

JENNIFER A. LEWIS
*Curriculum Vitae***EDUCATION**

Sc.D. Ceramics Science, MIT, Cambridge, MA, February 1991.

B.S. High Honors, Ceramic Engineering, University of Illinois, Urbana, IL, May 1986.

PROFESSIONAL EXPERIENCE**Entrepreneurial experience**

9/1/2014 Founder, Voxel8, Inc.

1/2/2013 Co-Founder, Electroninks Incorporated

Academic experience

Harvard University (2013 – present)

12/1/2014 Co-Director, Harvard MRSEC

1/1/2013 Wyss Professor of Biologically Inspired Engineering, School of Engineering and Applied Sciences, Harvard University

Core Faculty Member, Wyss Institute for Biologically Inspired Engineering

University of Illinois at Urbana-Champaign

1/1/2013 Adjunct Faculty Member, Dept. of Materials Science and Engineering

7/2007 – 9/30/12 Director, Frederick Seitz Materials Research Laboratory (MRL)

Research: MRL brings together approximately 50 faculty from six major departments and two colleges on campus who participate in several large-scale, multidisciplinary research programs totaling more than \$15M/year in research expenditures. The MRL occupies nearly 100,000 sq. ft. of research space, including the Central Facilities. 8 full-time staff members assist in the administration and operation of the MRL.

Central

Facilities: MRL houses a shared user facility for materials characterization and fabrication that is widely recognized as one of the finest in the nation. It contains more than 40 major instruments, embedded within its Center for Microanalysis of Materials (CMM), the Laser/Spectroscopy Laboratory, and the Micro/Nanofabrication Laboratory. The annual operating budget is \$2.2 M, which is supported through a combination of university funds and user fees. 17 staff scientists and engineers help train users and maintain the instrumentation in this facility.

Additional information is provided at <http://mrl.illinois.edu/>

2006 – 7/2007 Interim Director, Frederick Seitz Materials Research Laboratory

University of Illinois at Urbana-Champaign (con't)

- Fall 2005 Associate Director, Frederick Seitz Materials Research Laboratory
- 2003 – 2012 Professor, Department of Materials Science and Engineering, Institute Affiliate at the Beckman Institute for Advance Science and Technology, and Faculty Affiliate, Department of Chemical Engineering. (Appointed as Hans Thurnauer Professor of Materials Science and Engineering in Fall 2004.)
- 2001-present IRG Thrust Leader, NSF NSEC on Directed Assembly of Nanostructures (jointly funded center between RPI and Illinois – PI R. Seigel)
- 1997 – 2002 Associate Professor at the University of Illinois at Urbana-Champaign, Department of Materials Science and Engineering, Institute Affiliate at the Beckman Institute for Advance Science and Technology, and Faculty Affiliate, Department of Chemical Engineering.
- Fall 1997 Visiting Professor, University of California at Santa Barbara (sabbatical leave)
- Summer 1996 Visiting Scientist, Schlumberger Cambridge Research, Cambridge, England
- 12/1990 – 1997 Assistant Professor at the University of Illinois at Urbana-Champaign, Department of Materials Science and Engineering, and Research Professor at the Beckman Institute for Advance Science and Technology.
- 1985-1986 University of Illinois at Urbana-Champaign, Department of Ceramic Engineering, Undergraduate
Research Assistant (Fall and Spring)

Massachusetts Institute of Technology

- 1986 – 1990 MIT, Cambridge, MA; Department of Materials Science and Engineering, Research Assistant (Ceramics Processing Research Laboratory).
Thesis Advisor: Prof. Michael J. Cima

Other

- 1986 University of Leeds, Leeds, England; Department of Ceramic Engineering, Summer Intern
- 1984, 1985 Summer Research Scholar, General Motors, Flint, MI.

MAJOR AWARDS AND HONORS

- Vannevar Bush National Security Science and Engineering Faculty Fellow (2016)
- Robert B. Sosman Award, American Ceramic Society (2016)
- Member, National Academy of Inventors (2015)
- Fellow, World Academy of Ceramics (2014)
- MRS Medal, Materials Research Society (2012)
- Fellow, American Academy of Arts and Sciences (2012)
- Fellow, Materials Research Society (2011)
- Langmuir Lecture Award, American Chemical Society (2009)
- Fellow, American Physical Society (2007)
- Fellow, American Ceramic Society (2005)
- Brunauer Award, American Ceramic Society (2003)
- NSF Presidential Faculty Fellow Award (1994)
- NSF Research Initiation Award (1992)

OTHER AWARDS AND HONORS

Bird-Stewart-Lightfoot Lecture, University of Wisconsin (2016)
Baetjer Lecture, Princeton University (2016)
Interviewed on BBC World News, Newshour (January 30, 2016)
Voxel8, Inc. – 50 smartest companies | MIT Technology Review (2015)
– Developer’s Kit named “one of the 9 best ideas at CES” | Fast Company (2015)
– Tech Pioneer | World Economic Forum (2016)
Fast Company’s 100 Most Creative People in Business (2015)
Harvard University - Public Science Lecture (2015)
Dartmouth University - Donoho (Public) Lecture (2015)
Boston University’s - Distinguished Lecturer (2015)
Discover Magazine’s Top 100 Stories in Science (2015) – in recognition of our 3D bioprinting of vascularized tissue constructs
Foreign Policy’s 100 Leading Global Thinkers (2014)
The Executives Club of Chicago – Panelist (2014), Women on the Cutting Edge: Trailblazers in Disruptive Technologies and Emergent Scientific Advances
MIT Technology Review EmTech – Featured Speaker (2014)
Brumley D. Pritchett Lecture – Georgia Tech (2014)
Dow Lecture – Northwestern University (2014)
TechConnect National Innovation Award (2014) – in recognition of our reactive silver ink
MIT Technology Review “Top 10 Breakthrough Technologies” (2014) – in recognition of our microscale 3D printing research
ID Tech Printed Electronics | Best Academic Research Award (2013) – in recognition of our 3D printed, rechargeable microbatteries
Interviewed on NPR’s Science Friday (June 28, 2013)
Scientific American cited our reactive silver ink as one of the “9 Materials That Will Change the Future of Manufacturing” (2013)
Keynote Lecture, Science, Engineering, and Technology in the City, Cambridge, MA (2013)
Wulff Lecture, MIT (2013)
Maddin Lecture, UPenn (2013)
Editorial Board, *Biofabrication* (2015)
Editorial Board, *Advanced Materials* (2013)
Editorial Board, *3D Printing and Additive Manufacturing* (2013)
Editorial Board, *Soft Matter* (2013)
Editorial Board, *Advanced Functional Materials* (2012-present)
C&E News selected our video on pen-on-paper flexible electronics research as the top science video (2011) <http://cenblog.org/newsclips/2011/12/science-is-awesome-top-10-video-clips-of-the-year/>
TTI/ Vanguard - NextGens Technology Conference Lecturer (2011)
GE Whitney Symposium Lecturer (2011)
George Weatherly Lecture – Composites at Lake Louise (2011)
Plenary Lecture – Colloids 2011
Interviewed on the radio program *Science Fantastic* (2011)
Physical Sciences Advisory Committee, Argonne National Laboratory (2009-present)
MIT DMSE Visiting Committee Member (2008 – 2014)
SciAm50 –research on self-healing materials with embedded microvascular networks (2007)
Plenary Lecture, Composites at Lake Louise (2007)
Plenary Lecture, Society of Rheology (2007)

Penn Engineering Grace Hopper Lecture (2007)
Featured Public Lecture, Boulder School for Condensed Matter and Materials Physics (2006)
Plenary Talk, International Conference on Ceramic Processing Science (2006)
DuPont Young Investigator Award (2004-2005)
International Editorial Advisory Board Member, *Soft Matter* (2005 – 2012)
NSF Advance Distinguished Lecturer, Case Western Reserve University (2005)
Research highlighted in *Science & Vie* as a nanoscience image of the year (2005)
Editorial Advisory Board Member, *Langmuir* (2003 – 2011)
Research highlighted in C&E News as a top achievement in materials chemistry (2002)
Willett Faculty Scholar Award, College of Engineering, University of Illinois (2002)
University Scholar, University of Illinois (2001)
Xerox Award for Faculty Research, College of Engineering, University of Illinois (2001)
Selected by the National Academy of Engineering, Frontiers of Engineering Meeting (2000)
Allied Signal Foundation Award (1998; 1999)
Associate Editor, Journal of the American Ceramic Society (1997-2008)
Xerox Award for Junior Faculty Research, College of Engineering, University of Illinois (1996)
Schlumberger Foundation Award (1995)
MRS Travel Award for Young Scientists, International Conference on Advanced Materials, ICAM (1995)
Arnold O. Beckman Research Award – Research Board, University of Illinois (1994)
Burnett Teaching Award - UIUC Materials Science and Engineering Department (1994)
College of Engineering Council's Outstanding Advisors List (1994; 1995; 2002)
Daily Illini's Incomplete List of Teachers Ranked Excellent by Their Students (1992-1994; 1999 – 2004)
Gordon Research Conference in Ceramics, Graduate Student Scholar (1989)
IAESTE Fellowship, University of Leeds (1986)
General Motors Scholar (1984 – 1986)
Knights of St. Patrick Award, College of Engineering, University of Illinois (1986)
A.W. Allen Award, Ceramic Engineering Department, University of Illinois (1984)
Sigma Xi, Tau Beta Pi, and Keramos

CONSULTING ACTIVITIES

Dow Chemical (2013-2015)
British Petroleum (2011)
Dow Corning Technical Advisory Board Member (2010 – 2015)
Oxane, Houston, TX (2005, 2007-2009)
Unilever, Netherlands (2003)
Bosch, Germany (2002)
BASF, Germany (2001)
W.R. Grace, Cambridge, MA (2000 – present)
Schlumberger, Inc. Paris, France (1999)
Caterpillar Inc., Peoria, IL (1998 – 2000)
Sandia National Laboratories (1997 – 1998)
St. Gobain/Norton, Northboro, MA (1996)
Argonne National Laboratory, STA appointment (1993 – 96)
Coors Electronic Packaging, Co., Chattanooga, TN (1992 – 94)
Gardner-Denver Machinery, Inc., Quincy, IL (1994; 1996; 2000; 2002)
Technology Management, Inc, Cleveland, OH (1995)

TEACHING EXPERIENCE

Harvard Courses

BE 191: Introduction to Biomaterials

AP 225: Introduction to Soft Matter

University of Illinois Courses

MatSE 200: Introduction to Materials Science and Engineering

ME 100: Introduction to Manufacturing Systems (team taught, Mechanical Engineering Dept.)

CerE 205: Phase Equilibria

MatSE 421: Ceramics Processing and Microstructural Development

MatSE 420: Structure-Property Relations in Ceramics

PRECOLLEGE EDUCATION ACTIVITIES

Director: NSF Materials Technology Workshop for High School Science Teachers, 1993 –1996.

- 8 teaching modules were created in partnership with H.S. Teachers and UI faculty
- MAST modules are online at <http://matse1.matse.illinois.edu/>

PROFESSIONAL ACTIVITIES (selected)

Co-Director: Harvard MRSEC (2014-present)

Thrust Leader: NSF Center for Directed Assembly of Nanostructures (RPI/UIUC, 2001 – 2011)

Meeting Chair: Materials Research Society (Spring Meeting, 2007)

Meeting Co-Chair: Composites at Lake Louise (2013)
International Conference on Ceramics Processing Science (2013)

Workshop Organizer: Workshop on Programmable Functional Materials (May 2009)
NSF Workshop on Ceramics (September 2016)

NIH Study Section: Biomaterials & Biointerfaces (BMBI) (October, 2013)

Center Analyst: NSF Center for Industrial Sensors and Measurements, Ohio State University.
Director: Prof. Henk Verweij (2002– 2003)

External Reviewer: Machinable Ceramics: Optimizing Performance and Properties, NIH Grant (PI, Prof. Dianne Rekow, New York University College of Dentistry) (2003 – 2007)

Panel Reviewer: NSF (1992, 1996, 1998, 2005), NASA Microgravity Materials Science Program (1994, 1995; 1999), DOE (2005)

Panelist: NSF Workshop on the Future of Ceramics Research (June 1996)
NSF Workshop on Future of Self-Assembled Materials (January 1997)

Officer: Secretary, Ceramics Education Council (1997 – 98)
Vice President, Ceramics Education Council (1998 – 99)
President Elect, Ceramics Education Council (1999 – 2000)
President, Ceramics Education Council (2000 – 2001)

Program Committee: Workshop on "Nanocomposites: Materials, Neutrons, and Data Interpretation"
Argonne National Laboratory, Argonne, IL (March 2002)
Society of Rheology Meeting, Minneapolis, MN (October 2002)
Second International Conference on Shaping of Advanced Ceramics, Genth, Belgium (October 2002)
Composites at Lake Louise (2003; 2005; 2007; 2009; 2011; 2013; 2015)
International Conference on Porous Ceramics, Brugge, Belgium (October 2005)
International Conference on Ceramic Processing Science (January 2006)
Third International Conference on Shaping of Advanced Ceramics, Limoges, France (May 2006)

International Symposium on Inorganic Interfacial Engineering, Stockholm, Sweden, (June 2006)

Symposium Organizer: American Ceramic Society (1997; 1998; 2000; 2002), Society of Rheology Meeting (2002)

American Chemical Society, Colloids Division Symposium (2005)

Materials Research Society (Spring 2006)

Wyss Institute Symposium on Bioinspired Adaptive Materials (2014)

Member: Materials Research Society; American Ceramic Society; Society of Rheology; American Chemical Society; American Physical Society; Association for Women in Science; Sigma Xi

PUBLICATIONS (~13,000 citations, *H-index* = 59; Google Scholar)
(see press coverage at <http://lewisgroup.seas.harvard.edu/>)

Books Edited

Polymers in Particulate Systems: Properties and Applications, Surfactant Science Series, Vol. 104, eds. V. Hackley, P. Somasundaran, and J.A. Lewis, Marcel Dekker, Inc., (2001).

Book Chapters

1. J.A. Lewis, "Colloid-Filled Polymer Gels: A Novel Approach to Ceramics Fabrication," in *Polymers in Particulate Systems: Properties and Applications*, Surfactant Science Series, Vol. 104, eds. V. Hackley, P. Somasundaran, and J.A. Lewis, Marcel Dekker, Inc., (2001).
2. J.A. Lewis and J.E. Smay, "Direct-Write Assembly of 3-D Periodic Lattices," *Cellular Ceramics* (2005).
3. D.W. Hutmacher, T. Woodfield, P.D. Dalton, and J.A. Lewis, "Scaffold Design and Fabrication," in *Tissue Engineering*, ed. Clemens van Blitterswijk, Academic Press Series in Biomedical Engineering, Elsevier (2008).
4. S. Parker and J.A. Lewis, "Direct-Write Assembly of 3D Micro-Patterned Polymer Structures", in *Generating Micro-and Nanopatterns in Polymeric Materials*, eds. A. del Campo and E. Arzt, Wiley (in press).
5. J.E. Smay and J.A. Lewis, "Solid Freeform Fabrication of Ceramic Structures", (in press).

Guest Editor

1. *Advanced Materials* – Focus Issue on the Frederick Seitz Materials Research Laboratory (March 2010).

Invited Reviews

1. J.A. Lewis and W.M. Kriven, "Microstructure-Property Relationships in Macro-Defect-Free Cement," *MRS Bulletin.*, 18 [3] 72-77 (1993). (*invited*)
2. J.A. Lewis and J.B. Adams, "Materials Technology Workshop for High School Science Teachers," *Ceramics Bulletin*, 72 [4] 107-8 (1993). (*invited*)
3. J.A. Lewis, "Binder Removal from Ceramics", *Annual Review of Materials Science*, Vol. 27 (1997) pp. 147-174.
4. J.A. Lewis, "Organic Processing Aids," *Encyclopedia of Materials: Science and Technology*, eds. K.H.J. Buschow, R.W. Cahn, M.C. Flemings, B. Ilshner, E.J. Kramer, S. Mahajan, Elsevier, Oxford, England (2001).
5. J.A. Lewis, "Organic Aid Removal," *Encyclopedia of Materials: Science and Technology*, K.H.J. Buschow, R.W. Cahn, M.C. Flemings, B. Ilshner, E.J. Kramer, S. Mahajan, Elsevier, Oxford, England (2001).

