materials Research Society
* 2015 University of New Mexico STC, Innovation Fellow Award
* 2015 R&D100 Award – CO2 Memzyme
* 2015 R&D 100’s ‘Green Technology Special Recognition Gold Award’ for CO2 Memzyme
* 2015 UNM Presidential Medal of Distinction
* 2015 Elected to the US National Academy of Inventors
* 2017 Life Time Achievement Award in Sol-Gel Science and Technology
* 2018 Elected Fellow of the American Academy of Arts and Sciences

**Editorial and Advisory Committees**

* **Peer Review:**  Associate Editor *ACS Nano*; Editorial Boards for *J. Nanomaterials, J. Sol-Gel Science/Technology*; *Small*; *Current Opinion in Solid State and Materials Science*,
* **Advisory Role:** Advisory Boards for International Workshop on Glasses and Ceramics from Gels; International Conference on Inorganic Membranes; International Conference on Multifunctional Hybrid and Nanomaterials (I-VI), International Symposium on Aerogels. Founder and Co-Organizer, Materials Research Symposium Series: *Better Ceramics Through Chemistry* I, II, III, IV, V, VI and *Organic/Inorganic Hybrid Materials* I, II, III. Member, Board of Directors, Materials Research Society

## E. Research Focus and Related Professional Activities

* Brinker actively worked to involve chemists in ceramic science and engineering by creating the very successful Materials Research Society symposium series, Better Ceramics Through Chemistry, which ran biennially for fourteen years and recently spawned a successor series on Organic/Inorganic Hybrid Materials. Commenced in 1984, this was arguably the first symposium series to focus on ‘bottom-up’ assembly of nanostructured materials from molecular precursors and served as a primary basis for contemporary activities in nanotechnology.
* Brinker co-authored a textbook entitled, Sol-Gel Science: The Physics and Chemistry of Sol-Gel Processing (Academic Press, 1990), with George Scherer (Princeton University). This book has served as a valuable resource to the worldwide scientific community who are now working in this burgeoning field and remains the most highly cited textbook on sol-gel processing (over 10,000 copies sold).
* Brinker co-authored two chapters in Nanotechnology Research Directions for Societal Needs in 2020: Retrospective and Outlook, M.C. Roco, C.A. Mirkin, M.C. Hersam, eds. (October 2010): “Nanotechnology for Sustainability: Energy Conversion, Storage, and Conservation”, with David Ginger and “Nanotechnology for Sustainability: Environment, Water, Food, Minerals, and Climate” with M. Diallo.
* Brinker pioneered so-called ‘sol-gel processing’ as a means of solution-based synthesis of a wide range of inorganic and composite nanomaterials. By combining sol-gel processing with molecular self-assembly, he pioneered powerful evaporation-induced self-assembly procedures (six Science and Nature papers), enabling the facile synthesis of highly ordered porous and composite nanostructured films and particles. During the past several years he used self-assembled porous nanoparticles in the development of the protocell (a nanoporous particle supported lipid bilayer) as a universal targeted nanocarrier platform for selective delivery of multicomponent cargoes to cancer, a principle thrust area of the UNM Cancer Center and Health Sciences Research portfolios.
* Brinker’s combined appointments at UNM School of Engineering, the UNM Cancer Center, Sandia National Labs, and the Center for Integrated Nanotechnologies (CINT) a DOE Office of Science Nanoscale Science Research Center provide a rich training environment and access to a vast array of nanofabrication and nano-characterization tools and platforms. He directs research concerning the fabrication and structural, chemical, and functional characterization of nanostructures with a specific aim to engineer and optimize their *in vivo* performance as nanocarriers.

