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Education:

Georgia Institute of Technology Ph.D. Chemistry 2001
Appalachian State University B.S. Chemistry 1997

Professional Experience:

2015-present Senior Scientist, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
2015-present Outreach Coordinator, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
2013–2015 Industrial Liaison, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
2013–2016 Task Leader, Center for Nanophase Materials Sciences, Oak Ridge National
2011–2013 Group Leader, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
2008–2010 Congressional Science Fellow, Office of U.S. Senator Lamar Alexander
2006–2011 Research Staff Member, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory
2003–2007 Research Associate, Chemical Sciences Division, Oak Ridge National Laboratory
2001–2003 Wigner Fellow, Chemical Sciences Division, Oak Ridge National Laboratory

Professional Activities, Honors, and Awards

Chairman, Institutional Review Committee for Materials Innovation (Laboratory Directed Research), 2018-present
CNMS Division Award for Outstanding Scientific or Technical Contribution, 2017
Active Editorial Board Member, Scientific Reports, 2016-present
Panelist, Mission Innovation Workshop for Carbon Capture, Utilization and Storage, Houston TX 2017
Chairman, Oak Ridge National Laboratory Research Conflict of Interest Committee, 2012-present
ORNL Significant Event Award for Building 4100 incident investigation, 2014
Oak Ridge National Laboratory Management Boot Camp, 2010
Department of Energy, Office of Science Outstanding Mentor Award, 2007
R&D 100 Award “NanoFermentation,” 2006
Micro/Nano 25 “NanoFermentation, 2006
Oak Ridge National Laboratory Seed Committee, 2004–2006
Active in scientific outreach to K-12 students, college students, high school teachers, 2005–present
Sigma Xi Best Ph.D. Thesis, 2001

Professional Memberships:

American Chemical Society
American Association for the Advancement of Science

Ph.D. Advisor: Z. John Zhang, Georgia Institute of Technology

Postgraduate Scholars Advised:
Andrew Lepore, University of Tennessee-Knoxville
Yang Song, UC Santa Barbara
Vighter Iberi, University of Tennessee-Knoxville
Leah Sheridan, University of Georgia
S. Brown, University of Tennessee
B. Kesanli, University of Maryland
J. Woodward, University of Florida
L. Yang, University of Cincinnati-Ohio

Graduate Students Advised:
Matt Mulvehill (Columbia U.)
Hao Gong (Columbia U.)
Shikha Patel (UT-Chattanooga)
Suraj Khanal (Florida Atlantic University)
Kristian Myhre (UT-Knoxville)

Book Chapters
1. C. Wei *et al.*, in *Organic Solar Cells*. (CRC Press, 2015), pp. 247-280.
2. A. J. Rondinone, Z. J. Zhang, in *Nanophase and Nanostructured Materials*, Z. L. Wang, Y. Liu, Z. Zhang, Eds. (Tsinghua University Press and Springer-Verlag, 2003), vol. 2.
3. S. Brown, S. Dai, A. J. Rondinone, in *Antiterrorism and Homeland Defense: Polymers and Materials*, J. G. Reynolds, G. E. Lawson, C. J. Koester, Eds. (American Chemical Society and Oxford University Press, 2008).

Patents (9 issued, 4 pending)
1. Moon, J.-W.; Jung, H.; Phelps, T. J. Duty, C. E.; Ivanov, I. N.; Joshi, P.C.; Jellison,G. E.; Armstrong, B.L.; Smith, S.C.; Rondinone, A.J.; Love, L.J. Controllable reductive method for synthesizing metal-containing particles. 9,909,221, 2018.
2. Rondinone, A. J.; Ivanov, I. N.; Smith, S. C.; Liang, C.; Hensley, D. K.; Moon, J.-W.; Phelps, T. J. Electrochemical method for synthesizing metal-containing particles and other objects. 9,637,828, 2017.
3. Phelps, T. J.; Lauf, R. J.; Moon, J.-W.; Rondinone, A. J.; Love, L. J.; Duty, C. E.; Madden, A. S.; Li, Y.; Ivanov, I. N.; Rawn, C. J. Microbially-mediated method for synthesis of non-oxide semiconductor nanoparticles. 9,768,333, 2017.
4. Liang, C.; Rangasamy, E.; Dudney, N. J.; Keum, J. K.; Rondinone, A. J. High conducting oxide—sulfide composite lithium superionic conductor. 9,548,512, 2017.
5. Rondinone, A. J.; Moon, J. W.; Love, L. J.; Yeary, L. W.; Phelps, T. J. Microbial-mediated method for metal oxide nanoparticle formation. 9,127,295, 2015.

6. Rondinone, A. J.; Moon, J. W.; Love, L. J.; Yeary, L. W.; Phelps, T. J. Microbial-mediated method for metal oxide nanoparticle formation. 8,759,053, 2014.
7. Liang, C.; Liu, Z.; Fu, W.; Lin, Z.; Dudney, N. J.; Howe, J. Y.; Rondinone, A. J. Lithium sulfide compositions for battery electrolyte and battery electrode coatings. 8,871,391, 2014.
8. Liang, C.; Liu, Z.; Fu, W.; Lin, Z.; Dudney, N. J.; Howe, J. Y.; Rondinone, A. J. Lithium sulfide compositions for battery electrolyte and battery electrode coatings. 8,597,838, 2013.
9. Brown, S. S.; Dai, S.; Rondinone, A. J.; Stephan, A. C.; Wallace, S. A. Composite scintillators for detection of ionizing radiation. 7,857,993, 2010.

