Menka Jain

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Professional Preparation:

04/2005-04/2008	Director's funded postdoctoral fellow, Superconductivity Technology Center, Materials Physics and Applications Division, Los Alamos National Laboratory, Los Alamos, NM
08/2004-12/2004	Postdoctoral fellow, Dept. Physics, University of Puerto Rico, San Juan, PR (USA)
2004	Ph.D., Chemical Physics, University of Puerto Rico, San Juan, PR (USA)
08/1998-05/1999	Project associate, Dept. Physics, Indian Institute of Technology, Kanpur, India
1998	M.S., Physics, Shri Sahu Ji Maharaj University, Kanpur, (India)
1996	B.S., Physics, Mathematics, Shri Sahu Ji Maharaj University, Kanpur, (India)

Appointments:

08/2023-Present	Full Professor, Institute of Materials Science & Dept. of Physics, UConn; also a Graduate faculty of Materials Science & Engineering, UConn
08/2014-08/2023	Associate Professor, Institute of Materials Science & Dept. of Physics, UConn; also a Graduate faculty of Materials Science & Engineering, UConn
08/2008-04/2014	Assistant Professor, Institute of Materials Science & Dept. of Physics, UConn; also a Graduate faculty of Chemical, Materials & Biomolecular Engineering, UConn

Publications and Presentations:

Articles published in reviewed scientific journals and conference proceedings: **123**
Menka Jain - Google Scholar
Conference presentations: ……..(….**invited**)

Areas of interest:

- Synthesis of various metal-oxide thin films, powders, nanoparticles, and composites using various chemical solution methods
- Magnetoelectric multiferroic single phase materials: effect of stress, pressure on their magnetic and electric properties
- Magnetocaloric and multicaloric properties of thin film oxides
- Synthesis and evaluation of nanostructured and heterostructured magnetoelectric composite thin films: effect of choice and ratio of the constituents, distribution of phases, and processing conditions on the magnetoelectric coupling coefficient.
- Ferromagnetic thin films: colossal magnetoresistance
- Low loss dielectrics for tunable microwave devices, filters
- Oxide materials for magneto-optic devices.

Synergistic Activities:

1. **Editorial services:**
   - **Editor:** *MRS proceedings*, Vol. 1675, 2014. http://journals.cambridge.org/action/displayIssue?jid=OPL&volumeId=1675&issueId=-1

- **Guest Co-Editor:** Special issue on *Nanocomposites*, Journal of Nanotechnology (2013) http://www.hindawi.com/journals/jnt/si/261083/cfp/
- **Editor:** *MRS proceedings*, Vol. 1547, 2013. http://journals.cambridge.org/action/displayIssue?jid=OPL&volumeId=1547&iid=8879103
- **Guest Co-Editor:** Special Issue on *Nanocomposites*, Journal of Nanotechnology (2012) http://www.hindawi.com/journals/jnt/si/271041/cfp/
- **Editor:** *MRS proceedings*, Vol. 1449, 2012. http://journals.cambridge.org/action/displayIssue?jid=OPL&volumeId=1449&iid=8539610
- **Guest Co-Editor:** Special Issue on *Nanocomposites*, Journal of Nanotechnology (2011) http://www.hindawi.com/journals/jnt/si/367938/
- **Associate Editor***: International Journal of Micro and Nano Electronics, Circuits and Systems* (04/2011-2014). http://www.serialspublications.com/journals1.asp?jid=287&dtype=2&jtype=

2. **External Committee:**
   - Member, *Edward C. Henry Best Paper Award committee*, American Ceramic Society (2011-2018).
   - Member, *Hoffman Scholarship*, American Ceramic Society (2011-2012).
   - Member, *Nomination Committee*- Electronics Division, American Ceramic Society (January 2014-December 2014)
3. **External International Advisory Board:** Symposium CE, 13th International Conference on Modern Materials and Technologies (Tuscany, Italy, June 8 to 20, 2014). http://www.cimtec-congress.org/2014/advisory_boards_congress.asp
4. **Reviewer of Journals:** Advanced Materials, Advanced Functional Materials, Applied Physics Letters, Journal of Applied Physics, Journal of Magnetism and Magnetic Materials, Advanced in Condensed Matter Physics, Journal of Solid State Chemistry, Nanoletters, Materials Chemistry and Physics, Nuclear Inst. and Methods in Physics Research A, Physica Status Solidi (a), ACS Applied Materials & Interfaces, Chemistry of Materials, Journal of Materials Science, Thin Solid Films, Electrochemical and Solid-State Letters, Materials Today Magazine, Journal of American Ceramic Society, CrystEngComm, ChemPhysChem, International Journal of Applied Ceramic Technology, Transactions on Ultrasonics Ferroelectrics & Frequency Control, Journal of Alloys and Compounds, Acta Materialia, Materials Science and Engineering B, IEEE Photonics Technology Letters, Solid State Communications.
5. **Reviewer of Grant/Proposals (Ad-Hoc):** NSF-Division of Materials Research, Ceramics proposal (Dec 2018-Jan 2019); NSF onsite reviewer for - Materials Research Science & Engineering Center (MRSEC) in Penn State (April 2018); NSF-virtual review panel for Condensed Matter Physics program -Division of Materials Research, (Jan 2018); NSF- Division of Materials Research, Ceramics career proposal (October-Nov 2017); NSF-Division of Materials Research, Ceramics proposal (March-May 2017); DOE-The Office of Basic Energy Sciences proposal (July 2015-August 2015); NSF-Division of Materials Research, Ceramics-RUI proposal (January-March 2015); NSF- Division of Materials Research, Ceramics proposal (December 2014-January 2015); NSF Ad-hoc review– Materials Research Science & Engineering Centers (MRSEC*)*-(January-March 2014); NSF-Division of Materials Research, Ceramics proposal (December 2013-January 2014); NSF-Division of Materials Research-Ceramics proposal (January-February 2014); NSF-Division of Materials Research GOALI proposal (December 2013-January 2014); National Science Foundation (NSF) SBIR-Phase I proposals (July – August 2013); NSF-Division of Materials Research career proposal (July-September 2013); NSF Panel – Materials Research Science & Engineering Centers (MRSEC*)*-(September 2013); American Chemical Society-Petroleum Research Fund (06/08/2012);
6. **Reviewer of user proposals for facilities at National DOE labs (Ad-Hoc):** Ad-hoc review- for 3 *Center for Integrated Nanotechnologies* (CINT)-Los Alamos/Sandia National Lab user proposals (April-2015); Ad-hoc reviews for 5 CINT-Los Alamos/Sandia National Lab user proposals

(September-October 2014); Ad-hoc review- for 6 CINT-Los Alamos/Sandia National Lab user proposals (April-2013); Member of user proposal review committee for the *Center for Integrated Nanotechnologies* (CINT) at the Los Alamos National Lab (NM), reviewed 6 proposals (June 2012).