6. J.A. Lewis, "Direct-Write Assembly of Ceramics from Colloidal Inks" *Current Opinion in Solid State and Materials Science*, 6 245-50 (2002). (invited)
7. J.A. Lewis and G.M. Gratson, "Direct Writing in Three Dimensions," *Materials Today* 32-39 (July/August, 2004). (invited cover article).
8. J.A. Lewis, "Novel Inks for Direct-Write Assembly of 3D Periodic Structures," *Materials Matters*, Sigma-Aldrich, (2008) (invited).
9. J.C. Conrad, S.R. Ferreira, J. Yoshikawa, R.F. Shepherd, B.Y. Ahn, and J.A. Lewis, "Designing Colloidal Suspensions for Directed Materials Assembly," *Current Opinions in Colloid and Interface Science*, 16 71-79 (2011) (invited).

Peer Reviewed Journal Articles

1. M.J. Cima, M.Dudziak, and J.A. Lewis, "Observation of Poly(vinyl butyral) - Dibutyl Phthalate Binder Capillary Migration," *Journal of the American Ceramic Society*, 72 [6] 1087-90 (1989).
2. M.J. Cima, J.A. Lewis, and A.D. Devoe, "Binder Distribution Processes in Ceramic Greenware During Thermolysis," *Journal of the American Ceramic Society*, 72 [7] 1192-99 (1989).
3. J.A. Lewis and M.J. Cima, "Diffusivities of Dialkyl Phthalates in Plasticized Poly(vinyl butyral): Impact on Binder Thermolysis," *Journal of the American Ceramic Society*, 73 [9] 2702-07 (1990).
4. J.A. Lewis, C.E. Platt, M. Wegmann, M. Teepe, J.L. Wagner, and D.G. Hinks, "Superconducting Properties of Grain-Aligned HgBa₂CuO_{4+x}," *Physical Review B Rapid Communications* 48 [10] 7739-41 (1993).
5. J.A. Lewis, T. Suratwala, and K.C. Arndt, "Partial Melt Processing of Magnetically-Aligned YBa₂Cu₃O_{7-x} Thick Films," *IEEE Transactions on Applied Superconductivity*, 3 [1] 1702-05 (1993).
6. J.A. Lewis, M. Wegmann, C.E. Platt, and M. Teepe, "Platinum Enhanced Densification of Grain Aligned YBa₂Cu₃O_{7-x} Films," *Applied Physics Letters*, 64 [1] 103-5 (1994).
7. M. Wegmann, J.A. Lewis, and C.E. Platt, "Platinum Enhanced Textured Growth of YBa₂Cu₃O_{7-x} Thick Films," *J. Appl. Phys.*, 75 [10] 5218-26 (1994).
8. J.A. Lewis, M.A. Boyer, and D.P. Bentz, "Binder Distribution in Macro-Defect-Free Cement: Relation Between Percolation Properties and Moisture Absorption Kinetics," *Journal of the American Ceramic Society*, 77 [3] 711-16 (1994).
9. P. Desai, J.A. Lewis, and D.P. Bentz, "Unreacted Cement Content in Macro-Defect-Free Cement: Impact on Processing-Structure-Property Relations" *J. Mater. Sci.*, 29 [24] 6445-52 (1994).
10. J.A. Lewis, M.J. Cima, and W.R. Rhine, "Direct Observation of Pre-ceramic and Organic Binder Decomposition in 2-D Model Microstructures," *Journal of the American Ceramic Society*, 77 [7] 1839-45 (1994).
11. C. Cofer and J.A. Lewis, "Catalytic Nitridation of Silicon," *J. Mater. Sci.*, 29 [22] 5880-86 (1994).
12. M.R. Wegmann and J.A. Lewis, "The Role of Platinum in Partial Melt Textured Growth of Bulk YBCO," *IEEE Transactions on Applied Superconductivity*, 5 [2] 1560-63 (1995).
13. J. Guo, J.A. Lewis, and K. Goretta, "Effects of Bi and Bi₂O₃ Additions on the Microstructure and Superconducting Properties of Powder-in-tube BSCCO (2212) Tapes," *IEEE Transactions on Applied Superconductivity*, 5 [2] 1860-63 (1995).
14. J. Guo, J.A. Lewis, J. Schwartz, and K. Goretta, "Properties and Chemical Stability of Ag(7 at% Cu)-Sheathed Bi₂Sr₂CaCu₂O_x Powder-in-Tube Tapes", *Journal of Applied Physics*, 78 [7] 4596-4607 (1995).
15. K.C. Goretta, V.R. Todt, D.J. Miller, M.T. Lanagan, Y.L. Chen, U. Balachandran, J. Guo, and J.A. Lewis, "Engineered Flux Pinning Centers in Bi₂Sr₂CaCu₂O_x and TlBa₂Ca₂Cu₃O_x Superconductors," *Journal of Electronic Materials*, 24 [12] 1961-65 (1995).

16. J.A. Lewis, V. Vinokur, D. Hinks, and J. Wagner, "Surface Barrier Effects in Grain-Aligned $\text{HgBa}_2\text{CuO}_{4+\delta}$, $\text{HgBa}_2\text{CaCu}_2\text{O}_{6+\delta}$, and $\text{HgBa}_2\text{Ca}_2\text{Cu}_3\text{O}_{8+\delta}$ Compounds," *Physical Review B Rapid Communications*, 52 [6] R3852-55 (1995).
17. J.A. Lewis and M.R. Wegmann, "Transport Properties of Magnetic Field/Liquid Assisted Textured $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Thick Films," *Applied Physics Letters*, 67 [20] 3028-3030 (1995).
18. J.A. Lewis and M.A. Boyer, "The Effects of an Organotitanate Cross-Linking Additive on the Processing and Properties of Macro-Defect-Free Cement," *Journal of Advanced Cement-Based Materials*, 2 [1] 2-7 (1995).
19. P. Desai and J.A. Lewis, "Synthesis and Characterization of $\text{Al}_2\text{O}_3/\text{CaAl}_2\text{O}_4$ Microcomposite Powders," *Journal of the American Ceramic Society* 78 [11] 2881-88 (1995).
20. J.A. Lewis, M. Galler, and D.P. Bentz, "Computer Simulations of Binder Removal from Model 2-D and 3-D Particulate Bodies," *Journal of the American Ceramic Society*, 79 [5] 1377-88 (1996).
21. A.L. Ogden and J.A. Lewis, "Effect of Nonadsorbed Polymer on the Stability of Weakly Flocculated Nonaqueous Suspensions," *Langmuir*, 12 [14] 3413-24 (1996).
22. J.A. Lewis, K. Blackman, A.L. Ogden, J. Payne, and L. Francis, "Rheological Property and Stress Development during Drying of Tape-Cast Ceramic Layers," *Journal of the American Ceramic Society*, 79 [12] 3225-34 (1996).
23. J.A. Lewis, A.C. Read, and T.K. Holmstrom, "Transport Properties of Magnetic Field/Liquid Assisted Texturing of Tape-Cast $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Thick Films", *IEEE Trans. on Applied Superconductivity*, 7 [2] 1440-42 (1997).
24. S. Morissette and J.A. Lewis, "Chemorheology of Aqueous Alumina-Poly(vinyl alcohol) Gelcasting Suspensions," *Journal of the American Ceramic Society*, 82 [3] 521-28 (1999).
25. J. Guo and J.A. Lewis, "Aggregation Effects on Compressive Flow Properties and Drying Behavior of Colloidal Silica Suspensions," *Journal of the American Ceramic Society*, 82 [9] 2345-58 (1999).
26. J.A. Lewis and A.C. Read, "Bulk Texture and Transport Properties of Magnetic Field/Liquid Assisted Texturing of Tape-Cast $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Thick Films", *IEEE Transactions on Applied Superconductivity*, 9 [2] 1463-66 (1999).
27. J. Guo and J.A. Lewis, "Salt Concentration Effects on the Rheological Properties and Sedimentation Behavior of Colloidal Silica Suspensions," *Journal of the American Ceramic Society*, 83 [2] 266-72 (2000).
28. M. Huha and J.A. Lewis, "Polymer Effects on the Chemorheological and Drying Behavior of Alumina-Poly(vinyl alcohol) Gel Casting Suspensions," *Journal of the American Ceramic Society*, 83 [8] 1957-63 (2000).
29. H. Matsuyama, J.A. Lewis, and J.F. Young, "Polyelectrolyte Effects on the Rheological Behavior of Concentrated Cement Suspensions," *Journal of the American Ceramic Society*, 83 [8] 1905-13 (2000).
30. S.L. Morissette, J.A. Lewis, J. Cesarano, D. Dimos, and T. Baer, "Solid Freeform Fabrication of Aqueous Alumina-Poly(vinyl alcohol) Gelcasting Suspensions," *J. Am. Ceram. Soc.*, 83 [10] 2409-16 (2000). (cover article)
31. J.A. Lewis, "Colloidal Processing of Ceramics," Centennial Feature Article, *Journal of the American Ceramic Society*, 83 [10] 2341-59 (2000). (invited cover article)
32. V. Tohver, J.E. Smay, A. Braem, P. Braun, and J.A. Lewis, "Nanoparticle Halos: A New Colloid Stabilization Mechanism" *Proceedings of the National Academy of Sciences*, 98 [16] 8950-54 (2001) (invited cover article).
33. B.A. Tuttle, J.E. Smay, J. Cesarano, III., J.A. Voight, T.W. Scofield, W.R. Olsen, and J.A. Lewis, "Robocast $\text{Pb}(\text{Zr}_{0.95}\text{Ti}_{0.05})\text{O}_3$ Ceramic Monoliths and Composites," *Journal of the American Ceramic Society* 84 [4] 872-74 (2001).

34. S.L. Morissette, J.A. Lewis, P. Clem, J. Cesarano, and D. Dimos, "Direct-Write Fabrication of Pb(Nb,Zr,Ti)O₃ Devices: Influence of Paste Rheology on Print Morphology and Component Properties," *Journal of the American Ceramic Society*, 84 [11] 2462-68 (2001).
35. J. Smay and J.A. Lewis, "Structural and Property Evolution of Aqueous-Based Lead Zirconate Titanate Tape-Cast Layers," *Journal of the American Ceramic Society* 84 [11] 2495-2500 (2001).
36. K. Blackman, R. Slilaty, and J.A. Lewis, "Competitive Adsorption Phenomena in Nonaqueous Tape Casting Suspensions" *Journal of the American Ceramic Society*, 84 [11] 2501-06 (2001).
37. V. Tohver, A. Chan, O. Sakurada, and J.A. Lewis, "Nanoparticle Engineering of Complex Fluid Behavior," *Langmuir* 17 [26] 8414-21 (2001).
38. V. Tohver, S. Morissette, J.A. Lewis, B. Tuttle, J.A. Voight, and D. B. Dimos, "Direct-Write Fabrication of Zinc Oxide Varistors", *Journal of the American Ceramic Society* 85 [1] 123-28 (2002).
39. C. Martinez and J.A. Lewis, "Structural and Stress Evolution during Formation of Latex-Silica Films," *Langmuir* 18 [12] 4689-98 (2002).
40. J.E. Smay, J. Cesarano, and J.A. Lewis, "Colloidal Inks for Directed Assembly of 3-D Periodic Structures", *Langmuir* 18 [14] 5429-37 (2002). (cover article).
41. C. Martinez and J.A. Lewis, "Rheological, Structural, and Stress Evolution in Aqueous Al₂O₃:Latex Tape-Cast Layers" *Journal of the American Ceramic Society* 85 [10] 2409-16 (2002).
42. J.E. Smay, G.M. Gratson, R. F. Shepherd, J. Cesarano, and J.A. Lewis, "Directed Colloidal Assembly of 3-D Periodic Structures", *Advanced Materials*. 14 [18] 1279-83 (2002).
43. J.E. Smay, J. Cesarano, B. Tuttle, and J.A. Lewis, "Piezoelectric Properties of Periodic 3-X Piezoelectric Composites, *Journal of Applied Physics* 92(10), 6119-6127 (2002).
44. G.H. Kirby and J.A. Lewis, "Rheological Property Evolution in Concentrated Cement-Polyelectrolyte Suspensions," *Journal of the American Ceramic Society* 85 [12] 2989-94 (2002).
45. C. P. Whitbey, P.J. Scales, F. Grieser, T.W. Healy, G. Kirby, J.A. Lewis, and C.F. Zukoski, "PEO/PAA Comb Polymer Effects on Rheological Properties and Interparticle Forces in Aqueous Silica Suspensions," *Journal of Colloid and Interface Science* 262 274-81 (2003).
46. D. Theriault, S. White, and J.A. Lewis, "Chaotic mixing in 3-D microvascular networks fabricated by direct-write assembly," *Nature Materials* 2, 265-71 (2003).
47. Q. Li and J.A. Lewis, "Nanoparticle Inks for Directed Assembly of 3-D Periodic Structures", *Advanced Materials* 15 [19] 1639-43 (2003).
48. C. San Marchi, M. Kouzeli, R. Rao, J.A. Lewis, D.C. Dunand, "Alumina-Aluminum Interpenetrating-Phase Composites with Three-Dimensional Periodic Architecture," *Scripta Materials* 49 (9) 861-866 (2003).
49. G. Gratson, M. Xu, and J.A. Lewis, "Microperiodic Structures: Direct writing of three-dimensional webs" *Nature* 428 386 (2004).
50. P. Wedin, C.J. Martinez, J.A. Lewis, J. Daicic, and L. Bergstrom, "Stress Development during Drying of Calcium Carbonate Suspensions containing Carboxy-Methylcellulose and Latex Particles," *Journal of Colloid and Interface Science*, 272 1-9 (2004).
51. G.H. Kirby, D.J. Harris, Q. Li, and J.A. Lewis, "PAA/PEO Comb Polymer Effects on Stability of BaTiO₃ Nanoparticle Suspensions" *Journal of the American Ceramic Society* 87 [2] 181-86 (2004).
52. J.E. Smay, J. Cesarano, B. Tuttle, and J.A. Lewis, "Directed Colloidal Assembly of Linear and Annular PZT Arrays," *Journal of the American Ceramic Society*, 87 [2] 293-95 (2004).
53. W. Lee, A. Chan, J.A. Lewis, and P.V. Braun, " Nanoparticle-Mediated Epitaxial Assembly of Colloidal Microspheres on Patterned Substrates," *Langmuir* 20, 5262-70 (2004). (cover article)
54. G.H. Kirby and J.A. Lewis, "Comb Polymer Architecture Effects on Rheological Property Evolution of Concentrated Cement Suspensions" *Journal of the American Ceramic Society*, 87 [9] 1643-52 (2004).