# Major Student/Post-doc Awards and Fellowships:

* **Terisse Brocato** (PhD student) School of Engineering Award – the Charlotte and William Kraft Graduate Fellowship, the University of New Mexico, 2013-2015
* **Paul Durfee** (MS 2013, PhD student) Best poster award “Size and Surface Engineered Mesoporous Nanoparticles Direct Altered Biodistribution and Clearance”, P. Durfee, Y.S. Lin, J. Townson, J. Minster, C.J. Brinker. Rio Grande Symposium on Advanced Materials, RGSAM, October 2013, Albuquerque, NM
* **Paul Durfee** (MS 2013, PhD student)George D. Montoya Research Scholarship, the University of New Mexico, 2013
* **Paul Durfee** (MS 2013, PhD student)School of Engineering Award – the Charlotte and William Kraft Graduate Fellowship, the University of New Mexico, 2013-2014
* **Paul Durfee** (MS 2013, PhD student)Edmund J. and Thelma W. Evans Charitable Trust Scholarship, the University of New Mexico, 2012-2013.
* **Yu-Shen Lin** (U. Minnesota; post-doc) Center for Nanotechnology in Cancer Fellowship, the University of New Mexico, 2013-2014.
* **Jason Townson** (U. W. Ontario; post-doc) Junior Investigator Award, Gabrielle’s Angels Foundation, 2012-2013.
* **Lauren Zarzar (**visiting graduate student, Harvard University) Akzo-Nobel Student Award, American Chemical Society, Denver, CO, August 28 – September 2, 2011. For work performed summers 2010-2011 while mentored by Bryan Kaehr, C. Jeffrey Brinker, published in *Angewandte Chemie*
* **David Padilla** (PhD student), Eric Carnes, Katie Epler, Robert Castillo, Genevieve Phillips, Jeff Brinker, Carlee Ashley,*The Selective Transfection of Hepatocellular Carcinoma Using Peptide Targeted Silica Nanoparticle-Supported Lipid Bilayers,* 23rdRio Grande Symposium on Advanced Materials – RGSAM, Best Poster competition, 2nd place, Albuquerque, NM Oct 2011.
* **Mekensey Buley** (M.S. 2012) Graduate Research Fellowship (Nanoparticle Human Interactions), Sandia National Laboratories/University of New Mexico Excellence in Engineering Research Program, 2011-2012.
* **Carlee Ashley** (PhD May 2010), President Harry S. Truman Postdoctoral Fellowship, Sandia National Laboratories, 2010 – 2013.
* **Annikka Jensen** (PhD student), Integrated Graduate Education and Research Traineeship (IGERT) Fellowship in Integrating Nanotechnology with Cell Biology and Neuroscience, 2010-2012.
* **Carlee Ashley** (PhD May 2010), Outstanding Graduate student 2010, Chemical and Nuclear Engineering Department, the University of New Mexico.
* **Carlee Ashley** (PhD May 2010), Michael Gallegos Prize for Entrepreneurship, $25,000, University of New Mexico Technology Business Plan Competition, April 2010
* **Carlee Ashley** (PhD May 2010), Materials Research Society Graduate Student Silver award, December 2009
* **Carlee Ashley** (PhD May 2010),Mekensey Buley (MS 2013), D.S. Peabody, and C.J. Brinker. Materials Research Society Fall Meeting, *Targeted in-vitro Delivery of a Chemotherapeutic Agent to Human Hepatocarcinoma via a Bacteriophage Carrier*, Top Poster Award, Open competition (599 entries), Dec 2008.
