

C. BARRY CARTER: GROUP PUBLICATIONS

September 17th, 2016

ISI h=40; ~6,600 cites; Google Scholar h=43; i10=192; ~13,700 cites
(5,170 to the TEM book; ~570 to the Ceramic Materials book)

2016 Papers

- J309 Chou S, Swartzentruber B, Janish M, Meyer K, Biedermann L, Okur, Burckel D, Carter C B, Kaehr B (2016) J Phys Chem Lett 'Laser Direct Write Synthesis of Lead Halide Perovskites'. DOI: 10.1021/acs.jpcclett.6b01557
- J308 Winterstein JP, Sezen M, Rečnik A, Carter CB (2016) J Mater Sci **51**(1) 144–157 'Electron microscopy observations of the spinel-forming reaction using MgO nanocubes on Al₂O₃ substrates
- J307 Janish, M.T., Mackay, D.T., Liu, Y., Jungjohann, K.L., Carter, C.B. and Norton, M.G. (2016) J Mater Sci **51**(1) 589–602. 'Lithiation of Tin Nanoneedles Investigated by in-situ TEM'

20 Most Highly Cited Publications (on WoS)

1. Leschkies, K.S., Divakar, R., Basu, J., Enache-Pommer, E., Boercker J.E, Carter, C.B., Kortshagen, U.R., Norris, D.J. and Aydil, E.S., 2007, Nano Letters **7**(6), 1793–1798, 'Photosensitization of ZnO Nanowires with CdSe Quantum Dots for photovoltaic Devices'. (**686** citations)
2. Colbert, T.D., Zhang, J., McClure, S.M., Nikolaev, P., Chen, Z., Hafner, J.H., Owens, D.W., Kotula, P.G., Carter, C.B., Weaver, J.H., Rinzler, A.G. and Smalley, E.R., 1994, Science **266**, 1218–1222. 'Growth and Sintering of Fullerene Nanotubes.' (**241** citations)
3. Gerberich, W.W., Mook, W.M., Perrey, C.R., Carter, C.B., Baskes, M., Mukherjee, R., Gidwani, A., Heberlein, J., McMurry, P., and Girshick, S., 2003, Journal of Mechanics and Physics of Solids **51**, 979–992. 'Superhard Silicon Nanospheres.' (**145** citations)
4. Carter, C.B. and Holmes, S.M., 1977, Philosophical Magazine **35**(5), 1161–1172. 'The Stacking-Fault Energy of Nickel'. (**132** citations; cited 36 of the past 38 years thru 2016)
5. Carter, C.B. and Ray, I.L.F., 1977, Philosophical Magazine **35**(1), 189–200. 'On the Stacking-Fault Energies of Copper Alloys'. (**130** citations; cited 36 of the past 39 years thru 2016)
6. Tietz, L.A., Carter, C.B, Lathrop, D.K., Russek, S.E., Buhrman, R.A. and Michael, J.R., 1989, Journal of Materials Research **4**(5), 1072–1081. 'Crystallography of YBa₂Cu₃O_{6+x} Thin Film-Substrate Interfaces'. (**116** citations)
7. Norton, M.G., Tietz, L.A., Summerfelt, S.R. and Carter, C.B., 1989, Appl. Phys. Lett. **55**(22), 2348–2350. 'Observation of the Early Stages of Growth of Superconducting Thin Films by Transmission Electron Microscopy.' (**82** citations)
8. Yan, H., Blanford, C.F., Lytle, J.C., Carter, C.B., Smyrl, W.H. and Stein, A., 2001, Chem. Mater. **13**, 4314-4321, 'Influence of Processing Conditions on Structures of 3D Ordered Macroporous Metals Prepared by Colloidal Crystal Templating.' (**77** citations)
9. Heffelfinger, J.R. and Carter, C.B., 1997, Surf. Sci. **389** 188-200 'Mechanisms of Surface Faceting and Coarsening.' (**77** citations)
10. Heffelfinger, J.R., Bench, M.W. and Carter, C.B., 1997, Surf. Sci. **370**, L168-L172. 'Steps and the Structure of the (0001) α -Alumina Surface.' (**72** citations)
11. Föll, H. and Carter, C.B., 1979, Philos. Mag. **40**(4) 497-510. 'Direct TEM Determination of Intrinsic and Extrinsic Stacking-Fault Energies' (**72** citations)

12. Norton, M.G., Summerfelt, S.R. and Carter, C.B., 1990, Appl. Phys. Lett. **56**(22), 2246–2248. 'Surface Preparation for the Heteroepitaxial Growth of Ceramic Thin Films.' (71 citations)
13. Morrissey, K.J. and Carter, C.B., 1984, J. Am. Ceram. Soc. **67**(4), 292–301. 'Faceted Grain Boundaries in Al₂O₃.' (70 citations)
14. Pi, X.D., Liptak, R.W., Nowak, J.D., Wells, N.P., Carter, C.B., 2008, Nanotechnology **19**, 245603 'Air-stable full-visible-spectrum emission from silicon nanocrystals synthesized by an all-gas-phase plasma approach'. (65 citations)
15. Heffelfinger, J.R., Bench, M.W. and Carter, C.B., 1995, Surf. Sci. **343**, L1161-L1166. 'On the Faceting of Ceramic Surfaces.' (65 citations)
16. Norton, M.G., Kotula, P.G. and Carter, C.B., 1991, J. Appl. Phys. **70**(5), 2871-2873. 'Oriented Aluminum Nitride Thin Films Deposited by Pulsed-Laser Ablation.' (64 citations)
17. Norton, M.G. and Carter, C.B., 1991, J. Cryst. Growth **110**, 641-651. 'The Nucleation and Heteroepitaxial Growth of YBa₂Cu₃O_{7-x} Thin Films on MgO.' (64 citations)
18. Ralston, J., Wicks, G.W., Eastman, L.F., De Cooman, B.C. and Carter, C.B., 1986, J. Appl. Phys. **59**(1), 120-123. 'Defect Structure and Intermixing of Ion-Implanted Al_xGa_{1-x}As/GaAs Superlattices.' (62 citations)
19. Carter, C.B. and Schmalzried, H., 1985, Philos. Mag. **A52**(2), 207-224. 'The Growth of Spinel into Al₂O₃.' (58 citations)
20. Bapat, A., Anderson, C., Perrey, C.R., Carter, C.B., Campbell, S.A., and Kortshagen, U., 2004, Plasma Phys. Control. Fusion **46**, B97-B109, 'Plasma Synthesis of Single Crystal Silicon Nanoparticles for Novel Electronic Device Applications.' (57 citations)

Books

- B3 Carter CB and Williams DB Eds (2016) *Transmission Electron Microscopy: Diffraction, Imaging, and Spectrometry* Springer, Heidelberg. Publishing May 2016 in full color and with ~500 questions.
- B2 Carter CB and Norton MG (2013) *Ceramic Materials: Science & Engineering* (2nd Ed, Springer, NY). (Full color, revisions, updating, extended questions and an extra Chapter.)
- B1, updated with color and ~800 questions.

Proceedings

- M6 Schuh, C.A., Kumar, M., Carter, C.B. and Randle, V., 2004, Interfacial Engineering for Optimized Properties III, Mater. Res. Soc. Symp. Proc. **819**.
- M5 Alexander, K.B., Carter, C.B., Grimes, R.W., Pan, X., and Wood, T.E., 2003 Structure-Property Relationships of Oxide Surfaces and Interfaces II, Mater. Res. Soc. Symp. Proc. **751**.
- M4 Carter, C.B., Pan, X., Sickafus, K., Tuller, H.L. and Wood, T.E., 2001 Structure-Property Relationships of Oxide Surfaces and Interfaces, Mater. Res. Soc. Symp. Proc. **654**.
- M3 Carter, C.B. and Hall, E.L., Nutt, S. and Briant, C.L., 1999, Interfacial Engineering for Optimized Properties II, Mater. Res. Soc. Symp. Proc. **586**.
- M2 Thomas, G., Carter, C.B., De Hosson, J.Th.M., Gerberich, W.W., Gronsky, R., Humphreys, C.L., Nix, W.D., Rühle, M., Seidman, D.N. and Williams, D.B., 1999, Materials Science and Mechanics of Interfaces, 25-30 Oct. 1998, Acta Mater. **47**(15-16).
- M1 Briant, C.L., Carter, C.B. and Hall, E.L., 1997, *Interfacial Engineering for Optimized Properties*, Mater. Res. Soc. Symp. Proc. **458**.

Book Chapters

- A4 Carter CB and Jungjohann KL, 2016, in Carter CB and Williams DB Eds (2016) *Transmission Electron Microscopy: Diffraction, Imaging, and Spectrometry* Springer, Heidelberg. 'In Situ and Operando'.

- A3 Farrer, J.K., Carter, C.B. and Michael, J., 2000 (Fall) in *Electron Backscatter Diffraction in Materials Science*, 1st Ed., Eds A.J. Schwartz, M. Kumar and B.L. Adams (Plenum, New York) 299-318 '*EBSP of Ceramics Materials*'.
- A2 Norton, M.G. and Carter, C.B., 1994, in *Interfaces in High-Tc Superconducting Systems*, Eds S.L. Shinde and D.A. Rudman (Springer-Verlag, New York) 1-27, '*Observations on the Growth of YBa₂Cu₃O_{7-x} Thin Films by Transmission Electron Microscopy*'.
- A1 Norton, M.G. and Carter, C.B., 1992, in *Atomic-Level Properties of Interface Materials*, Eds D. Wolf and S. Yip (Chapman and Hall, London) 151-189, '*Grain and Interphase Boundaries in Ceramics and Ceramic Composites*'.

Journal articles

- J309 Chou S, Swartzentruber B, Janish M, Meyer K, Biedermann L, Okur, Burckel D, Carter C B, Kaehr B (2016) *J Phys Chem Lett* 'Laser Direct Write Synthesis of Lead Halide Perovskites'. DOI: 10.1021/acs.jpcclett.6b01557
- J308 Winterstein JP, Sezen M, Rečnik A, Carter CB (2016) *J Mater Sci* **51**(1) 144–157 'Electron microscopy observations of the spinel-forming reaction using MgO nanocubes on Al₂O₃ substrates
- J307 Janish, M.T., Mackay, D.T., Liu, Y., Jungjohann, K.L., Carter, C.B. and Norton, M.G. (2016) *J Mater Sci* **51**(1) 589–602. 'Lithiation of Tin Nanoneedles Investigated by in-situ TEM'
- J306 Li Z, Tan X, Li Peng, Kalisvaart W, Janish M, Mook W, Lubber EJ, Jungjohann KL, Carter CB, Mitlin D (2015) *Nano Lett* **15**, 6339-6348 'Coupling in-situ TEM and ex-situ Analysis to Understand Heterogeneous Sodiation of Antimony'.
- J305 Janish, M.T. and Carter, C.B., (2015) *Scripta Mater* **107**, 22–25 'In-Situ TEM Observations of the Lithiation of Molybdenum Disulfide'.
- J304 Janish MT, Kotula PG, Boyce LB, Carter CB (2015) *J Mater Sci* **50**, 3706-3715 'Observations of fcc and hcp tantalum'.
- J303 Janish MT, Mook WM, Carter CB, (2015) *Scripta Mater* **96**, 21-24 'Nucleation of face-centered cubic Ta when heating thin films'.
- J302 Roller, J., Renner, J., Yu, H., Capuano, C., Kwak, T., Wang, Y., Carter, C.B., Ayers, K., Mustain, W.E. and Maric, R. (2014) *J Power Sources* **271**, 366-376. Flame-based processing as a practical approach for manufacturing hydrogen evolution electrodes
- J301 Zhang, H., Suresh, A., Carter, C.B. and Wilhite, B.A. (2014) *Solid State Ionics* **266** (2014) 58–67. 'Materials Synthesis, Electrochemical Characterization and Oxygen Permeation Properties of Fe-Doped BaZrO₃'.
- J300 Roller, J., Yu, H., Vukmirovic, M.B., Bliznakov, S., Kotula, P.G., Carter, C.B., Adzic, R.R. and Maric, R. (2014) *Electrochimica Acta* **138**, 341-352. 'Flame-Based Synthesis of Core-Shell Structures Using Pd-Ru and Pd Cores'.
- J299 Winterstein, J.P., Carter, C.B. (2014) *J Eur Ceram Soc* **34**, 3007–3018. 'Electron-beam damage and point defects near grain boundaries in cerium oxide'.
- J298 Mikael, P.E., Amini, A.R., Basu, J., Arellano-Jimenez, M.J., Laurencin, C.T., Sanders, M.M., Carter, C.B. and Nukavarapu, S.P. (2014), *Biomedical Materials* **9**(3) 035001-1-13. 'Functionalized Carbon Nanotube Reinforced Scaffolds for Bone Regenerative Engineering: Fabrication, *in vitro* and *in vivo* Evaluation'.
- J297 Mackay D, Janish MT, Sahaym U, Kotula PG, Jungjohann KL, Carter CB, Norton MG, (2014) *J Mater Sci* **49**, 1476-1483 'Template-free Electrochemical Synthesis of Tin Nanostructures'.
- J296 Basu, J., Katoch, R., Garg, A and Carter, C.B., 2013, *Microsc. Res. Techn.* **76**(12), 1304-1309 'Microstructure and Interfacial Chemistry of Pure and La-doped BiFeO₃ Thin Films'.
- J295 Roller, J.M., Arellano-Jiménez, M.J., Yu, H., Jain, R., Carter, C.B. and Maric, R., 2013, *Electrochimica Acta* **107**, 632–655. 'Catalyst nanoscale assembly from the vapor phase on corrosion resistant supports'.