7. **Beam/instrument times granted at National and International user facilities:**
   - Magneto-Optical Spectroscopy of Multiferroic Rare-Earth Chromite Thin Films, approved as a CINT, Los Alamos National Lab (NM) user project (April, 2018 - March, 2019).
   - Terahertz Magneto-Optical Spectroscopy Studies of Multiferroic Rare-Earth Chromite Epitaxial Films) has been approved as a CINT Los Alamos National Lab (NM) user project (August 12-2016 - December 31, 2017).
   - 3 day(s) of beam time (June 25-June 28, 2016) on instrument HB-2A Powder at the High Flux Isotope Reactor (HFIR) facility, Oak Ridge National Lab (TN).
   - Proposal (*RA2015A0020: Structural Analysis of Rare-Earth Chromite Films*) was accepted as a rapid action CINT Los Alamos National Lab (NM) user project (August 7-Novemer 30, 2015).
8. **Member:** Materials Research Society, The American Ceramic Society
9. **Sessions Chair:** Materials Research Society Spring meeting, April 6-10th, 2015, San Francisco, CA; *7th International Conference on Materials for Advanced Technologies*, Singapore, June 30th-July 5th, 2013; Materials Research Society Spring meeting, April 1-5th, 2013, San Francisco, CA; 37th International Conference on Advanced Ceramics and Composites meeting, Jan 27th-Feb 1st, 2013, Daytona Beach, FL; Materials Research Society Spring meeting, April 9-13th, 2012, San Francisco, CA; International Symposium on Multifunctionality of Ferroics and Multiferroics, October 15th-16th, 2010, San Antonio, TX; Materials Science and Technology, October 5-9th, 2008, Pittsburgh, PA; Materials Science and Technology, September 16-21st, 2007, Detroit, MI; Materials Science and Technology, October 15-19th, 2006, Cincinnati, OH.
10. **International workshop Organizer:**
    - *28th International Workshop on Oxide Electronics (iWOE28),* Portland, Maine, Oct 2022 (with Charles Ahn, Divine Kumah, and Ryan Comes). https://iwoe28.events.yale.edu/
    - *Quantum Matter: Dynamic and Sensors, Storrs*, CT, December 2022 (with A. Balatsky, Lea Santos, James A. Sauls, Jason T. Haraldsen). https://materialstheory.domains.unf.edu/qmds-conference/
11. **Workshop Organizer:**
    - Mini *Quantum Materials Workshop* at UConn, Storrs, CT, November 23rd 2024. (~12 speakers from UConn).
12. **Symposium Organizer:**
    - ***Symposium 4****: Ferroelectrics and Multiferroics for Energy Generation, Conversion and Storage",* Materials Challenges in Alternative & Renewable Energy, Vancouver, BC, Canada, August 20-23, 2018 (with A.S. Bhalla and R.S. Katiyar).
    - ***Symposium****: Controlled Synthesis, Processing, and Applications of Structural and Functional Nanomaterials*, Materials Science and Technology, Salt Lake City, UT, USA, October 23rd– 27th, 2016 (with B. P. S. Chauhan, E. Gorzkowski, H. Kamiya, K. Lu, S. Mathur, E. Olevsky, G. Singh, H. Zhang).
    - ***Symposium 3***: *Ferroelectrics and Multiferroics for Energy Applications*, Materials Challenges in Alternative & Renewable Energy, Clearwater, FL, April 17th - 21st, 2016 (with P.M. Vilarinho and M. Algueró).
    - ***Symposium S7***: *10th International Symposium on Nanostructured Materials: Functional Nanomaterials and Thin Films for Sustainable Energy Harvesting, Environmental, and Health Applications*, 40th International Conference and Expo on Advanced Ceramics and Composites, Daytona Beach, FL, USA, January 24th-29th, 2016 (with M. van Bael, Y.B. Hahn, E. Ionescu, H. Kamiya, R.S. Liu, S. Mathur, S.S. Ray, S. Song, G. Westin, J.J. Wu).

- ***Symposium RR:*** *Solution Synthesis of Inorganic Functional Materials,* Materials Research Society Spring meeting, San Francisco, CA, USA, April 21st-25th, 2014 (with Q.X. Jia, H. Kozuka, X. Obradors).
- ***Symposium: Solar Fuels****,* Materials Challenges in Alternative & Renewable Energy, February 17th-20th, 2014 (with V. Lüthen, S. Mathur, J.R. Morante, R. Ravindra, X.J. Tong, L. Vayssieres). ***Symposium M:*** *Solution Synthesis of Inorganic Functional Materials-Films, Nanoparticles, and Nanocomposites,* Materials Research Society Spring meeting, San Francisco, CA, USA, April 1st-5th, 2013 (with Q.X. Jia, H. Kozuka, T. Puig).
- ***Symposium BB:*** *Solution Synthesis of Inorganic Films and Nanostructured Materials*, Materials Research Society Spring meeting, San Francisco, CA, USA, April 9th-13th, 2012 (with Q.X. Jia, X. Obradors, R.W. Schwartz).