* **Carlee Ashley** (PhD May 2010),Darren Dunphy, **Eric Carnes** (PhD 2008), D. Petsev, P. Atanassov, D.S. Peabody, and C. J Brinker, Materials Research Society Fall Meeting, *Self-Assembly of Well-Ordered, Close-Packed 2D Arrays of Recombinant Virus-Like Partiles that Nucleate the Growth of Inorganic Nanomaterials*, Top Ten Poster Award, Open competition (609 entries), December 2008.
* **Shisheng Xiong** (PhD Dec 2010),Y. Gao, J. Pang, John Grey, and C. J. Brinker. Materials Research Society Fall Meeting, *Functional Monolayer Nanoparticle/polymer Composites Formed by Evaporation Induced Self-Assembly at a Fluid Interface,* Top Ten Poster Award, Open competition (600 entries), Dec 2008.
* **Jennifer Pelowitz** (MS 2012),Integrated Graduate Education and Research Traineeship (IGERT) Fellowship in Integrating Nanotechnology with Cell Biology and Neuroscience, 2009-2011.
* **Patrick Johnson** (PhD student), Integrated Graduate Education and Research Traineeship (IGERT) Fellowship in Integrating Nanotechnology with Cell Biology and Neuroscience, 2008-2011
* **Adam Wise** (PhD 2012)Integrated Graduate Education and Research Traineeship (IGERT) Fellowship in Nanoscience and Microsystems, National Science Foundation, 2007-2010
* **Eric Carnes** (PhD July 2008), **Carlee Ashley** (PhD May 2010), NSF Ethics Fellows, the University of New Mexico, National Science Foundation Pilot Program between School of Engineering and Department of Philosophy graduate students to develop and team-teach *Engineering Ethics*, 2007-2008.
* **Carlee Ashley** (PhD May 2010), Integrated Graduate Education and Research Traineeship (IGERT) Fellowship in Nanoscience and Microsystems, National Science Foundation, 2006-2009
* **Ryan Molecke** (PhD 2011),Integrated Graduate Education and Research Traineeship (IGERT) Fellowship in Nanoscience and Microsystems, National Science Foundation, 2006-2009
* **Eric C. Carnes** (PhD 2008), 3rd Annual Symposium on Integrating Nanotechnology with Cell Biology and Neuroscience – INCBN IGERT,August 17-18, 2009, Albuquerque, NM, NSF IGERT Graduate Fellow Award
* **Eric Carnes** (PhD July 2008) Integrated Graduate Education and Research Traineeship (IGERT) Fellowship in Integrating Nanotechnology with Cell Biology and Neuroscience, National Science Foundation, 2006-2008
* **Cynthia M. Douthit** (undergrad Chem Eng), **Eric C. Carnes (**PhD 2008**)**, **Carlee Ashley** (PhD 2010), **DeAnna Lopez** (undergrad Chem Eng), **Alex Capecelatro** (visiting student, UCLA), and C. Jeffrey Brinker. CCMC Fall 2008 Industrial Advisory Board (IAB) and Technical Review Meeting, University of New Mexico, Albuquerque, NM, November 18–20, 2008. *Examining Integration Techniques using Living Yeast Cells into Self-Assembled Nanostructures*, 1st place, student poster competition.