55. G.H. Kirby and J.A. Lewis, "Rheological Property Evolution of Concentrated Cement-Polyelectrolyte Suspensions: II, Influence of Cement Composition," *Journal of the American Ceramic Society*, 87 [10] 1836-42 (2004).
56. M.A. Bevan, J.A. Lewis, P.V. Braun, and P. Wiltzius, "Direct Observation of Colloidal Crystal Assembly via Controlled Electrolyte Addition," *Langmuir*, 20 5262-70 (2004).
57. G. Gratson and J.A. Lewis, "Polyelectrolyte Inks for Direct-Write Assembly of 3-D Micro-Periodic Scaffolds," *Langmuir* 21 [1] 457-464 (2005).
58. R. Rao, A. Morales, K. Kracik, J.A. Lewis, "Micro-Fabricated Deposition Nozzles for Direct Write Assembly of 3D Periodic Structures" *Advanced Materials* 17 [3] 289-93 (2005).
59. D. Therriault, R.F. Shepherd, S.R. White, and J.A. Lewis, "Fugitive Inks for Direct-Write Assembly of 3-D Microvascular Networks," *Advanced Materials*. 17 [4] 395-99 (2005).
60. S. Michna, W. Wu, and J.A. Lewis, "Concentrated Hydroxyapatite Inks for Direct-Write Assembly of 3-D Periodic Scaffolds," *Biomaterials* 26, 5632-39 (2005).
61. C.J. Martinez, J. Liu, S. Rhodes, E. Luijten, E. Weeks, and J.A. Lewis, "Interparticle Interactions and Direct Imaging of Colloidal Phases Assembled from Microsphere-Nanoparticle Mixtures", *Langmuir* 21 9978-89 (2005). (invited contribution)
62. P. Wedin, J.A. Lewis, and L. Bergstrom, "Soluble Organic Additive Effects on Stress Development during Driving of Calcium Carbonate Suspensions," *Journal of Colloid and Interface Science* 290 134-44 (2005).
63. A.T. Chan and J.A. Lewis, "Electrostatically Tuned Interactions in Silica Microsphere-Polystyrene Nanoparticle Mixtures," *Langmuir* 21 [19] 8576-79 (2005).
64. J.F. Gilchrist, A.T. Chan, E. Weeks, and J.A. Lewis, "Phase Behavior and 3D Structure of Strongly Attractive Microsphere-Nanoparticle Mixtures," *Langmuir* 21 [24] 11040-47 (2005).
65. K. Plunkett, A. Mohraz, J.A. Lewis, and J.S. Moore, "Light-Regulated Electrostatic Interactions in Colloidal Suspensions," *Journal of the American Chemical Society* 127, 14574-75 (2005).
66. G. Gratson, F. Garcia-Santa Maria, P.V. Braun, and J.A. Lewis, "Direct-Write Assembly of Three-Dimensional Photonic Crystals: Conversion of Polymer Scaffolds to Silicon Hollow-Woodpile Structures," *Advanced Materials* 18, 461-65 (2006).
67. R.Rao, V.L. Kobelev, Q. Li, J.A. Lewis, K.S. Schweizer, "Nonlinear Elasticity and Yielding of Nanoparticle Glasses," *Langmuir* 22, 2441-43 (2006).
68. M. Xu, G.M. Gratson, E. Duoss, R.F. Shepherd, and J.A. Lewis, "Biomimetic Silicification of Polyamine-Rich Scaffolds Assembled by Direct Writing," *Soft Matter* 2, 205-9 (2006). (cover article)
69. S.K. Rhodes and J.A. Lewis, "Phase Behavior, 3-D Structure, and Rheology of Colloidal Microsphere-Nanoparticle Suspensions," *Journal of the American Ceramic Society*, 89 [6] 1840-46 (2006). (invited)
70. R.F. Shepherd, J.C. Conrad, S.K. Rhodes, D. Link, M. Marquez, D.A. Weitz, and J.A. Lewis, "Microfluidic Assembly of Homogeneous and Janus Colloidal Granules," *Langmuir* 22, 8616-22 (2006).
71. J.A. Lewis, "Direct Ink Writing of 3D Functional Materials," *Advanced Functional Materials* 16. 2193-2204 (2006). (invited feature cover article)
72. J.A. Lewis, J.E. Smay, J. Stuecker, and J. Cesarano, "Direct-Write Assembly of 3-D Ceramic Structures," *Journal of the American Ceramic Society*, 89 [12] 3599-609 (2006). (invited feature cover article)
73. D.J. Harris, H. Hu, J.C. Conrad, and J.A. Lewis, "Patterning Colloidal Films via Evaporative Lithography," *Physical Review Letters*, 98 148301 1-4 (2007).
74. D. Therriault, S. White, and J.A. Lewis, "Rheological Behavior of Fugitive Organic Inks for Direct-Write Assembly," *Applied Rheology* 17 10112-1 – 10112-8 (2007).

75. J.A. Lewis, J.L. Simon, S. Michna, E.D. Rekow, V.P. Thompson, J.E. Smay, A. Yampolsky, J.R. Parsons, and J.L. Ricci, "In-Vivo Bone Response to 3-D Periodic Hydroxyapatite Scaffolds Assembled by Direct Ink Writing" *Journal of Biomedical Materials Research – Part A* 83A [3] 747-58 (2007).
76. F. Garcia-Santamaria, M.Xu, V. Lousse, S. Fan, P.V. Braun, and J.A. Lewis, "Germanium inverse woodpile structure with a large photonic band gap," *Advanced Materials* 19 [12] 1567-70 (2007). (cover article, also featured in "Advances in Advance").
77. K.S. Toohey, S.R. White, J.A. Lewis, and N.R. Sottos, "Self-healing materials with microvascular networks," *Nature Materials*, 6 581-5 (2007).
78. M.T. Roberts, A. Mohraz, K.T. Christensen, and J.A. Lewis, "Direct Flow Visualization of Colloidal Gels in Microchannels," *Langmuir* 23 (17) 8726-8731 (2007).
79. E. Duoss, M. Twardowski, and J.A. Lewis, "Sol-gel Inks for Direct-Write Assembly of Functional Oxides," *Advanced Materials* 19 [21] 3485 -88 (2007) (featured in *Advances in Advance*).
80. M. Xu and J.A. Lewis, "Phase Behavior and Rheological Properties of Polyamine-rich Complexes for Direct-Write Assembly," *Langmuir* 23 [25] 12752-59 (2007).
81. D.J. Harris and J.A. Lewis, "Marangoni Effects on Evaporative Lithographic Patterning of Colloidal Films," *Langmuir*, 24 [8] 3681-85 (2008).
82. S. Ghosh, S.T. Parker, X. Wang, D.L. Kaplan, and J.A. Lewis, "Direct-Write Assembly of Micro-Periodic Silk Fibroin Scaffolds for Tissue Engineering Applications," *Advanced Functional Materials* 18 [13] 1883-1889 (2008).
83. F. Zhang, G.G. Long, P.R. Jemian, J. Ilavsky, V.T. Milam, and J.A. Lewis, "Quantitative Measurement of Nanoparticle Haloing around Colloidal Microspheres in Binary Mixtures," *Langmuir* 24 [13] 6504-08 (2008).
84. A. Mohraz, E.R. Weeks, and J.A. Lewis, "Structure and Dynamics of Biphasic Colloidal Mixtures," *Physical Review E – Rapid Communication* 77 [6] 060403 (2008).
85. J.C. Conrad and J.A. Lewis, "Direct Imaging of Colloidal Gels during Microchannel Flow", *Langmuir*, 24, 7628-34 (2008).
86. A.T. Chan and J.A. Lewis, "Size Ratio Effects on Interparticle Interactions and Phase Behavior of Microsphere-Nanoparticle Mixtures", *Langmuir*, 24 11399- 405(2008).
87. J. Yoon, A.J. Baca, S.-I. Park, P. Elvikis, J.B. Geddes III, L. Li, R.H. Kim, J. Xiao, S. Wang, T.H. Kim, M.J. Motala, B.Y. Ahn, E.B. Duoss, J.A. Lewis, R.G. Nuzzo, P.M. Ferreira, Y.Y. Huang, A. Rockett, and J.A. Rogers, "Ultrathin silicon solar microsolar cells for semitransparent, mechanically flexible and microconcentrator module designs", *Nature Materials*, 7 907-15 (2008).
88. R.F. Shepherd, P. Panda, Z. Bao, J.A. Lewis, K.H. Sandhage, T.A. Hatton, and P.S. Doyle, "Stop-flow lithography of colloidal, glass, and silicon microcomponents," *Advanced Materials*, 20, 4734-39 (2008). (cover article)
89. M.C. George, A. Mohraz, M. Piech, N.S. Bell, J.A. Lewis, and P.V. Braun, "Direct Laser Writing of Photoresponsive Colloids for Microscale Patterning of 3D Porous Structures" *Advanced Materials*, 21, 66-70 (2009). (cover article)
90. J. Yoshikawa, B.-W. Chun, and J.A. Lewis, "Comb Polymer Superdispersants for Aqueous BaTiO₃ Suspensions," *J. Am. Ceram. Soc.* [1] S42-S49 (2009). (invited special issue)
91. B.Y. Ahn, E.B. Duoss, M.J. Motala, X. Guo, S.-I. Park, Y. Xiong, J. Yoon, J. Yoon, R.G. Nuzzo, J.A. Rogers, and J.A. Lewis, "Omnidirectional Printing of Flexible, Spanning, and Stretchable Silver Microelectrodes," *Science*, 323 1590-93 (2009).
92. S.T. Parker, P. Domachuk, J. Amsden, J. Bressner, J.A. Lewis, D.L. Kaplan, and F.G. Omenetto, "Biocompatible silk printed optical waveguides," *Advanced Materials* 21, 2411-15 (2009). (cover article) [DOI:10.1002/adma.200801580]

93. R.A. Barry, R.F. Shepherd, J.N. Hanson, R.G. Nuzzo, P. Wiltzius, and J.A. Lewis, "Direct-Write Assembly of 3D Hydrogel Scaffolds for Guided Cell Growth" *Advanced Materials*, 21 1-4 (2009).
94. S.K. Rhodes, R.H. Lambeth, J. Gonzales, J.S. Moore, and J.A. Lewis, "Cationic comb polymer superdispersants for colloidal silica suspensions," *Langmuir*, 25 6787-92 (2009). [DOI:10.102/la9003092]
95. K.S. Toohey, C.J. Hansen, J.A. Lewis, S.R. White, and N.R. Sottos, "Delivery of two-part self-healing chemistry via microvascular networks," *Advanced Functional Materials* 19 1-7 (2009). [DOI:10.1002/adfm.200801824]
96. C.J. Hansen, W. Wu, K.S. Toohey, N.R. Sottos, S.R. White, and J.A. Lewis, "Self-healing materials with interpenetrating microvascular networks" *Advanced Materials* 21 4143-47 (2009). [DOI:10.1002/adma.200900588]
97. M.L. Young, R. Rao, J.D. Almer, D.R. Haefner, J.A. Lewis, and D.C. Dunand, "Effect of ceramic perform geometry on load partitioning in Al₂O₃-Al composites with three-dimensional periodic architecture," *Materials Science and Engineering A* 526 190-96 (2009). [DOI: 10.1016/j.msea.2009.07.033]
98. D.J. Harris, J.C. Conrad, and J.A. Lewis, "Evaporative lithographic patterning of binary colloidal films," *Philosophical Transactions of The Royal Society A*, 367. 5157-65 (2009). [DOI: 10.1098/rsta2009.0157]
99. X. Guo, H. Li, B.Y. Ahn, E.B. Duoss, K.J. Hsia, J.A. Lewis, and R.G. Nuzzo, "Two and Three-Dimensional Folding of Thin Film Single-Crystalline Silicon for Photovoltaic Power Applications," *Proceedings of the National Academy of Science* 106, 20149-54 (2009). (Cover article)
100. W. Wu, C.J. Hansen, A. Aragon, P. Geubelle, S. White, and J.A. Lewis, "Direct-Write Assembly of Biomimetic Microvascular Networks for Efficient Fluid Transport," *Soft Matter* 6, 739-42 (2010) [DOI:10.1039/b918436h] (Invited cover article)
101. J.C. Conrad and J.A. Lewis, "Structural Evolution of Colloidal Gels during Constricted Microchannel Flow", *Langmuir* 26 (9) 61012-7 (2010).
102. K.A. Arpin, A. Mihi, H.T. Johnson, A.J. Baca, J.A. Rogers, J.A. Lewis, and P.V. Braun, "Multidimensional Architectures for Functional Optical Devices," *Advanced Materials* 22, 1084-1101 (2010). [DOI:10.1002/adma.200904096] (*Featured Frontpiece*)
103. B.Y. Ahn, C.J. Hansen, D. Shoji, E. Hong, D. Dunand, and J.A. Lewis, "Printed Origami", *Advanced Materials*, 22, 2251-54 (2010). (*Cover Article*)
104. R.H. French, V.A. Parsegian, R. Podgornik, R.F. Rajter, A. Jagota, J. Luo, D. Asthagiri, M.K. Chaudhury, Y.-M. Chiang, S. Granick, S. Kalinin, M. Kardar, R. Kjellendar, D.C. Langreth, J. Lewis, S. Lustig, D. Wesolowski, J. Wettlaufer, W.-Y. Ching, M. Finnis, F. Houlihan. O.A. von Lilienfeld, C.J. van Oss, and T. Zemb, "Long Range Interactions in Nanoscale Science," *Reviews of Modern Physics*, 82 [2] 1887- 1944 (2010).
105. S.C. Olugebefola, A.M. Aragon, C.J. Hansen, A.R. Hamilton, B.D. Kozola, P.H. Geubelle, J.A. Lewis, N.R. Sottos, and S.R. White, "Polymer-Microvascular Composites," *Journal of Composite Materials*, 44 [22] 2587-2603 (2010).
106. B.Y. Ahn, D. J. Lorang, E.B. Duoss, and J.A. Lewis, "Direct-write assembly of microperiodic planar and spanning ITO microelectrodes," *Chemical Communications*, 46 [38] 7118-20 (2010). [DOI:10.1039/c0cc01691h]
107. J.N. Hansen Shepherd, S.T. Parker, R.F. Shepherd, M.U. Gillette, J.A. Lewis, and R.G. Nuzzo, "3D Microperiodic Hydrogel Scaffolds for Robust Neuronal Cultures," *Advanced Functional Materials* 21, 47-54 (2011). [DOI:10.1002/adfm.201001746]
108. H. Zhang, A.J. Deconinck, S.C. Slimmer, P.S. Doyle, J.A. Lewis, and R.G. Nuzzo, "Genotyping by Alkaline Dehybridization Using Graphically Encoded Particles," *Chemistry – A European Journal*, 17 [10] 2867-73 (2011). [DOI:10.1002/chem.201002848]