13. **Departmental services:**
    - Member, *Grad Admissions committee* (2023-present)
    - Member, *Grad Affairs committee* (2020-present)
    - Participated in Graduate open house, March 11, (2022).
    - Member, *Faculty search committee (Condensed Matter theorist)* (Dec 2021-April 2022)
    - Member, *Advisory committee* (2020-2023)
    - Member, *Promotion, Tenure, and Reappointment Committee* (April 2020-2023)
    - Member, *Diversity and Multiculturalism committee* (2014-present)
    - Member, *Three APiR Search Committee* (two for Storrs and one for Stamford campus), Department of Physics, UConn, (January-May 2017)
    - Members, *External Relations Committee* (Jan 2017-Dec 2018)
    - Chair, *External Relations Committee* (Jan 2017-May 2017)
    - Member, *Promotion, Tenure, and Reappointment Committee* (April 2015-2018)
    - Member, *Condensed Matter Physics Faculty Search Committee*, Institute of Materials Science, UConn, (2010-2011)
    - Member, *Faculty Search Committee* (position related to High Field applications), Institute of Materials Science, UConn, (2012-2013)
    - Member, *Outreach Committee*, May, 2011-2014
    - Member, *Advisory Committee*, August, 2011-2018
    - Member, *Nanoscale Science Committee*, 2009-2011
    - Chair, *Condensed Matter Physics seminar series* (Aug, 2008- Aug, 2012)
14. **College/University services:**
    - Reviewer of SURF proposals, UConn February-March 2024.
    - Member, *Internal Competitions Advisory Board*, Office of Vice Provost for Research, UConn (Jan 2023-Dec 2025).
    - Reviewer (in committee) of the *Mentoring Awards for CLAS*, April 2022.
    - Reviewer of REP proposals submitted internally to OVPR office, April 2021.
    - Reviewer of IMS equipments proposals submitted internally to IMS office, March-April 2021.
    - Reviewer/sub-committee member to review 16 undergraduate student's SURF Proposals (internal) submitted to the Office of undergraduate Research office for the summer of 2019.
    - Reviewer, 4 Proposals (internal screening) submitted to the Office of the Vice President for Research office for the 2018 Johnson & Johnson WiSTEM2D program, 2018.
    - Member, CLAS Diversity Equity Inclusion Council Group, Feb 2018-May 2019
    - Member, CLAS Public Art Subcommittee, Nov 2017-May 2019.
    - Member, *Institute of Materials Science Director Search Committee*, UConn, (2013)

15. Honors and Awards:

- Given special recognition (among other women in ferroelectrics) in an event "Women at the Frontiers of Ferroelectrics" held at the IMF 2017 meeting, San Antonio, TX, September 2017.

- Visiting Research Scholar, Los Alamos National Lab, July-August, 2015
- Visiting Research Scholar, University of Texas at San Antonio, June, 2009
- Recipient of Award of Excellence from the group leader of the Superconductivity Technology Center of MPA Division in Los Alamos National Laboratory, April, 2008.
- Recipient of Award of Excellence from the group leader of the Superconductivity Technology Center of MPA Division in Los Alamos National Laboratory, August, 2006.
- Received Director's Funded Postdoctoral Fellowship in Los Alamos National Laboratory in April 2005.
- Recipient of the National Science Foundation (NSF)-EPSCoR graduate fellowship, 2003-2004.
- Recipient of NSF Fellowship, 2001-2003.
- Awarded second prize, "The Ceramograhic competition of The American Ceramic Society", at the annual meeting of ACerS, St. Louis, April, 2002.
- One micrograph of the research appeared on the cover page of a journal (J. of the American Ceramic Society, 85 (7) 2002).
- Honor student award for being among the top five percent of graduate students of the University of Puerto Rico, August, 2001.
- First prize winner of the poster presentation competition at the NASA/DoD sponsored Ferroelectric Workshop, Puerto Rico, June, 2001.
- Recipient of the "Smt. Shyam Lata Nigam Memorial Scholarship award" for securing the highest marks in all the colleges in master degree, Christ Church College, Kanpur, India, 1997.

16. **Graduate and Postdoctoral Advisors:**

Ph.D. and Postdoctoral	Dr. R.S. Katiyar, University of Puerto Rico, San Juan, PR
Postdoctoral	Dr. Q.X. Jia, Los Alamos National Laboratory, Los Alamos, NM

17. **Students Advising:**

- **Current Ph.D. student:** Jacob Pfund (Advisor), Zachary Ritchey (Advisor), Devika Thandayamparambil (Advisor), Raman K. Miskra (Advisor), Joshua Bedard (Co-Advisor), Jacob Franklin (Co-Advisor), Serzat Safaltin (Co-Advisor), Devesh Kale (Co-Advisor)
- **Past PhD students:** Shuai Jiang (2024, Co-Advisor), Karla M. Del Cid-Ledezma (2023, Co-Advisor), Ashok Gurung (2024, Co-Advsior), Saroj Dahal (2024, Co-Advisor), Bochao Xu (2024, Co-Advisor), Krishna Joshi (2024, Co-Advisor), Mr. Donal Sheets (2022, Co-Advisor), Mr. Sunil Thapa (2022, Co-Advisor), Mr. Kevin Co (2022, Co-Advisor), Mr. Jianhang Shi (2021, Advisor), Mr. Lukasz Kuna (2020, Advisory Committee), Mr. Shiqi Yin (2018, Advisor), Mr. Xiang Zhang (2018,Co-Advisor), Hui-Jan Lin (2016, Advisory Committee), Mr. Austin McDannald (2016, Advisor), Mr. Hongyu Hu (2016, Co-Advisor), Mr. Michael Zilm (2016, Co-Advisor), Ms. Shoroog Alraddadi (2016, Co-Advisor), Ms. Margo Staruch (2013, Advisor), Mr. Fahad Alamar (2013, Co-Advisor), Ms. Erica Kramer (2013, Co-Advisor), Mr. P. A. D. S. Navarathne (2011, co-Advisor), Mr. Y. Ner (2010, co-advisor), Ms. Claire Weiss (2010, co-advisor),
- **Past MS students:** Joshua Bedard (2024, Co-Advisor), Jacob Pfund (2023, Advisor), Francis Almonte, (MSE, 2020, Co-Advisor), Ms. Margo Staruch (2009, Advisor), Mr. Hari Sharma (2014, Advisor), Mr. Shiqi Yin (2014, Advisor)

Article in Magazine/Highlighted work:

1. https://today.uconn.edu/2021/12/uconns-project-daedalus-focuses-on-aerospace-electro-optics-in-new-4-7-million-contract/

2. 'Material World', M. Jain, *International Innovation*, July 2013, (Research Media, UK, pp 102-104) ISSN 2051-8528. http://www.international-innovation-northamerica.com/magazines/NA14/index.html

3. **Highlighted work from my group:** http://advanceseng.com/chemical-engineering/low-field-magnetoresistance-in-la0-67sr0-33mno3zno-composite-film/

List of Publications in Refereed Journals:

1. Evidence for a Giant Magneto-Electric Coupling in Bulk Composites with Coaxial Fibers of Nickel–Zinc Ferrite and PZT, B. Ge, J. Zhang, S. Saha, S. Acharya, C. Kshirsagar, S. Menon, **M. Jain,** M. R. Page, and G. Srinivasan, *J. Compos. Sci.*, 8 (2024) 309. https://doi.org/10.3390/jcs8080309