* **DeAnna Lopez** (undergrad Chem Eng)**,** **Eric Carnes** (PhD 2008). Microscopy Facility Image Competition, Cancer Center Fluorescence Microscopy Facility, University of New Mexico, February 2008, Albuquerque, NM. First prize, Spectral Image category, Confocal microscope image “Cells Take the Lead” in Life in Print, Science News Online, Jan 26, 2008, vol. 173, no. 4, p. 56.
* **Carlee Ashley**\* (PhD 2010), **Eric Carnes** (PhD 2008), Landon White (undergrad Chem Eng), Zhen Yuan, Darren Dunphy, Dimiter Petsev, Plamen Atanassov, David Peabody, Jin Wang, and C. Jeffrey Brinker. New Mexico Chapter of the American Vacuum Society, Albuquerque, NM, May 22, 2007. ***Grazing Incidence Small Angle X-ray Scattering (GISAXS) Characterization of 2D Bacteriophage Arrays Deposited via Convective Assembly,*** First prize\*, Graduate Student Oral Paper Competition (\* all expenses paid trip to the AVS 54th International Symposium, Seattle, WA, October 14-19, 2007).
* **Carlee Ashley** (PhD 2010), **Eric Carnes** (PhD 2008), Helen Baca, Deanna Lopez (undergrad Chem Eng), Seema Singh, Jeff Brinker. Industrial Advisory Board Meeting of the UNM/Rutgers/Penn State Ceramic and Composite Materials Center (CCMC), March 13, 2007, Albuquerque, NM. *Cell-Directed Assembly of 3-D Bio-Nano Interfaces,* First Prize, Graduate student poster competition.
* **The Top 20 Most-Cited Papers in Materials Science**, 1996-2006. In-cites Essential Science Indicators, <http://www.in-cites.com/papers/top20-mat-sci.html>, November 2006, *Continuous formation of supported cubic and hexagonal mesoporous films by sol-gel dip-coating.* Lu Y.F. (PhD 1998), Ganguli, R. (MS 1997), Drewien, C.A., Anderson, M.T., Brinker, C.J., Gong, W.L., Guo, Y.X. Soyez, H., Dunn, B., Huang, M.H., Zink, J.I., NATURE, v. 389, pp. 364-368 (1997).
* **Helen K. Baca** (PhD 2005), Materials Research Society Student Gold Award, 2005
* **Helen Baca** (PhD 2005), DoD National Science and Defense Graduate Fellowship,
2001- 2003
* **Dhaval Doshi** (PhD 2002) Los Alamos National Laboratory Director’s Postdoctoral Fellowship, 2002-2004
* **Dhaval Doshi** (PhD 2002), Collegiate Inventors Competition Award, *Optically-Adjustable Nanostructures*, 2001
* **Dhaval Doshi** ( PhD 2002), Materials Research Society Student Gold Award, 2001 **Yunfeng Lu** (PhD 1998), Presidential Early Career Award for Scientists and Engineers (PECASE), 2005.
* **Mencheng Lu** (PhD 2001), Materials Research Society Best Poster Award, 1999
* **Hongyou Fan** (PhD 2000), Materials Research Society Student Silver Award, 2000
* **Hongyou Fan** (PhD 2000), University of New Mexico Chemical Engineering Alumni Award for Outstanding Graduate student, 2000
* **Yunfeng Lu** (PhD 1998), Materials Research Society Student Gold Award, 1999
* **Yunfeng Lu** (PhD 1998), American Chemical Society Unilever (Young Investigator) Award in Colloid and Surface Chemistry, 2005
* **Yunfeng Lu** (PhD 1998), 31st American Chemical Society Victor K. LaMer PhD Thesis Award in Colloid and Surface Chemistry, 2000
1. **BOOKS AND BOOK CHAPTERS**