Recent Invited Lectures

1. Jackson State University, Department of Chemistry "Electrochemical Synthesis of Low Carbon Fuels and Fertilizers" February 1, 2019
2. National Fertilizer Development Center "Electrochemical Ammonia" February 9, 2018
3. Duke University, Department of Mechanical Engineering and Materials Science "Nanotechnology-Based Catalysts for the Electrochemical Synthesis of Low Carbon Fuels and Fertilizers" November 15, 2017
4. Georgia Institute of Technology, Department of Mechanical Engineering "Nanotechnology-Based Catalysts for the Electrochemical Synthesis of Low Carbon Fuels and Fertilizers" November 7, 2017
5. University of Iowa, Department of Chemistry "Nanotechnology-Based Catalysts for the Electrochemical Synthesis of Low Carbon Fuels and Fertilizers" August 30, 2017
6. University of Iowa, Tippie School of Business, "Nanotechnology-Based Catalysts for the Electrochemical Synthesis of Low Carbon Fuel" August 30, 2017
7. 3M Corporation, "Nanotechnology-Based Catalysts for the Electrochemical Synthesis of Low Carbon Fuels and Fertilizers" July 27, 2017
8. Friends of ORNL "Nanotechnology-Based Catalysts for the Electrochemical Synthesis of Low Carbon Fuel" May 9, 2017
9. University of Tennessee Science Forum "Carbon Dioxide into Ethanol: Waste-to-Fuel Technology" March 31, 2017
10. 8th Annual Carbon Utilization Conference San Antonio "Nanotechnology-Based Catalysts for the Electrochemical Synthesis of Low Carbon Fuel" Feb. 22, 2017
11. Georgia Institute of Technology, "Where are we headed: Technology, Economics, and Policy" Energy Expo 2017, Feb. 10, 2017
12. Oklahoma University, Department of Chemical Engineering "Nanotechnology-Based Catalysts for the Electrochemical Synthesis of Low Carbon Fuel" Jan. 26, 2017
13. Oklahoma University, School of Dentistry, "Nanotechnology Research for Biological Applications at the Department of Energy" Jan 25, 2017
14. U.S. Department of Energy, "Nanotechnology-Based Catalysts for the Electrochemical Synthesis of Low Carbon Fuels and Fertilizers" Nov. 22, 2016

Peer-Reviewed Publications: (Total ~95 published and in press; Google Scholar H-index = 37)

1. Zhang, F.; Yu, Z.; Rondinone, A. J.; Huang, J.; Sumpter, B. G.; Qiao, R., "Adsorption of Molecular Nitrogen in Electrical Double Layers near Planar and Atomically Sharp Electrodes" *Langmuir, 34* **48**, 14552-14561 (2018).
2. Song, Y.; Johnson, D.; Peng, R.; Hensley, D. K.; Bonnesen, P. V.; Liang, L.; Huang, J.; Yang, F.; Zhang, F.; Qiao, R.; Baddorf, A. P.; Tschaplinski, T. J.; Engle, N. L.; Hatzell, M. C.; Wu, Z.; Cullen, D. A.; Meyer, H. M.; Sumpter, B. G.; Rondinone, A. J., "A physical catalyst for the electrolysis of nitrogen to ammonia" *Science Advances, 4* **4**, (2018).
3. Rondinone, A. J.; Huang, J., "Geometry aids green carbon electrochemistry" *Nature Catalysis*, **1**, (2018).
4. Rodriguez, E. T.; Anovitz, L. M.; Clement, C. D.; Rondinone, A. J.; Cheshire, M. C., "Facile emulsion mediated synthesis of phase-pure diopside nanoparticles" *Scientific reports, 8* **1**, 3099 (2018).
5. Ma, B.; Balachandran, U.; Wang, J.; Wen, J.; Lee, T. H.; Dorris, S. E.; Rondinone, A. J., "Structural hierarchy of nanocarbon in copper covetics" *Applied Physics Letters, 113* **17**, 173102 (2018).
6. Esteban Florez, F. L.; Hiers, R. D.; Larson, P.; Johnson, M.; O'Rear, E.; Rondinone, A. J.; Khajotia, S. S., "Antibacterial dental adhesive resins containing nitrogen-doped titanium dioxide nanoparticles" *Materials Science and Engineering: C, 93*, 931-943 (2018).
7. Wagle, D. V.; Rondinone, A. J.; Woodward, J. D.; Baker, G. A., "Polyol Synthesis of Magnetite Nanocrystals in a Thermostable Ionic Liquid" *Crystal Growth & Design, 17* **4**, 1558-1567 (2017).
8. Jung, H.; Phelps, T. J.; Rondinone, A. J.; Jellison, G. E.; Duty, C. E.; Han, K. S.; Moon, J.-W., "One-Pot Process in Scalable Bath for Water-Dispersed ZnS Nanocrystals with the Tailored Size" *Journal of Nanoscience and Nanotechnology, 17* **5**, 2943-2950 (2017).
9. Dathar, G. K. P.; Balachandran, J.; Kent, P. R.; Rondinone, A. J.; Ganesh, P., "Li-ion site disorder driven superionic conductivity in solid electrolytes: a first-principles investigation of β-Li 3 PS 4" *Journal of Materials Chemistry A, 5* **3**, 1153-1159 (2017).
10. Anovitz, L. M.; Rondinone, A. J.; Sochalski-Kolbus, L.; Rosenqvist, J.; Cheshire, M. C., "Nano-scale synthesis of the complex silicate minerals forsterite and enstatite" *J. Colloid Interface Sci., 495*, 94-101 (2017).
11. Yoon, K.; Rahnamoun, A.; Swett, J. L.; Iberi, V.; Cullen, D. A.; Vlassiouk, I. V.; Belianinov, A.; Jesse, S.; Sang, X.; Ovchinnikova, O. S.; Rondinone, A. J.; Unocic, R. R.; van Duin, A. C. T., "Atomistic-Scale Simulations of Defect Formation in Graphene under Noble Gas Ion Irradiation" *ACS Nano, 10* **9**, 8376-8384 (2016).
12. Stanford, M. G.; Pudasaini, P. R.; Belianinov, A.; Cross, N.; Noh, J. H.; Koehler, M. R.; Mandrus, D. G.; Duscher, G.; Rondinone, A. J.; Ivanov, I. N.; Ward, T. Z.; Rack, P. D., "Focused helium-ion beam irradiation effects on electrical transport properties of few-layer WSe2: enabling nanoscale direct write homo-junctions" *Scientific reports, 6*, 27276 (2016).
13. Song, Y.; Peng, R.; Hensley, D. K.; Bonnesen, P. V.; Liang, L.; Wu, Z.; Meyer, H. M.; Chi, M.; Ma, C.; Sumpter, B. G.; Rondinone, A. J., "High-Selectivity Electrochemical Conversion of CO2 to Ethanol using a Copper Nanoparticle/N-Doped Graphene Electrode" *ChemistrySelect, 1* **19**, 6055-6061 (2016).