109. J.C. Conrad, S.R. Ferreira, J. Yoshikawa, R.F. Shepherd, B.Y. Ahn, and J.A. Lewis, "Designing Colloidal Suspensions for Directed Materials Assembly," *Current Opinions in Colloid and Interface Science* 16 71-79 (2011) (invited review).
110. J.J. Adams, E.J. Duoss, T. Malkowski, M. Motala, B.Y. Ahn, R.G. Nuzzo, J.T. Bernhard, and J.A. Lewis, "Conformal Printing of Electrically Small Antennas on Three-Dimensional Surfaces", *Advanced Materials*, 23 [11] 1304-1413 (2011). (*Cover Article*)
111. B.Y. Ahn, D.J. Lorang, and J.A. Lewis, "Transparent conductive grids via direct writing of silver nanoparticle inks", *Nanoscale*, 3 [7] 2700-2 (2011). (*Invited*) [DOI:10.1039/c1nr10048c]
112. W. Wu, A. DeConinck, and J.A. Lewis, "Omnidirectional Printing of 3D Microvascular Networks," *Advanced Materials*, 23 [24] H178-H183 (2011). (*Featured Frontpiece*) [DOI: 10.1002/adma.201004625]
113. A. Russo, B.Y. Ahn, J.J. Adams, E. Duoss, J. Bernhard, and J.A. Lewis, "Pen-on-Paper Flexible Electronics, *Advanced Materials*, 23, 3426-30 (2011). [DOI: 10.1002/adma.201101328]
114. C.J. Hansen, N. Sottos, S.R. White, and J.A. Lewis, "Accelerated Self-Healing via Ternary Interpenetrating Microvascular Networks, *Advanced Functional Materials*, 21 [22] 4320-26 (2011). [DOI: 10.1002/adfm.201101553]
115. E. Hong, B.Y. Ahn, D. Shoji, J.A. Lewis and D.C. Dunand, "Microstructure and Mechanical Properties of Reticulated Titanium Scrolls", *Advanced Engineering Materials*, 13 [12] 1122-27 (2011). [DOI: 10.1002/adem.201100082]
116. David J. Lorang, Douglas Tanaka, Christopher M. Spadaccini, Klint A. Rose, Nerine J. Cherepy, and Jennifer A. Lewis, "Photocurable liquid core-fugitive shell printing of optical waveguides," *Advanced Materials*, 23 [43] 5055-58 (2011). [DOI: 10.1002/adma.201102411]
117. B.Y. Ahn, S.B. Walker, S.C. Slimmer, A. Russo, A. Gupta, E. Duoss, T.F. Malkowski, and J.A. Lewis, "Planar and Three-Dimensional Printing of Conductive Inks, *JoVE* (online December 2011).
118. R.F. Shepherd, J.C. Conrad, T. Sabuwala, G.G. Gioia, and J.A. Lewis, "Structural evolution of wet cuboidal granular media," *Soft Matter* 8 4795-4801 (2012).
119. S.B. Walker and J.A. Lewis, "Reactive Silver Inks for Patterning High-Conductivity Features at Mild Temperatures," *Journal of the American Chemical Society*, 134 [3] 1419-21 (2012).
120. K. Chaudhary, Q. Chen, J.J. Juarez, S. Granick, and J.A. Lewis, "Janus Colloidal Matchsticks," *Journal of the American Chemical Society*, 134 31 12901-12903 (2012).
121. L. Sun, S.T. Parker, D. Syoji, X. Wang, J.A. Lewis, and D.L. Kaplan, "Direct-Write Assembly of 3D Silk/Hydroxyapatite Scaffolds for Bone Co-Cultures," *Advanced Healthcare Materials*, 1, 729-735 (2012). [DOI: 10.1002/adhm.201200057]
122. C.J. Hansen, R. Saksena, D.B. Kolesky, J.J. Vericella, S.J. Kranz, G. Muldowney, K.T. Christensen, and J.A. Lewis, "High Throughput Printing via Microvascular Multinozzle Arrays," *Advanced Materials*, 25, 96-102 (2013). [Cover article]
123. J. Yan, K. Chaudhary, S.C. Bae, J.A. Lewis, and S. Granick, "Janus Rods, Ribbons, and Rings," *Nature Communications*, (2013).
124. K. Sun, B.Y. Ahn, T.-S. Wei, J. Yoon, S. Dillon, and J.A. Lewis, "3D Printing of Li-Ion Interdigitated Microbattery Architectures," *Advanced Materials* 25 [33] 4539-43 (2013).
125. M. Fu, K. Chaudhary, J. Lange, H.S. Kim, J. Juarez, J.A. Lewis, and P.V. Braun "Anisotropic Colloidal Templating of 3D Ceramic, Semiconducting, Metallic and Polymeric Architectures," *Advanced Materials* 26, 1740-1745 (2014).
126. K. Chaudhary, J. Juarez, Q. Chen, S. Granick, and J.A. Lewis, "Reconfigurable Assemblies of Janus Rods in AC Electric Fields," *Soft Matter* 10, 1320-1324 (2014).
127. D.B. Kolesky, R.L. Truby, A.S. Gladman, T.A. Busbee, K.A. Homan, and J.A. Lewis, "3D bioprinting of vascularized, heterogeneous cell-laden tissue constructs," *Advanced Materials* 26, 3124-30 (2014). [DOI: 10.1002/adma.2-1305506] [Cover article]

128. J. Lessing, A.C. Glavan, S.B. Walker, C. Keplinger, J.A. Lewis, and G.M. Whitesides, "Inkjet Printing of Conductive Inks with High Lateral Resolution on Omniphobic "R^F Paper" for Paper-Based Electronics and MEMS," *Advanced Materials*, 26, 4677-82 (2014). [DOI: 10.1002/adma.2014053]
129. B. Compton and J.A. Lewis, "3D Printing of Lightweight Cellular Composites" *Advanced Materials*, 26, 5930-35 (2014).
130. J.T. Muth, D.M. Vogt, R.L. Truby, Y. Mengüç, D. B. Kolesky, R.J. Wood and J.A. Lewis, "Embedded 3D Printing of Strain Sensors within Highly Stretchable Elastomers," *Advanced Materials*, 26, 6307-12 (2014).
131. B.Y. Ahn and J.A. Lewis, "Amphiphilic Silver Particles for Conductive Inks with Tunable Wetting Behavior," *Materials Chemistry and Physics*, 148 686-91 (2014).
132. J. Vericella, S.E. Baker, J.K. Stolaroff, E.B. Duoss, J.O. Hardin IV, J. Lewicki, E. Glogowski, W.C. Floyd, C.A. Valdez, W.L. Smith, J.H. Satcher Jr., W.L. Bourcier, C.M. Spadaccini, J.A. Lewis, R.D. Aines, "Encapsulated liquid sorbents for carbon dioxide capture," *Nature Communications* 1-7 (2015).
133. J.A. Lewis, B.Y. Ahn, "Three-dimensional printed electronics," *Nature*, 518 42-43 (2015).
134. A. Frutiger, J.T. Muth, Y. Menguc, A. Campo, A.D. Valentine, C.J. Walsh, and J.A. Lewis, "Capacitive Soft Strain Sensors via Multicore-Shell Fiber Printing," *Advanced Materials*, 26 6307-12 (2014).
135. A. Mahajan, W.J. Hyun, S.B. Walker, J.A. Lewis, L.F. Francis, and C.D. Frisbie, "High-Resolution, High-Aspect Ratio Conductive Wires Embedded in Plastic Substrates, *ACS Applied Materials & Interfaces* 7 [3] 1841-1847 (2015).
136. J.O. Hardin, T.J. Ober, A.D. Valentine, and J.A. Lewis, "Microfluidic Printheads for Multi-Material 3D Printing of Viscoelastic Inks, *Advanced Materials* 27 [21] 3279-3284 (2015). [DOI: 10.1002/adma.201500222]
137. Z. Qin, B. Compton, J.A. Lewis, and M.J. Buehler, "Structural optimization of microfabricated synthetic spider webs for high strength," *Nature Communications*, 6: 7038 1-7 (2015). [DOI: 10.1038/ncomms8038]
138. S. Shan, S.H. Kang, J.R. Raney, P. Wai, L. Fang, F. Candido, J.A. Lewis, and K. Bertoldi, "Multistable architected materials for trapping elastic strain energy", *Advanced Materials* 27, 4296-4301 (2015). [DOI: 10.1002/adma.201501708]
139. T.-S. Wei, F. Fan, A. Helal, K. Smith, G. McKinley, Y.-M. Chiang, and J.A. Lewis, "Biphasic Electrode Suspensions for Li-Ion Semi-Solid Flow Cells with High Energy Density, Fast Charge Transport, and Low-Dissipation Flow," *Advanced Energy Materials*, 5 1500535 1-7 (2015). [DOI: 10.1002/aenm.201500535]
140. A. Mahajan, W.J. Hyun, S.B. Walker, G.A. Rojas, J. Choi, J.A. Lewis, L.F. Francis, and C.D. Frisbie, "A Self-Aligned Strategy for Printed Electronics: Exploiting Capillary Flow on Microstructured Plastic Surfaces," *Advanced Electronic Materials* (2015). [DOI: 10.1002/aelm.201500137]
141. W.J. Hyun, S. Lim, B.Y. Ahn, J.A. Lewis, C.D. Frisbie, and L.F. Francis, "Screen Printing of Highly Loaded Silver Inks on Plastic Substrates Using Silicon Stencils", *ACS Applied Materials and Interfaces*, 7, 12619-24 (2015). [DOI: 10.1021/acsami.5b02487]
142. A. Clausen, F. Wang, J.S. Jensen, O. Sigmund, and J.A. Lewis, "Topology Optimized Architectures with Programmable Poisson's Ratio over Large Deformations," *Advanced Materials* 27 [37] 5523-5527 (2015). [DOI: 10.1002/adma.201502485]
143. E.B. Secor, B.Y. Ahn, T.Z. Gao, J.A. Lewis, and M.C. Hersam, "Rapid and versatile photonic annealing of graphene inks for flexible printed electronics," *Advanced Materials* 27 [42] 6683-6688 (2015). [DOI: 10.1002/adma.201502866]

144. T.J. Ober, D. Foresti, and J.A. Lewis, "Active Mixing of complex fluids at the microscale", *Proceedings of the National Academy of Sciences* 12 [40] 12293-12298 (2015). [DOI: 10.1073/pnas.1509224112]
145. H. Zhang, A. Ramm, S. Lim, W. Xie, B.Y. Ahn, W. Xu, A. Mahajan, W.J. Suszynski, C. Kim, J.A. Lewis, C.D. Frisbie, and L.F. Francis, "Wettability Contrast Gravure Printing," *Advanced Materials* 27 [45] 7420-7425, (2015), DOI: 10.1002/adma.201502639.
146. J.R. Raney and J.A. Lewis, "Printing Mesoscale Architectures," *MRS Bulletin* 40 [11] 943-950 (2015).
147. A.S. Gladman, E.A. Matsumoto, R.G. Nuzzo, L. Mahadevan, and J.A. Lewis, "Biomimetic 4D Printing" *Nature Materials* 15, 413-18 (2016). [DOI:10.1038/nmat4544]
148. K.T. Sullivan, C. Zhu, E.B. Duoss, A.E. Gash, D.B. Kolesky, J.D. Kuntz, J.A. Lewis, and C.M. Spadaccini, "Controlling Material Reactivity Using Architecture," *Advanced Materials* 28 (10), 1934-1939 (2016). [Cover Article]
149. D.B. Kolesky, K.A. Homan, M.A. Skylar-Scott, and J.A. Lewis, "3D Bioprinting of Thick Vascularized Tissues" *PNAS* 113 (12), 3179-3184 (2016). DOI:10.1073/pnas.1521342113.
150. M.A. Skylar-Scott, S. Gunasekaran, and J.A. Lewis, "Laser-Assisted Direct Ink Writing of Planar and 3D Metal Architectures," *PNAS* (in press). [DOI:10.1073/pnas.1525131113]
151. J.M. McCracken, A. Badea, M.E. Kandel, A.S. Gladman, D.J. Wetzel, G. Popescu, J.A. Lewis, and R.G. Nuzzo, "Programming Mechanical and Physiochemical Properties of 3D Hydrogel Cellular Microculture via Direct Ink Writing," *Advanced Healthcare Materials*, (in press). [DOI: 10.1002/adhm.20150888].
152. E.D. Kozin, N.L. Black, J.T. Cheng, M.J. Cotler, M.J. McKenna, D.J. Lee, J.A. Lewis, J.J. Rosowski, and A.K. Remenschneider, "Design, fabrication, and *in vitro* testing of novel three-dimensionally printed tympanic membrane grafts," *Hearing Research* 340 191-203 (2016). [DOI:10.1016/j.heares.2016.03.005]
153. M. Lis, M. Plaut, A. Zai, d. Cipolle, J. Russo, J. Lewis, and T. Fednyshyn, "Polymer Dielectrics for 3D-Printed RF Devices in the K_a Band," *Advanced Materials Technologies* (in press). DOI: 10.1002/admt.201600027
154. J.R. Raney, N. Nadkarni, C. Daraio, D.M. Kochmann, J.A. Lewis, and K. Bertoldi, "Stable propagation of mechanical signals in soft media using stored elastic energy," *PNAS* (in press). [DOI:10.1073/pnas.1604838113]
155. M. Wehner, R.L. Truby, D.J. Fitzgerald, B. Mosadegh, G.M. Whitesides, J.A. Lewis, and R.J. Wood, "Towards Autonomous, Completely Soft Robots," *Nature* 536 451-455 (2016). [DOI:10.1038/nature19100]
156. A.M.P. Boelens, J.J. de Pablo S. Lim, L. Francis, B. Ahn, and J. Lewis, "Visualization and simulation of the transfer process of index-matched silica microparticle inks for gravure printing," *AIChE J.* (in press). [DOI: 10.1002/aic/15392]
157. E.C. Montoto, G. Nagarjuna, J. Hui, M. Burgess, N.M. Sekerak, K. Hernandez-Burgos, T.-S. Wei, M. Kneer, J. Grolman, K.J. Cheng, J.A. Lewis, J.S. Moore, and J. Rodriguez-Lopez, "Redox Active Colloids as Discrete Energy Storage Carriers," *JACS* (in press). [DOI: 10.1021/jacs.6b06365]
158. J.U. Lind, T.A. Busbee, A.D. Valentine, F.S. Pasqualini, H. Yuan, S.J. Park, M. Yadid, A. Kotikian, A.P. Nesmith, P. Campbell, J.J. Vlassak, J.A. Lewis, K.K. Parker, "Instrumented cardiac microphysiological devices via multimaterial 3D printing," *Nature Materials* (2016). doi:10.1038/nmat4782
159. W.J. Hyun, F.Z. Bidoky, S.B. Walker, J.A. Lewis, L.F. Francis, and C.D. Frisbie, "Printed, Self-Aligned Side-Gate Organic Transistors with a Sub-5 μm Gate-Channel Distance on Imprinted Plastic Substrates, *Advanced Electronic Materials*, (in press). [10.1002/aelm.201600293]

160. K.A. Homan, D.B. Kolesky, M. S. Scott, J. Herrmann, H. Obuobi, A. Moisan, and J.A. Lewis, "Functional 3D Renal Proximal Tubules via Bioprinting," *Scientific Reports* 6 34845 (2016). DOI:10.1038/srep34845
161. R.L. Truby and J.A. Lewis, "Printing soft matter in three dimensions," *Nature* 540 371-78 (2016). DOI:10.1038/nature21003 (*invited*).
162. J.W. Boley, K. Chaudhary, T.J. Ober, M. Khorasaninejad, W.T. Chen, E. Hanson, A. Kulkarni, J. Oh, J. Kim, L.K. Aagesen, A.Y. Zhu, F. Capasso, K. Thorton, P.V. Braun, and J.A. Lewis, "High-Operating-Temperature Direct Ink Writing of Mesoscale Eutectic Architectures," *Advanced Materials*, (2017). DOI: 10.1002/adma.201604778
163. G. Siqueira, D. Kokkinis, R. Libanori, M.K. Hausmann, A.S. Gladman, A. Neels, P. Tingaut, T. Zimmerman, J.A. Lewis, A.R. Studart, "Cellulose Nanocrystal Inks for 3D Printing of Textured Cellular Architectures," *Advanced Functional Materials*, (in press). DOI:10.1002/adfm.201604619.
164. N. Zhou, C. Liu, J.A. Lewis, and D. Ham, "Hybrid Three-Dimensional Printing of Gigahertz Radio-Frequency Electronics," *Advanced Materials* (*in press*).
165. J.T. Muth, P.G. Dixon, L. Woish, L.J. Gibson, and J.A. Lewis, "Architected Cellular Ceramics with Tailored Stiffness via Direct Foam Writing, PNAS (in press).

Other

1. J.A. Lewis and W.M. Kriven, "Microstructure-Property Relationships in Macro-Defect-Free Cement," *J. Materials Education*, 15 [1-2] 17-32 (1993). (reprinted from *MRS Bull.*)
2. J. Adams and J. Lewis, "Teaching Modules on Materials for High School Science Teachers," *J. Materials Education* 18 (1996) 111, from the Fall '95 MRS symposium.