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- J288 Bhowmick, S., Basu, J., Xue, Y. and Carter, C.B., 2010 *J Am. Ceram. Soc.* **93** (12) 4041-6) 'Hydrothermal Synthesis of Nanocrystalline Barium Cerate using Hexamethylenetetramine'.
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- J284 Jia, W., Wang, Y., Basu, J., Strout, T., Carter, C.B., Gokirmak, A. and Lei, Y., 2009, *J. Phys. Chem. C* **113**(45) 19525-30. 'Nanoengineered Transparent, Free-Standing, Conductive Nanofibrous Membranes'.
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- J281 Altay, A., C. B. Carter, C.B., Gülgün, M.A., 2009, *J Mater Sci* **44**, 84-92 'Reaction of CaAl₄O₇ with (0001)-oriented α -Al₂O₃'.
- J280 Blanford, C.F., Carter, C.B. and Stein, A., 2008, *J. Mater. Sci.* **43**, 3539-3552 'In situ high-temperature electron microscopy of 3DOM cobalt, iron oxide, and nickel'.
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- J277 Pi, X.D., Liptak, R.W., Nowak, J.D., Wells, N.P., Carter, C.B., 2008, *Nanotechnology* **19**, 245603 'Air-stable full-visible-spectrum emission from silicon nanocrystals synthesized by an all-gas-phase plasma approach'.
- J276 Gerberich, W.W., Mook, W.M., Carter, C.B. and Ballarini, R. 2007, *Int J Fract* **148**,109-114 'A crack extension force correlation for hard materials'.
- J275 Mook, W.M., Nowak, J.D., Perrey, C.R., Carter, C.B., Mukherjee, R., Girshick, S.L., McMurry P.H. and Gerberich W.W. 2007, *Phys. Rev. B* **75**, 214112-1-10 'Compressive stress effects on nanoparticle modulus and fracture'

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- J271 McCarty, K.F., Pierce, J.P. and Carter, C.B., 2006, *Appl. Phys. Lett.* **88**, 141902-1-3, 'Translation-related domain boundaries form to relieve strain in a thin alumina film on NiAl (110)'.
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- J269 Gerberich, W.W., Mook, W.M., Chambers, M.D., Cordill, M.D., Perrey, C.R., Carter, C.B., Miller, R.E., Curtin, W.A., Mukerjee, R. and Girshick, S.L., 2006, *J. Appl. Mech.* **73**, 327-334, 'An Energy Balance Criterion for Nanoindentation-Induced Single and Multiple Dislocation Events'.
- J268 Farrer, J.K. and Carter, C.B., 2006, *J Mater. Sci.* **41**, (16) 5169-5184, 'Texture in Solid-State Reactions'.
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- J265 Perrey, C.R. and Carter, C.B., 2006, *J. Mater. Sci.* **41**, 2711-2722, 'Insights into Nanoparticle Formation Mechanisms'.
- J264 Ling, W.L., Hamilton, J.C., Thürmer, K., Thayer, G.E., de la Figuera, J., Hwang, R.Q., Carter, C.B., Bartelt, N.C. and McCarty, K.F., 2006, *Surf. Sci.* **600**, 1735-1757, 'Herringbone and Triangular Patterns of Dislocations in Ag, Au, and AgAu Alloy Films on Ru(0001)'.
- J263 Farrer, J.K. and Carter, C.B., 2006, *J. Mater. Sci.* **41**(3), 779-792 'Defect Structure in GaN Pyramids'.
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- J253 Blanford, C.F., Carter C.B. and Stein A., 2004, *J. Microsc.* **216**, 263-287 'A Method for Determining Void Arrangements in Inverse Opals'

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- J246 Munoz, N.E., Gilliss, S.R. and Carter, C.B., 2004, *Philos. Mag. Lett.* **84**(1) 21-26, 'The Monitoring of Grain-Boundary Grooves in Alumina.'
- J245 Cohen, D. and Carter, C.B., 2003, *Interface Sci.* **11**, 391-401. ' $\Sigma=3$ {11} Lateral Twin Boundaries in GaP
- J244 Bapat, A., Perrey, C.R., Campbell, S.A., Carter, C.B. and Kortshagen, U., 2003, *J. Appl. Phys.* **94**(3), 1969-1974 'Synthesis of Highly Oriented, Single-Crystal Nanoparticles in a Low-Pressure, Inductively Coupled Plasma.'
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- G003 Chen, S.-H., 1985, 43rd Annual Meeting EMSA, 368-369. 'Near-Surface Segregation of Sn in Heavily Sn-Doped GaAs Films Grown by Molecular-Beam Epitaxy.'
- G002 Hung, L.S., Chen, S.-H. and Mayer, J.W., 1984, Mater. Res. Soc. Symp. Proc. 25, 253-258. 'Interaction of Al Films on Single Crystal Si Substrates Induced by Ion Irradiation and Post-Anneal.'
- G001 Morrissey, K.J., 1984, 42nd Annual Meeting EMSA, 404-405. 'TEM Observations on Pores in Alumina.'

Theses supervised (30 PhD; 4 MS)

- T034 Winterstein, J.P. December 2011, PhD Thesis, (UConn), 'Analytical EM of Ceramics Interfaces'
- T033 Xue, Y. May 2011, MS Thesis, (UConn), 'Ceramic Materials Used in Solid Oxide Fuel Cells (SOFCs)'

- T032 Riesterer, J.L. February 2009, PhD Thesis, (U of MN), 'Reconstructing Oxide Surfaces'
- T031 Nowak, J.D. December 2007, PhD Thesis, (U of MN), 'Characterization of Surfaces & Interfaces in Nanoparticles using Transmission Electron Microscopy'
- T030 Altay, A. June 2006, PhD Thesis, (U of MN), 'Calcium Aluminate in Alumina'
- T029 Riesterer, J.L., December 2005, MS Thesis, (U of MN), 'Combining FIB, AFM and EBSD for Analysis of Dynamic Processes on Ceramic Surfaces'
- T028 Kumar, S, September 2005, MS Thesis, (U of MN), 'Defects in Polycrystalline GaN'
- T027 Farrer, J.K, August 2004, PhD Thesis, (U of MN), 'The Application of Electron Diffraction to the Study of Surfaces and Interfaces in Ceramic Materials'
- T026 Perrey, C.R., June 2004, PhD Thesis, (U of MN), 'Characterizing Nanoparticles'
- T025 Gilliss, S.R., April 2004, PhD Thesis, (U of MN), 'Ceramic Oxides: Surfaces and Amorphous/Crystalline Interfaces'
- T024 Yanina, S.V., September 2001, PhD Thesis, (U of MN), 'Surface Studies of Ceramic Materials.'
- T023 Blanford, C.F., November 2000, PhD Thesis, (U of MN), 'Synthesis and Electron Microscopy of Inorganic and Hybrid Organic-Inorganic Mesoporous and Macroporous Materials.'
- T022 Zagrebelny, A.N., October 2000, PhD Thesis, (U of MN), 'Micromechanical Properties of Silicate-Glass Intergranular Films in Alumina Ceramics.'
- T021 Cohen, D., March 1999, PhD Thesis, (U of MN), 'A Study of Planar Defects in Gallium Phosphide.'
- T020 Johnson, M.T., Sept. 1998, PhD Thesis, (U of MN), 'Oxide Thin Films: Epitaxy, Reactions and Interfaces.'
- T019 Heffelfinger, J.R., Jan. 1997, PhD Thesis, (U of MN), 'Ceramic Surfaces and Solid-State Reactions.'
- T018 Ramamurthy, S., July 1996, PhD Thesis, (U of MN), 'Amorphous-Crystalline Interfaces in Oxide-Ceramics.'
- T017 Kotula, P.G., 1995, PhD Thesis, (U of MN), 'Interfacial Reactions and Kinetics in the Alumina Nickel Oxide System.'
- T016 Mallamaci, M., 1994, PhD Thesis, (Cornell U.), 'Interfaces Between Alumina and Silicate-Glass Films.'
- T015 Anderson, I.M., 1993, PhD Thesis, (Cornell U.), 'Nickel-Titanate Spinel: A Nonstoichiometric Compound with a Narrow Range of Homogeneity and An Equilibrium Nanometer-Scale Two-Phase Microstructure.'
- T014 Scarfone, C., 1991, MS. Thesis, (Cornell U.), 'Formation and Characterization of Ferroelectric Thin-Films Deposited by Pulsed-Laser Ablation.'
- T013 Zhu, G.J., 1991, PhD Thesis, (Cornell U.), 'Growth and Structural Characterization of Novel Semiconductor Heterostructures.'
- T012 Tietz, L.A., 1991, PhD Thesis, (Cornell U.), 'Transmission Electron Microscopy Studies of Nucleation, Growth and Interfaces in Ceramic Heterojunctions.'
- T011 Theodore, N.D., 1991, PhD Thesis, (Cornell U.), 'A Contribution to the Study of Extended-Defects in Semiconductors.'
- T010 Summerfelt, S.R., 1990, PhD Thesis, (Cornell U.), 'Precipitation of Nickel Ferrite in a Nickel Oxide Matrix.'
- T009 Rasmussen, D.R., 1990, PhD Thesis, (Physics, H.C. Ørsted Institute, U. of Copenhagen, Denmark), 'Simulation and Interpretation of Transmission Electron Microscope Images of Defects in Crystals.'
- T008 Cho, N.-H., 1989, PhD Thesis, (Cornell U.), 'Planar Defects in Gallium Arsenide.'
- T007 Susnitzky, D.W., 1989, PhD Thesis, (Cornell U.), 'Surfaces, Interfaces and Solid-State Reactions in Ceramic Materials.'
- T006 Simpson, Y.K., 1989, PhD Thesis, (Cornell U.), 'Grain Boundaries, Phase Boundaries and Reactions in Ceramic Oxides.'
- T005 De Cooman, B.C., 1987, PhD Thesis, (Cornell U.), 'Contribution to the Study of Extended Defects in Gallium Arsenide and Related Compounds.'

- T004 Chen, S.-H., 1985, PhD Thesis, (Cornell U.), 'Metal Reactions with Semiconductors in Ni-Si, Ni-GaAs Systems Studied by Transmission Electron Microscopy.'
- T003 Elgat, Z., 1985, PhD Thesis, (Cornell U.), 'Structure of Twin Boundaries in Ge and Spinel.'
- T002 Morrissey, K.J., 1985, PhD Thesis, (Cornell U.), 'TEM Observations of α -Al₂O₃, β -Al₂O₃, γ -Al₂O₃, δ -Al₂O₃, and θ -Alumina.'
- T001 Ostyn, K.M., 1984, PhD Thesis, (Cornell U.), 'Interfaces and Related Solid-State Reactions in Oxides.'