14. Prabhu, V. M.; Reipa, V.; Rondinone, A. J.; Formo, E.; Bonnesen, P. V., "(Invited) Development of in situ Electrochemical Small-Angle Neutron Scattering (eSANS) for Simultaneous Structure and Redox Characterization of Nanoparticles" *ECS Transactions, 72* **2**, 179-188 (2016).
15. Miskowiec, A.; Anderson, B. B.; Huq, A.; Mamontov, E.; Herwig, K. W.; Trowbridge, L.; Rondinone, A., "Time-dependent water dynamics in hydrated uranyl fluoride" *Mol. Phys., 114* **1**, 61-71 (2016).
16. Kraemer, S.; Rondinone, A. J.; Tsai, Y.-T.; Schwartz, V.; Overbury, S. H.; Idrobo, J.-C.; Wu, Z., "Oxidative dehydrogenation of isobutane over vanadia catalysts supported by titania nanoshapes" *Catal. Today, 263*, 84-90 (2016).
17. Khanal, S.; Mahfuz, H.; Rondinone, A.; Leventouri, T., "Improvement of the fracture toughness of hydroxyapatite (HAp) by incorporation of carboxyl functionalized single walled carbon nanotubes (CfSWCNTs) and nylon" *Materials Science and Engineering: C, 60*, 204-210 (2016).
18. Iberi, V.; Ievlev, A. V.; Vlassiouk, I.; Jesse, S.; Kalinin, S. V.; Joy, D. C.; Rondinone, A. J.; Belianinov, A.; Ovchinnikova, O. S., "Graphene engineering by neon ion beams" *Nanotechnology, 27* **12**, 125302 (2016).
19. Belianinov, A.; Iberi, V.; Tselev, A.; Susner, M. A.; McGuire, M. A.; Joy, D.; Jesse, S.; Rondinone, A. J.; Kalinin, S. V.; Ovchinnikova, O. S., "Polarization Control via He-Ion Beam Induced Nanofabrication in Layered Ferroelectric Semiconductors" *ACS applied materials & interfaces, 8* **11**, 7349-7355 (2016).
20. Sun, C. N.; Zawodzinski, T. A.; Tenhaeff, W. E.; Ren, F.; Keum, J. K.; Bi, S.; Li, D. W.; Ahn, S. K.; Hong, K. L.; Rondinone, A. J.; Carrillo, J. M. Y.; Do, C.; Sumptergh, B. G.; Chen, J. H., "Nanostructure enhanced ionic transport in fullerene reinforced solid polymer electrolytes" *Physical Chemistry Chemical Physics, 17* **12**, 8266-8275 (2015).
21. Sochalski-Kolbus, L. M.; Wang, H.-W.; Rondinone, A. J.; Anovitz, L. M.; Wesolowski, D. J.; Whitfield, P. S., "Solvothermal Synthesis and Surface Chemistry To Control the Size and Morphology of Nanoquartz" *Crystal Growth & Design, 15* **11**, 5327-5331 (2015).
22. Rojas, J. V.; Woodward, J. D.; Chen, N.; Rondinone, A. J.; Castano, C. H.; Mirzadeh, S., "Synthesis and characterization of lanthanum phosphate nanoparticles as carriers for Ra-223 and Ra-225 for targeted alpha therapy" *Nuclear Medicine and Biology, 42* **7**, 614-620 (2015).
23. Miskowiec, A.; Kirkegaard, M. C.; Huq, A.; Mamontov, E.; Herwig, K. W.; Trowbridge, L.; Rondinone, A.; Anderson, B., "Structural Phase Transitions and Water Dynamics in Uranyl Fluoride Hydrates" *The Journal of Physical Chemistry A,* (2015).
24. Iberi, V.; Vlassiouk, I.; Zhang, X.-G.; Matola, B.; Linn, A.; Joy, D. C.; Rondinone, A. J., "Maskless Lithography and in situ Visualization of Conductivity of Graphene using Helium Ion Microscopy" *Scientific reports, 5*, (2015).
25. Gao, J.; Wang, W.; Rondinone, A. J.; He, F.; Liang, L., "Degradation of Trichloroethene with a Novel Ball Milled Fe–C Nanocomposite" *J. Hazard. Mater., 300*, 443-450 (2015).
26. Feygenson, M.; Formo, E. V.; Freeman, K.; Schieber, N.; Gai, Z.; Rondinone, A. J., "Implications of Room Temperature Oxidation on Crystal Structure and Exchange Bias Effect in Co/CoO Nanoparticles" *The Journal of Physical Chemistry C,* (2015).