Conference Proceedings

1. M.J. Cima and J.A. Lewis, "Firing Atmosphere Effects on Char Content from Alumina-Polyvinyl Butyral Films," pp. 567-74 in *Ceramic Powder Science II, the Proceedings of the First International Conference on Powder Processing Science*. Edited by G.L. Messing, E.R. Fuller, Jr., and H. Hausner. The American Ceramic Society, Inc. Westerville, OH, 1988.
2. J.A. Lewis and M.J. Cima, "Direct Observation of Binder Distribution Processes in 2-D Porous Networks During Thermolysis," pp. 583-90 in *Ceramic Powder III, Ceramic Transactions Vol.12*. Edited by G.L. Messing, S. Hirano, and H. Hausner. The American Ceramic Society, Inc. Westerville, OH, 1990.
3. J.A. Lewis and M.J. Cima, "Mass Transfer Processes During Multicomponent Binder Thermolysis," pp. 363-70 in *Synthesis and Processing of Ceramics: Scientific Issues, MRS Symp. Proc.*, Vol. 249, eds. W.R. Rhine, T.M. Shaw, R.J. Gottshall, and Y. Chen. The Materials Research Society, Pittsburgh, PA, 1992.
4. J.A. Lewis, A. Ogden, D. Schroeder, and K. Duchow, "The Effect of Polymers on Ceramic Suspension Rheology and Green Component Properties," pp. 117-22 in *Flow and Microstructure of Dense Suspensions, MRS Symp. Proc.*, Vol. 289, eds. L.J. Struble, C.F. Zukoski, and G. Maitland. The Materials Research Society, Pittsburgh, PA, 1993.
5. J.A. Lewis, "Ceramic Particle-Polymer-Solvent Interactions During Tape Casting," *Proceedings of the 1994 NSF Design and Manufacturing Systems Conference*, SME, Dearborn, MI, 597, 1994.
6. J.A. Lewis and M.R. Wegmann, "Controlled Processing of Textured YBa₂Cu₃O_{7-x} Thick Films," *MRS/ISTEC International Conference on Superconductivity*, Maui, HI June, 1995.
7. J.A. Lewis and A.L. Ogden, "Rheological Behavior of Polymer-Stabilized Ceramic Suspensions: Role of the "Free" Polymer Species," pp. 361-65 in *Ceramic Processing Science and Technology, Ceramic Trans.*, Vol. 51, eds. H. Hausner, G.L. Messing, and S. Hirano. The American Ceramic Society, Westerville, OH, 1995.

8. J.A. Lewis, R. Slilaty, and A.L. Ogden "Evolution of Tape Casting Suspension Properties During Drying: Impact on Microstructural Development," *Proceedings of the 1995 NSF Design and Manufacturing Systems Conference*, SME, Dearborn, MI, 1995.
9. J.A. Lewis and P.G. Desai, "Microstructure-Property Relations in Organocement Composites Derived from CaAl₂O₄-Coated Al₂O₃ Microcomposite Powders," *Proceedings of the MAETA International Workshop on High Flexural Strength Polymer-Cement Composites*, Yamagata-ken, Japan, 1996.
10. J.A. Lewis, "Colloidal Stability in Complex Fluids," *Proceedings of the International Materials Conference, Ceramic Microstructures '96 - Control at the Atomic Level*, Berkeley, CA, 1996.
11. J.A. Lewis and A.L. Ogden, "Nonadsorbed Polymer Effects on the Properties of Tape Casting Suspensions," *Proceedings of the 1995 NSF Design and Manufacturing Systems Conference*, SME, Dearborn, MI, 1996.
12. J.A. Lewis and S. Hutchinson, "Process Technology and Its Implications for Inspection and Manufacturing of Ceramic Multi-Chip Modules," *Proceedings of the 1995 NSF Design and Manufacturing Systems Conference*, SME, Dearborn, MI, 1996.
13. J.A. Lewis and J.B. Adams, "Materials Science and Technology (MAST) Modules for High School Science Teachers", *Proceedings of the American Ceramic Society (Invited)*.
14. H. Matsuyama, J.A. Lewis, and J.F. Young, "Dispersion Mechanisms in Processing of Cement Pastes," *Proceedings of the 2nd Annual RILEM Conference*, Dijon, France, 1997.
15. J.A. Lewis and S. Hutchinson, "Process Technology and Its Implications for Inspection and Manufacturing of Ceramic Multi-Chip Modules," *Proceedings of the 1996 NSF Design and Manufacturing Systems Conference*, SME, Dearborn, MI, 1997.
16. J.A. Lewis, "Colloidal Stability in Complex Fluids," *Proceedings of NASA Workshop on Microgravity in Materials Science*, Huntsville, AL (July, 1998).
17. S.L. Morissette, J.A. Lewis, J. Cesarano, and D. Dimos, "Solid Freeform Fabrication using Alumina-Poly(vinyl alcohol) Gel-Casting Suspensions," pp. 125 –130 in *Solid Freeform and Additive Fabrication, MRS Symp. Proc.*, Vol. 542, eds D. Dimos, S.C. Danforth, and M.J. Cima. The Materials Research Society, Pittsburgh, PA, 1999.
18. J.A. Lewis, "Colloidal Stability in Complex Fluids," *Proceedings of NASA Workshop on Microgravity in Materials Science*, Vol. 209092, pp. 419-424 (1999).
19. M. Huha and J.A. Lewis, "Influence of Defoamer Additions and Polymer Hydrolysis on the Properties of Alumina-PVA Gelcasting Systems," pp. 141-50 in *Ceramic Transactions, Vol. 108, Innovative Processing and Synthesis of Ceramics, Glasses, and Composites III.*, eds. J.P. Singh, N.P. Bansel, and K. Niihara. The American Ceramic Society, Westerville, OH, (1999).
20. J.A. Lewis, "Agile Fabrication of Gel-Cast Multicomponent Oxides" *Proceedings of the 2000 NSF Design and Manufacturing Systems Conference*, SME, Dearborn, MI, 597, 2000. J.A. Lewis, "Phase Behavior of Asymmetric Binary Colloid Mixtures: Influence on Colloidal Processing of Ceramics," *Proceedings of NASA Workshop on Microgravity in Materials Science*, Huntsville, AL (June, 2000).
21. J.A. Lewis, "Phase Behavior of Asymmetric Binary Colloid Mixtures: Influence on Colloidal Processing of Ceramics," *Proceedings of NASA Workshop on Microgravity in Materials Science*, Huntsville, AL (2000).
22. B.A. Tuttle, J.E. Smay, J. Cesarano, M.R. Bourbina, E.L. Venturini, D.H. Zuech, W.R. Olson, J.S. Wheeler, J.A. Voight, and J.A. Lewis, "Robocast 3-3 PZT-5H – Polymer Composites," *Proceedings of the Tenth US-Japan Seminar on Dielectric & Piezoelectric Ceramics (held September 27-29, 2001.)*
23. J.E. Smay, J.Cesarano, III, S.Y. Lin, J.N. Stuecker, and J.A. Lewis, "Robocasting of photonic band gap structures," *Solid Freeform Fabrication Symposium Proceedings*, 175-178, 2001.

24. J.A. Lewis and J.E. Smay, "Agile Fabrication of Mesoscale Periodic Structures, *Proceedings of the 2000 NSF Design and Manufacturing Systems Conference*, 2001.
25. J.A. Lewis and K.S. Schweizer, "Nanoparticle Engineering of Complex Fluids," *Proceedings of the Twentieth Symposium on Energy Engineering Sciences*, DOE, Argonne National Laboratory, Argonne, IL (May, 2002).
26. P.G. Clem, J.F. Carroll, M.K. Niehaus, J. Cesarano, J.E. Smay, and J.A. Lewis, "Materials for Freeform Fabrication of GHz Tunable Dielectric Photonic Crystals," *Proceedings of the MRS Society Fall Meeting*, (2002).
27. R. Rao, J.A. Lewis, A. Morales, and K. Krafcik, "Directed Assembly of High Aspect Ratio, 3-D Periodic Structures using Micro-Designed Deposition Nozzles," 2003 HARMST Conference, Monterey, CA (June, 2003).
28. G.H. Kirby, D.J. Harris, Q. Li, and J.A. Lewis, "PAA-PEO Comb Polymer Dispersants for Colloidal Processing," *European Ceramic Society Meeting*, Istanbul, Turkey (2003).
29. M.L. Young, J.D. Almer, U. Lienert, D.R. Haeffner, R. Rao, J.A. Lewis, and D.C. Dunand, "Diffraction Measurements of Load Transfer in Interpenetrating-Phase Al₂O₃/Al Composites," *TMS Conference Proceedings*, (2003).
30. S.J. Yoon, C.F. Zukoski, and J.A. Lewis, "Flow Instability and Jamming in the Extrusion of Nanoparticle Suspensions," *Proc. XIVth Int. Congress on Rheology*, Seoul, Korea (August, 2004).
31. J.J. Adams, E.B. Duoss, T.F. Malkowski, J.A. Lewis, and J.T. Bernhard, "Design of Spherical Meanderline Antennas", *Antennas and Propagation International Symposium*, Spokane, WA (July 2011).
32. J. J. Adams, S. C. Slimmer, J. A. Lewis, and J. T. Bernhard, "Bandwidth limitations, matching, and fabrication of multimode electrically small antennas," in *Proceedings of the 2011 Antenna Applications Symposium*, Monticello, IL, September 2011.

PATENTS ISSUED

1. S. Morissette, J. Cesarano III, J. Lewis, D. Dimos, "Solid freeform fabrication using chemically reactive suspensions." US-Patent 6,454,972. September 24, 2002.
2. J.A. Lewis, G.H. Kirby, J. Cheung, A. Jeknavorian, "Controlled Dispersion of Colloidal Suspension by Comb Polymers", US-Patent 7,053,125. May 30, 2006.
3. G. Gratson and J.A. Lewis, "Directed Assembly of Three-Dimensional Structures with Micron-Scale Features," US-Patent 7,141,617. November 28, 2006 and Great Britain-Patent GB2418918, July 9, 2008.
4. G. Gratson and J.A. Lewis, "Directed Assembly of Three-Dimensional Structures with Micron-Scale Features," US-Patent 7,790,061. September 7, 2010.
5. D. Therriault, J.A. Lewis, and S.R. White, "Microcapillary Networks" US-Patent 7,799,251 B2. September 21, 2010; US-Patent 8,101,139. January 24, 2012.
6. B.Y. Ahn, E.B. Duoss, J.A. Lewis, "Metallic Nanoparticle Inks", US-Patent 7,922,939. April 12, 2011.
7. J.A. Lewis, E.B. Duoss, M. Twardowski, "Sol-Gel Inks," US-Patent 7,956,102. June 7, 2011.
8. J.A. Lewis, Q. Li, R. Rao, "Biphasic Inks" US-Patent 8,187,500. May 29, 2012.
9. R. Aines, C. Spadaccini, J. Stolaroff, W. Bourcier, J. Lewis, E. Duoss, J. Vericella, "Separation of a Target Substance from a Fluid or Mixture using Encapsulated Sorbents" U.S. Patent 8,834,605. September 16, 2014.
10. S.R. White, N. Sottos, K.S. Toohey, J.S. Moore, J.A. Lewis, "Self-Healing Materials with Microfluidic Networks" U.S. Patent 8,920,879. December 30, 2014.

PATENTS PENDING

1. R. F. Shepherd, S.T. Parker, J.N. Hanson, R.A. Barry, R.G. Nuzzo, P. Wiltzius, and J.A. Lewis, "Direct Writing of 3-D Tissue Engineering Scaffolds," PCT/US2011/29429.
2. C.J. Hansen, W. Wu, J. Vericella, and J.A. Lewis, "High Throughput Printing via Microvascular Multinozzle Printheads," PCT/US12/44794.
3. Roger Aines, William Bourcier, Eric Duoss, Christopher Spadaccini, Joshua Stolaroff, Jennifer Lewis, Elizabeth Glogowski, and John Vericella, "Polymer-Encapsulated Liquid Ion Exchange Media," PCT/US13/666781.
4. S.B. Walker and J.A. Lewis, "Ink Composition for Making a Conductive Silver Structure," PCT/US2012/071034.
5. J.A. Lewis, S.J. Dillon, K. Sun, B.-Y. Ahn, T.-S. Wei, "Three Dimensional (3D) Electrode Architecture for a Microbattery," PCT/US2014/036322.
6. J.A. Lewis, M.A. Bell, T. Busbee, and J. Minardi, "Printed Three-Dimensional (3D) Functional Part and Method of Making," PCT/US2014/043860.
7. W.L. Boucier, R.D. Aines, S.E. Baker, E.B. Duoss, A. Maiti, J.J. Roberts, C.M. Spadaccini, J.K. Stolaroff, J.J. Vericella, J.A. Lewis, J.O. Hardin, W.C. Floyd, "Systems for production of polymer encapsulated solids," PCT/US14/066,503.
8. J.A. Lewis, D.B. Kolesky, K.A. Homan, R. Truby, and A.S. Gladman, "Method of Printing a Tissue Construct with Embedded Vasculature," PCT/US14/63810.
9. J.A. Lewis, J.T. Muth, D.M. Vogt, R.L. Truby, M. Yigit, D.B. Kolesky, R.J. Wood, "Printed Stretchable Strain Sensor," PCT/US14/65899.
10. J.A. Lewis and B.G. Compton, "Three-Dimensional (3D) Printed Composite Structure and 3D Printable Composite Ink Formulation," PCT/US15/15148.
11. J.A. Lewis and B.G. Compton, "3D Printed Polishing Pad for Chemical-Mechanical Planarization (CMP)," PCT/US15/15149.
12. J.A. Lewis, C. Walsh, A. Campo, A. Frutiger, J. Muth, and D. Vogt, "Soft Sensor and Method of Making a Soft Sensor Fiber," U.S. Patent No. 62/031,496; International No. PCT/US2015/042,784.
13. J.A. Lewis, B.Y. Ahn, P.-M. N. Meyitang, and R.J. Wood, "Method of Making an Electrode Structure and a Microbattery Cell," U.S. Provisional Patent Application Serial No. #62/130,041. International Patent Application No. PCT/US16/21342 (filed 3/8/2016).
14. J.A. Lewis, T.A. Busbee, Johan Ulrik Lind and A.D. Valentine, "3D Printed Flexible Electronic Device," U.S. Provisional Patent Application Serial No. #62/131,778; International Patent Application No. PCT/US16/22005 (filed 3/11/2016).
15. J.A. Lewis, T.-S. Wei, "Biphasic Electrode Suspensions for a Semi-Solid Flow Cell," U.S. Provisional Patent Application Serial No. #62/137,973; International Patent Application No. PCT/US16/22740 (filed 3/17/2016).
16. J.A. Lewis, M.A. Scott, and S. Gunasekaran, "Device and Method for Inline Sintering of an Ink during Printing," U.S. Provisional Patent No. 62/144,706.
17. J.A. Lewis, T. Ober, "Microfluidic Active Mixing Nozzle for Three-Dimensional Printing of Viscoelastic Inks," U.S. Provisional Patent Application Serial No. 62/144,078; International Patent Application No. PCT/US16/26412 (filed 4/7/2016).
18. J.A. Lewis, K.A. Homan, D.B. Kolesky, R.L. Truby, and M.A. Scott, "Tubular Tissue Construct and A Method of Printing," U.S. Provisional Patent Serial No. #62/157,239.
19. J.A. Lewis, J.T. Muth, "Foam Ink Composition and 3D Printed Hierarchical Porous Structures," U.S. Provisional Patent Serial No. #62/162,998.
20. J.A. Lewis, M.A. Scott, D.B. Kolesky, K.A. Homan, and R.L. Truby, "Embedding Cerebral Organoids within Perfusable Vascularized Matrices," U.S. Provisional Patent Serial Nos. 62/127,549 and 62/250,338 (filed 11/3/2015).