Invited talks (1990-) (including most that were given; not including declined invitations)

- 176 "Tentative: TEM of Advanced Materials" Plenary Talk, International Conference on Technologically Advanced Materials (ICTAM) and Asian Meeting on Ferroelectricity (AMF10) University of Delhi, New Delhi, November 7-11, 2016
- 175 "Tentative: State of Art in Electron Microscopy" Plenary Talk, Brazilian Microscopy and Microanalysis Society (SBMM) Belo Horizonte – MG, Brazil, October 31-November 4, 2016.
- 174 "Using TEM Operando Methods to Understand Energy Storage" Invited Talk in the *Electron Microscopy of Materials for Electrochemical Power Systems Symposium*, M&M, Columbus OH July 24-28, 2016
- 173 "Dislocations" Invited Talk in the Gareth Thomas Memorial Symposium, M&M, Columbus OH July 24-28, 2016
- 172 "Studying Defects in the TEM" Invited Talk, International Conference on Metals and Materials Research (ICMR 2016) IISc, Bangalore, June 20-22, 2016
- 171 "Electron Microscopy under the Microscope" Invited Talk, The 2016 Das Gupta Memorial Lecture, 27th Annual Meeting of EMSI, Varanasi June 6-10, 2016. Prof. N.N. Das Gupta was the Founding President of EMSI EMSI, Varanasi June 6-10, 2016
- 170 "The Future of TEM & Why We Must Remember the Past" MSA Traveling Speaker Talk at the Northern California Society for Microscopy (NCSM) Annual Meeting, April 21, 2016.
- 169 "The Future of TEM & Why We Must Remember the Past" MSA Traveling Speaker Talk at the Indiana Microscopy Society (INMS) Annual Meeting, April 14, 2016.
- 168 "The Future of TEM & Why We Must Remember the Past" MSA Traveling Speaker Talk at the Arizona Microscopy Society (AIMS) Annual Meeting, March 24, 2016.
- 167 "Ceramics for Energy Applications" Plenary Talk, International Conference on Ceramic & Advanced Materials for Energy and Environment, Indian Ceramic Society Annual Meeting, Christ University. Kengeri, Bangalore, India, December 15, 2015
- 166 "Microscopy of Nanomaterials" One-day workshop on 'Nanomaterials' as the 'Chief Guest' - in conjunction with the inauguration of the Department of Nanotechnology, Visvesvaraya Technological University, Bangalore, India, December 14, 2015
- 165 "The Future of TEM & Why We Must Remember the Past" MSA Traveling Speaker Talk at the Oklahoma Microscopy Society in conjunction with the 104th Technical Meeting of the Oklahoma Academy of Science at Oklahoma City University November 13, 2015.
- 164 "What do electron microscopes do for you?" (¿Que hacen los microscopios electrónicos por nosotros?) Special Symposium at the University in Juarez: The Douglas Osheroff Lecture (Cátedra Patrimonial Douglas Osheroff) (A lecture for the general public) Ciudad Juarez, November 4, 2015.
- 163 "Interfaces in Ceramic Materials" Robert B. Sosman Award Symposium "Structures and Properties of Grain Boundaries: Towards an atomic-scale understanding of ceramics" MS&T 2015, Columbus, Ohio from October 4-8, 2015
- 162 "Thoughts on *Operando* TEM" CINT User Meeting, Santa Fe, NM September 21-22, 2015
- 161 "Defects in the TEM" YUCOMAT 2015, Herceg Novi, Montenegro, 2 September 2015
- 160 "Challenging TEM" Workshop on Electron Microscopy for Biological, Environmental, and Energy Research (EMBEER), LNNL, Richland WA 30 July 2015
- 159 "Microscopy of Ceramic Materials" New England Section ACerS Regional Meeting, 27 May 2015

- 158 "Studying Defects in Crystalline Materials using TEM" Department of Materials Science & Engineering, University of Tennessee, Knoxville, TN 10 April 2015
- 157 "Studying Defects using TEM" Department of Physics, University of Texas, San Antonio, TX 13 Feb 2015
- 156 "Electron microscopy: Past, Present and Future" Keynote Opening Talk, 4th Workshop on Advanced Electron Microscopy, University of Texas, San Antonio, TX 11 Feb 2015
- 155 "Challenges for TEM and TEMers" Michigan Microscopy & Microanalysis Society, Detroit, MI. 6 Nov 2014
- 154 "TEM - it's always in situ" Plenary Talk, Polish Microscopy Society, Krakow, Poland. 15 Sept 2014
- 153 "The Role of Microscopy in Understanding Ceramic Processing" Invited Talk, M&M 2014, Hartford CT, 6 August 2014
- 152 "Imaging Extended Defects by TEM" Invited Talk, M&M 2014, Hartford CT, 4 August 2014
- 151 "TEM - it's always in situ: Invited Talk, Annual Meeting Indian Microscopy Society, New Delhi, 9 July 2014
- 150 "Future and Present Challenges for TEM" Dept Seminar, Tokyo University of Science, Tokyo, Japan 19 May 2014
- 149 "TEM: Past, Present and Future" Dept Seminar, Tohoku University, Sendai, Japan 16 May 2014
- 148 "TEM Studies of Nanomaterials and Nanodevices" (Invited) Advanced Microscopy & Theoretical Computations 4 in Hamamatsu Japan, 8 May 2014.
- 147 "Reactions In-Situ and Ex-Situ" (Invited): Japan Microscopy Society, Chiba, Japan, 11 May 2014
- 146 "Characterizing Materials Using Electron Microscopy Department Seminar" Chem E Dept. Seminar, Univ. Nebraska, Lincoln, NE, 4 April, 2014
- 145 "Challenges for TEM and TEMers" (Invited) S. California Microscopy Society, (UC Irvine) 8 February 2014
- 144 "Using Electron Microscopy" Dept Seminar, University of Ulm, Germany, 16 October 2013.
- 143 "Microscopy? Now and Then!" Distinguished Physical Scientist Talk, Microscopy & Microanalysis, August 2013
- 142 'On TiO₂'. Invited Talk (51st Meeting of EMSI (July 6-8, Bangalore, India) 2012.
- 141 'Reactions at Surfaces'. Department Seminar (April 20, Ohio State Univ.) 2012.
- 140 'Reactions at Surfaces'. Department Seminar (April 13, Texas A&M.) 2012.
- 139 'Studies of MgO Nanoparticles'. Department Seminar (Mar. 16, Oregon State Univ.) 2012.
- 138 'Modeling Reactions at Surfaces'. APEM 2012 (Feb. 6- Mar. 9, Perth, Australia) 2012.
- 137 'Electron Microscopy: Linking Universities and Industry'. Workshop on University/Industry Interactions (Jan. 19-20, Nagoya, Japan) 2012.
- 136 'TEM Past, Present and Future'. EMSI50 50th Anniversary meeting of EMSI (July 6-8, Hyderabad, India) 2011.
- 135 'Interfaces in Ceramic Materials: History and Speculation' iib2010. 27 June-1 July 2010 Nagoya, Japan 'Invited Talk' iib2010.
- 134 'Ceria & Related Oxides: The Need for Modeling' The 2nd International Symposium on Advanced Microscopy and Theoretical Calculations—Nanotechnology and Environmental Materials (AMTC2) June 24-26, 2010, Nagoya
- 133 'Interfaces and Small Particles' MSE Dept seminar, University of Maryland. 23 Apr 2010, College Park MD 'Invited Talk' iib2010, NagJune- 1.
- 132 'Interfaces and Small Particles' Solid Mechanics/MaterialsSeminar, Brown University. 22 Mar 2010, Providence RI 'Invited Talk' iib2010, NagJune- 1.
- 131 'Interfaces in Ceramics: Challenges for Microscopy' University of Graz. 29 Jan 2010 Graz, Austria 'Invited Talk' iib2010, NagJune- 1.
- 130 'Interfaces and Small Particles' University of Leoben. 28 Jan 2010 Leoben, Austria 'Invited Talk' iib2010, NagJune- 1.
- 129 'Thermal Grooving in Two-Phase Fuel-Cell Materials' CIASEM 2009 Rosario, Argentina, 26-29 October 2009. Invited Talk.

- 128 'Interfaces and Small Particles' RPI, Troy NY 21 October 2009. Department Seminar.
- 127 'Interfaces in Ceramics: Challenges for Microscopy' Workshop on Electron Microscopy of Ceramic Materials, Eskisehir, Turkey 12-13 October 2009. Invited Keynote Talk.
- 126 'Introduction to TEM: Lecture 2' School on the Electron Microscopy of Ceramic Materials, Eskisehir, Turkey 8-11 October 2009. 2nd invited 90 minutes lecture.
- 125 'Introduction to TEM: Lecture 1' School on the Electron Microscopy of Ceramic Materials, Eskisehir, Turkey 8-11 October 2009. Invited opening 90 minutes lecture.
- 124 'The State of TEM' Workshop on the TEM, St Gobain, Northborough MA 6 October 2009. Invited Opening Keynote Talk.
- 123 'Synthesis and TEM Characterization of Ceria Nanoparticles' ICAM/Brazilian-MRS, Rio de Janeiro, Brazil 20-24 September 2009. Invited Talk.
- 122 'Studying Small Particles in the TEM' Joint Congress of the Spanish and Portuguese Microscopy Societies 18 June 2009. Invited Talk.
- 121 'Microscopy of Ceramic Materials' Dept. Engin. Ceramics & Glass, University of Aveiro. Portugal, 15 June 2009. Invited Talk.
- 120 'Oxide-on-oxide wetting' HTC-2009 (High Temperature Capillarity; Athens, Greece, May 2009) 5-9 May 2009. Invited Talk.
- 119 'TEM-At What Voltage? Nagoya University, 10 November 2008. Invited Talk.
- 118 'Thermal Grooving in the Presence of Glass'. APMC9: 9th Asia-Pacific Microscopy Conference, 2-7 November 2008, Jeju Island, Korea. Invited Talk.
- 117 'Materials for Improved Energy Production and Storage'. 1st Int. Workshop on Advanced Microscopy and Theoretical Calculations for Nanotechnology and Environmental Materials in Nagoya, Congress Center, Japan 28-30 June 2008. Invited Talk.
- 116 'A Few of My Favorite Things: Reflections on TEM, SEM, STM, AFM and VLM'. Connecticut Microscopy Society Spring Meeting. Yale U. Med School, 22 May 2008. Invited Talk.
- 115 'Ceramic Nanomaterials' 2nd International Symposium on Nanostructured Materials and Nanotechnologies: Development and Applications. Jan 27-Feb 1, 2008 ACerS 32nd Int. Conf & Exp. on Adv. Ceram. and Composites Daytona Beach, FL
- 114 'Kinetics and Stability of Interfaces' Chemistry and Thermodynamics of Grain Boundaries Session (in honor of Rowland Cannon) Jan 27-Feb 1, 2008 ACerS 32nd Int. Conf & Exp. on Adv. Ceram. and Composites Daytona Beach, FL
- 113 'Using Electron Microscopy in the Quest for Improved Energy Production and Storage' CIASEM 2007, Cuzco, Peru 23-28 Sept. 2007.
- 112 'Using Electron Microscopy in the Quest for Improved Energy Production and Storage' CIASEM 2007, Cuzco, Peru 23-28 Sept. 2007.
- 111 'Glass in and on Oxides' Seminar, Dept. Chemical, Materials & Biomolecular Engineering, U. Connecticut, 30 October 2006.
- 110 'Interactions between Glass and Oxide Surfaces' The 3rd Int'l Symp on Advanced Ceramics (ISAC-3). <http://www.jsps124.org/isac2006/>. 11-15 December 2006. Grand Copthorne Waterfront Hotel. Singapore
- 109 'Use of In Situ TEM to Study Nanomaterials' Brazilian MRS 2006 Florianopolis, Brazil, Oct. 2006.
- 108 'Microscopy of Ceramics' IMC-16 2006 Sapporo, Japan, 4 Sept. 2006.
- 107 'The Study of Nanomaterials by TEM' Seminar, Dept. Materials Science, UCLA, 29 May 2006.
- 106 'Thin Films in Ceramic Grain Boundaries' The Brandon Symposium, TMS Spring Meeting, 14 Mar. 2006.
- 105 'Transmission Electron Microscopy of Nanomaterials' XLth meeting of the Portuguese Society of Electron Microscopy and Cell Biology, 9 Dec. 2005.
- 104 'Glass in Crystalline Ceramics' MRS Fall meeting, Boston Symposium KK, 28 Nov., 2005
- 103 'The study of Nanoparticles using TEM' Invited Plenary Talk. 4th Brazilian MRS meeting, Recife, Brazil, 7 October 2005.

- 102 'Glass in and on Oxides' Electron Microscopy Group Department Seminar, University of Cambridge, UK, February 22, 2005
- 101 'Some Studies of Ceramic Nanoparticles and more' ICYS (International Center for Young Scientists, NIMS, Tsukuba, Japan, February 4, 2005
- 100 'Insights into Nanoparticle Formation Mechanisms by Plasma Processing' International Symposium on Characterization of Real Materials and Real Processing TEM, U. of Nagoya, Japan, January 26, 2005
- 99 'Some Studies of Ceramic Nanoparticles' Department of Materials Science, University of Tokyo, Japan, January 21, 2005
- 98 'From Physics to Ceramics' Guest Lecture, Introduction to Physics, Chalmers University of Technology, Göteborg University, Department of Experimental Physics, November 11, 2004
- 97 'Nanoparticles and Nanofilms', Chalmers University of Technology, Göteborg University, Department of Mechanical Engineering, November 8, 2004
- 96 'Some Thoughts on the Future of TEM' MPI for Biochemistry, Martinsreid, October 29, 2004
- 95 'The Behavior of Glass in Ceramic Materials' Brazilian MRS, Foz de Iguacu, October 11, 2004
- 94 'Microscopy of Ceramics' Chalmers University of Technology, Göteborg University, Department of Experimental Physics, September 24, 2004
- 93 'Microscopy of Interfaces' Joint Metallurgy and Materials Research Center Dept Seminar, IISc, Bangalore, March 19, 2004
- 92 'Nanoparticles' Materials for the Future Symposium celebrating 25 Years of the Materials Research Center, MRC, IISc, Bangalore, March 16, 2004
- 91 'Liquids and Ceramic Interfaces' Department of Materials Science, University of Tokyo, Japan, March 5, 2004
- 90 'Nanochemistry of Ceria Particles: Electron Energy-Loss Spectroscopic Study of the Surface of Ceria Abrasives ' The 9th International Symposium on Advanced Physical Fields (APF-9): Characterization of Artificial Nanostructures and Nanomaterials, Tsukuba, Japan, March 2, 2004
- 89 'TEM Studies of Interfaces in III-V Compounds' symposium H1 to be presented at the 204th Meeting of the Electrochemical Society, Orlando, Florida, October 12-17, 2003
- 88 'Interfaces in Oxides' symposium L1 to be presented at the 204th Meeting of the Electrochemical Society, Orlando, Florida, October 12-17, 2003
- 87 'Analysis of Thin Ceramic Films' to be presented at Scanning 2003
- 86 'Nanoscale Plasticity in Free Standing Spheres Less than 100 nm Diameter' to be presented at Plasticity 2003, July 7-11, 2003, Quebec City; to be published in Int. J. Plasticity
- 85 'Interface structure and characterization and/or (de)wetting behavior' Surfaces and Interfaces Symposium at the 105th Annual American Ceramic Society Meeting April 27-30, 2003 in Nashville, TN
- 84 'Synthesis of Silicon Nanoparticles in Inductively Coupled Silane Plasmas' presented at the 2002 Gordon Conference on Plasma Processing Science (July 21-26)
- 83 'Characterization of Composite Materials by Combined EM Techniques' Microscopy of Composites, Oxford, 26 March 2002
- 83 'Ceramic Interfaces' Annual Meeting Brazilian Society of EM, Sao Paulo, Oct. 2001.
- 82 'Defects in Compound Semiconductors' Annual Meeting Brazilian Society of EM, Sao Paulo, Oct. 2001.
- 81 'Diffraction Contrast in the TEM: A Series of Lectures.' Department of Materials Science, Cath. Univ., Rio de Janeiro, Oct. 2002.
- 80 'Discussion of the Choice of Length Scales in Grain Boundary Studies' Lead opinion at Solid State Studies in Ceramics: Gordon Research Conference, 9 August 2000
- 79 'Glass in and on Ceramic Oxides', Cal. Tech. MSE Department Seminar, 21 February, 2001
- 78 'Glass in and on Ceramic Oxides', Japan FCC Int Workshop, Nagoya, 15-17 March 2000
- 77 'Glass in and on Ceramic Oxides', Portland State University. MSE Department Seminar, 1 November, 2000