2. Mott insulating low thermal expansion perovskite TiF_3, D. Sheets, K. Lyszak, **M. Jain**, G. W. Fernando, I. Sochnikov, J. Franklin, J. N. Hancock, and R. M. Geilhufe, *Phys. Rev. B*, 108 (2023) 235140. https://journals.aps.org/prb/abstract/10.1103/PhysRevB.108.235140

3. A Novel Spinel Ferrite-Hexagonal Ferrite Composite for Enhanced Magneto-Electric Coupling in a Bilayer with PZT, S. Saha, S. Acharya, M. Popov, T. Sauyet, J. Pfund, R. Bidthanapally, **M. Jain**, M. R. Page, and G. Srinivasan, *Sensors*, 23 (2023) 9815. https://www.mdpi.com/1424-8220/23/24/9815

4. Electric Field Tuning of a Nickel Zinc Ferrite Resonator by Non-Linear Magnetoelectric Effects, M. Popov, A. Machi, J. Inman, R. Bidthanapally, S. Saha, H. Qu, **M. Jain**, M. R. Page, and G. Srinivasan, *Scientific Report,* 13 (2023) 18346. https://www.nature.com/articles/s41598-023-45530-4

5. Magnetocaloric properties of $TbCrO_3$ and $TmCrO_3$ and their comparison with those of the other $RCrO_3$ systems (R = Gd, Dy, Ho, and Er), J. Shi, M. Seehra, J. Pfund, S. Yin, and **M. Jain**, *Journal of applied physics*, 134 (2023) 103903. Magnetocaloric properties of $TbCrO_3$ and $TmCrO_3$ and their comparison with those of the other $RCrO_3$ systems (R = Gd, Dy, Ho, and Er) | Journal of Applied Physics | AIP Publishing

6. Observation of c-axis magnetization at low temperatures in weak ferromagnet $FeBO_3$ reveals the onset of a Morin-type transition, J. Franklin, J. Pfund, J. Bedard, **M. Jain**, and I. Sochnikov, *Physical Review B,* 107 (2023) 214433. Phys. Rev. B 107, 214433 (2023) - Observation of c-axis magnetization at low temperatures in the weak ferromagnet $\mathrm{Fe}{\mathrm{BO}}_{3}$ reveals a spin-reorientation transition (aps.org)

7. Highly piezoelectric, biodegradable and flexible amino acid nanofibers for medical applications, M. T. Chorsi, Thinh T. Le, Feng Lin, T. Vinikoor, R. Das, J. F. Stevens, C. Mundrane, J. Park, K. T. M. Tran, Y. Liu, J. Pfund, R. Thompson, W. He, **M. Jain**, M. D. Morales-Acosta, O. R. Bilal, K. Kazerounian, H. Ilies, Thanh D. Nguyen, *Science Advance*, 9 (2023) eadg6075. Highly piezoelectric, biodegradable, and flexible amino acid nanofibers for medical applications | Science Advances

8. Structural and electronic properties of rare-earth chromites: A computational and experimental study, J. Shi, Gayanath W. Fernando, Y. Dang, S.L. Suib, and **M. Jain**, *Physical Review B*, 106 (2022) 165117. https://journals.aps.org/prb/abstract/10.1103/PhysRevB.106.165117

9. Microwave Hydrothermal Synthesis of Mesoporous First-row Transition-Metal Ferrites, L. Achola, S. Shubhashish, Z. Tobin, Y. Su, L. Posada, Y. Dang, J. Shi, A. G. Meguerdichian, **M. Jain**, and S. L. Suib, *Chemistry of Materials*, 34 (2022) 7692. https://pubs.acs.org/doi/full/10.1021/acs.chemmater.2c00684

10. Comparison of the dielectric and magnetocaloric properties of bulk and film of $GdFe_{0.5}Cr_{0.5}O_3$, J. Shi, M.S. Seehra, Y. Dang, S. L. Suib, and **M. Jain**, *J. of Applied Physics*, 129 (2021) 243904. https://aip.scitation.org/doi/10.1063/5.0048828

11. Structure-property correlations and scaling in the magnetic and magnetocaloric properties of $GdCrO_3$ particles, J. Shi, T. Sauyet, Y. Dang, S. L. Suib, M. S. Seehra, and **M. Jain**, *J. Phys.: Condens. Matter*, 33 (2021) 205801. https://iopscience.iop.org/article/10.1088/1361-648X/abf19a/pdf

12. Spin dynamics and relaxation in 7.6 nm thin film of $La_{0.7}Sr_{0.3}MnO_3/SrTiO_3$: ac magnetic susceptibility and magnetic viscosity investigations, N. Mottaghi, M. S. Seehra, J. Shi, **M. Jain**, and M. B. Holcomb, *Journal of Applied Physics*, 128 (2020) 073903. https://doi.org/10.1063/5.0017765

13. Lattice Dynamics of Barium Titanate: Single Crystal, Ceramic and Polycrystalline Film, O. A. Maslova, Y. I. Yuzyuk , **M. Jain**, and S. A. Barannikova, *Physica Status Solidi B*, 257(8) (2020) 1900762. https://doi.org/10.1002/pssb.201900762

14. Crystalline Mesoporous Perovskite-Type Oxides: Porosity-Controlled Electromagnetic Response, L. Jin, X. Su, J. Shi, K.C. Shih, D. Cintron, T. Cai, Mu-Ping Nieh, Ou Chen, S. L. Suib, **M Jain**, and J. He, *Advanced Functional Materials*, 30 (2020) 1909491. 10.1002/adfm.201909491 https://doi.org/10.1002/adfm.201909491

15. Antiferromagnetic and dielectric behavior in polycrystalline $GdFe_{0.5}Cr_{0.5}O_3$ thin film, J. Shi, M. Johnson, M. Zhang, Pu-Xian Gao, and **M. Jain**, *Applied Physics Letters Materials*, 8 (2020) 031106. https://doi.org/10.1063/1.5142177

16. Enhanced Visible-Light-Assisted Peroxymonosulfate Activation on Cobalt-Doped Mesoporous Iron oxide for Orange II Degradation, L. A. Achola, A. Ghebrehiwet, J. Macharia, P. Kerns, J. He, J. Fee, C. Tinson, J. Shi, S. March, **M. Jain**, and S.L. Suib, *Applied Catalysis B: Environmental*, 263 (2020) 118332. https://doi.org/10.1016/j.apcatb.2019.118332