**Books, authored

1.** [Sol-Gel Science: The Physics and Chemistry of Sol-Gel Prcessing](http://www.amazon.com/Sol-Gel-Science-Physics-Chemistry-Processing/dp/0121349705/sr%3D8-1/qid%3D1162425389/ref%3Dpd_bbs_sr_1/102-0068023-6727371?ie=UTF8&s=books)
 Brinker, C. Jeffrey and Scherer, George W.
 Academic Press, San Diego, CA, April 1990

**Books, edited**

1. Better Ceramics Through Chemistry
Brinker, C. Jeffrey; Clark, David E.; and Ulrich, Donald R. editors. Materials Research Society Symposia Proceedings, Volume 32, North-Holland, New York/Amsterdam, 1984.
2. Better Ceramics Through Chemistry II
Brinker, C. Jeffrey; Clark, David E.; and Ulrich, Donald R., editors. Materials Research Society Symposia Proceedings, Volume 73, Materials Research Society, Pittsburgh, PA, 1986.
3. Better Ceramics Through Chemistry III
Brinker, C. Jeffrey; Clark, David E.; and Ulrich, Donald R., editors. Materials Research Society Symposia Proceedings, Volume 121, Materials Research Society, Pittsburgh, PA, 1988.
4. Better Ceramics Through Chemistry IV
Zelinski, Brian J.J.; Brinker, C. Jeffrey; Clark, David E.; and Ulrich, Donald R., editors. Materials Research Society Symposia Proceedings, Volume 180, Materials Research Society, Pittsburgh, PA, 1990.
5. Better Ceramics Through Chemistry V
Hampden-Smith, Mark; Klemperer, Walter G.; and Brinker, C. Jeffrey, editors. Materials Research Society Symposia Proceedings, Volume 271
Materials Research Society, Pittsburgh, PA, 1992.
6. Better Ceramics Through Chemistry VI
Cheetham, Anthony K.; Brinker, C. Jeffrey; Mecartney, Martha L.; and Sanchez, Clément, editors. Materials Research Society Symposia Proceedings, Volume 346, Materials Research Society, Pittsburgh, PA, 1994.
7. Organic/Inorganic Hybrid Materials
Laine, Richard M.; Sanchez, Clément; Giannelis, E.P.; and Brinker, C. Jeffrey, editors. Materials Research Society Symposia Proceedings, Volume 519, Materials Research Society, Pittsburgh, PA, 1998.
8. Aerogels 6
Ashley, Carol S.; Brinker, C. Jeffrey; and Smith, Douglas, M., editors.
Proceedings of the Sixth International Symposium on Aerogels -- Special Issue of the *Journal of Non-Crystalline Solids*, Volume 286, North-Holland, New York/Amsterdam, 2000.
9. Organic/Inorganic Hybrid Materials II
Laine, Richard M.; Sanchez, Clément; Giannelis, E.P.; and Brinker, C. Jeffrey, editors. Materials Research Society Symposia Proceedings, Volume 628, Materials Research Society, Pittsburgh, PA, 2000.
10. Organic/Inorganic Hybrid Materials III
Sanchez, Clément; Laine, Richard M.; Yang, Shu; and Brinker, C. Jeffrey, editors. Materials Research Society Symposia Proceedings, Volume 628, Materials Research Society, Pittsburgh, PA, 2002.
11. Self-Assembled Nanostructured Materials
Lu, Yunfeng; Brinker, C. Jeffrey; Antonietti, Markus; and Chunli, B., editors. Materials Research Society Symposia Proceedings, Volume 775, Materials Research Society, Pittsburgh, PA, 2003.
12. Annual Review of Nano Research – Volume 1
Cao, Guozhong and Brinker C. Jeffrey Brinker, editors. World Scientific Publishing Co., Ltd., Singapore/London, 2006.
13. Annual Review of Nano Research – Volume 2
Cao, Guozhong and Brinker C. Jeffrey Brinker, editors. World Scientific Publishing Co., Ltd., Singapore/London, 2008.
14. Annual Review of Nano Research – Volume 3
Cao, Guozhong and Brinker C. Jeffrey Brinker, editors. World Scientific Publishing Co., Ltd., Singapore/London, 2010.

 **BOOK CHAPTERS**

1. Brinker, C. J.: Dip Coating. In Chemical Solution Deposition of Functional Oxide Thin Films; Schneller, T., Waser, R., Kosec, M., Payne, D., Eds.; Springer Vienna, 2013; pp 233-261.
2. Nanotechnology for Sustainability: Energy Conversion, Storage, and Conservation, C. Jeffrey Brinker and David Ginger, in Nanotechnology Research for Societal Needs in 2020: Retrospective and Outlook, M.C. Rocco, C.A. Mirkin, M.C. Hersam, eds, Elsevier Press, Amsterdam (October 2010)
3. Nanotechnology for Sustainability: Environment, Water, Food, Minerals, and Climate, M. Diallo and C. Jeffrey Brinker, in Nanotechnology Research Directions for Societal Needs in 2020: Retrospective and Outlook, M.C. Rocco, C.A. Mirkin, M.C. Hersam, eds, Elsevier Press, Amsterdam (October 2010).
4. Control of Morphology in Mesoporous and Mesostructured Hybrid Materials
Darren R. Dunphy, Bernd Smarsly, C. Jeffrey Brinker
in The Supramolecular Chemistry of Organic-Inorganic Hybrid Materials, Knut Rurack, ed, John Wiley & Sons, Inc., Hoboken, NJ (March 2010)
5. Photoresponsive Nanocomposite Materials Including Axobenzene-Containing Polysilsesquixane Films and Photoswitched Nanovalves, Nanguo Liu and C. Jeffrey Brinker in Smart Light-Responsive Materials: Azobenzene Containing Polymers and Liquid Crystals, Yue Zhao and Tomiki Ikeda, eds., John Wiley & Sons, Inc., Hoboken, NJ Chapter 13, 457-504 (March 2009)