21. Amelia Sydney Gladman, Jennifer A. Lewis, Lakshminarayanan Mahadevan and Elisabetta A. Matsumoto, "Hydrogel Composite Ink Formulation and Method of 4D Printing a Hydrogel Composite Structure" US Patent Application No. 62/260,981 (filed 11/30/2015).
22. Amelia Sydney Gladman and Jennifer A. Lewis, "Method of 4D Printing a Hydrogel Composite Structure" US Patent Application No. 14/954,228 (filed 11/30/2015).
23. J.A. Lewis, P. Lustenberger, T. Ober, J.R. Raney and A.D. Valentine, "Soft Sensing Device and Method of Making a Soft Sensing Device" US Patent Application No. 62/288,536 (filed 1/29/2016).
24. Daniel J. Fitzgerald, Jennifer A. Lewis, Ryan L. Truby, Michael Wehner and Robert J. Wood, "Soft Machine and Method of Making a Soft Machine" US Patent Application No. 62/290,049 (filed 2/2/2016).
25. J.A. Lewis, M.A. Skylar-Scott, A. Ng, D. Kolesky, K. Homan, and G. Church, "Mixed-Population Organoids and Methods of Producing the Same," U.S. Provisional Patent Serial No. 62/294,118. (filed 2/11/2016).
25. George M. Church, Kimberly A. Homan, David B. Kolesky, Jennifer A. Lewis, Alex H.M. Ng and Mark A. Skylar-Scott, "Method of Generating Functional Human Tissue" International Patent Application No. PCT/US16/20601 (filed 3/3/2016).
26. David B. Kolesky, Jennifer A. Lewis, Jochen Mueller and Mark A. Skylar-Scott, "Systems and Methods for Automated Nozzle Design and 3D Printing" US Patent Application No. 62/303,800 (filed 3/4/2016).
27. James Hardin, Jennifer A. Lewis and Thomas Ober, "Printhead and Method for 3D Printing of Multiple Materials" International Patent Application No. PCT/US16/21738 (filed 3/10/2016).
28. Daniele Foresti, Jennifer A. Lewis, and Armand Kurum, "Apparatus and Method for Acoustophoretic Printing," US Patent Application No. 62/367,318 (filed 7/27/2016).

INVITED PRESENTATIONS

PROFESSIONAL MEETINGS

1. Argonne National Laboratory, Bulk High T_c Superconductor Processing Workshop, "Magnetically-Assisted Processing of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Thick Films," Argonne, IL (April 1992).
2. 95th Annual Meeting of the American Ceramic Society, "Microstructure-Property Relationships in Chemically-Bonded Materials," Cincinnati, OH (April 1993).
3. University of Illinois, Beckman Institute of Advanced Science and Technology, Symposia on Nanophase Processing, "The Rheological Behavior of Polymer-Stabilized Ceramic Suspensions: Role of the Free Polymeric Species," Urbana, IL (April 1994).
4. 96th Annual Meeting of the American Ceramic Society, "Microstructure-Property Relations in Chemically-Bonded Materials," Indianapolis, IN (April 1994).
5. TMS Meeting, "Platinum Effects on the Partial Melt Processing of Grain-Aligned $\text{YBa}_2\text{Cu}_3\text{O}_{7x}$," Las Vegas, NV (February 1995).
6. 1995 MRS/ISTEC International Workshop on Superconductivity: Controlled Processing of High Temperature Superconductors; Fundamentals and Applications, "Controlled Processing of Highly-Textured YBCO Thick Films," Maui, HI (June 1995).
7. International Conference on Advanced Materials (ICAM), "Materials Technology Workshop for High School Science Teachers," Cancun, Mexico (August 1995)
8. 98th Annual Meeting of the American Ceramic Society, "Rheological Property Evolution and Stress Development in Tape-Cast Ceramic Layers," Indianapolis, IN (April 1996).

9. 98th Annual Meeting of the American Ceramic Society, "Materials Technology Workshop for High School Science Teachers," Indianapolis, IN (April 1996).
10. University of California at Berkeley, International Materials Conference - Ceramic Microstructures '96, "Colloidal Stability in Complex Fluids," Berkeley, CA (June 1996).
11. MAETA Workshop on High Flexural Polymer-Cement Composites, "Microstructure-Property Relations in MDF Cements," Yamagata-ken, Japan (October 1996).
12. National Science Foundation, Ceramics Program, "Workshop on Future Research on Ceramic Materials," Arlington, VA (June 1997).
13. Gordon Conference on Solid State Studies of Ceramics, "Colloidal Stability in Complex Fluids," Kimball, NH (August 1997).
14. International Workshop on Colloidal Processing of High-Performance Ceramics, "Aggregation Effects on Rheological Properties and Drying Behavior of Colloidal Silica Dispersions," Max-Planck-Institute für Metallforschung, Schloss Ringberg, Germany (March 1998).
15. 72nd American Chemical Society (ACS) Colloid and Surface Science Symposium, "Aggregation Effects on Rheological, Sedimentation, and Drying Behavior of Colloidal Silica Dispersions," Pennsylvania State University, PA (June 1998).
16. Fall Meeting ACerS/IMAPS, "Development of Thick Film Pastes for Direct-Write Fabrication of Highly Integrated Electroceramic Devices," San Diego, CA (November 1998).
17. Gordon Conference on Cements, "Tailored Interfaces for Rheological Control of Concentrated Cement Suspensions," Barga, Italy (May 1999).
18. Acta Materialia International Workshop on Ceramic and Bimaterial Interfaces: Designing for Properties, "Model Polyelectrolyte Effects on the Flow Properties of Colloidal Silica Suspensions," Seville, Spain (Sept 1999).
19. Materials Science of Concrete Workshop, "Exploring the Role of Organic Admixtures on Cement Rheology," Eagle Creek Resort, IL (April 2000).
20. Particles 2001, "Nanoparticle Halos: A Novel Colloid Stabilization Route," Orlando, FL (February 2001).
21. Workshop on Nanocomposites, "Phase Behavior of Colloidal Microsphere-Nanoparticle Mixtures," Argonne National Laboratory, Argonne, IL (March 2002).
22. 106th Annual Meeting of the American Ceramic Society, "Aqueous Tape Casting of Ceramics," St. Louis, MO (April 2002).
23. CIMTEC, "Directed Colloidal Assembly of Mesoscale Periodic Structures: From Colloidal Crystals to Functional Ceramics, Florence, Italy (July 2002).
24. Gordon Conference on Solid State Studies in Ceramics, "Colloidal Assembly of 3-D Periodic Structures Spanning Multiple Length Scales" (August 2002).
25. International Conference on Shaping of Advanced Ceramics, "Colloidal Assembly of Functional Ceramics," Genth, Belgium (October 2002). **Keynote Lecture**
26. International Conference on Colloids and Surface Technology: Fundamentals and Applications, "Nanoparticle Engineering of Complex Fluids," Lund, Sweden (November 2002).
27. ACerS 27th International Conference on Advanced Ceramics and Composites, "Colloidal Assembly of Electroceramics", Cocoa Beach, FL (January 2003).
28. 107th Annual Meeting of the American Ceramic Society, Symposium on Nanostructured Materials and Nanotechnology, Nashville, TN (April 2003).
29. American Concrete Institute, "Comb Polymer Effects on Cement Rheology", Vancouver, British Columbia, (March 2003).
30. Optical Society of America, Integrated Photonics Research (IPR2003), "Nanoparticle-Mediated Assembly of Colloidal Crystals," Washington DC (June 16-18, 2003).

31. Applied Statistical Physics: Molecular Engineering Conference (ASTATPHYS-MEX-2003), Symposium of Complex Fluids, "Nanoparticle Engineering of Complex Fluids," Puerto Vallarta, Mexico (August 25-30, 2003).
32. Particles 2003, "Directed Assembly of 3-D Periodic Structures", Toronto, Canada (August 2003).
33. Fall MRS Meeting, "Directed Assembly of 3-D Periodic Structures", Boston, MA (December 2003).
34. DARPA Workshop on Bridging Direct-Write Technology Dimensions, "Direct Writing in Three Dimensions," Seward, Alaska (July 2004).
35. Euresco/European Science Foundation Meeting: Structure and Dynamics of Polymers at Interfaces and Colloidal Systems, "Directed Assembly of 3-D Periodic Structures," Giens, France (September 2004).
36. International Conference on Surface and Colloid Chemistry Applied to Nanoscience, "Lund, Sweden (November 2004).
37. Fall MRS Meeting, "Direct-Write Assembly of 3-D Micro-Periodic Structures", Boston, MA (December 2004).
38. Japan Society for the Promotion of Science (JSPS), 3rd International Workshop for Advanced Ceramics, "Nanoparticle Stabilization and 3D Assembly", Nagoya, Japan (May 2005).
39. Gordon Conference on Polymer Colloids, "Phase Behavior, Structure, and Assembly of Microsphere-Nanoparticle Mixtures" Tilton, NH (July 2005).
40. Gordon Conference on Solid State Ceramics, "Direct Writing of 3D Micro-Periodic Structures" Tilton, NH (July 2005).
41. American Chemical Society Meeting, "Bioinspired Assembly of 3D Micro-Periodic Polyelectrolyte Scaffolds" Washington DC (August 2005).
42. International Conference on Digital Fabrication, "Novel Inks for Direct Writing in Three Dimensions," Baltimore, MD (September 2005).
43. Composites at Lake Louise, "Direct-Write Assembly of 3D Micro-Periodic Structures," Lake Louise, Canada (October 2005).
44. 9th International Conference on Ceramic Processing Science, "Directed Assembly of Patterned Ceramic Films, Granules, and 3D Structures" Coral Springs, FL (January 2006). **Plenary Lecture**
45. American Physical Society, March Meeting, "Phase Behavior, Structure, and Assembly of Microsphere-Nanoparticle Mixtures", Baltimore, MD (March 2006).
46. Nanotech 2006, "Directed Assembly of Colloidal Films, Granules, and 3D Periodic Structures" Boston, MA (May 2006)
47. International Symposium on Bioinspired Synthesis and Materials -- From Organic Templates to Functional Nanoscale Structures, "Bio-Inspired Assembly of Complex 3-D Structures", Max Planck Institute, Schloss Ringberg, Germany (October 2006).
48. American Chemical Society, Spring Meeting, (Bio)Polymer-Directed Mineralization Symposium, "Bio-inspired mineralization of 3D polyelectrolyte scaffolds," Chicago, IL (March 25-29, 2007).
49. American Chemical Society, Spring Meeting, Symposium Honoring 2007 ACS Colloid and Surface Chemistry Award Winner William B. Russel, "Directed Assembly of Colloidal Films, Granules, and 3D Periodic Structures," Chicago, IL (March 25-29, 2007).
50. 2007 Spring MRS, "Direct-Write Assembly of 3-D Micro-Periodic Photonic Crystals", San Francisco, CA (April 2007).
51. 2007 Annual Meeting, Society for Biomaterials, "Recent Developments in Rapid Prototyping of Biomaterials", Chicago, Illinois (April 17 - 21, 2007).
52. MS&T Meeting, "Directed Assembly of Patterned Colloidal Films, Granules, and 3D Periodic Structures," Detroit, MI (September 2007).

53. Society of Rheology, “Novel Inks for Direct Writing in Three Dimensions”, Salt Lake City, UT (October 2007). **Plenary Lecture**
54. Composites at Lake Louise, “Directed Assembly of Patterned Colloidal Films, Granules, and 3D Periodic Structures”, Lake Louise, Canada (October 2007). **Plenary Lecture**
55. 32nd International Conference^[SEP] & Exposition on Advanced^[SEP] Ceramics and Composites, “Patterning Hard and Soft Biomaterials via Direct-Write Assembly,” Daytona Beach, FL (January 2008).
56. International Conference on Ceramic Processing Science, “Directed Assembly of Patterned Colloidal Films, Granules, and 3D Periodic Structures”, Nagoya, Japan (May 2008). **Keynote Lecture**
57. 45th Annual Technical Meeting of the Society of Engineering Science, “Novel Inks for Direct-Write Assembly of 3D Structures,” Champaign, IL (October 12-15, 2008). **Keynote Lecture**
58. Australian Colloid and Interface Symposium (ACIS), “Colloidal Inks for Direct-Write Assembly of Functional Materials,” Adelaide, Australia (Feb 1-4, 2009). **Keynote Lecture**
59. Royal Society of Chemistry, Discussion on Colloids and Granular Materials, “Directed Assembly of Patterned Colloidal Films, Granules, and 3D Periodic Structures,” London, England (March 10, 2009).
60. 2009 Spring MRS, “Microscale Patterning of Functional Materials via Direct-Write Assembly,” San Francisco, CA (April 13-17, 2009).
61. Ceramic Interconnects and Ceramic Microsystems (CICMT), “Omnidirectional Printing of Flexible, Stretchable, and Spanning Silver Microelectrodes,” Denver, CO (April 21, 2009).
62. American Chemical Society, Colloid and Surface Science Symposium, “Omnidirectional Printing of Silver Nanoparticle Inks,” Columbia University (June 14-19, 2009).
63. American Chemical Society, Fall Meeting, “Microscale Patterning of Functional Colloidal Architectures,” Washington DC (August 18, 2009). **Langmuir Lecture**
64. Composites at Lake Louise, “Microscale Patterning of Functional Materials”, Lake Louise, Canada (October 26, 2009). **Keynote Lecture**
65. 2010 Spring MRS, “Patterning of Metal Nanoparticle and Sol-Gel Inks for Flexible Electronic and Photonic Devices,” San Francisco, CA (April 2010).
66. 2010 Spring MRS, “Microfluidic Assembly of Patterned Colloidal and Polymeric Microparticles”, San Francisco, CA (April 2010).
67. 2010 Spring MRS, “Evaporative Lithographic Patterning of Colloidal-Nanoparticle Films”, San Francisco, CA (April 2010).
68. International Conference on Ceramic Processing Science (ICCP-11), “Microscale Patterning of Metallic and Ceramic Structures”, Zurich, Switzerland (August, 2010).
69. Fall MRS Meeting, “Design and Patterning of Multiscale Functional Architectures”, Boston, MA (November, 2010).
70. High Polymer Research Group 51st Meeting, “Microscale Patterning of Functional Polymer Structures” Pott Shrigley, England (April, 2011).
71. Center for Nanoscale Science and Technology (CNST) Workshop, “Printed Microelectrode Architectures on Flexible, Rigid, and Curvilinear Substrates,” Urbana, IL (May, 2011).
72. UK Colloids 2011, “Designing Colloidal Inks for Direct-Write Assembly of Functional Materials,” London, England (July, 2011) **Plenary Lecture**
73. ACS Meeting, “Microscale Patterning of Functional Polymer Structures,” Denver, CO. (August, 2011).
74. MS&T 2011 Conference, “Microscale Patterning of Transparent Conductive Electrodes”, Columbus, OH (October, 2011).