17. Graphene and Poly(3,4-ethylene dioxythiophene): Poly(4-styrene sulfonate) on Nonwoven Fabric as a Room Temperature Metal and Its Application as Dry Electrodes for Electrocardiography, S. Sinha, F. A. Alamer, S. Woltornist, Y. Noh, F. Chen, A. McDannald, C. Allen, R. Daniels, A. Deshmukh, **M. Jain**, K. Chon, D. Adamson, G. Sotzing, *ACS Applied Materials & Interfaces*, 11 (2019) 32339. https://doi.org/10.1021/acsami.9b05379

18. Magnetic and Tunable Dielectric Properties of $DyCrO_3$ Thin Films, A. McDannald, S. Vijayan, J. Shi, A. Chen, Q. X. Jia, M. Aindow, and **M. Jain**, *Journal of Materials Science,* 54 (2019) 8984. DOI :10.1007/s10853-019-03524-6

19. Biocompatible superparamagnetic carriers of chondroitin sulfate, L. M. R. Rivera, L. G. Paterno, N. L. Chaves, D. Gregurec, S. N. Báo, S. E. Moya, **M. Jain**, R. B. de Azevedo, P. C. Morais, and M. A. G. Soler, *Materials Research Express,* 6 (2019) 066106. DOI: 10.1088/2053-1591/ab0950 https://iopscience.iop.org/article/10.1088/2053-1591/ab0950

20. Enhancement in magnetocaloric properties of $ErCrO_3$ via partial A-site Gd substitution, J. Shi, S. Yin, M. S. Seehra, and **M. Jain**, *J. Applied Physics*, 123 (2018) 193901. https://doi.org/10.1063/1.5022584

21. Effect of Gd substitution on the structural, magnetic, and magnetocaloric properties of $HoCrO_3$, S. Yin, W. Zhong, C.J. Guild, J. Shi, S.L. Suib, L. F. Cótica, and **M. Jain**, *J. of Applied Physics,* 123 (2018) 053904; https://doi.org/10.1063/1.5003637.

22. Magnetic and magneto-caloric properties of $HoCrO_3$ tuned by selective rare-earth doping, S. Yin, M.S. Seehra, C.J. Guild, S.L. Suib, N. Poudel, B. Lorenz, and **M. Jain**, *Physical Review B*, 95 (2017) 184421. https://doi.org/10.1103/PhysRevB.95.184421

23. Particle size dependence of the magnetic and magneto-caloric properties of $HoCrO_3$, S. Yin, T. Sauyet, M. S. Seehra, and **M. Jain**, *J. Applied Physics*, 121 (2017) 063902. http://dx.doi.org/10.1063/1.4975405

24. Switchable 3-0 Magnetoelectric Nanocomposite Thin Film with High Coupling, A. McDannald, L. Ye, C. Cantoni, G. Sreenivasulu, B. D. Huey, and **M. Jain**, *Nanoscale*, 9 (2017) 3246. http://pubs.rsc.org/en/content/articlepdf/2017/nr/c6nr08674h

25. Magnetic properties of pure and Fe doped $HoCrO_3$ thin films fabricated via a solution route, S. Yin, T. Sauyet, C. Guild, S. L. Suib, and **M. Jain**, *J. Magnetism and Magnetic Materials*, 428 (2017) 313. https://doi.org/10.1016/j.jmmm.2016.12.021

26. An efficient organic solvent-free solution-processing strategy for high-mobility metal chalcogenide film growth, J. Zhao, I. Jeon, Q. Yi, **M. Jain**, M. H. Rummeli, P. Song, Y. Matsuo, and G. Zou, *Green Chemistry*, 19 (2017) 946. DOI: 10.1039/c6gc02489k

27. Modulated magneto-thermal response of $La_{0.85}Sr_{0.15}MnO_3$ and $(Ni_{0.6}Cu_{0.2}Zn_{0.2})Fe_2O_4$ composites for thermal energy harvesters, H. C. Song, D. Maurya, J. Chun, Y. Zhou, M.E. Song, D. Gray, N. K. Yamoah, D. Kumar, A. McDannald, **M. Jain,** and S. Priya, *Energy Harvesting and Systems*, 4 (2017) 57. https://doi.org/10.1515/ehs-2016-0016

28. Enhancement in magnetocaloric properties of holmium chromite by gadolinium substitution, S. Yin and **M. Jain**, *Journal of Applied Physics*, 120 (2016) 043906.

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124. Growth, microstructure and micro-Raman studies of RF magnetron sputter deposited $SrBi_2Ta_2O_9$ and $SrBi_2TaNbO_9$ films, **M. Jain**, S. Sathiraju, and R. S. Katiyar, *Proceedings of Materials Research Society*, 580, (2000) 345.

List of Presentations:

1. Hard-Axis Magnetization in Iron Borate Single Crystal, J. Pfund, S. Jiang, W. Zhang, P. S. Halasyamani, M. A. Susner, V. Ortalan, and **M. Jain**, *Materials Research Society Fall Meeting*, Boston, MA, Dec 1-6th, 2024. (Oral Presentation, Session EN04.09)
2. Low-Field Magnetoresistance in Nanocomposites of $La_{0.7}Sr_{0.3}MnO_3$ and Metal Oxides, N. Thiel-Hudson, T. Sauyet, Z. Ritchey, J. Pfund, and **M. Jain**, *Materials Research Society Fall Meeting*, Boston, MA, Dec 1-6th, 2024. (Poster Presentation, Session NM05.08.18)
3. Dielectric properties in ferroelectric and multiferroic metal-oxides, **M. Jain**, *2024 US-Japan Seminar on Dielectric and Piezoelectric Ceramics*, Kofu, Japan, Nov 10-13th, 2024. **(Invited)**
4. Tuning of magnetic and multiferroic behavior in metal-oxides and nanocomposite films, M. Jain, *Air Force Research Laboratory*, Fairborn, OH, 12th April 2024. **(Invited)**
5. Functional Materials and Applications, **M. Jain**, *Graduate seminar in Physics Dept UConn,* March 22, 2024. (Oral)
6. Tuning of multiferroic Behavior in metal-Oxide Films and Nanocomposites, **M. Jain***, ISAF-ISIF-PFM 2023*, Cleveland, OH, July 23rd-27th, 2023. **(Invited)**
7. Comparison of the Antiferromagnetic and Magnetocaloric Properties of Rare-Earth Chromites, J. Pfund,J. Shi, M. S. Seehra, G. Fernando, and **M. Jain**, *Materials Research Society Spring Meeting*, San Francisco, CA, April 11th, 2023. (Poster)
8. In-Plane and Out-of-Plane Magnetic Behavior in Iron Borate Single Crystal, J. Pfund, J. Franklin, J. Bedard, I. Sochnikov, and **M. Jain**, *Materials Research Society Spring Meeting*, San Francisco, CA, April 13th, 2023. (Poster)
9. Antiferromagnetic and Relaxor-type Ferroelectric Behavior in Iron Doped $GdCrO_3$, J. Shi, M. S. Seehra, J. Pfund, and **M. Jain**, *American Physical Society March Meeting*, Las Vegas, NV, March 9, 2023. (Poster)
10. In-Plane and Out-of-Plane Magnetic behavior in Iron Borate Single Crystal, J. Pfund, J. Franklin, J. Bedard, I. Sochnikov, and **M. Jain**, *American Physical Society March Meeting*, Las Vegas, NV, March 10th, 2023. (Oral)
11. Multifunctional materials for devices, **M. Jain**, *Workshop on Quantum Matter: Dynamics and Sensors*, Storrs, CT, December 19th-22nd, 2022. (Oral)
12. Magnetoelectric multiferroic properties in single-phase and bi-phasic thin films, **M. Jain**, *International workshop on Thin Films for Electronics, Electro-Optics, Energy and Sensors (TFE3S2022)*, Boston, MA, USA, August 10th-12th, 2022. **(Invited)**
13. Anomalous Structural Phase Transition in Ferromagnetic $SrCoO_{2.875,}$ A. Jayakody, W. Hines, S. Nayak, S. Lapidus, M. Abeykoon, J. Budnick, J. Shi, Menka Jain, B.O. Wells, *American Physical Society March Meeting*, Chicago, IL, March 14, 2022. (Oral)
14. Functional and multifunctional materials. **M. Jain**, *Materials Science and Engineering Department*, Visitation Day, March 4th 2022. (Oral)
15. Antiferromagnetic and relaxor-type ferroelectric behavior in iron doped $GdCrO_3$. Shi, M. S. Seehra, and **M. Jain**, *Materials Research Society Fall Meeting*, Boston, MA, November 28th – December 3rd, 2021. (Oral)
16. Functional and multifunctional materials for microelectronics. **M. Jain**, *Department of Physics*, October 19th 2021. (Oral)

17. Antiferromagnetism and magnetocaloric effects in $GdCrO_3$ based compounds, J. Shi, M. S. Seehra, and **M. Jain**, *The European Conference: Physics of Magnetism 2021*, Virtual Conference (Poland), June 28th - July 2nd 2021. (Oral)

18. Rare-earth chromites and rare-earth manganites: structural-property relations, **M. Jain**, *63rd Electronic Materials Conference*, Virtual Conference, 23rd-25th June, 2021. (Oral)

19. Single-phase and biphasic magnetoelectric multiferroic materials by solution technique, J. Shi, A. McDannald, B. D. Huey, and **M. Jain**, *IEEE ISIF ISAF 2021*, Virtual Conference, May 16th-21st, 2021. (Oral)

20. Effect of Ionic Radii of the Rare-earth Ion on the Magnetocaloric Effect of Rare-earth Chromites, J. Shi, M. Seehra, and **M. Jain**, *The 65th Annual Conference on Magnetism and Magnetic Materials (MMM 2020)*, Virtual Conference, November 2nd – 6th, 2020. (Oral)

21. Magnetic and Dielectric Properties of Potential Multiferroic $GdCrO_3$, J. Shi, Y. Dang, S. L. Suib, and **M. Jain**, *Materials Research Society Fall Meeting*, Boston, MA, December 1st-6th, 2019. (Poster).

22. Interests in Multiferroics and other functional materials, **M. Jain**, *Graduate Student Seminar*, University of Connecticut, Storrs, CT, April 12th, 2019. (Oral)

23. Magnetocaloric Properties in Rare-Earth Chromites, J. Shi, S. Yin, and **M. Jain**, *5th Annual UConn School of Engineering Poster Competition*, Storrs, CT, March 15th, 2019. (Poster)

24. Caloric effects in ferroic perovskite oxide thin films, S. Martin, J. Shi, and **M. Jain**, REU Poster Session, *University of Connecticut*, Storrs, CT, August 2nd, 2018. (Poster)

25. Single Phase Multiferroic—Fe Substituted Gd-Chromite [$GdFe_{0.5}Cr_{0.5}O_3$] Thin Films, J Shi and **M. Jain**, *Materials Research Society Fall Meeting*, Boston, MA, November 26th – December 1st 2017. (Oral)

26. Enhancement in magnetocaloric effect of pure $ErCrO_3$ with Gd doping, J. Shi, S. Yin, and **M. Jain**, *62nd Annual Magnetism and Magnetic Materials Conference*, Pittsburgh, PA, November 6th-10th, 2017. (Oral)

27. Magnetic and magneto-caloric properties of $HoCrO_3$ tuned by selective rare-earth doping, Shiqi Yin, M. S. Seehra, C. Guild, S. L. Suib, N. Poudel, B. Lorenz, **M. Jain**, *UConn Physics Department Poster Session, Storrs*, CT, 21st April, 2017. (Poster)

28. Effect of ionic size of the rare-earth dopant on the structural and magnetic properties of $HoCrO_3$. Shiqi Yin, T. Sauyet, M. Seehra, and **M. Jain,** *APS MMM Conference*, New Orleans, 31st Oct-4th Nov, 2016. (Poster)

29. Multiferroic properties of holmium chromite and gadolinium chromite, S. Yin and **M. Jain**, *Materials Challenges in Alternative & Renewable Energy*, Clearwater, FL, April 17-21st 2016. (Oral)

30. Nanocomposite Thin Films to Achieve High Magnetoelectric Coupling, **M. Jain**, *Materials Challenges in Alternative & Renewable Energy*, Clearwater, FL, April 17-21st 2016. (Oral)

31. The size and pressure effect on the magnetic and magnetocaloric property in $HoCrO_3$, S. Yin and **M. Jain**, *Materials Challenges in Alternative & Renewable Energy*, Clearwater, FL, April 17-21st 2016.

32. Particle size dependence of the magnetic and magneto-caloric properties of $HoCrO_3$, S. Yin, T. Sauyet, M. S. Seehra, and **M. Jain**, *UConn Physics Department Poster Session*, Storrs, CT, 27th February, 2016.

33. Magnetoelectric and Magnetotransport Properties of Metal-Oxide Materials, **M. Jain***, University of Michigan*, Ann Harbor, MI, December 11th, 2015 **(Invited)**.