**G. PUBLICATIONS, PEER-REVIEWED JOURNALS** (h-index 97; citations = 55,025 see Google Scholar: <http://scholar.google.com/citations?hl=en&user=DZk5ffwAAAAJ&view_op=list_works&sortby=pubdate>)

 **Refereed Journal papers published**

1. Sun, B.; Pokhrel, S.; Dunphy, D. R.; Zhang, H.; Ji, Z.; Wang, X.; Wang, M.; Liao, Y.-P.; Chang, C. H.; Dong, J.; Li, R.; Mädler, L.; Brinker, C. J.; Nel, A. E.; Xia, T. Reduction of Acute Inflammatory Effects of Fumed Silica Nanoparticles in the Lung by Adjusting Silanol Display through Calcination and Metal Doping. *ACS Nano* 2015, Published online August 13, 2015.
2. Harper, J.C.; Carson, B.D.; Bachand, G.D.; Arndt, W.D.; Finley, M.R.; Brinker, C.J.; Edwards, T.L. Laser Machined Plastic Laminates: Towards Portable Diagnostic Devices for Use in Low Resource Environments. *Electroanalysis*, **2015**, Published online July 14, 2015.
3. Nel, A.E.; Parak, W.J.; Chan, W.CW; Xia, T.; Hersam, M.C.; Brinker, C.J; Zink, J.I.; Pinkerton, K.E.; Baer, D.R.; Weiss, P.S. [Where Are We Heading in Nanotechnology Environmental Health and Safety and Materials Characterization?](http://www.unm.edu/~solgel/PublicationsPDF/2015/NelACSNano2015.pdf)ACS Nano, **2015**, 9(6), 5627-5630.
4. Johnson, P.E.; Muttil, P.; MacKenzie, D.; Carnes, E.C.; Pelowitz, J.; Mara, N.A.; Mook, W.M.; Jett, S.D.; Dunphy, D.R.; Timmins, G.S.; Brinker, C. J. [Spray-Dried Multiscale Nano-biocomposites Containing Living Cells](http://www.unm.edu/~solgel/PublicationsPDF/2015/JohnsonACSNano2015.pdf)[.](http://www.unm.edu/~solgel/PublicationsPDF/2015/Dobroff2015.pdf) ACS Nano, **2015**,9 (7), 6961-6977
5. Dunphy, D.; Sheth, P. H.; Garcia Jr., F. L.; Brinker, C. J. [Enlarged Pore Size in Mesoporous Silica Films Templated by Pluronic F127: Use of Poloxamer mixtures and increased template/SiO2 ratios in materials synthesized by evaporation-induced self assembly](http://www.unm.edu/~solgel/PublicationsPDF/2015/DunphyEnlargedPoreSize2015.pdf)[.](http://pubs.acs.org/doi/abs/10.1021/cm5031624) Chemistry of Materials **2015**, 27, 75-84.
6. Sun, J.; Jakobsson, E.; Wang, Y.; Brinker, C. J. Nanoporous Silica-Based Protocells at Multiple Scales for Designs of Life and Nanomedicine. *Life* **2015**, *5*, 214-229.
7. Dobroff, A. S.; Rangel, R.; Guzman‐Roja, L.; Salmeron, C. C.; Gelovani, J. G.; Sidman, R. L.; Bologa, C. G.; Oprea, T. I.; Brinker, C. J.; Pasqualini, R. Ligand‐Directed Profiling of Organelles with Internalizing Phage Libraries. *Current Protocols in Protein Science* **2015**, 30.34. 31-30.34. 30.
8. Chou, S. S.; Huang, Y.-K.; Kim, J.; Kaehr, B.; Foley, B. M.; Lu, P.; Dykstra, C.; Hopkins, P. E.; Brinker, C. J.; Huang, J. Controlling the metal to semiconductor transition of MoS2 and WS2 in solution. *Journal of the American Chemical Society* **2015**.