- 76 'Glass in and on Ceramic Oxides', Virginia Tech. MSE Department Seminar, 6 April, 2000
- 75 'Interfaces in Ceramics', IFW Dresden July, 2002
- 74 'Linking Materials Science & Chemical Engineering.' Department of Materials Science, Cath. Univ., Rio de Janeiro, Oct. 2002.
- 73 'Mechanism of Glass-Crystal Boundary Migration in Ceramics' with N. Ravishankar, 2 May 2000, Annual meeting, American Ceramic Society, St Louis MI, 2000 (BS5-002-00)
- 72 'Model Studies of Glass in Alumina Grain Boundaries' Int. Symp. On Science & Technology of Alumina, Ringberg, Germany, March 17. 2002.
- 71 'Semiconductors', IFW Dresden July, 2002
- 70 'Semiconductors', U. of Jena, Germany, July 2002
- 69 'Surfaces and Grain Boundaries in Ceramics', At CIASEM-VI October 2001.
- 68 'Ceramic Surfaces, Grain Boundaries and Crystalline Interphases', AIMS Annual Spring Meeting, Tucson AZ, 10 February 2000
- 67 'Ceramic Surfaces, Interfaces and Wetting', Georgia Tech., Ann Arbor, 16 November 1999
- 66 'Some Fundamental Aspects of Liquid-phase Sintering'. Presented by Dr Ravishankar, Fall Meeting, American Ceramic Society, Seattle WA, 28 October, 1999
- 65 'SEM of Ceramic Surfaces', CIASEM, IntraAmerica Society for Electron Microscopy, Caracas, Venezuela, 26 October 1999
- 64 'Ceramic Surfaces, Interfaces and Wetting', University of Michigan, Ann Arbor, 15 October 1999
- 63 'Glass in and on Ceramic Oxides', Department of Energy, 28 September 1999
- 62 'Archie Howie Symposium: Celebrations in Pioneering Electron Microscopy', Microscopy & Microanalysis 99 (Portland, OR) vol 5, suppl 2 658-659, Interfaces Symposium, Portland Oregon 3 August 1999
- 61 'Reactions in and on Oxide Thin Films', University of Wisconsin, 11 May 1999
- 60 'Faceting of Oxide Surfaces and Thin-Film Growth', Clemson University, 12 April, 1999
- 59 'Ceramic Surfaces', Spring Meeting, American Ceramic Society, 27 April, 1999
- 58 'Reactions in and on Oxide Thin Films', Cambridge Univ., UK, 19 March, 1999
- 57 'Glass Films in and on Oxides', Lawrence Berkeley National Lab, 14 Dec. 1998
- 56 'Interfaces in Ceramics', Acta Materialia Topical Conference, La Jolla, Ca., 26 Oct. 1998
- 55 'Glass Films in and on Oxides', Fall Meeting, American Ceramic Society, 22 Oct. 1998
- 54 'The Future of Transmission Electron Microscopy', Minnesota Microscopy Society Fall meeting, 15 Oct 1998
- 53 'Glass Films in and on Oxides', PPG, Pittsburgh, 5 Oct. 1998
- 52 'The Future of Transmission Electron Microscopy', Carnegie Mellon University, 25 Sept., 1998
- 51 'Reactions in and on Oxides', University of Hannover, Department Seminar, 7 July 1998
- 50 'A New Method to Study Solid-State Reactions', University of Köln, Department Seminar, 1 July 1998
- 49 'Oxide Thin Films and Reactions', University of Erlangen, Department Seminar, 5 June 1998
- 48 'Oxide Thin Films and Surfaces' University of Karlsruhe, Laboratorium für Elektronenmikroskopie, Department Seminar, 18 May 1998
- 47 'A New Method to Study Solid-State Reactions in Oxides', Bayerisches Geoinstitut, Universitaet Bayreuth, Department Seminar, 27 April 1998
- 46 'Dislocations in Ceramic Oxides' MSA Microscopy and Microanalysis Meeting, Symposium on Ceramics and Minerals 12-16 July 1998, Atlanta
- 45 'Microscopy of Ceramic Surfaces', Spring Meeting of the Alabama Microscopy and Imaging Society, Feb 1998
- 44 'Faceting of Oxide Surfaces and Thin-Film Growth', Fall MRS, invited talk 2 Dec 1997
- 43 'Surfaces in Oxides', CMS Seminar Los Alamos National Labs, NM. 19 Nov. 1997
- 42 'Microscopy of Ceramic Surfaces' 4th Interamerican Electron Microscopy Conference, 23-26 September 1997, Guayaquil, Ecuador.

- 41 'Reactions and Phase Transformations in Thin Oxide Films,' 23 June 1997, Department of Materials, University of Leeds, UK.
- 40 'Electron and Scanning Probe Microscopy of Glass/Ceramic Interfaces,' 4 August 1997, Ceramics Gordon Research Conference on New Perspectives in Interface Science, Kimball Union, NH.
- 39 'The Structure of Close-Packed Surfaces,' 15 May 1997, Dept. of Materials, Oxford University Department Seminar, Oxford, UK.
- 38 'Oxide Thin Films: Substrates, Growth and Reactions,' 28 April 1997, MS&E, Arizona State University Department Seminar, Tempe, AZ.
- 37 'Phase Contrast in the TEM,' 18 April 1997, MS&E, North Carolina State University Guest Lecture, Raleigh, NC..
- 36 'Oxide Thin Films: Substrates, Growth and Reactions,' 18 April 1997, MS&E, North Carolina State University Department Seminar, Raleigh, NC.
- 35 'TEM of Ceramics,' 4 April 1997, NCEM New Building/Microscope Dedication Symposium, Lawrence Berkeley National Lab., Berkeley, CA.
- 34 'AFM as a Complement to SEM and TEM in Materials Science,' 27 October 1996, 15th NCSEM Annual Symposium on Advances in Microscopy, Wilmington, North Carolina.
- 33 'Solid-State Reactions in Oxides by AFM, SEM and TEM' 13 October 1996, MICROMAT '96, Fifth Brazilian Conference on Microscopy of Materials, Rio de Janeiro, Brazil.
- 32 'Interaction between Glass and Surfaces: As Combined AFM, SEM, TEM Study,' 13 October 1996, MICROMAT '96, Fifth Brazilian Conference on Microscopy of Materials, Rio de Janeiro, Brazil.
- 31 'Solid State Reactions in Oxide Thin Films,' 8 September 1996, Thirteenth International Symposium on the Reactivity of Solids, University of Hamburg, Hamburg, Germany.
- 30 'AFM as a Complement to SEM and TEM in Materials Science,' 23 May 1996, Microscopy Society of Northeastern Ohio Spring Symposium, Case Western Reserve University, Cleveland, OH.
- 29 'Understanding Surfaces, Interfaces, & Thin Films,' 11 May 1996, Thirteenth Annual Spring Symposium of The New England Society for Electron Microscopy, Marine Biological Laboratories, Woods Hole, Massachusetts.
- 28 'Reactions and Phase Transformations in Thin Oxide Films,' 11 April 1995, Case Western Reserve University, Cleveland, OH.
- 27 'Growth and Reactions in Oxide Thin Films,' 12 March 1995, University of California-Santa Barbara, Santa Barbara, CA.
- 26 'Reacting NiO and Al₂O₃,' 31 October 1994, Hannover, Germany.
- 25 'Thin Ceramic Films: Growth and Reactions,' 30 October 1994, Jülich, Germany.
- 23 'The Role of Defects During Growth and Reactions in Oxides,' 27 October 1994, Lausanne, Switzerland.
- 22 'Interfaces in Ceramics,' 13 July 1994, Max Planck Institut for Mikrostrukturphysik, Halle, Germany.
- 21 'Thin Ceramic Films: Growth and Reactions,' 1 November 1993, Departmental Colloquium, Department of Materials Science, University of Illinois, Urbana, IL.
- 20 'High-Resolution TEM of Grain Boundaries,' 26 September 1993, 2nd Interamerica Congress on Electron Microscopy, Cancun, Mexico.
- 19 'Structure of Grain Boundaries in Polycrystalline Semiconductors,' 8 September 1993, Int. Conf. on Polycrystalline Semiconductors, St Malo, France.
- 18 'Interfaces in Ceramic Materials,' June 1993, Argonne National Labs, Argonne, IL.
- 17 'Interfaces in Ceramic Materials,' May 1993, Department of Materials Science, University of Wisconsin, Madison, WI.
- 16 'Interfaces in Ceramic Materials,' 1 May 1993, NIST Ceramics Group Seminar, Gaithersburg, MD.
- 15 'High-Resolution TEM of Ceramics,' August 1992, EMSA Symposium on High-Resolution TEM (Prof. David J. Smith, Organizer), Boston, MA.
- 14 'Interfaces and the Growth of Thin Oxide Films,' 21 June 1992, International Conference on Intergranular and Interphase Boundaries, Thessaloniki, Greece.

- 13 'Growth of Thin Ceramic Films,' April 1992, 3M Special Symposium on Inorganic Materials, St. Paul, MN.
- 12 'Thin Ceramic Films: Growth and Reactions,' March 1992, Texas Instruments, Dallas, TX.
- 11 'High-Resolution Microscopy Center,' 31 March 1992, Minnesota EM Soc., Minneapolis, MN.
- 10 'An Overview of the Study of Interfaces Using TEM,' February 1992, 3M An. Div., St. Paul, MN.
- 9 'Interfaces Growth and Reactions in Ceramic Oxides,' November 1991, Departmental Seminar, Purdue University, Lafayette, IN.
- 8 'Interfaces in Ceramics,' November 1991, MRS Fall Meeting, Boston, MA.
- 7 'Interfaces in Ceramic Thin Films,' 31 May 1991, Am. Ceram. Soc., Northern Ohio Section, 1991 Distinguished Speaker Award, Cleveland, OH.
- 6 'Growth of YBa₂Cu₃O_{7-d} Thin Films-Nucleation Heteroepitaxy and Interfaces Scanning Microscopy,' 6 May 1991, Scanning Microscopy, Baltimore, MD.
- 5 'The Nucleation and Growth of Thin Ceramic Films,' 8 April 1991, IBM, Almaden.
- 4 'New Approaches for Studying Interfaces in Oxides,' 4 December 1990, U. Minnesota, MN.
- 3 'The Nucleation and Growth of Thin Oxide Films,' 7 November 1990, Sandia National Labs, Albuquerque, NM.
- 2 'Heterojunctions in Semiconductors,' 5 November 1990, Arizona State University, AZ.
- 1 'Recent Applications of TEM to the Study of Interfaces,' August 1990, 12th Int. Cong. on EM, Seattle, WA.