34. Structural, Magnetic, and Dielectric Properties of Ho Substituted $DyCrO_3$ Bulk and Thin-Films, A. McDannald, M. Seehra, and **M. Jain**, *Materials Research Society Fall Meeting*, Boston, MA, November 29th – December 4th 2015.

35. Magnetic and Magnetocaloric Properties of Iron Substituted Holmium Chromite and Dysprosium Chromite, S. Yin and **M. Jain**, *Materials Research Society Fall Meeting*, Boston, MA, November 29th – December 4th 2015.

36. Magnetic properties and exchange interactions in rare-earth substituted $DyCrO_3$, A. McDannald, M. Seehra, and **M. Jain**, *Materials Science and Technology meeting, Columbus*, OH, October 4-8th 2015.

37. Magnetoelectric Multiferroics by Solution Methods, **M. Jain**, *Materials Science and Technology meeting*, Columbus, OH, October 4-8th 2015 **(Invited)**.

38. Magnetic, Magnetotransport, and Multiferroic Properties of Functional Metal-Oxide Materials, **M. Jain***, Los Alamos National Laboratory*, Los Alamos, NM, July 21st, 2015 **(Invited)**.

39. Effects of iron substitution on magnetic and magnetocaloric properties in rare-earth chromites, Shiqi Yin, A. McDannald, **M. Jain**, *UConn IMS Annual Meeting*, Storrs, CT, 28th May (2015).

40. Single-Phase Bulk and Nanocomposite Films of Magnetoelectrics, **M. Jain,** *Materials Research Society Fall Meeting*, San Francisco, CA, April 6-10th, 2015 **(Invited)**.

41. Magnetic properties and exchange interactions in rare-earth substituted $DyCrO_3$, A. McDannald and **M. Jain**, *59th Annual Magnetism and Magnetic Materials Conference*, Honolulu, Hawaii, November 3rd-7th, 2014.

42. Physical Properties of Perovskite-Type Rare-Earth Manganites and Chromites, **M. Jain**, 2014 *ACerS-National Science Foundation Principle Investigator Workshop*, Fairfax, VA, June 17-18th 2014.

43. Determination of preferred c-axis orientation in thin films of $BaFe_{12}O_{19}$, R. G. Paranhos, D. Garcia, and **M. Jain**, *Yale-Rigaku Symposium*, New Haven, CT, June 6th, 2014.

44. Properties of Perovskite Based Functional Metal-Oxides and Nanocomposites Fabricated by solution techniques, **M. Jain**, *Rutgers University*, Piscataway, NJ, 15th April 2014 **(Invited)**.

45. The Magnetocaloric Effect in Manganites and Magnetic Refrigeration, L. Kuna, M. Staruch, A. McDannald, and **M. Jain**, *7th Annual Frontiers in Undergraduate Research Poster Exhibition*, University of Connecticut, CT, April 11-12th, 2014.

46. Magnetic Behavior of Rare-Earth Substituted Orthochromites, A. McDannald, L. Kuna, and **M. Jain**, *American Physical Society March Meeting*, Denver, CO, March 3rd- 7th, 2014.

47. Structural, Microstructural, and Magnetoelectric properties of PZT:CFO Nanocompsoite Thin Films, **M. Jain**, *Electronic Materials & Applications 2014 Conference*, Orlando, FL, January 23-25th, 2014 **(Invited)**.

48. Synthesis, Structural and Magnetic Characterization of $Dy_{1-x}R_xCrO_3$ (R = Y, Ho, Nd), A. McDannald, L. Kuna, and **M. Jain**, *Materials Research Society Fall Meeting*, Boston, MA, December 1st-3rd, 2013.

49. Properties of Perovskite Based Metal-Oxides and Nanocomposite Thin Films, **M. Jain**, *Materials Science & Technology 2013 Conference*, Montreal, Canada, October 27th-31st, 2013 **(Invited)**.

50. Nanocomposite Films with Sensing Properties, **M. Jain**, *7th International Conference on Materials for Advanced Technologies*, Singapore, June 30th-July 5th, 2013 **(Invited)**.

51. Single-Phase and Composite Magnetoelectric Multiferroics, **M. Jain**, *Materials Research Society Spring Meeting*, San Francisco, CA, April 1st-5th, 2013

52. Magnetoelectric Composite Thin Films by Mixed Solution Method, A. McDannald, M. Staruch, G. Srinivasan, G. Sreenivasulu, and **M. Jain**, *Materials Research Society Spring Meeting*, San Francisco, CA, April 1st-5th, 2013.

53. Complex Magnetic Interactions in A-site and B-site Doped Multiferroic $TbMnO_3$, M. Staruch and **M. Jain**, *American Physical Society Meeting*, Baltimore, MD, March 18th-22nd, 2013.

54. Perovskite $BaCrO_3$: completing a materials system with an anomalous Mott transition, Z. H. Zhu, F. J. Rueckert, J. I. Budnick, W. A. Hines, **M. Jain**, H. Zhang, and B. O. Wells, *American Physical Society Meeting*, Baltimore, MD, March 18th-22nd, 2013.

55. Nanocomposite Films With Low-Field Magnetoresistance or Magnetoelectric Properties, **M. Jain**, *37th International Conference and Expo on Advanced Ceramics and Composites*, Daytona Beach, FL, January 27th - February 1st, 2013 **(Invited)**.

56. Single Phase $RMnO_3$ & PZT-Ferrite Multiferroics, **M. Jain**, *International Workshop and symposium on Emerging Frontiers in Multiferroics and Electronic Metamaterials*, Pattaya, Thailand, December 9-10th, 2012 **(Invited)**.

57. Effects of Holmium Doping on the Multiferroic Properties of $TbMnO_3$, M. Staruch, A. Kumarasiri, G. Lawes, and **M. Jain**, *Materials Research Society Fall Meeting*, Boston, MA, November 25th-30th, 2012.

58. Magnetic Properties of $CoFe_2O_4$ Nanoparticles and magnetoelectric Properties of $PbZr_{0.52}Ti_{0.48}O_3$: $CoFe_2O_4$ Nanocomposite Films, A. McDannald, M. Staruch, G. Srinivasan, G. Sreenivasulu, and **M. Jain**, *Materials Research Society Fall Meeting*, Boston, MA, November 25th-30th, 2012.

59. Magnetic Properties of solution-grown $TbMnO_3$ thin films, M. Staruch, A. Chen, C. Li, H. Wang, L. Stan, and **M. Jain**, *Materials Research Society Spring Meeting*, San Francisco, CA, April 9th-13th, 2012.