9. Zhu, J.; Quan, Z.; Lin, Y. S.; Jiang, Y. B.; Wang, Z.; Zhang, J.; Jin, C.; Zhao, Y.; Liu, Z.; Brinker, C. J.; Zxu, H. Porous ice phases with VI and distorted VII structures constrained in nanoporous silica. *Nano Letters* **2014**, *14*, 6554-6558.
10. Townson, J. L.; Lin, Y. S.; Chou, S. S.; Awad, Y. H.; Coker, E. N.; Brinker, C. J.; Kaehr, B. Synthetic fossilization of soft biological tissues and their shape-preserving transformation into silica or electron-conductive replicas. *Nat Comm* **2014**, *5*, 5665.
11. Fu, Y.; Li, B.; Jiang, Y.-B.; Dunphy, D.; Tsai, A.; Tam, S. Y.; Fan, H. Y.; Zhang, H.; Rogers, D. M.; Rempe, S. B.; Atanassov, P.; Cecchi, J. L.; Brinker, C. J. Atomic Layer Desposition of L-Alnaine Polypeptide. *Journal of the American Chemical Society* **2014**, *136*, 15821-15824.
12. Li, R.; Ji, Z.; Chang, C. H.; Dunphy, D. R.; Cai, X.; Meng, H.; Zhang, H.; Sun, B.; Wang, X.; Dong, J.; Lin, S.; Wang, M.; Liao, Y.-P.; Brinker, C. J.; Nel, A. E.; Xia, T.: Surface Interactions with Compartmentalized Cellular Phosphates Explains Rare Earth Oxide Nanoparticle Hazard and Provides Opportunities for Safer Design. *ACS Nano* ***2014****, 8, 1771-1783.*
13. Zhou, D.; Ji, Z.; Jiang, X.; Dunphy, D.; Brinker, C. J.; Keller, A.: Influence of Material Properties on TiO2 Nanoparticle Agglomeration. *PLoS One* **2013**, *8*, e81239.
14. Xiong, S.; Dunphy, D. R.; Wilkinson, D. C.; Jiang, Z.; Strzalka, J.; Wang, J.; Su, Y.; de Pablo, J. J.; Brinker, C. J.: Revealing the Interfacial Self-Assembly Pathway of Large-Scale, Highly-Ordered, Nanoparticle/Polymer Monolayer Arrays at an Air/Water Interface. *Nano Letters* **2013**, *13*, 1041-1046.
15. Townson, J. L.; Lin, Y.-S.; Agola, J. O.; Carnes, E. C.; Leong, H. S.; Lewis, J. D.; Haynes, C. L.; Brinker, C. J.: Re-examining the Size/Charge Paradigm: Differing in Vivo Characteristics of Size- and Charge-Matched Mesoporous Silica Nanoparticles. *Journal of the American Chemical Society* **2013**, *135*, 16030-16033.
16. Tarn, D.; Ashley, C. E.; Xue, M.; Carnes, E. C.; Zink, J. I.; Brinker, C. J.: Mesoporous Silica Nanoparticle Nanocarriers: Biofunctionality and Biocompatibility. *Accounts of Chemical Research* **2013**, *46*, 792-801.
17. Pascal, J.; Ashley, C. E.; Wang, Z.; Brocato, T.; Butner, J.; Carnes, E. C.; Koay, E.; Brinker, C. J.; Cristini, V.: Mechanistic Modeling Identifies Drug-Uptake History as Predictor of Tumor Drug Resistance and Nano-Carrier-Mediated Response. *ACS Nano* **2013**, *7,* 11174-11182.
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