27. Das, S.; Keum, J. K.; Browning, J. F.; Gu, G.; Yang, B.; Dyck, O.; Do, C.; Chen, W.; Chen, J.; Ivanov, I. N., "Correlating high power conversion efficiency of PTB7: PC 71 BM inverted organic solar cells with nanoscale structures" *Nanoscale*, (2015).
28. Come, J.; Black, J. M.; Lukatskaya, M. R.; Naguib, M.; Beidaghi, M.; Rondinone, A. J.; Kalinin, S. V.; Wesolowski, D. J.; Gogotsi, Y.; Balke, N., "Controlling the actuation properties of MXene paper electrodes upon cation intercalation" *Nano Energy, 17*, 27-35 (2015).
29. Sheridan, L. B.; Hensley, D. K.; Lavrik, N. V.; Smith, S. C.; Schwartz, V.; Liang, C.; Wu, Z.; Meyer, H. M.; Rondinone, A. J., "Growth and Electrochemical Characterization of Carbon Nanospike Thin Film Electrodes" *J. Electrochem. Soc., 161* **9**, H558-H563 (2014).
30. Shao, M.; Keum, J. K.; Kumar, R.; Chen, J.; Browning, J. F.; Das, S.; Chen, W.; Hou, J.; Do, C.; Littrell, K. C., "Understanding How Processing Additives Tune the Nanoscale Morphology of High Efficiency Organic Photovoltaic Blends: From Casting Solution to Spun-Cast Thin Film" *Advanced Functional Materials*, (2014).
31. Rangasamy, E.; Sahu, G.; Keum, J. K.; Rondinone, A. J.; Dudney, N. J.; Liang, C., "A high conductivity oxide-sulfide composite lithium superionic conductor" *Journal of Materials Chemistry A, 2* **12**, 4111-4116 (2014).
32. Moon, J. W.; Ivanov, I. N.; Joshi, P. C.; Armstrong, B. L.; Wang, W.; Jung, H.; Rondinone, A. J.; Jellison, G. E.; Meyer, H. M.; Jang, G. G.; Meisner, R. A.; Duty, C. E.; Phelps, T. J., "Scalable production of microbially mediated zinc sulfide nanoparticles and application to functional thin films" *Acta biomaterialia, 10* **10**, 4474-4483 (2014).
33. Ma, J.; Garlea, V.; Rondinone, A.; Aczel, A.; Calder, S.; dela Cruz, C.; Sinclair, R.; Tian, W.; Chi, S.; Kiswandhi, A., "Magnetic and structural phase transitions in the spinel compound Fe 1+ x Cr 2− x O 4" *Physical Review B, 89* **13**, 134106 (2014).
34. Dathar, G. K. P.; Tsai, Y.-T.; Gierszal, K.; Xu, Y.; Liang, C.; Rondinone, A. J.; Overbury, S. H.; Schwartz, V., "Identifying Active Functionalities on Few-Layered Graphene Catalysts for Oxidative Dehydrogenation of Isobutane" *Chemsuschem, 7* **2**, 483-491 (2014).
35. Chen, J.; Shao, M.; Xiao, K.; Rondinone, A. J.; Loo, Y.-L.; Kent, P. R. C.; Sumpter, B. G.; Li, D.; Keum, J. K.; Diemer, P. J.; Anthony, J. E.; Jurchescu, O. D.; Huang, J., "Solvent-type-dependent polymorphism and charge transport in a long fused-ring organic semiconductor" *Nanoscale, 6* **1**, 449-456 (2014).
36. Schwartz, V.; Fu, W.; Tsai, Y.-T.; Meyer, H. M., III; Rondinone, A. J.; Chen, J.; Wu, Z.; Overbury, S. H.; Liang, C., "Oxygen-Functionalized Few-Layer Graphene Sheets as Active Catalysts for Oxidative Dehydrogenation Reactions" *Chemsuschem, 6* **5**, 840-846 (2013).
37. Moon, J.-W.; Ivanov, I. N.; Duty, C. E.; Love, L. J.; Rondinone, A. J.; Wang, W.; Li, Y.-L.; Madden, A. S.; Mosher, J. J.; Hu, M. Z.; Suresh, A. K.; Rawn, C. J.; Jung, H.; Lauf, R. J.; Phelps, T. J., "Scalable economic extracellular synthesis of CdS nanostructured particles by a non-pathogenic thermophile" *Journal of Industrial Microbiology & Biotechnology, 40* **11**, 1263-1271 (2013).
38. Mohanty, D.; Sefat, A. S.; Li, J.; Meisner, R. A.; Rondinone, A. J.; Payzant, E. A.; Abraham, D. P.; Wood Iii, D. L.; Daniel, C., "Correlating cation ordering and voltage fade in a lithium-manganese-rich lithium-ion battery cathode oxide: a joint magnetic