Other conference activities (1990-) (some)

36. Plenary Speaker and Round-Table Discussion Participant, CIASEM 2011 (Sept. 25 –Sept 29, Merida, Mexico) 2011.
35. International Scientific Advisory Board, MC 2011 (Aug. 29 –Sept 2, Kiel, Germany) 2011.
34. International Advisory Committee, EMSI50 (July 6-8, Hyderabad, India) 2011.
33. Committee for Ceramic Powders: Synthesis, Processing and Sintering, CIMTEC, Florence, 6-18 June 2010.
32. Program Committee, iib2010 June 2010.
31. Symposium Organizer, ICAM/B-MRS Rio de Janeiro, Brazil, Oct. 2009.
30. Symposium Organizer, Frontiers of Electron Microscopy in Materials Science (FEMMS): the 'Materials Science' session. Nagasaki, Japan, 27 Sept. - 2 Oct. 2009.
29. Conference Organizer: International Symposium on the Reactivity of Solids Meeting in Minneapolis, MN 3-6 June 2007
28. Symposium Organizer, Brazilian MRS 2006 Florianopolis, Brazil, Oct. 2006.
27. Session Chair, IMC-16 2006 'Ceramics' Sapporo, Japan, 4 Sept. 2006.
26. Symposium Organizer & Session Chair, M&M 2006 '50th Anniversary of Observation of Dislocations' Chicago IL, 31 Aug. 2006.
25. Session Chair, The Gerberich Symposium, TMS Spring Meeting, 14 Mar. 2006.
24. Symposium Organizer & Session Chair, 'Interfaces' FEMMS 2006, Kasteel Vaalsbroek, 30 Oct. 2005.
23. Chair, Ceramics Gordon Conference, 10-14 July 2004
22. Symposium Organizer, 'Interfacial Engineering for Optimized Properties III,' MRS Spring Meeting, San Francisco, 13-15 April 2004.
21. Symposium Organizer, 'Structure-Property Relationships of Oxide Surfaces and Interfaces,' MRS Fall Meeting, Boston, 2-3 December 2002.
20. Vice Chair, Ceramics Gordon Conference, 11-16 July 2002
19. Symposium Organizer, 'Structure-Property Relationships of Oxide Surfaces and Interfaces,' MRS Fall Meeting, Boston, 27 Nov-1 December 2000.
18. Program Committee, International Union of Microbeam Analysis Societies Meeting, Kona, Hawaii, June 2000.

17. Symposium Organizer, Microscopy & Microanalysis 2000, Scanned-Probe Microscopy Symposium, Philadelphia, PA, August 2000.
16. Symposium Organizer, 'Interfacial Engineering for Optimized Properties II,' MRS Fall Meeting, Boston, 28 Nov-3 December 1999.
15. Symposium Organizer, Microscopy & Microanalysis '99, The Howie Symposium, Portland, OR, August 1999.
14. Symposium Organizer, Microscopy & Microanalysis '99, Ceramics Symposium, Portland, OR, August 1999.
13. Symposium Organizer, International Conference on Electron Microscopy, Cancun, August 1998.
12. International Advisory Board for ISRS (International Symposium on reactivity of solids), 1996-2000.
11. Symposium Organizer, 'Interfacial Engineering for Optimized Properties,' MRS Fall Meeting, Boston, 2-6 December 1996.
10. Session Chairman 'Critical Issues in Ceramic Microstructures,' Microscopy & Microanalysis, Minneapolis, 11-15 August 1996.
9. Session Chairman 'Boundary Migration Transformation and Kinetics II' Session, MRS Fall Meeting, (Symp Cb Defect-Interface Interactions), Boston, 1993.
8. Session Chairman 'Dislocations' Session, Int. Conf on Polycrystalline Semiconductors, St Malo France, 7 September 1993.
7. Symposium Organizer 'Microscopy of Ceramics,' 51st Annual Meeting MSA, Cincinnati, August 1993.
6. Organizing Committee and Session Chairman, Hirsch Symposium 'Understanding Materials,' marking the retirement of Sir Peter Hirsch, September 1992.
5. Symposium Organizer and Session Chairman 'Microscopy of Interfaces,' 50th Annual Meeting EMSA, Boston, August 1992.
4. Session Chairman, International Conference on Intergranular and Interphase Boundaries, Thessaloniki Greece, 21-26 June 1992.
3. Symposium Organizer and Session Chairman 'New Applications of HREM,' EMSA, San Jose, August 1991.
2. Symposium Organizer and Session Chairman 'Fine Structure of Defects,' ICEM 12, Seattle Washington, August 1990
1. Focused Session Organizer with Dr Paul Bristowe MIT 'Computer Modeling and Experimental Study of Grain Boundaries,' Annual Meeting of the American Physical Society, Anaheim CA, March 1990.

Unpublished conference talks 1995- (by year)

- 16.1 MRS Symposium; in preparation. Chou, SS, Kaehr B, Swartzentruber B, Matt Janish MT, Cook A, Beechem T, Carter, C.B. Brinker, 'Photonic Sintering of Solution Processed Bi₂Te₃ Thermoelectrics.' Spring MRS, Phoenix AZ, 2016
- MS&T 2015 (October 4-7, 2015, Columbus, OH) Janish MT, Kotula, PG, Boyce, BL, Mook WM, Carter CB "Defects in tantalum".
- 13.2 Fall 2013 MRS (December 1-6, 2013, Boston)
- a) Janish, M., Huang, F., Zhang, L., Rastegar, V., Martin, N., Chan, J., McKenzie, B.B., Michael, J.R., Cornelius, C. and Carter, C.B. "Characterization of Electrospun Ceramic Nanofibers by Electron Microscopy".
 - b) Roller, J.M., Arellano-Jimenez, M.J., Vukmirovic, M., Yu, H., Adzic, R., Kotula, P., Carter, C.B. and Maric, R. "Investigation of Structural Features in Pd Nanoparticle Cores Comprising a Shell Layer of Pt".
 - c) Rastegar, V., Roller, J.M., Arellano-Jimenez, M.J., Janish, M., Jain, R., Maric, R. and Carter, C.B. "Electron Microscopy Characterization of Ebonex/Pt Electrocatalysts for Energy Conversion" 224th ECS Meeting – San Francisco, USA

- 13.1 224th ECS Meeting (October 27 – November 1, 2013) (Batteries, Fuel Cells, and Energy Conversion).
- a) Roller, J., Yu, H., Vukmirovic, M.B., Carter, C.B., Adzic, R.R. and Maric, R., “Flame Based Synthesis of Core-Shell Structures Using Pd-Ru and Pd Cores Prepared From the Vapor Phase With Reactive Spray Deposition Technology”
- 12.4 Electrochem. Soc. Fall 2012 meeting (12 Oct. 2012, Honolulu)
- a) Maric, R., Roller, J., Arellano-Jiménez, M.J., Mustain, W. and Carter, C.B., “Catalytic Activity in Un-Doped and Rare Earth-Doped Strontium Cerates”. "Microstructure and Durability of Non-Carbon Supported Cathode Prepared by a Direct Dry Deposition Technique".
- 12.3 AIChE Fall 2012 (Nov. 2012, Pittsburgh)
- Suresh, A., Mhadeshwar, A., Carter, C.B. and Wilhite, B.A., “Catalytic Activity in Un-Doped and Rare Earth-Doped Strontium Cerates”.
- 12.2 M&M 2012 (July 29- Aug. 2, 2012, Phoenix)
- a) Arellano-Jiménez, M.J., Suresh, A., McCutcheon, J. and Carter, C.B., “Polycrystalline TiO₂ Produced by Electrospinning”.
- b) Arellano-Jiménez, M.J., Hire, C., Adamson, D. and Carter, C.B., “Characterization of Zirconia Nanoparticles Produced by Biomimetic Condensation”.
- c) Arellano-Jiménez, M.J., Bogart, J., Mikael, P.E., Nukavarapu, S.P., Laurencin, C. and Carter, C.B., “Microtomy in reinforced polymer scaffolds”.
- d) Arellano-Jiménez, M.J., Suresh, A., Wilhite, B.A. and Carter, C.B., “Understanding the Microstructural Evolution of Cobalt-doped Ceria with Respect to Sintering Temperature using FIB and TEM”.
- e) Roller, J., Arellano-Jiménez, M.J., Bogart, J., Maric, R. and Carter, C.B., “Ultramicrotoming Pt Catalyzed Substrates and Dispersion Supports”.
- 12.1 Spring 2012 MRS (April 9-13, 2011, San Francisco)
- a) Arellano-Jimenez, J.R., Pehmoeller, E. and Carter, C.B., MRS Spring 2012 Symposium TT (Interfaces in Materials, Biology, and Physiology) ‘Revealing Interfaces in Natural Materials’.
- b) Arellano-Jimenez, M.J., Michael, J.R., Bogart, J., Pehmoeller, E. and Carter, C.B., MRS Spring 2012 Symposium Q (Titanium Dioxide Nanomaterials) ‘Interfaces Between Titanium Dioxide Polymorphs and Their Relation to Nanoparticles’.
- c) Roller, J., Arellano-Jimenez, M.J., Maric, R. and Carter, C.B., MRS Spring 2012 Symposium U (Materials For Catalysis In Energy) ‘Microstructure of low-Pt-loaded Catalysts Dispersed Via a Dry One-step Process onto Corrosion-resistant Supports’.
- d) Suresh, A., Carter, C.B. and Wilhite, B.A., MRS Spring 2012 Symposium U (Materials For Catalysis In Energy). “Examination of the Relative Catalytic Activities of Undoped and Cobalt-Doped Barium Cerate-Zirconates towards Methanol Partial Oxidation”.
- e) Suresh, A., Arellano-Jimenez, M.J., Carter, C.B. and Wilhite, B.A., MRS Spring 2012 Symposium CCC (Local Probing Techniques and In-Situ Measurements in Materials Science). “Microstructural Evolution of Gadolinium-Doped Barium Cerate in Moisture at Elevated Temperatures”.
- f) Suresh, A., Arellano-Jimenez, M.J., Carter, C.B. and Wilhite, B.A., MRS Spring 2012 Symposium YY (Rare-Earth-based Materials). “Structural Characterization of Transition Metal-Doped Ceria Synthesized by HMTA-Based Coprecipitation”.
- 11.5 Paper presented at 20th National Electron Microscopy Congress (Oct. 25-28, 2011, Antalya, Turkey)
- Carter, C.B., ‘TEM of Ceramic Materials; IFSM and Iznik’.
- 11.4 Paper presented at CIASEM 2011 (September 25-29, 2011, Merida, Mexico)
- Carter, C.B., ‘TEM: Past, Present & Future.’ (KeyNote Plenary)
- Arellano-Jimenez, M.J., Michael, J.R., Bogart, J., Pehmoeller, E. and Carter, C.B., ‘Analysis of Interfaces in TiO₂’.
- Arellano-Jimenez, M.J., Bogart, J., Pehmoeller, E. and Carter, C.B., ‘Interfaces in Natural Ceramic Materials’.

- Winterstein, J.P., Arellano-Jimenez, Gülgün, M.J., Bogart, J., Pehmoeller, E. and Carter, C.B., 'Second phases in polycrystalline doped CeO₂'.
- 11.2 Paper presented at EMSI50 (July 6-8, Hyderabad, India)
Carter, C.B., 'TEM Past, Present and Future'.
- 11.1 Paper presented at E-MRS 2011 (May 9-12, Nice, France)
Arellano-Jimenez, M.J., Winterstein, J.P., Gulgun, M.A. and Carter, C.B., 'Microstructure of doped cerium oxide ceramics'.
- 10.3 Paper presented at PTM2010 Solid-Solid Phase Transformations in Inorganic Materials June 6-10, 2010 Palais des Papes, Avignon, France.
Winterstein, J.P., Bhowmick, S., Riesterer, J.L., Grogger, W., Hofer, F. and Carter, C.B. 'Surface effects in oxide solid-state reactions'.
- 10.1 Papers presented at the 2010 ACerS Cocoa Beach Meeting in Daytona, FL, January 2008.
Basu, J., Suresh, A., Wilhite, B.A., Carter C.B. and Singh, P., 'Observation on Structural Modification of Co-doped Barium Cerate-Zirconate during Exposure to Reducing Environment'.
Basu, J., Bhowmick, S., Carter C.B. and Singh, P., 'Interdiffusion in NiO-YSZ Composites'.
- 09.3 Paper presented at CIASEM 2009 (Comm. InterAmerica Societies for Electron Microscopy) Rosario, Argentina, October 2009.
Bhowmick, S., Riesterer, J.L. and Carter, C.B., 'Thermal Grooving in Two-Phase Fuel-Cell Materials Thermal Grooving in Two-Phase Fuel-Cell Materials'.
- 09.2 Papers presented at ICAM 2009 (International Conference on Advanced Materials) Rio de Janeiro, Brazil, September 2009.
Basu, J., Winterstein, J.P., Ravishankar, N. and Carter, C.B., 'Synthesis and TEM characterization of ceria nanoparticles'.
Winterstein, J.P., Bhowmick, S., Riesterer, J.L., Basu, J. and Carter, C.B. 'Solid-state reactions and microstructure in the Ni-Ti-O system'.
- Norton, M.G. and Carter, C.B. 'Incorporating Nanomaterials into a new Ceramics Textbook'.
- 09.1 Papers presented at the 2009 33rd International Conference & Exposition on Advanced Ceramics and Composites in Daytona, FL, Jan. 18-21, 2009.
Sammes, N. Suresh, A., Basu, J., Wilhite, B.A. and Carter, C.B. 'Synthesis and catalytic activity of Co-doped BaCe_xZr_{1-x}O₃ mixed conductors for hydrogen reforming'.
Riesterer, J.L. and Carter, C.B., 'Phase-boundary Grooving at the Surface in SOFC Materials'.
Basu, J., Ravishankar, N. and Carter, C.B., 'Patterning Arrays of Nanoparticles'.
Basu, J., Bhowmick, S. Winterstein, T.P. and Carter, C.B., 'Hydrothermal Synthesis of CeO₂ and its derivatives for Energy and the Environment'.
- 08.4 Papers presented at the 2008 Fall Materials Research Society meeting in Boston
Winterstein, J.P. and Carter, C.B. (Symposium TT: Local Structure and Dynamics in Amorphous Systems) 'Electron-beam induced crystallization of lanthanum oxide'.
Winterstein, J.P. and Carter, C.B. (Symposium NN: In Situ Studies across Spatial and Temporal Scales for Nanoscience & Technology) 'In situ reduction of doped cerium oxide nanoparticles in the TEM'.
Riesterer, J.L., Bhowmick, S. and Carter, C.B. (Symposium O: Structure/property relationships in fluorite derivative compounds) 'Using AFM to Study Grooving at ZrO₂-Al₂O₃ Phase Boundaries'.
Riesterer, J.L., Ravishankar, N. and Carter, C.B. (Symposium PP: Solid-state chemistry of inorganic materials VII) 'Behavior of Second-Phase Liquids in Ceramics'.
Bhowmick, S., Basu, J. and Carter, C.B. (Symposium S: Solid-State Ionics) 'Low-temperature hydrothermal synthesis of nanocrystalline BaCeO₃-based proton conductors'.
Suresh, A., Basu, J., Wilhite, B.A. and Carter, C.B. (Symposium S: Solid-State Ionics) 'Synthesis and catalytic activity of Co-doped BaCe_xZr_{1-x}O₃ mixed conductors for hydrogen reforming'.
Bhowmick, S., Riesterer, J.L., Winterstein, J.P. and Carter, C.B. (Symposium PP: Solid-State Chemistry of Inorganic Materials VII) 'Microstructure and phase behavior in Ni-Ti-O system'.