75. MS&T 2011 Conference, "Direct-Write Assembly of 3D Periodic Architectures", Columbus, OH (October, 2011).
76. Composites at Lake Louise, "Novel Inks for Direct-Write Assembly of Functional Architectures," Lake Louise, Canada (November, 2011). **George Weatherly Lecture**
77. Fall MRS Meeting, "Microscale Patterning of Functional Architectures," Boston, MA (December 2011).
78. Fall MRS Meeting, "Patterning of 3D Microvascular Networks and Hydrogel Scaffolds," Boston, MA (December 2011).
79. SME RAPID 2012, "Printing Functional Materials," Atlanta, GA (May 2012).
80. Fall MRS Meeting, Symposium X, "Printing Functional Materials," Boston, MA (November 2012).
81. Gordon Research Conference, "Printing Polymer Architectures," Ventura, CA (January 2013).
82. The Science of Digital Fabrication (meeting co-sponsored by OSTP), "Printing Functional Materials", MIT Media Lab, Cambridge, MA (March 2013).
83. Society of Biomaterials, Rapid Fabrication Workshop, "Printing Biomaterials", Boston, MA (April 2013).
84. Fall MRS Meeting, "Printing Biomaterials", Boston, MA (December 2013).
85. Fall MRS Meeting, "3D Printing of Functional Materials," (December 2013).
86. Keystone Conference "3D Bioprinting of Heterogeneous, Vascularized Tissue Constructs," Lake Tahoe, CA (April 2014).
87. 12th NJ Symposium on Biomaterials Science, "3D Bioprinting of Heterogeneous, Vascularized Tissue Constructs," New Brunswick, NJ (October 2014).
88. Fall MRS Meeting, "Programmable Assembly of 3D Mesoscale Architectures," Boston, MA (December 2014).
89. SELECTBIO, "3D Bioprinting of Vascularized Living Tissue", Boston, MA (February 2015).
90. Spring MRS Meeting, "3D Printing of Soft Electronics and Sensors," San Francisco, CA (April 2015).
91. Organ Engineering Workshop, "Printing Living Tissue," Washington DC (May 2015).
92. ACS Annual Meeting, "Printing Living Tissue," Boston, MA (August, 2015).
93. ACS Annual Meeting, "3D Printing of Electronics and Soft Sensors," Boston, MA (August 2015).
94. TERMIS, "Printing Living Tissues", Boston, MA (September 2015).
95. U.S. Renal Care, Medical Directors Meeting, "Printing Living Tissues," Las Vegas, NV (October 2015).
96. American Society of Nephrology, "3D Printing for Medical Research," San Diego, CA (November 2015).
97. Composites at Lake Louise, "Printing Living Tissues," Lake Louise, Canada (November 2015).
98. Fall MRS Meeting, "Printing Living Tissues," Boston, MA (December 2015).
99. Fall MRS Meeting, "Programmable Architected Matter," Boston, MA (December 2015).
100. World Biomaterial Congress (WBC), "Printing Human Tissues," Montreal, Canada (May 2016).
Keynote Lecture
101. ACS Annual Meeting, "Printing Architected Matter," Philadelphia, PA (August 2016).
102. Robert B. Sosman Award Lecture, MS&T Meeting, "Programmable Assembly of Colloidal Suspensions," Salt Lake City (October 2016).

UNIVERSITY COLLOQUIA

1. Florida State University, National High Magnetic Field Laboratory and Department of Mechanical Engineering Colloquium "Processing-Structure-Property Relations in Grain-Aligned High T_c Superconductors," Tallahassee, FL (November 1993).

2. Purdue University, School of Materials Engineering Colloquium, "The Rheological Behavior of Polymer-Stabilized Ceramic Suspensions: Role of the Free Polymeric Species," West Lafayette, IN (November 1994).
3. University of Michigan, Materials Science and Engineering Colloquium, "Free Polymer Effects on the Structure and Properties of Nonaqueous Ceramic Suspensions," Ann Arbor, MI (May 1995).
4. University of California at Santa Barbara, Materials Engineering Department Colloquium, "Free Polymer Effects on the Structure and Properties of Nonaqueous Ceramic Suspensions," Santa Barbara, CA (October 1995).
5. University of Washington, Materials Science and Engineering Dept. Colloquium, "Nonadsorbed Polymer Effects on the Stability of Nonaqueous Ceramic Suspensions," Seattle, WA (October 1995).
6. Arizona State University, Center for Solid State Science Colloquium, "Colloidal Stability in Complex Fluids: Impact on Ceramics Processing," Tempe, AZ (March 1996).
7. Florida State University, National High Magnetic Field Laboratory Colloquium "Controlled Processing of High T_c Superconductors," Tallahassee, FL (March 1996).
8. University of Florida, Materials Science and Engineering Dept. Colloquium, "Colloidal Stability in Complex Fluids: Impact on Ceramics Processing," Gainesville, FL (March 1996).
9. University of Illinois at Urbana-Champaign, Materials Science and Engineering Department Colloquium, "Colloidal Stability in Complex Fluids," Urbana, IL (April 1996).
10. University of Minnesota, Department of Chemical Engineering and Materials Science, "Colloidal Stability in Complex Fluids," Minneapolis, MN (October 1996).
11. Alfred University, Ceramic Engineering Department, "Colloidal Stability in Complex Fluids," Alfred, NY (November 1996).
12. University of California at Santa Barbara, "Aggregation Effects on Rheological, Sedimentation, and Drying Behavior of Colloidal Silica Dispersions," Santa Barbara, CA (December 1997).
13. California Institute of Technology, "Aggregation Effects on Rheological Properties and Drying Behavior of Colloidal Silica Dispersions," Pasadena, CA (May 1998).
14. University of Pennsylvania, "Depletion Enhanced Crystallization of Binary Colloidal Systems: Templates for Photonic Bandgap Materials," Philadelphia, PA (March 2000).
15. Ohio State University, "Depletion Enhanced Crystallization of Binary Colloidal Systems: Templates for Photonic Bandgap Materials," Columbus, OH (April 2000).
16. University of Illinois, "Colloidal Assembly of Mesoscale Periodic Structures," (December, 2000).
17. Pennsylvania State University, "Colloidal Assembly of Mesoscale Periodic Structures" (October 2001).
18. Purdue University, "Colloidal Assembly of 3-D Periodic Structures for Functional Ceramic Applications" (January 2002).
19. Northwestern University, "Colloidal Assembly of 3-D Periodic Structures for Functional Ceramic Applications" (April 2002).
20. Princeton University, "Colloidal Assembly of 3-D Periodic Structures", (April 2003).
21. Nanotechnology/Industry Workshop, University of Illinois (May 2003).
22. University of Michigan, "Direct-Write Assembly of 3-D Periodic Structures" (September 2003).
23. University of Delaware, "Direct-Write Assembly of 3-D Periodic Structures" (October 2003).
24. NIH Grant Review, New York University, "Direct-Write Assembly of 3-D Periodic Structures," (January 2004).
25. California Institute of Technology, "Directed Assembly of 3-D Periodic Structures" (February 2004)
26. Stanford University, "Directed Assembly of 3-D Periodic Structures" (March 2004).

27. Harvard University, "Directed Assembly of 3-D Micro-Periodic Structures from Microsphere-Nanoparticle and Polyelectrolyte Complexes," (October 2004).
28. University of Illinois, "Direct Writing in Three Dimensions," (December 2004).
29. Case Western Reserve University, NSF Advance Lecturer, "Novel Inks for Direct Writing in Three Dimensions"; "Nanoparticle Stabilization and 3-D Assembly"; "Directed Assembly of Microsphere-Nanoparticle Mixtures and Polyelectrolyte Complexes" (March 2005).
30. MIT, "Direct Writing in Three Dimensions" (September 2005).
31. University of Wisconsin at Madison, "Direct-Write Assembly of 3-D Micro-Periodic Structures" (April 2006).
32. University of California at Berkeley, "Novel Inks for Direct Writing of 3-D Periodic Structures" (April 2006).
33. University of Colorado at Boulder, "Mimicking Nature by Directed Materials Assembly" (public lecture in conjunction with the Boulder Summer School for Condensed Matter and Materials Physics) (July 2006).
34. University of Pennsylvania, Grace Hopper Lecture "Direct-Write Assembly of 3-D Micro-Periodic Structures" (April 2007).
35. University of California at Santa Barbara, Chemical Engineering Dept., "Novel Inks for Direct-Write Assembly of 3-D Periodic Structures" (April 2008).
36. Smith College, "Mimicking Nature by Directed Materials Assembly" (April 2008).
37. MIT, Materials Science and Engineering Department, "Novel Inks for Direct-Write Assembly of Functional Materials" (December 2008).
38. University of Melbourne, "Novel Inks for Direct-Write Assembly of Functional Materials" (February 2009).
39. MIT, Mechanical Engineering Department, "Direct-Write Assembly of Functional Materials," Cambridge, MA (March 2009).
40. Harvard University, Applied Physics Colloquium, "Direct-Write Assembly of Functional Materials," Cambridge, MA (September 2010).
41. MIT Media Lab, "Printing Functional Materials," Cambridge, MA (February 2012).
42. Harvard Wyss Institute, "Printing Biomimetic Materials", Boston, MA (February 2012).
43. North Carolina State University, "Printing Functional Materials," Raleigh, NC (March 2012).
44. California Institute of Technology, Chemical Engineering Department, "Designing Colloidal Suspensions for Directed Materials Assembly," Pasadena, CA (April 2012).
45. Michigan State University, "Printing Functional Materials," East Lansing, MI (September 2012).
46. Yale University, "Printing Biomimetic Materials," New Haven, CT (October 2012).
47. University of Pennsylvania, Maddin Lecture, "Printing Functional Materials," Philadelphia, PA (February 2013).
48. MIT Wulff Lecture, "Printing Functional Materials," Cambridge, MA (April 2013).
49. Harvard University, "Printing Biomaterials," Cambridge, MA (April 2013).
50. Wake Forest Institute for Regenerative Materials, "Printing Biomaterials," Wake Forest, NC (May 2013).
51. New York University, Evolution of Colloidal Matter Conference (Pinefest), "Anisotropic Assemblies: From Model Colloids to 3D Functional Devices," New York City, NY (June 2013).
52. Northwestern University, Dow Lecture, "3D Printing of Functional and Biological Materials", Evanston, IL (May 2014).
53. Wyss Institute Symposium on Bioinspired Adaptive Materials, "Programmable Assembly of Functional and Bioinspired Architectures," (June 2014).
54. Georgia Tech's MSE Pritchett Lecture, "3D Printing of Functional and Biological Materials," Atlanta, GA (September 2014).

55. International Institute for Nanotechnology Symposium, "3D Printing of Functional and Biological Materials," Evanston, IL (October 2014).
56. ETH Distinguished Lecture Series, "3D Printing of Functional and Biological Materials," Zurich, Switzerland (October 2014).
57. UC Davis, "3D Printing of Functional and Biological Materials," Davis, CA (December 2014).
58. Harvard University, Public Science Lecture, "3D Printing: Making the Future," Cambridge, MA (March 2015).
59. Caltech, "Printing Functional Materials," Pasadena, CA (September 2015).
60. Boston University, Mechanical Engineering Department's Distinguished Lecture Series, "3D Electronics Printing," Boston, MA (September 2015).
61. Dartmouth University, Neukom Institute's Donoho (Public) Lecture, "3D Printing: Making the Future," Dartmouth, NH (October 2015).
62. Princeton University, Baetjer Lecture, "Printing Soft Matter in Three Dimensions," Princeton, NJ (October 2016)

INDUSTRIAL COLLOQUIA

1. BP America, Inc., Ceramics Research Group, "Binder Distribution Processes in Tape-Cast Ceramic Layers," Cleveland, OH (August 1990).
2. Coors Electronic Packaging, Co., "Binder Thermolysis of Tape-Cast Ceramic Components," Chattanooga, TN (April 1992).
3. Coors Electronic Packaging, Co., "Processing Effects on the Dimensional Control of Tape-Cast Ceramic Layers," Chattanooga, TN (April 1992).
4. Coors Electronic Packaging, Co., "Rheological Properties and Stability of Polymer-Stabilized Ceramic Suspensions, Chattanooga, TN (July 1994).
5. St. Gobain/Norton Research and Development Center, "Colloidal Stability in Complex Fluids: Impact on Ceramics Processing," and "Rheological Property Evolution and Stress Development in Tape-Cast Ceramic Layers," Northboro, MA (April 1996).
6. Schlumberger Cambridge Research, "Colloidal Stability in Complex Fluids," Cambridge, England (July 1996).
7. ICI Corporate Colloidal Science Group, "Colloidal Stability in Complex Fluids," Wilton, England (July 1996).
8. Allied Signal, Inc., "Chemorheological Behavior of Aqueous Alumina-Poly(vinyl alcohol) Gel Casting Suspensions," Torrance, CA (November 1997).
9. Caterpillar Inc., "Colloidal Processing of Bulk Ceramics and Thick Films," Peoria, IL (April 1998).
10. W.R. Grace, Inc., "Tailored Interfaces for Rheological Control of Concentrated Cement Suspensions," Cambridge, MA (August 1999).
11. Rohm and Haas, "Structure and Property Evolution during Processing of Binary Colloidal Suspensions," Spring House, PA (July 2000).
12. 3M, "Colloidal Assembly of Mesoscale Periodic Structures," St. Paul, MN (September 2001).
13. Eastman Kodak, "Colloidal Assembly of Mesoscale Periodic Structures," *Weissberger Williams Lecture Series*, Rochester, NY (November 2001).
14. Flint Ink, "Colloidal Assembly of 3-D Periodic Structures," Ann Arbor, MI (September 2002).
15. Philips, "Colloidal Assembly of 3-D Periodic Structures," Eindhoven, Netherlands (October 2002).
16. Hewlett Packard, "Colloidal Assembly of 3-D Periodic Structures," *Advanced Lecture Series*, Corvallis, OR (March 2003).
17. Kemet, Co., "Colloidal Assembly of Electroceramics", Shelby, NC (April 2003).
18. Specialty Minerals, "Colloidal Stabilization, Assembly, and Film Drying," Bethlehem, PA (May 2004).

19. Hospira, "Nanoparticle Haloint: A New Colloidal Stabilization Mechanism", Chicago, IL (April 2005).
20. Murata Co., "Nanoparticle Stabilization and 3D Assembly," Maibara, Japan (May 2005).
21. TDK, Co., "Nanoparticle Stabilization and 3D Assembly," Narita, Japan (May 2005).
22. DuPont, "Direct Writing in Three Dimensions", Wilmington, DE (June 2005).
23. PARC, "Novel Inks for Direct Writing in Three Dimensions," Palo Alto, CA (April 2006).
24. Cabot, Co. "Phase Behavior, 3D Structure, and Assembly of Colloid-Nanoparticle Mixtures," Billerica, MA (May 2006).
25. Rohm and Haas, "Direct-Write Assembly of 3D Microvascular Networks", Wilmington, DE (May 2006).
26. Dow Corning, "Directed Assembly of Functional Materials", Midland, MI (April,2010).
27. Dow Chemical, "Directed Assembly of Functional Materials", Midland, MI (May 2010).
28. Dow Chemical, "Microscale Patterning of Polymeric and Conductive Structures", Wilmington, DE (May 2011).
29. General Electric Whitney Symposium, "3D Printing of Functional Materials", Niskayuna, NY (October 2011).
30. DuPont Electronic Materials, "Printing Functional Materials," Raleigh-Durham, NC (March 2012).
31. Dow Chemical, "Printing Functional Materials," Midland, MI (September 2012).
32. Adidas Wearable Electronics Division, "Printing Functional Materials," Philadelphia, PA (March 2013).
33. Nike, "Printing Functional Materials," Beaverton, OR (March 2013).
34. Solvay, Solar Impulse Event, "3D Printing of Functional Materials," JFK Hanger 19, New York City, NY (July 2013).
35. St. Gobain, "3D Printing of Functional Materials," Northboro, MA (September 2013).
36. PPG, "3D Printing of Functional Materials," Northboro, MA (September 2013).
37. Dow Chemical Co., Electronics Div. "3D Printing of Functional Materials," Marlboro, MA (October 2013).
38. Exxon-Mobil, "3D Printing of Functional Materials," Clinton, NJ (October 2013).
39. Xerox Distinguished Lecture Series, "3D Printing of Functional Materials," Toronto, Canada (November 2013).
40. Microsoft Research, "Embedding Function via 3D Printing," Redmond, WA (July 2014).
41. Medtronic, "3D Printing of Functional and Biological Materials," Minneapolis, MN (November 2014).
42. Roche, "Printing Living Tissue," Basel, Switzerland (March 2015).
43. Proctor & Gamble, "Printing Living Tissue," Cincinnati, OH (May 2015).
44. Medtronic, "3D Printing of Functional, Structural and Biological Materials," Northridge, CA (September 2015).
45. General Electric, "3D Printed Electronics," Niskayuna, NY (September 2015).
46. Google, "Multimaterial 3D Printing," Cambridge, MA (March 2016).