susceptibility and TEM study" *Physical Chemistry Chemical Physics, 15* **44**, 19496-19509 (2013).
39. McLaughlin, M. F.; Woodward, J.; Boll, R. A.; Wall, J. S.; Rondinone, A. J.; Kennel, S. J.; Mirzadeh, S.; Robertson, J. D., "Gold Coated Lanthanide Phosphate Nanoparticles for Targeted Alpha Generator Radiotherapy" *Plos One, 8* **1**, (2013).
40. McLaughlin, M. F.; Woodward, J.; Boll, R. A.; Rondinone, A. J.; Mirzadeh, S.; Robertson, J. D., "Gold-coated lanthanide phosphate nanoparticles for an Ac-225 in vivo alpha generator" *Radiochim. Acta, 101* **9**, 595-600 (2013).
41. Liu, Z.; Fu, W.; Payzant, E. A.; Yu, X.; Wu, Z.; Dudney, N. J.; Kiggans, J.; Hong, K.; Rondinone, A. J.; Liang, C., "Anomalous High Ionic Conductivity of Nanoporous beta-Li3PS4" *Journal of the American Chemical Society, 135* **3**, 975-978 (2013).
42. Kyriacou, A.; Leventouri, T.; Chakoumakos, B. C.; Garlea, V. O.; dela Cruz, C. B.; Rondinone, A. J.; Sorge, K. D., "Combined X-ray and neutron diffraction Rietveld refinement in iron-substituted nano-hydroxyapatite" *J. Mater. Sci., 48* **9**, 3535-3545 (2013).
43. Keum, J. K.; Xiao, K.; Ivanov, I. N.; Hong, K.; Browning, J. F.; Smith, G. S.; Shao, M.; Littrell, K. C.; Rondinone, A. J.; Payzant, E. A.; Chen, J.; Hensley, D. K., "Solvent quality-induced nucleation and growth of parallelepiped nanorods in dilute poly(3-hexylthiophene) (P3HT) solution and the impact on the crystalline morphology of solution-cast thin film" *Crystengcomm, 15* **6**, 1114-1124 (2013).
44. He, Z.; Li, D.; Hensley, D. K.; Rondinone, A. J.; Chen, J., "Switching phase separation mode by varying the hydrophobicity of polymer additives in solution-processed semiconducting small-molecule/polymer blends" *Applied Physics Letters, 103* **11**, (2013).
45. Chen, J.; Shao, M.; Xiao, K.; He, Z.; Li, D.; Lokitz, B. S.; Hensley, D. K.; Kilbey, S. M., II; Anthony, J. E.; Keum, J. K.; Rondinone, A. J.; Lee, W.-Y.; Hong, S.; Bao, Z., "Conjugated Polymer-Mediated Polymorphism of a High Performance, Small-Molecule Organic Semiconductor with Tuned Intermolecular Interactions, Enhanced Long-Range Order, and Charge Transport" *Chem. Mater., 25* **21**, 4378-4386 (2013).
46. Ajuria, J.; Chavhan, S.; Tena-Zaera, R.; Chen, J.; Rondinone, A. J.; Sonar, P.; Dodabalapur, A.; Pacios, R., "Nanomorphology influence on the light conversion mechanisms in highly efficient diketopyrrolopyrrole based organic solar cells" *Organic Electronics, 14* **1**, 326-334 (2013).
47. Xiao, K.; Yoon, M.; Rondinone, A. J.; Payzant, E. A.; Geohegan, D. B., "Understanding the Metal-Directed Growth of Single-Crystal M-TCNQF(4) Organic Nanowires with Time-Resolved, in Situ X-ray Diffraction and First-Principles Theoretical Studies" *Journal of the American Chemical Society, 134* **35**, 14353-14361 (2012).
48. Wu, Z. L.; Schwartz, V.; Li, M. J.; Rondinone, A. J.; Overbury, S. H., "Support Shape Effect in Metal Oxide Catalysis: Ceria-Nanoshape-Supported Vanadia Catalysts for Oxidative Dehydrogenation of Isobutane" *J Phys Chem Lett, 3* **11**, 1517-1522 (2012).
49. Sonar, P.; Zhuo, J.-M.; Zhao, L.-H.; Lim, K.-M.; Chen, J.; Rondinone, A. J.; Singh, S. P.; Chua, L.-L.; Ho, P. K. H.; Dodabalapur, A., "Furan substituted diketopyrrolopyrrole and thienylenevinylene based low band gap copolymer for high mobility organic thin film transistors" *J. Mater. Chem., 22* **33**, 17284-17292 (2012).
50. DeAngelis, M. T.; Rondinone, A. J.; Pawel, M. D.; Labotka, T. C.; Anovitz, L. M., "Sol-gel synthesis of nanocrystalline fayalite (Fe2SiO4)" *Am. Mineral., 97* **4**, 653-656 (2012).