- 08.3 Papers presented at the 2008 Microscopy Society of America Meeting, Albuquerque NM, 4-8 August 2008
 Winterstein, J.P., Basu, J., Herzing, A., Anderson, I.A. and Carter, C.B., 2008, *Microsc. Microanal. M&M*, 'Combined structural and chemical investigations of ceria nanoparticles in the TEM.'
 Basu, J., Divakar, R., Winterstein, J.P., Ravishankar, N. and Carter, C.B., 2008, *Microsc. Microanal. M&M*, 'In situ Microscopy: A Tool to Understand Mechanisms.'
 Basu, J., Divakar, R., Ravishankar, N. and Carter, C.B., 2008, *Microsc. Microanal. M&M*, 'Complementary Microscopy Techniques for Characterizing Nanostructures.'
- 08.2 Paper presented at the 1st Int. Workshop on Advanced Microscopy and Theoretical Calculations for Nanotechnology and Environmental Materials in Nagoya, Congress Center, Japan 28-30 June 2008. 'Interface Formation. Invited Talk with Julia Nowak.
- 08.1 Papers presented at the 2008 ACerS Cocoa Beach Meeting in Daytona, FL, January 27-February 1, 2008.
 Carter C.B., 'Kinetics and Stability of Interfaces' Chemistry and Thermodynamics of Grain Boundaries Session (in honor of Rowland Cannon). Invited Talk.
 Carter C.B., 'Ceramic Nanomaterials' 2nd International Symposium on Nanostructured Materials and Nanotechnologies: Development and Applications. Invited Talk.
- 07.8 Papers presented at the 2007 Fall Materials Research Society meeting in Boston
 Norton, M.G. and Carter, C.B., 2007, Fall MRS, Boston, MA, 'Incorporating Nanomaterials into a new ceramics textbook'.
- 07.7 Paper presented at the AIChE Ann. Meeting, Nov. 4 -9, 2007, Salt Palace Convention Center, Salt Lake City, Utah.
 Leschkies, K.S., Ramachandran, D., Basu, J., Enache-Pommer, E., Boercker, J.E., Carter, C.B., Kortshagen, U.R., Norris, D.J. and Aydil, E.S., 'Nanowire-Based Quantum-Dot-Sensitized Solar Cells'.
- 07.6 Paper presented at the 57th Canadian Chemical Engineering Conference (CSChE 2007) _October 28-31, 2007_. Shaw Convention Centre _Edmonton, AB, Canada.
 Carter C.B., 'TEM of Nanoparticles'. Invited Talk.
- 07.5 Paper presented at the 9th CIASEM meeting (9th InterAmerican Congress on Electron Microscopy) in Cuzco, Peru 23-28 Sept 2007.
 Carter C.B., 'Using Electron Microscopy in the Quest for Improved Energy Production and Storage'. Invited Talk.
- 07.4 Papers presented at the 2007 Microscopy Society of America Meeting in Fort Lauderdale, FL, 5-9 August 2007
 Deneen Nowak, J. and Carter, C.B., 2007, *Microsc. Microanal. M&M* 2007, 'The Effect of Morphology on Contacts Between Nanoparticles.'
 Deneen Nowak, J., Song, S., Campbell, S.A. Carter, C.B., 2007, *Microsc. Microanal. M&M* 2007, 'Characterization of Ytterbium Silicide Thin Films.'
 Divakar, R., Basu, J. and Carter, C.B., 2007, *Microsc. Microanal. M&M* 2007, 'Hydrothermal Synthesis of Cuboidal Nanocrystalline Ceria.'
 Divakar, R., Basu, J., Leschkies, K.S., Kortshagen, U.R., Aydil, E.S., Norris, D.J. and Carter C.B., 2007, *Microsc. Microanal. M&M* 2007, 'TEM Characterization of CdSe Quantum Dot Sensitized ZnO Nanowires.'
- 07.3 Papers presented at the 2007 International Symposium on the Reactivity of Solids Meeting in Minneapolis, MN 3-6 June 2007
 Basu, J., Ramachandran, D., Riesterer, J.L., Deneen Nowak, J., Winterstein J. and Carter, C.B., 'In Situ TEM Study of solid state reaction of ZnO nanorods on Sapphire'.
- 07.2 Papers presented at the 2007 Spring Materials Research Society Meeting in San Francisco April 2007
 Divakar, R., Basu, J. and Carter, C.B., 2007, Spring MRS, San Francisco, CA, 'In Situ TEM Study of Dewetting and Solid-State Reactions of Nanocrystalline Thin-Film Oxides on Sapphire'.

- Basu, J., Divakar, R., Ravishankar N. and Carter, C.B., 2007, Spring MRS, San Francisco, CA, 'In Situ Observation of Dewetting and Pattern Formation of Au and Ag Nanocrystalline Thin Films on Reconstructed c- and m-Planes of Sapphire'.
- Riesterer, J.L., Farrer, J.K., Ravishankar, N. and Carter, C.B., 2007, Spring MRS, San Francisco, CA, 'Characterizing Grain Boundary Migration and Grain Growth'.
- Riesterer, J.L., Gilliss, S.R., Ravishankar, N. and Carter, C.B., 2007, Spring MRS, San Francisco, CA, 'AFM Study of m-plane Al₂O₃ Surface Reconstruction'.
- 07.1 Papers presented at the 2007 Microscopy of Semiconducting Materials Meeting in Cambridge, UK
 Deneen Nowak, J and Carter, C.B., 2007, Microscopy of Semiconductor Materials XV, Cambridge, 1-5 April 2007 'Morphology of Semiconductor Nanoparticles.'
- Deneen Nowak, J., Song, S.H., Campbell, S.A. and Carter, C.B., 2007, Microscopy of Semiconductor Materials XV, Cambridge, April 2007 'TEM Study of Ytterbium Silicide Films.'
- Divakar, R., Basu, J. and Carter, C.B., 2007, Microscopy of Semiconductor Materials XV, Cambridge, April 2007 'TEM Characterization of ZnO Nanorods'
- 06.6 Invited Paper presented at the 2006 Brazilian Materials Research Society Meeting in Florianapolis, Brazil, October 2006
 Carter, C.B., 'Use of In Situ TEM to Study Nanomaterials' Brazilian MRS 2006 Florianapolis, Brazil, Oct. 2006
- 06.5 Paper presented at the 2006 IMC-16 Meeting in Sapporo, Japan, 3-8 Sept. 2006.
 Altay, A., Rulis, P., Ching, W.-Y., Arslan, I., Gulgun, M.A. and Carter, C.B., 2006, 'Structural Investigations of CA and CA₂ by Energy-Loss Near-Edge Spectrometry and ab initio Calculations' Proc.16th Int. Microsc. Congr., IMC16, edited by Hideki Ichinose and Takahisa Sasaki, Sapporo, Japan, 2006, p 837.
- Deneen, J., Mook, W.M., Minor, A.M., Gerberich, W.W. and Carter, C.B., 2006, 'Dynamic Studies in the TEM: in-situ Compression of Nanoparticles' Proc.16th Int. Microsc. Congr., IMC16, edited by Hideki Ichinose and Takahisa Sasaki, Sapporo, Japan, 2006, p 902.
- Basu, J., Deneen, J., Divakar, R., Hoffman, S., Colli, A., Franciosi, A. and Carter, C.B., 2006, 'Defects and Interfaces in ZnSe Nanowires' Proc.16th Int. Microsc. Congr., IMC16, edited by Hideki Ichinose and Takahisa Sasaki, Sapporo, Japan, 2006, p 1229.
- 06.4 Papers presented at the 2006 Materials Science & Technology Meeting in Cincinnati, OH
 Riesterer J.L. and Carter C.B., 2006 'Grain Boundary Migration and Grain Growth in AlAl₂O₃'
 Riesterer J.L., Ravishankar, N. and Carter C.B., 2006 'AFM Studies of SiO₂ Films on (001) TiO₂'
 Riesterer J.L., Marquis, E.M. and Carter C.B., 2006 'Atom-Probe Tomography of Induced Composition Variations in Cu Alloys'
 Deneen, J., Perrey, C.R. and Carter C.B., 2006 'Lattice Defects in Nanoparticles'
 Deneen, J., Mook, W.M., Gerberich, W.W. and Carter C.B., 2006 'Strain at Nanoparticle Contacts'
- 06.3 Papers presented at the 2006 Spring MRS Meeting in San Francisco
 Deneen, J., Mook, W.M., Minor, A.M., Gerberich W.W. and Carter C.B., 'Transmission Electron Microscopy Study of the Mechanical Behavior of Nanoscale Materials' submitted to Symposium Z: Mechanics of Nanoscale Materials and Devices
 Deneen, J., Basu, J., Ramachandran, D. and Carter, C.B., 'Nanowire Growth: A Transmission Electron Microscopy Study' submitted to Symposium P: Semiconductor Nanowires - Fabrication, Physical Properties, and Applications
 Anderson, C., Blackwell, C., Deneen, J., Carter, C.B., Kakalios, J. and Kortshagen, U., 'Dual-Chamber Plasma Co-Deposition of Nanoparticles in Amorphous Silicon Thin Films' submitted to Symposium A: Amorphous and Polycrystalline Thin-Film Silicon Science and Technology
 Blackwell, C., Anderson, C., Deneen, J., Carter, C.B., Kortshagen, U. and Kakalios, J., 'The Influence of Thermophoresis Effects During Deposition of Hydrogenated Amorphous Silicon Thin Films' submitted to Symposium A: Amorphous and Polycrystalline Thin-Film Silicon Science and Technology