Government, National, and Other Laboratories Colloquia

1. National Research Institute for Metals (NRIM), "Magnetically-Assisted Processing of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Thick Films," Tsukuba, Japan (March 1992).
2. Argonne National Laboratory, Materials and Components Technology Division Colloquium, "Platinum Effects on the Densification of Grain-Aligned $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$," Argonne, IL (October 1993).
3. Sandia National Laboratory, Advanced Materials Laboratory (AML) "2-D Computer Simulation and Experimental Studies of Multicomponent Binder Removal," Albuquerque, NM (July 1994).

4. NIST, Building Materials Division Special Seminar "Microstructure-Property-Processing Relations in Macro-Defect-Free Cements," Gaithersburg, MD (August 1994).
5. Oak Ridge National Laboratory, "Chemorheological Behavior of Aqueous Alumina-Poly(vinyl alcohol) Gel Casting Suspensions," Oak Ridge, TN (January 1998).
6. Sandia National Laboratory, "Colloidal Assembly of Mesoscale Periodic Structures," Albuquerque, NM (September 2000).
7. Sandia National Laboratories, "Directed Assembly of 3-D Periodic Structures," Livermore, CA (March 2004)
8. National Institute of Advanced Industrial Science and Technology (AIST), "Directed Assembly of 3D Ceramic Structures, Chuba, Japan (May 2005).
9. Argonne National Laboratory, "Direct-Write Assembly of Complex 3D Structures" DOE User's Workshop (May 2006).
10. National Institute of Advanced Industrial Science and Technology (AIST), "Mimicking Nature via Directed Materials Assembly, Chuba, Japan (May 2008).
11. Lawrence Livermore National Laboratory (LLNL), "Novel Inks for Direct-Write Assembly of Functional Materials", Livermore, CA (December 2008).
12. DARPA DSO Retreat, "*Living Materials: The Next Frontier in Materials Science*", Baltimore, MD (April 2009).
13. DOE Office of Science Graduate Fellowship Research Meeting, "Programming Function via Soft Materials," Argonne National Laboratory, Argonne, IL (August 2010).
14. NSF Workshop on Frontiers of Additive Manufacturing Research and Education, "3D Printing of Functional Materials and Devices", Arlington, VA (July 2013).
15. MIT Lincoln Labs, "3D Printing of Functional Materials," Lexington, MA (November 2013).
16. DARPA ISAT Workshop, "3D Bioprinting of Vascularized Tissue Constructs," Endicott House, MA (August 2014).
17. IQT Portable Power Summit, "3D Printing of Customized Microbatteries and Electronics," McLean, VA (July 2015).
18. ARO Workshop, "Printing Heterogeneous Architectures," Arlington, VA (September 2015).
19. NSF Workshop on Additive Manufacturing for Health, "3D bioprinting of vascularized, functional human tissues," Arlington, VA (March 2016).
20. MITRE Workshop on Additive Manufacturing of Antenna and Electromagnetic Structures, "3D Electronics Printing," Bedford, MA (April 2016).
21. (Re)Building a Kidney Workshop, "Bioprinting of 3D Convolutd, Renal Proximal Tubules on Chip," Maryland (April 2016).
22. Naval Research Laboratory, "3D Printing of Functional, Structural, and Biological Materials," Washington DC (April 2016).
23. Naval Research Laboratory, "3D Bioprinting" Washington DC (August 2016).
24. NSF Workshop on Ceramics, "Programmable Ceramics Architectures", Washington DC (September 2016).
25. Brigham and Womens Hospital Renal Rounds, "Bioprinting of 3D Convolutd, Renal Proximal Tubules," Boston, MA (October 2016).

RESEARCH GROUP SUPERVISION

M.S. Degrees Granted, Thesis Topic, Current Employment

1. Michelle G. Boyer (1993), *The Effect of Binder Distribution and Chemical Modification on the Moisture Absorption Kinetics of MDF Cement*, Texas Instruments, Dallas, TX.

2. Rita Slilaty (1995), *The Effects of Suspension Stability on the Microstructure of As-Cast Alumina-Poly(vinyl butyral) Tapes*, Intel Corp., Portland, OR.
3. Markus Wegmann (1995), *Platinum Induced Liquid Phase Sintering of Magnetically-Aligned $YBa_2Cu_3O_{7-x}$ Thick Films*, The Federal Institute for Materials Testing and Research (EMPA), Duebendorf, Switzerland.
4. Jiyou Guo (1995), *Microstructure and Superconducting Properties of Powder-in-Tube Ag-Sheathed $Bi_2Sr_2CaCu_2O_x$ Tapes*, Intel Corp, Portland, OR.
5. Kimberly Blackman (1996), *Processing of Nonaqueous Tape-Cast Ceramic Layers*.
6. Marsha Huha (1999), *Effects of Polymer Properties on the Chemorheological Behavior and Drying Stress Evolution of an Aqueous Alumina-Poly(vinyl alcohol) Gel Casting System*, Seagate, Minneapolis, MN.
7. Matthew Janet (2000), *Mechanical Properties of Mullite-Based Composites Derived from Silica-Coated Alumina Powder*, 3M, St. Paul, MN.
8. Andrew Read (2001), *Magnetic Field and Dopant Effects on Texturing of $YBa_2Cu_3O_{7-\delta}$ Thick Films*, Edo, Salt Lake City, UT.
9. Sarah Michna (2004), *Concentrated Hydroxapatite Inks for Direct-Write Assembly of Bone Scaffolds*.
10. Mark Roberts (2006), *Rheological Properties and Micro-Particle Imaging Velocimetry of Model Colloidal Fluids and Gels*, BP, Houston, TX.
11. John Vericella (2012), *Microfluidic Assembly of Polymer Capsules for Efficient Carbon Capture*, Autodesk, San Francisco, CA.
12. Lucas Osterbur (2013), *3D Printing of Hyaluronic Acid Scaffolds for Tissue Engineering Applications*, Chemical Education Program, Urbana, IL.
13. Steve Kranz (2013), *Multinozzle Printheads for 3D Printing of Viscoelastic Inks*.
14. David Lorang (2013), *Core-Shell Printing of Functional Polymer Filaments*, Intel, Portland, OR.

Ph.D. Degrees Granted, Thesis Topic, Current Employment

1. Andrea Ogden (1996), *Effects of Nonadsorbed Polymer on the Stability of Weakly Flocculated Ceramic Suspensions*, Cabot Corp., Billerica, MA.
2. Priyadarshi Desai (1997), *Processing-Structure-Property Relations in Novel Organocement Composites*, Vesuvius Co., Pittsburgh, PA.
3. Jiyou Guo (1997), *Aggregation Effects on the Rheological, Sedimentation, and Drying Behavior of Colloidal Silica Suspensions*, Intel Corp, Portland, OR.
4. Sherry Morissette (1999), *Compositional Effects on the Chemorheological Properties and Forming Behavior of Aqueous Alumina-Poly(vinyl alcohol) Gel Casting Suspensions*, Transform Pharmaceutical, Boston, MA.
5. Valeria Tohver (2001), *Phase Behavior, Structure, and Properties of Colloidal Microsphere-Nanoparticle Mixtures*, Associate Professor (with tenure), Georgia Institute of Technology, Atlanta, GA.
6. James E. Smay (2002), *Directed Colloidal Assembly and Characterization of PZT-Polymer Composites*, Associate Professor (with tenure), Chemical Engineering Dept., Oklahoma State University, Stillwater, OK.
7. Carlos J. Martinez (2002), *Structure and Property Evolution during Film Formation from Binary Colloidal Suspensions*, Associate Professor (with tenure), Materials Engineering, Purdue University, West Lafayette, IN.

8. Glen Kirby (2003), *PAA/PEO Comb Polymer Effects on Rheological Property Evolution of Concentrated Cement Suspensions*, General Electric, Cincinnati, OH.
9. Daniel Therriault (2003), *Directed Assembly of 3-D Microvascular Networks*, Associate Professor (with tenure), Mechanical Engineering Department, Ecole Montreal, Canada (co-advised with Prof. S. White).
10. Gregory Gratson (2005), *Novel Colloidal and Polyelectrolyte Inks for Direct-Write Assembly of 3-D Periodic Structures*, GE Central Research, Schenectady, NY.
11. Angel Chan (2007), *Nanoparticle Engineering of Colloidal Suspension Behavior*, John Hopkins, Baltimore, MD.
12. Mingxie Xu (2007), *Direct-Write Assembly of 3D Polyelectrolyte Scaffolds, Inorganic Hybrids, and Photonic Crystals*, Intel, Phoenix, AZ.
13. Ranjeet B. Rao (2008), *Biphasic Nanoparticle Inks for Direct-Write Assembly of 3-D Periodic Structures*, PARC, Palo Alto, CA.
14. Daniel J. Harris (2008), *Evaporative Lithographic Patterning of Colloidal Films*, Intel Corp., Portland, OR.
15. Eric B. Duoss (2009), *Nanoparticle and Sol-Gel Inks for Direct-Write Assembly of Functional Metallic and Metal Oxide Materials*, Staff Scientist, Lawrence Livermore National Laboratory, Livermore, CA.
16. Summer K. Rhodes (2009), *Structure, Dynamics, and Flow Behavior of Model Biphasic Colloidal Mixtures*, Staff Scientist, Sandia National Laboratories, Albuquerque, NM.
17. J. Yoshikawa (2009), *Comb Polymer Architecture and Particle Size Effects on the Behavior of Biphasic Nanoparticle Inks for Direct-Write Assembly*, NGK, Nagoya, Japan.
18. Sara T.-M. Parker (2010), *Direct-Write Assembly of 3D Microperiodic Scaffolds for Tissue Engineering Applications*, Postdoctoral Researcher, Rutgers University.
19. Robert J. Shepherd (2010), *Microfluidic Assembly and Packing Dynamics of Colloidal Granules*, Assistant Professor, Cornell University.
20. William Wu (2011), *Direct Ink Writing of Microvascular Networks*, Intel, Hillsboro, OR.
21. Christopher J. Hansen (2011), *Self-Healing Materials and Multinozzle Arrays with Embedded Microvascular Networks*, Assistant Professor, University of Massachusetts, Lowell, MA.
22. S. Brett Walker (2013), *Synthesis and Patterning of Reactive Silver Inks*, IC Postdoctoral Fellow and Co-Founder of Electroninks Incorporated, Urbana, IL.
23. Analisa Russo (2014), *Pen-on-Paper Flexible Electronics*, Urbana, IL. Co-Founder, Electroninks Writeables, Somerville, MA.
24. David B. Kolesky (2016), *3D Bioprinting of Vascularized Human Tissues*, Harvard University.
25. A. Sydney Gladman (2016), *Biomimetic 4D Printing*, Harvard University.

Postdoctoral Researchers, Current Employment

Michael Bevan (2004), Associate Professor, Chemical Engineering, Johns Hopkins University

James F. Gilchrist (2005), Associate Professor, Chemical Engineering, Lehigh University

Mariusz Twardowski (2005), Lab Instructor, Chemistry, MIT

Ali Mohraz (2006), Associate Professor, Chemical and Materials Engineering, U. California at Irvine

Jacinta C. Conrad (2005-09) – Assistant Professor, Chemical Engineering, University of Houston

Bok Y. Ahn (2007- present)

Eric Duoss (2009-10) – Staff Scientist, Lawrence Livermore National Laboratory

Y.S. Cho (2009) – KAIST, Korea.
Elizabeth Gogolowski (2008 – 2011) – Assistant Professor, University of Wisconsin at Eau Claire
Yongxiang Gao (2010 – 2012) – Postdoctoral Researcher, University of California at Santa Barbara
Jaime Juarez (2011-2013) – Assistant Professor, Iowa State University
Scott Slimmer (2010-present) – Lewis Lab Manager, Harvard University
James Hardin (2012-2014) - Postdoctoral Researcher, Air Force Research Laboratory
Brett Compton (2013- 2014) – Assistant Professor, University of Tennessee
Kimberly Homan (2013 – present) – Research Associate, Harvard University
Thomas Ober (2013- 2015) – Haas Formula 1 Racing, Charlotte, NC
Mark Scott (2013 – present) - Postdoctoral Researcher, Harvard University
Jordan Raney (2014 – 2016) – Assistant Professor, University of Pennsylvania
Daniele Foresti (2014 – present) – Branco Weiss Fellow, Postdoctoral Researcher, Harvard University
Nanjia Zhou (2015 – present) – Dreyfus Fellow, Postdoctoral Researcher, Harvard University
Will Boley (2015 – present) – Postdoctoral Researcher, Harvard University
Sebastien Uzel (2016 – present) – Postdoctoral Researcher, Harvard University
David Kolesky (2016 – present) – Postdoctoral Researcher, Harvard University

GRADUATE STUDENT AND POSTDOC AWARDS

M. Bell, NSF Graduate Fellow (2012) – on leave at Voxel8, Inc.
Dr. M. Bevan, NSF PECASE Award (2005)
N. Black, NSF Graduate Fellow (2014)
K. Blackman, AT&T Graduate Fellowship (declined), 2nd Place, Graduate Student Poster Competition, Annual American Ceramic Society Meeting, May 1995.
A. Chan, NSF Graduate Fellowship
E. Duoss, PECASE Award (2017)
P. Desai, 2nd Place, Graduate Student Poster Competition, Chicago-Milwaukee Section of American Ceramic Society, April 1994
A. Deconinck, NDSEG Graduate Fellowship
S. Gladman, Fall MRS 2014 Poster Award
G. Gratson, NDSEG Graduate Fellowship, Fall MRS Graduate Student Gold Award (2003), Mavis Award (2004), Racheff Award (2005)
C. Hansen, NSF Graduate Fellowship; Mavis Award
J. Hardin, IC Postdoctoral Fellow (2012)
G. Kirby, Brunauer Award, American Ceramic Society, Travel Fellowship, European Ceramic Society (Istanbul, Turkey)
D. Kolesky, Fall MRS 2013 Poster Award, Finalist MIT-Lemelson Prize (2015); Winner, Collegiate Inventors Competition (2015)
A. Kotikian, NSF Graduate Fellowship (2016)
S. Morissette, Argonne National Laboratory Educational Fellowship, 3rd Place, Graduate Student Poster Competition, Chicago-Milwaukee, Section of American Ceramic Society, April, 1996
J. Muth, NSF Graduate Fellow (2012)
A. Ogden, ISHM Educational Foundation Fellowship

- L. Osterbur, NSF IGERT Fellow (2010-2012), University of Illinois; 1st Prize, Poster Presentation, 2010 International Conference on Biofabrication, Philadelphia, PA
- S. Parker, NSF Graduate Fellowship
- R. Rao, NDSEG Graduate Fellowship, Mavis Memorial Award, NSF Travel Fellowship to the European Ceramic Society (Berlin, Germany)
- S. Rhodes, NSF Graduate Fellowship, SURGE Fellowship
- M. Roberts, NSF Graduate Fellowship, Carver Fellowship
- A. Russo, NSF Travel Award (2010); Finalist MIT-Lemelson Prize (2014)
- R. Shepherd, Lemelson-Illinois Prize Finalist (2010)
- Dr. J. Smay. NSF PECASE Award (2006), Victor K. LaMer Award (2004), NSF Minority Graduate Student Fellowship (2000), IMAPS Educational Foundation Fellowship, Award for Best student paper/poster - ACerS Symposium on Ceramics for Wireless Technologies Symposium
- V. Tohver, 1st Prize, Poster Competition, 21st Australian Colloid and Surface Chemistry Student Conference in Morpeth, New South Wales, September 1999.
- R. Truby, NSF Graduate Fellow (2012)
- S. Slimmer, IC Postdoctoral Fellow (2010)
- M. Wegmann, 3rd Place, Graduate Student Poster Competition, Annual American Ceramic Society Meeting, April 1994.
- S.B. Walker, 1st Place, Poster Presentation, 2010 International Conference on Ceramic Processing Science, August 2010; 2nd Place, National Collegiate Inventors Competition, November 2012; Finalist, Lemelson-Illinois Prize, April 2013; Forbes 30 under 30 (Manufacturing-Industry), January 2015.