51. Clay, M.; Cui, Q.; Sha, Y.; Chen, J.; Rondinone, A. J.; Wu, Z.; Chen, J.; Gu, Z., "Galvanic synthesis of bi-modal porous metal nanostructures using aluminum nanoparticle templates" *Mater. Lett., 88*, 143-147 (2012).
52. Chen, J. H.; Yu, X.; Hong, K. L.; Messman, J. M.; Pickel, D. L.; Xiao, K.; Dadmun, M. D.; Mays, J. W.; Rondinone, A. J.; Sumpter, B. G.; Kilbey, S. M., "Ternary behavior and systematic nanoscale manipulation of domain structures in P3HT/PCBM/P3HT-b-PEO films" *J. Mater. Chem., 22* **26**, 13013-13022 (2012).
53. Cai, L.; Chen, J.; Rondinone, A. J.; Wang, S., "Injectable and Biodegradable Nanohybrid Polymers with Simultaneously Enhanced Stiffness and Toughness for Bone Repair" *Advanced Functional Materials, 22* **15**, 3181-3190 (2012).
54. Yeary, L. W.; Moon, J.-W.; Rawn, C. J.; Love, L. J.; Rondinone, A. J.; Thompson, J. R.; Chakoumakos, B. C.; Phelps, T. J., "Magnetic properties of bio-synthesized zinc ferrite nanoparticles" *J. Magn. Magn. Mater., 323* **23**, 3043-3048 (2011).
55. Wu, Z. L.; Rondinone, A. J.; Ivanov, I. N.; Overbury, S. H., "Structure of Vanadium Oxide Supported on Ceria by Multiwavelength Raman Spectroscopy" *J Phys Chem C, 115* **51**, 25368-25378 (2011).
56. Woodward, J.; Kennel, S. J.; Stuckey, A.; Osborne, D.; Wall, J.; Rondinone, A. J.; Standaert, R. F.; Mirzadeh, S., "LaPO4 Nanoparticles Doped with Actinium-225 that Partially Sequester Daughter Radionuclides" *Bioconjugate Chemistry, 22* **4**, 766-776 (2011).
57. Moon, J. W.; Rawn, C. J.; Rondinone, A. J.; Wang, W.; Vali, H.; Yeary, L. W.; Love, L. J.; Kirkham, M. J.; Gu, B. H.; Phelps, T. J., "Crystallite Sizes and Lattice Parameters of Nano-Biomagnetite Particles" *Journal of Nanoscience and Nanotechnology, 10* **12**, 8298-8306 (2010).
58. Moon, J. W.; Rawn, C. J.; Rondinone, A. J.; Love, L. J.; Roh, Y.; Everett, S. M.; Lauf, R. J.; Phelps, T. J., "Large-scale production of magnetic nanoparticles using bacterial fermentation" *Journal of Industrial Microbiology & Biotechnology, 37* **10**, 1023-1031 (2010).
59. Zhou, S. H.; Ma, Z.; Baker, G. A.; Rondinone, A. J.; Zhu, Q.; Luo, H. M.; Wu, Z. L.; Dai, S., "Self-Assembly of Metal Oxide Nanoparticles into Hierarchically Patterned Porous Architectures Using Ionic Liquid/Oil Emulsions" *Langmuir, 25* **13**, 7229-7233 (2009).
60. Xiao, K.; Rondinone, A. J.; Puretzky, A. A.; Ivanov, I. N.; Retterer, S. T.; Geohegan, D. B., "Growth, Patterning, and One-Dimensional Electron -Transport Properties of Self-Assembled Ag-TCNQF(4) Organic Nanowires" *Chem. Mater., 21* **18**, 4275-4281 (2009).
61. Tuncer, E.; Sauers, I.; James, D. R.; Ellis, A. R.; Pace, M.; More, K. L.; Sathyamurthy, S.; Woodward, J.; Rondinone, A. J., "Nanodielectrics for Cryogenic Applications" *Ieee Transactions on Applied Superconductivity, 19* **3**, 2354-2358 (2009).
62. Tuncer, E.; Rondinone, A. J.; Woodward, J.; Sauers, I.; James, D. R.; Ellis, A. R., "Cobalt iron-oxide nanoparticle modified poly(methyl methacrylate) nanodielectrics" *Applied Physics a-Materials Science & Processing, 94* **4**, 843-852 (2009).
63. Mirzadeh, S.; Woodward, J.; Standaert, R. F.; Rondinone, A. J.; Kennel, S. J., "Inorganic Nanoparticle Monoclonal Antibody Conjugates" *J. Labelled Compd. Radiopharm., 52*, S98-S98 (2009).