- Campbell, S.A., Ding, Y., Dong, Y., Bapat, A., Deneen, J., Carter, C.B. and Kortshagen, U., 'A Single Nanoparticle Transistor' submitted to Symposium D: Transistor Scaling - Methods, Materials, and Modeling
- 06.2 Papers presented at the 2006 Spring APS Meeting in San Antonio
 Wu, J., Parker, J., Perrey, C., Carter, C.B., Lynn, J., Butler, P., Zheng, H., Mitchell, J. and Leighton, C., 2006, 'Intrinsic nanoscale electronic phase separation and simple percolation in $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$ '
 Bolon, B., Haugen, M.A., Abin-Fuentes, A., Deneen, J., Carter, C.B. and Leighton, C., 2006 'Using multiple antiferromagnet/ferromagnet interfaces as a probe of grain size dependent exchange bias in polycrystalline $\text{Co/Fe}_{50}\text{Mn}_{50}$ '
- 06.1 Papers presented at the 2006 Spring TMS Meeting in San Antonio
 Carter, C.B., Riesterer, J.L., Altay, A., Farrer, J.K. and Ravishankar, N., 2005, 'Thin Films in Ceramic Grain Boundaries' submitted to TMS Brandon Symposium March 12-16 2006, San Antonio, TX, USA
 Deneen, J., Mook, W.M., Minor, A.M., Gerberich, W.W., and Carter, C.B., 2006, 'Fracture at the Nanoscale: an In Situ Study' Presented in the Symposium in Honor of Gerberich's 70th Birthday
- 05.7 Paper presented at the 2005 XLth meeting of the Portuguese Society of Electron Microscopy and Cell Biology, 8-10 December 2005
 Carter, C.B. and Deneen, J., 2005, 'Transmission Electron Microscopy of Nanomaterials' XLth meeting of the Portuguese Society of Electron Microscopy and Cell Biology, 8-10 December 2005. (Invited)
- 05.6 Papers presented at the 2005 Fall Materials Research Society meeting in Boston
 Carter, C.B., Gilliss, S.R. and Riesterer, J.L., 2005, 'Glass in Crystalline Ceramics' MRS Fall meeting, Boston Symposium:KK: Solid-Solid Interfaces from Observation to Modeling ID:177930. Invited
 Altay, A., Gulgun, M.A. and Carter, C.B., 2005, 'Crystallization of Calcium Aluminate Phases: Bulk vs. Interface' MRS Fall Meeting, Boston, MA, November 2005
- 05.5 Papers presented at the AVS 52nd International Symposium, October 30-November 4, 2005, Boston MA
 Bartelt, N.C., Ling, W.L., McCarty, K.F. and Carter, C.B., 2005, 'Twin Boundaries can be Moved by Step Edges During Film Growth'. TF+EM-WeM3
 McCarty, K.F., Bartelt, N.C., Pierce, J.P. and Carter, C.B., 2005, 'Thermodynamic Stability of Alumina Films on $\text{NiAl}(110)$ and the Dynamics of their Extended Defects'. SS2-MoM3
 Leighton, C., Lynn, J., Glinka, C., Zheng, H., Mitchell, J., Moulton, W., Hoch, M., Kuhns, P., Reyes, A., Perrey, C., Carter, C.B., 2005 'Doped Cobaltites: Phase Separation, Intergranular GMR and Glassy Transport Phenomena' MI-ThA1 Invited
- 05.4 Paper presented at NANO2005, Integrated Nanosystems: Design, Synthesis and Applications, September 15-16, 2005, Berkeley, CA
 Ding, Y., Dong, Y., Bapat, A., Perrey, C.R., Carter, C.B., Campbell, S.A. and Kortshagen, U., 2005, 'Single Crystal Silicon Nanoparticle-Based Transistor'
- 05.3 Paper presented at the EuroConference on Interfaces on Nanostructured Materials, June 2005, Kloster Irsee, Germany
 Altay, A., Gulgun, M.A. and Carter, C.B., 2005, 'Interfacial Reactions of CaAl_4O_7 and $\text{CaAl}_{12}\text{O}_{19}$ '
- 05.2 Papers presented at the Spring meeting APS, April 16-19, 2005 Tampa, FL
 Leighton, C., Wu, J., Lynn, J., Glinka, C., Burley, J., Zheng, H., Mitchell, J., Moulton, W., Hoch, M., Kuhns, P., Reyes, A., Perrey, C.R., Munoz, N.E., Thompson, R. and Carter, C.B., 'Doped Cobaltites: Phase Separation, Intergranular Giant Magnetoresistance, and Glassy Transport Phenomena'
- 05.1 Paper presented at the 107th Annual meeting ACerS, April 10-13, 2005 Baltimore, MD
 Altay, A., Deb, B. Gilliss, S. R. and Carter, C.B. 2004, 'Selective Dissolution of Surfaces in Alpha-Alumina'.
- 04.4 Papers presented at the IGERT-SFB poster show, June 24-25, 2004 in Duisburg, Germany

- Thompson, S.S., Perrey, C.R., Deneen, J.M., Carter, C.B. and Kortshagen, U.R., 'Plasma-Synthesis of Mixed-Phase Si Films: Nanocrystalline Si Inclusions in an Amorphous Si Matrix'
- 04.3 Papers presented at the 106th Annual meeting ACerS, April 18-21, 2004 Indianapolis, IN
 Altay, A., Gülgün, M.A. and Carter, C.B., 'Thin-Film Reactions of CaAl₄O₇ and CaAl₁₂O₁₉ with (-Al₂O₃)'
- Altay, A., Deb, B., Gilliss, S.R., and Carter, C.B., 'Selective Dissolution of Surfaces in (-Alumina)
- 04.2 Papers presented at the 2004 Spring Materials Research Society meeting April 12-16, 2004 in San Francisco
 Shetty, S., Shenoy, V.B, Carter, C, B and Ravishankar, N., 2004, 'Nanopatterning on Reconstructed Ceramic Surfaces' Symp N
 Riesterer, J.L., Gilliss, S.R. Ravishankar, N. and Carter, C.B., 2004, 'Boundary Migration in Alumina Bicrystals' Symp N
 Perrey, C.R. Thompson, S.,S. Lentzen, M., Kortshagen, U. and Carter, C.B., 2004, 'Understanding the Structure of Si Nanoclusters in a/nc-Si:H Films using Spherical Aberration-Corrected Transmission Electron Microscopy'. Symp A
 Perrey, C.R. Deneen, J.M. and Carter, C.B., 2004, 'The Effects of Processing on the Morphology of Nanoparticles'. Symp M
 Bapat, A., Perrey, C.R. Kortshagen, U., Carter, C.B., and Campbell, S.A. 2004, 'Silicon Nanoparticle Synthesis using Constricted Mode Capacitive Silane Plasma'.
 Gilliss, S.R., Ravishankar, N. and Carter, C.B., 2004, 'Dewetting on the Surface of Rutile' Symp. N: Interfacial Engineering for Optimized Properties III
 Gilliss, S.R., Bentley, J. and Carter, C.B., 2004, 'Nanochemistry of Ceria Abrasive Particles' Symp. M: Nanoparticles and Nanowire Building Blocks-Synthesis, Processing, Characterization, and Theory
 Deb, B., Altay, A., Gilliss, S. R. and Carter, C.B., 2004 'A Systematic Study of Monitoring the Changes on the Surfaces and Interfaces in (-Alumina after Chemical and Thermal Treatments' Symp.
- 04.1 Papers presented at ULIS 2004 (Ultimate Integration of Silicon), March 11-12, 2004 Leuven, Belgium
 Dong, Y., Bapat, A., Shen, Z., Perrey, C. R., Carter, C. B., Kortshagen, U. and Campbell, S. A 'Single Crystal Nanoparticles for 3D Integrated Systems'
- 03.11 Papers presented at the 2003 Fall Materials Research Society meeting in Boston
 Mook, W.M., Deneen, J.M., Perrey, C.R., Carter, C.B., Gerberich, W.W., 2003, MRS Fall 03 Symp A, 'Characterizing the Mechanical Response of Silicon Nanostructures'.
- 03.10 Papers presented at the 56th Ann. Gaseous Electronics Conf., San Francisco Oct. 21-24 2003
 Wang, X., Hafiz, J., Mukherjee, R., Gidwani, A., Renault, T., Heberlein, J., McMurry, P., Girshick, S., Perrey, C., Mook, W., Carter, C.B. and Gerberich, W.W., 'Nanoparticle Film Deposition Using a Hypersonically Expanded Plasma,'
- 03.9 Papers presented at the 204th Meeting of the Electrochemical Society, Orlando, Florida, Oct. 12-17 2003
 Carter, C.B., 'Interfaces in Oxides' Symp. L1
 Carter, C.B., 'TEM Studies of Interfaces in III-V Compounds' Symp. H1
- 03.8 Papers presented at the 16th International Symposium on Plasma Chemistry, Taormina, Italy. June 22-29, 2003
 Hafiz, J., Wang, X., Mukherjee, R., Gidwani, A., Renault, T., Perrey, C.R., Mook, W., McMurry, P., Heberlein, J., Carter, C.B., Gerberich, W.W. and Girshick, S., 'Thermal Plasma Synthesis and Characterization of Si/Ti/N Nanoparticle Films'.
 Bapat, A., Kortshagen, U., Campbell, S., Perrey, C.R. and Carter, C.B., 'Low-Temperature Plasma Synthesis of Single-Crystal Silicon Nanoparticles'.
 Kortshagen, U., Bapat, A., Perrey, C.R., Carter, C.B., Dong, Y. and Campbell, S., 'Low-Pressure Plasma Synthesis of Crystalline Silicon Nanoparticles for Novel Electronic Devices'.

- Thompson, S., Perrey, C.R., Belich, T.J., Kortshagen, U., Carter, C.B., and Kakalios, J., 'Hydrogenated Silicon Thin Films with Nanocrystalline Inclusions Deposited in Low-Pressure SiH₄:He:H₂-Plasmas'.
- 03.7 Papers presented at the 2003 conference of the American Association for Aerosol Research (AAAR)
Wang, X., Renault, T., Perrey, C.R., Mukherjee, R., Hafiz, J., Gidwani, A., Carter, C.B., Heberlein, J., Girshick, S. and McMurry, P.H., 'In-situ Nanoparticle Diagnostics in a Thermal Plasma Process'.
- 03.6 Invited paper presented at the 2003 Spring Scanning meeting in San Diego
Gilliss, S.R. Ravishankar, and Carter, C.B., 'Analysis Of Thin Ceramic Films.'
- 03.5 Invited paper presented at the 2003 IUMRS meeting in Singapore (meeting cancelled: SARS)
Gilliss, S.R. Ravishankar, and Carter, C.B., 'Interfaces between glasses and Crystalline Oxides.'
- 03.4 Papers presented at the 2003 NanoFIB meeting in Cambridge UK. April 4, 2003.
Perrey, C.R., Carter, C.B., Michael, J., Kotula, P., Stach, E. and Radmilovic, V., 'Using the FIB to characterize nanoparticle materials.'
- 03.3 Invited papers presented at the 2003 Spring TMS meeting in San Diego: The Terry Mitchell Symp.
Perrey, C.R. and Carter, C.B., 'Nanoparticles and Nanofilms.' TMS Mitchell Symposium
- 03.2 Papers presented at the 2003 Spring Materials Research Society meeting in San Francisco
Thompson, S, Belich, T.J., Perrey, C.R, Kortshagen, U., Carter, C.B. and Kakalios, J., 'Experimental Studies of Medium Range Order in Nanostructured Hydrogenated Silicon Thin Films.'
- 03.1 Papers presented at the 2003 Annual meeting ACerS, Nashville TN
Gilliss, S.R. and Carter, C.B., Characterization of Grain Boundary Migration in the Presence of a Glassy Phase for Ceramic Bicrystals
Carter, C.B., The Past and the Future of Ceramic Interface Studies (Invited)
Carter, C.B., Structures and Interfaces: Characterization of Interface Structure and Properties (Invited)
Munoz, N., Gilliss, S.R. and Carter, C.B., Analysis of the Geometry and Evolution of Surface Grooves at Migrating Boundaries in Alumina
Perrey, C.R. and Carter, C.B., Analysis of Nanoparticle Structure and Surfaces
- 02.3 Papers presented at the 2002 Fall Materials Research Society meeting in Boston
Perrey, C.R., Mook, W.M., Carter, C.B. and Gerberich, W.W. 'Characterization of Mechanical Deformation of Nanoscale Volumes'
Perrey, C.R., Thompson, R., Carter, C.B., Gidwani, A., Mukherjee, R., Renault, T., McMurry, P.H., Heberlein, J.V.R. and Girshick, S.L., 'Characterization of nanoparticle films and structures produced by hypersonic plasma particle deposition'
Bapat, A., Kortshagen, U., Campbell, S.A., Perrey, C.R. and Carter, C.B., 'Synthesis of Crystalline Silicon Nanoparticles in Low-Pressure Inductive Plasmas'
- 02.2 Papers presented at the 55th Ann. Gaseous Electronics Conf, Minneapolis, MN Oct. 2002
Gidwani, A., Girshick, S., Heberlein, J., McMurry, P., Gerberich, W.W., Carter, C.B., Nelson, B., Mukherjee, R., Renault, T., Mook, W., Perrey, C.R. and Wang, T., 2002, Bull. Am. Phys. Soc., 47(7), 60, 'Hypersonic Plasma Particle Deposition of Nanostructured Films and Patterns'.
- 02.1 Papers presented at the 2002 Annual meeting ACerS, St Louis, MO
Munoz, N., Gilliss, S.R., Ravishankar, N. and Carter, C.B., 'Investigation of Grain Boundary Grooving using AFM' (2002 Best Undergraduate Poster Award)
Perrey, C.R., Carter, C.B., Kotula, P.G. and Michael J.R., 'TEM Investigation of Nanoparticles'
Perrey, C.R., Ravishankar, N. and Carter, C.B., 'TEM Study of Grain Boundary Migration in Ceramic Bicrystals'
Gilliss, S.R. Ravishankar, N. and Carter, C.B, 'Dewetting on Ceramic Surfaces' (2002 Snow Award)
- 01.3 Papers presented at the 2001 Fall Materials Research Society meeting in Boston
Ravishankar, N. and Carter, C.B., 2001, Symp. P5.29 'Motion of Sapphire Surface Steps'
Ravishankar, N., Gilliss, S.R. and Carter, C.B., 'Dewetting of Liquids on Reconstructed Ceramic Surfaces'