64. Li, Y. L.; Pfiffner, S. M.; Dyar, M. D.; Vali, H.; Konhauser, K. O.; Cole, D. R.; Rondinone, A. J.; Phelps, T. J., "Degeneration of biogenic superparamagnetic magnetite" *Geobiology, 7* **1**, 25-34 (2009).
65. Shiju, N. R.; Rondinone, A. J.; Mullins, D. R.; Schwartz, V.; Overbury, S. H.; Guliants, V. V., "XANES Study of Hydrothermal Mo-V-Based Mixed Oxide. M1-Phase Catalysts for the (Amm)oxidation of Propane" *Chem. Mater., 20* **21**, 6611-6616 (2008).
66. Shiju, N. R.; Guliants, V. V.; Overbury, S. H.; Rondinone, A. J., "Toward Environmentally Benign Oxidations: Bulk Mixed Mo-V-(Te-Nb)-O M1 Phase Catalysts for the Selective Ammoxidation of Propane" *Chemsuschem, 1* **6**, 519-523 (2008).
67. Kennel, S. J.; Woodward, J. D.; Rondinone, A. J.; Wall, J.; Huang, Y.; Mirzadeh, S., "The fate of MAb-targeted (CdTe)-Te-125m/ZnS nanoparticles in vivo" *Nuclear Medicine and Biology, 35* **4**, 501-514 (2008).
68. Jang, B.; Helleson, M.; Shi, C.; Rondinone, A.; Schwartz, V.; Liang, C. D.; Overbury, S., "Characterization of Al2O3 Supported Nickel Catalysts Derived from RF Non-thermal Plasma Technology" *Topics in Catalysis, 49* **3-4**, 145-152 (2008).
69. Brown, S. S.; Rondinone, A. J.; Pawel, M. D.; Dai, S., "Ternary cadmium sulphide selenide quantum dots as new scintillation materials" *Materials Technology, 23* **2**, 94-99 (2008).
70. Woodward, J. D.; Kennel, S. J.; Mirzadeh, S.; Dai, S.; Wall, J. S.; Richey, T.; Avenell, J.; Rondinone, A. J., "In vivo SPECT/CT imaging and biodistribution using radioactive (CdTe)-Te-125m/ZnS nanoparticles" *Nanotechnology, 18* **17**, (2007).
71. Rondinone, A. J.; Pawel, M.; Travaglini, D.; Mahurin, S.; Dai, S., "Metastable tetragonal phase CdWO4 nanoparticles synthesized with a solvothermal method" *J. Colloid Interface Sci., 306* **2**, 281-284 (2007).
72. Moon, J. W.; Yeary, L. W.; Rondinone, A. J.; Rawn, C. J.; Kirkham, M. J.; Roh, Y.; Love, L. J.; Phelps, T. J., "Magnetic response of microbially synthesized transition metal- and lanthanide-substituted nano-sized magnetites" *J. Magn. Magn. Mater., 313* **2**, 283-292 (2007).
73. Bhat, V. V.; Gallego, N. C.; Contescu, C. I.; Payzant, E. A.; Rondinone, A. J.; Tekinalp, H.; Edie, D. D., "In situ high pressure XRD study on hydrogen uptake behavior of Pd-carbon systems" *MRS Online Proceedings Library, 1042*, (2007).
74. Beach, D. B.; Rondinone, A. J.; Sumpter, B. G.; Labinov, S. D.; Richards, R. K., "Solid-state combustion of, metallic nanoparticles: New possibilities for an alternative energy carrier" *Journal of Energy Resources Technology-Transactions of the Asme, 129* **1**, 29-32 (2007).
75. Woodward, J. D.; Pickel, J. M.; Anovitz, L. M.; Heller, W. T.; Rondinone, A. J., "Self-assembled colloidal crystals from ZrO2 nanoparticles" *J. Phys. Chem. B, 110* **39**, 19456-19460 (2006).
76. Zhang, Z. T.; Rondinone, A. J.; Ma, J. X.; Shen, J.; Dai, S., "Morphologically templated growth of aligned spinel CoFe2O4 nanorods" *Advanced Materials, 17* **11**, 1415-+ (2005).
77. Subramaniam, S.; Lance, M. J.; Rawn, C. J.; Chakoumakos, B. C.; Rondinone, A. J., "Raman spectroscopic studies on structure I and structure II trimethylene oxide hydrate" *Can. J. Phys., 83* **9**, 941-949 (2005).
78. Love, L. J.; Yeary, L. W.; Moon, J. W.; Phelps, T. J.; Rondinone, A. J., "Characterization of bio-synthesized magnetic nanoparticles" *2005 IEEE/ASME International Conference*

on Advanced Intelligent Mechatronics, Vols 1 and 2, 111-115
1634 (2005).
79. Brown, S. S.; Im, H. J.; Rondinone, A. J.; Dai, S., "Facile, alternative synthesis of lanthanum phosphate nanocrystals by ultrasonication" *J. Colloid Interface Sci., 292* **1**, 127-132 (2005).
80. Schaaff, T. G.; Rodinone, A. J., "Preparation and characterization of silver sulfide nanocrystals generated from silver(I)-thiolate polymers" *J. Phys. Chem. B, 107* **38**, 10416-10422 (2003).
81. Rondinone, A. J.; Jones, C. Y.; Marshall, S. L.; Chakoumakos, B. C.; Rawn, C. J.; Lara-Curzio, E., "A sapphire cell for high-pressure, low-temperature neutron-scattering experiments on gas hydrates" *Can. J. Phys., 81* **1-2**, 381-385 (2003).
82. Rondinone, A. J.; Chakoumakos, B. C.; Rawn, C. J.; Ishii, Y., "Neutron diffraction study of structure I and structure II trimethylene oxide clathrate deuterate" *J. Phys. Chem. B, 107* **25**, 6046-6050 (2003).
83. Rawn, C. J.; Rondinone, A. J.; Chakoumakos, B. C.; Circone, S.; Stern, L. A.; Kirby, S. H.; Ishii, Y., "Neutron powder diffraction studies as a function of temperature of structure II hydrate formed from propane" *Can. J. Phys., 81* **1-2**, 431-438 (2003).
84. Circone, S.; Stern, L. A.; Kirby, S. H.; Durham, W. B.; Chakoumakos, B. C.; Rawn, C. J.; Rondinone, A. J.; Ishii, Y., "CO2 hydrate: Synthesis, composition, structure, dissociation behavior, and a comparison to structure I CH4 hydrate" *J. Phys. Chem. B, 107* **23**, 5529-5539 (2003).
85. Chakoumakos, B. C.; Rawn, C. J.; Rondinone, A. J.; Stern, L. A.; Circone, S.; Kirby, S. H.; Ishii, Y.; Jones, C. Y.; Toby, B. H., "Temperature dependence of polyhedral cage volumes in clathrate hydrates" *Can. J. Phys., 81* **1-2**, 183-189 (2003).
86. Allison, S. W.; Gillies, G. T.; Rondinone, A. J.; Cates, M. R., "Nanoscale thermometry via the fluorescence of YAG : Ce phosphor particles: measurements from 7 to 77 degrees C" *Nanotechnology, 14* **8**, 859-863 (2003).
87. Rondinone, A. J.; Liu, C.; Zhang, Z. J., "Determination of magnetic anisotropy distribution and anisotropy constant of manganese spinel ferrite nanoparticles" *J. Phys. Chem. B, 105* **33**, 7967-7971 (2001).
88. Liu, C.; Zou, B. S.; Rondinone, A. J.; Zhang, Z. J., "Sol-gel synthesis of free-standing ferroelectric lead zirconate titanate nanoparticles" *Journal of the American Chemical Society, 123* **18**, 4344-4345 (2001).
89. Rondinone, A. J.; Samia, A. C. S.; Zhang, Z. J., "Characterizing the magnetic anisotropy constant of spinel cobalt ferrite nanoparticles" *Applied Physics Letters, 76* **24**, 3624-3626 (2000).
90. Rondinone, A. J.; Samia, A. C. S.; Zhang, Z. J., "A chemometric approach for predicting the size of magnetic spinel ferrite nanoparticles from the synthesis conditions" *J. Phys. Chem. B, 104* **33**, 7919-7922 (2000).
91. Liu, C.; Zou, B. S.; Rondinone, A. J.; Zhang, Z. J., "Reverse micelle synthesis and characterization of superparamagnetic MnFe2O4 spinel ferrite nanocrystallites" *J. Phys. Chem. B, 104* **6**, 1141-1145 (2000).
92. Liu, C.; Zou, B. S.; Rondinone, A. J.; Zhang, J., "Chemical control of superparamagnetic properties of magnesium and cobalt spinel ferrite nanoparticles through atomic level magnetic couplings" *Journal of the American Chemical Society, 122* **26**, 6263-6267 (2000).

93. Liu, C.; Rondinone, A. J.; Zhang, Z. J., "Synthesis of magnetic spinel ferrite CoFe2O4 nanoparticles from ferric salt and characterization of the size-dependent superparamagnetic properties" *Pure and Applied Chemistry, 72* **1-2**, 37-45 (2000).
94. Rondinone, A. J.; Samia, A. C. S.; Zhang, Z. J., "Superparamagnetic relaxation and magnetic anisotropy energy distribution in CoFe2O4 spinel ferrite nanocrystallites" *J. Phys. Chem. B, 103* **33**, 6876-6880 (1999).
95. Chen, Q.; Rondinone, A. J.; Chakoumakos, B. C.; Zhang, Z. J., "Synthesis of superparamagnetic MgFe2O4 nanoparticles by coprecipitation" *J. Magn. Magn. Mater., 194* **1-3**, 1-7 (1999).