- Perrey, C.R., Ravishankar, N. and Carter, C.B., 'TEM Study of Grain Boundary Migration in Ceramic Bicrystals'
- Perrey, C.R., Gilliss, S.R. and Carter, C.B., 'TEM Investigation of Nanoparticles'
- Munoz, N., Gilliss, S.R., Ravishankar, N. and Carter, C.B., 'Grooving at Migrating Grain Boundaries in Alumina'
- 01.2 Papers presented at the 2001 Spring Materials Research Society meeting in San Francisco
 Farrer, J.K., Ravishankar, N., Michael, J.R. and Carter, C.B., Symp. FF, 'Study of Interface Migration in Ceramic Materials by EBSD'
- 01.1 Papers presented at the 2001 Annual meeting ACerS, Indianapolis
 Farrer, J.K., Ravishankar, N., Michael, J. R. and Carter, C.B., 'The Study of Solid State Reactions using EBSD'
 Farrer, J.K., Ravishankar, N., Michael, J. R. and Carter, C.B., 'Study of Interface Migration by EBSD'
 Gilliss, S.R., Carter, C.B. and Schwabel, M.G., 'Cerium Oxide Thin Films on Fused Silica Glass'
- 00.3 Papers presented at the 2000 Fall Materials Research Society meeting in Boston
 Blanford, C. F., Yan, H., Schroden, R. C, Al-Daous, M., Stein, A. and Carter, C.B., 'Grain Growth in Three-Dimensionally Ordered Macroporous (3DOM) Materials as Observed in the TEM.'
- 00.2 Papers presented at the 2000 Annual meeting ACerS, St Louis
 Carter, C.B. and Ravishankar, N., 'Mechanism of Glass-Crystal Boundary Migration in Ceramics'. (Invited)
- 00.1 Papers presented at the 2000 Spring Materials Research Society meeting in San Francisco
 Yanina, S.V. and Carter, C.B., Symp. M., 'Interaction of Moving Steps and Crystal Defects on Spinel Surfaces'.
 Ravishankar, N. and Carter, C.B., Symp. M2.8. 'Crystal-Liquid Boundaries in Liquid-Phase Sintered Ceramics'
- 99.2 Papers presented at 1999 Fall Meeting ACerS, Pacific Coast Regional Meeting Washington State
 Yanina, S.V. and Carter, C.B., 'Evaporation from Dislocation Sites on Spinel Surfaces'.
 Carter, C.B. and Ravishankar, N., 'Some Fundamental Aspects of Liquid-Phase Sintering' (invited).
- 99.1 Papers presented at the 1999 Annual ACerS, Indianapolis
 Carter, C.B. 1999 'Ceramic Surfaces', Spring Meeting, American Ceramic Society, 27 April, 1999
- 98.4 Papers presented at the 1998 Fall Materials Research Society meeting in Boston (unpublished)
 Cohen, D., Medlin, D.L. and Carter, C.B., 1999, Mater. Res. Soc. Symp. Proc. C (Fall '98 meeting, Boston, Surface and Interface Structure and Dynamics) 'Internal Interfaces in Compound Semiconductor Thin Films'
 Johnson, M. T. and Carter, C. B., 1999, Mater. Res. Soc. Symp. Proc. 547, (Fall '98 meeting, Boston, Solid-State Chemistry of Inorganic Materials II) 'The Effect of an Electric Field on Oxide Solid-State Reactions'
- 98.3 Papers presented at 1998 Fall Meeting ACerS, Irvine
 Carter, C.B., Yanina, S.V. and Heffelfinger, J.R., 1999 (Pacific Coast Regional Meeting ACerS, Oct 21-24, 1998) 'Faceting of Oxide Surfaces and its Influence on Thin Oxide Films'
- 98.2 Papers presented at the 1998 Annual ACerS, Cincinnati
 Kotula, P.G. and Carter, C.B., 1998 (100th Annual Meeting & Exposition, Cincinnati, May 3-6, 1998) 'Interfacial-Reaction Control of the Kinetics of Spinel Formation'
 Carter, C.B. and Yanina, S.V., 1998 (100th Annual Meeting & Exposition, Cincinnati, May 3-6, 1998) 'Surfaces of Spinels' (invited paper).
- 98.1 Papers presented at the 1998 Spring Materials Research Society meeting in San Francisco (unpublished)
 Cohen, D., Farrer, J., Tanaka, M., Palmstrøm, C.J., and Carter, C.B., 1998 Mater. Res. Soc. Symp. Proc. (Spring '98 meeting). 'Characterization of the Mn Surfactant Assisted Growth of GaAs on ErAs/GaAs'
- 97.4 Paper presented at the 1997 Fall Materials Research Society meeting in Boston (unpublished)

- Kotula, P.G. and Carter, C.B., 1998, Mater. Res. Soc. Symp. Proc. (Fall '97 meeting; Phase Transformations and Systems Driven Far from Equilibrium). 'Interfacial-Reaction Control of Kinetics in Oxides.'
- Carter, C.B. and Heffelfinger, J.R., 1998, Mater. Res. Soc. Symp. Proc. (Fall '97 meeting; Evolution of Surface Morphology and Thin-Film Microstructure). 'Faceting of Oxide Surfaces and Thin-Film Growth.'
- 97.3 Papers presented at the 1997 Fall meeting of TMS, David A. Smith Symposium, Indianapolis, IN
M.T. Johnson, P.G. Kotula and C.B. Carter, 'The Effect of Interfaces in Solid-State Reaction Between Oxide.'
- 97.2 Papers presented at the 1997 Annual Meeting of the American Ceramic Society in Cincinnati
Zagrebelny, A.V. and Carter, C.B., 1997, (SXVI-035-97), (Bull. Am. Ceram. Soc. 76, 238, 'Effect Of Silicate Glass Composition On The Mechanical Properties Of Alumina-Silicate Glass Interfaces.'
- Johnson, M.T., Heffelfinger, J.R. and Carter, C.B., 1997, (BP-013-97), (Bull. Am. Ceram. Soc. 76, 248, 'Surface Structure Effects on Oxide Thin Films.'
- Blanford, C., Carter, C.B. and Stein, A., 1997, (SXXI-004-97), (Bull. Am. Ceram. Soc. 76, 246, 'Comparative Study of MCM-41 by TEM and EDS.'
- 97.1 Papers presented at the 1997 Spring Materials Research Society meeting in San Francisco (unpublished)
Heffelfinger, J.R., Johnson, M.T. and Carter, C.B., 'The Effect of Surface Structure on the Initial Stages of Thin-Film Growth.' (Paper L11.8, 2 Apr. 97)
- 96.7 Papers presented at the 1996 Fall Materials Research Society meeting in Boston (unpublished)
Kotula, P.G., Johnson, M.T., and Carter, C.B., 'Nickel Ferrite Thin-Films Formed by Solid-State Reaction.' Session: Thin Films and Surfaces: Structure and Morphology.
Johnson, M.T., Strojny, A., Gerberich, W.W. and Carter, C.B., 'Mechanical Properties in the System Fe₂O₃/MgFe₂O₄/MgO.' Session: Interfacial Engineering for Optimized Properties.
Carter, C.B., 'Interfacial Engineering: An Overview.' Session: Interfacial Engineers for Optimized Properties.
Heffelfinger, J.R. and Carter, C.B., 'Faceting and Thin Film Growth on Ceramic Surfaces.'
- 96.6 Papers presented at the 1996 Spring Materials Research Society Symposium in San Francisco
Lilleodden, E.T., Zagrebelny, A.V., Ramamurthy, S. and Carter, C.B., 'Probing Silicate/Sapphire Interfaces using AFM and Nanoindentation.'
- 96.5 Presented at the Reactivity of Solids Meeting, Hamburg, Germany, September 8-12, 1996
Johnson, M.T., Schmalzried, H. and Carter, C.B., 'Heterogeneous Solid-State Reactions Between MgO (001) and Iron Oxide.'
- Johnson, M.T., Kotula, P.G. and Carter, C.B., 'Solid-State Reactions in Oxide Thin-Films.'
- 96.4 Papers presented at the 1996 EUREM '96, XI European Congress on Microscopy, Dublin, Ireland 26-30 August 1996
Johnson, M.T., Heffelfinger, J.R., Kotula, P.G. and Carter, C.B., 'Fundamental Processes in Thin-Film Reactions.'
- 96.3 Papers presented at the 1996 Conference on Composites, Advanced Ceramics, Materials and Structures (Cocoa Beach; American Ceramic Society)
Heffelfinger, J.R., Carter, C.B. and Kieschke, R.R., (C-69-96F) (Bull. Am. Ceram. Soc. 74(10), 111), 'A Study of Y₂O₃ Coatings used in Metal-Matrix Composites.'
- 96.2 Papers presented at the 1996 Annual Meeting of the American Ceramic Society in Indianapolis
Carter, C.B., Heffelfinger, J.R., Johnson, M.T., Kotula, P.G. and Ramamurthy, S., (Invited) 'Field-Emission SEM and its Ceramic Applications.' Advanced Electron, Photon and Ion Beam Characterization Techniques Symposium: Electron Beam Techniques I. Advanced Electron, Photon and Ion Beam Techniques for Ceramic Characterization Symposium.

- Zagrebelny, A.V., Ramamurthy, S., Lilleodden, E.T., Nelson, J.C. and Carter, C.B., 'Probing Interfaces between Glass and Alumina by Contact-Mechanics Techniques.' Ceramic Joining Symposium
- Johnson, M.T., Schmalzried, H. and Carter, C.B., 'Electric Field Effects In Ceramic Thin-Film Reactions.' Basic Science Division: General Session Topics
- Heffelfinger, J.R. and Carter, C.B., 'Ceramic Surfaces as Revealed by AFM.' Advanced Electron, Photon and Ion Beam Characterization Techniques Symposium
- Kotula, P.G., Carter, C.B. and Schmalzried, H., 'The Kinetics of Reactions between Thin Films of NiO and γ -Al₂O₃.' Basic Science Division Session: General Session, Diffusion and Kinetics
- Kotula, P.G., Carter, C.B. and Schmalzried, H., 'The Microstructure and Orientation Relationships of NiO/NiAl₂O₄/Al₂O₃ Thin-Film Reaction Couples.' Basic Science Division Session: General Session, Interfacial Characterization and Phenomena
- Ramamurthy, S., Zagrebelny, A.V., Hebert, B.C. and Carter, C.B., 'Interfaces between Silicates and Single-Crystals of γ -Al₂O₃ And MgO.' Session: Structure, Chemistry, Characterization: Symposium: Interfaces
- Johnson, M.T., Bentley, J. and Carter, C.B., 'In-Situ Annealing of MgO.' Advanced Electron, Photon And Ion Beam Characterization Techniques Symposium: Electron Beam Techniques I
- 96.1 Paper presented at the 1996 TMS Annual Meeting in Anaheim, CA
- Carter, C.B., Hwang, R.Q. and Hamilton, J.C., 1996 (5 Feb.) (Invited) EMPMD: Structure and Morphology of Epitaxial Thin Films, 'The Structure of Close-Packed Surfaces.'
- Kieschke, R.R., Heffelfinger, J.R. and Carter, C.B., 1996 (5 Feb.) (Invited) 'Performance of Barrier Coatings for Al₂O₃ Fibers in Titanium Alloys.'
- 95.3 Paper presented at the 1995 Pacific Coast Regional Meeting of the American Ceramic Society
- Carter, C.B., (Invited) 'Interface Structure and Reactions in Ceramic-Based Materials.' Part of a series of invited lectures.
- 95.2 Papers presented at the 1995 Fall Meeting of the Materials Research Society
- Heffelfinger, J. R., Kotula, P. G. and Carter, C.B., 1995, MRS 1995 Fall Meeting, Boston 'Ceramic Thin-Film Reactions.'
- Johnson, M.T., Kotula, P. G. and Carter, C.B., 1995, MRS 1995 Fall Meeting, Boston 'Solid-State Reactions with Spinel Forming Oxides.'
- Zagrebelny, A.V., Ramamurthy, S. and Carter, C.B., 1995, MRS 1995 Fall Meeting, Boston 'Study on Infiltration of Calcium-Alumino-Silicate Glass in Polycrystalline Alumina Ceramics.'
- Bentley, J., Johnson, M.T. and Carter, C.B., 'In-situ annealing of MgO', Paper presented at the 1995 Fall Meeting of the Materials Research Society, Boston, MA, November 27-December 1
- 95.1 Papers presented at the 1995 Annual Meeting of the American Ceramic Society
- Ramamurthy, S. and Carter, C.B., 'Epitaxial Crystallization Of Forsterite On MgO Substrates.' Interfaces Symposium. Session Topic: Structure, Chemistry and Characterization.
- Kotula, P. G. and Carter, C.B., 'Thin-Film Reactions Between NiO And γ -Al₂O₃, Substrates.' Interfaces Symposium. Session Topic: Structure, Chemistry and Characterization.
- Kotula, P. G. and Carter, C.B., 'Transforming Transition Aluminas.' Substrates. Interfaces Symposium. Session Topic: Structure, Chemistry and Characterization.
- Mallamaci, M. P., Ramamurthy, S. Zagrebelny, A.V., Zimmerman, C.M., Sartain K. and Carter, C.B., 'Glass Layers and Grain Boundaries.' Substrates. Interfaces Symposium. Session Topic: Structure, Chemistry and Characterization.