60. Highly Aligned Carbon Nanotube Forests Coated by Superconducting NbC, G. Zou, H. M. Luo, Y. Zhang, **M. Jain**, A. Burrell, T. McCleskey, and Q. Jia, *Materials Research Society Spring Meeting*, San Francisco, CA, April 9th-13th, 2012.

61. Magnetoelectric Properties of $PbZr_{0.52}Ti_{0.48}O_3$:$CoFe_2O_4$ Composite Films, M. Staruch, A. McDannald, D. Navarathne, G. Sotzing, and **M. Jain**, *Materials Research Society Spring Meeting*, San Francisco, CA, April 9th-13th, 2012.

62. Low-Field Magnetoresistance of $La_{0.67}Sr_{0.33}MnO_3$:MgO Composite Films Grown by Solution Method, M. Staruch, D. Hires, and **M. Jain**, *Materials Research Society Fall Meeting*, Boston, MA, November 28th-December 2nd, 2011.

63. Synthesis and Characterization of Iron and Cobalt Substituted Hydroxyapatite Prepared by a Simple Ion Exchange Soaking Procedure, E. Kramer, **M. Jain**, J. Budnick, and M. Wei, *Materials Research Society Fall Meeting*, Boston, MA, November 28th- December 2nd, 2011.

64. Chemical Solution Routes to Fabricate Functional Materials, **M. Jain**, *International Workshop on Advances in Multifunctional, Multiferroic, Materials and Their Applications and the Meeting of the International Network for Advanced Multifuncitonal Materials*, Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil, November 4th-8th, 2011 **(Tutorial-Invited)**.

65. Ferroic and Multiferroic Thin Films and Composites, **M. Jain**, *International Workshop on Advances in Multifunctional, Multiferroic, Materials and Their Applications and the Meeting of the International Network for Advanced Multifuncitonal Materials*, Centro Brasileiro de Pesquisas Físicas, Rio de Janeiro, Brazil, November 4th-8th, 2011 **(Invited)**.

66. Functional Oxides: Development and Understanding for Applications, **M. Jain**, Graduate students' visitation day *Institute of Materials Science, University of Connecticut*, Storrs, CT, August 22nd, 2011.

67. Effects of Mn Doping on the Properties of Thin Films of $Pb_{0.3}Sr_{0.7}TiO_3$, M. Staruch, K. Cil, H. Silva, and **M. Jain**, *Materials Research Society Spring Meeting*, San Francisco, CA, April 25th-29th, 2011.

68. Iron-Substitution in Hydroxyapatite Using a Simple Ion Exchange Soaking Procedure, E. Kramer, M. Staruch, **M. Jain**, and M. Wei, *Society For Biomaterials Annual Meeting and Exposition*, Orlando, FL, April 13th-16th, 2011.

69. Magnetotransport in Pure and Nanocomposite Manganite Thin Films, **M. Jain**, *Electronic Materials and Applications*, Orlando, FL, January 19th-21st, 2011 **(Invited)**.

70. Synthesis of epitaxial metal-oxide films by polymer-assisted deposition, H. Luo, **M. Jain**, E. Bauer, A. Burrell, T. McCleskey, and Q. X. Jia, *Electronic Materials and Applications,* Orlando, FL, January 19th-21st, 2011.

71. Effects of Mn Doping on Structural and Electronic Properties of Thin Films of $Pb_{0.3}Sr_{0.7}TiO_3$, M. Staruch, H. Wang, and **M. Jain**, *Materials Science and Technology Meeting,* Houston, TX, October 17th-21st, 2010.

72. Multiferroic Research Activities at U Conn, **M. Jain**, *International Symposium on Multifunctionality of Ferroics and Multiferroics*, San Antonio, TX, October 15th – 16th 2010 **(invited)**.

73. Functional Oxide Materials, **M. Jain**, Graduate student's visitation day *Institute of Materials Science, University of Connecticut*, Storrs, CT, August 23rd, 2010.

74. Piezoelectrics: Smart Materials, **M. Jain**, Physics Club, University of Connecticut, Storrs, CT, April 8th, 2010 **(invited)**.

75. Substrate Effects on Magnetotransport Properties of the $Pr_{0.5}Ca_{0.5}MnO_3$ Thin Films, M. Staruch, J. I. Budnick, H. Wang, and **M. Jain**, and, *Materials Research Society Fall Meeting*, Boston, MA, November 30th-December 4th, 2009.

76. DNA Nanofiber Based Decontamination Membranes, D. Navarathne, Y. Ner, **M. Jain**, J. G. Grote, and G. A. Sotzing, *Materials Research Society Fall Meeting*, Boston, MA, November 30th-December 4th, 2009.

77. Functional Oxides: Development and Understanding for Applications, **M. Jain**, Graduate student's visitation day *Institute of Materials Science, University of Connecticut*, Storrs, CT, February 27th, 2009.

78. Superconductivity of Iron Selenide thin films, Y. Nie, E. Brahimi, J. I. Budnick, W.A. Hines, **M. Jain**, and B.O. Wells, *American Physical Society*, Pittsburgh, PA, March 16-20th, 2009.

79. Functional Oxide Materials: Structure-Property Correlations, **M. Jain**, *Institute of Materials Science Associate Program, University of Connecticut,* Storrs, CT, May 27th, 2009.

80. Solution approaches to grow perovskite metal-oxide thin films for devices, **M. Jain**, *Mechanical and Aerospace Engineering Department, West Virginia University*, Morgantown, WV, October 19th, 2008 **(invited)**.

81. Magnetotransport properties of the $Pr_{0.5}Ca_{0.5}MnO_3$ thin films grown by a solution technique, **M. Jain**, F. Ronning, J. D. Thompson, L. Stan, Q. X. Jia, J. Yoon, H. Wang, and C. B. Eom, *Materials Science and Technology*, Pittsburgh, PA, October 5-9th, 2008.

82. Self-assembled epitaxial multiferroic nanocomposite films prepared by polymer assisted deposition, H. Luo, H. Yang, S. A. Baily, O. Ugurlu, **M. Jain**, M. E. Hawley, E. Bauer, T. McCleskey, A. K. Burrell, L. Civale, T. G. Holesinger, and Q. X. Jia, *Materials Science and Technology*, Pittsburgh, PA, October 5-9th, 2008.

83. Connection of carbon-nanotubes to silicon using chemical route at room temperature, G. Zou, **M, Jain**, H. Zhou, D. Williams, M. Zhou, T. M. Mccleskey, A. K. Burrell, and Q. X. Jia, *American Chemical Society-236th National Meeting and Exposition*, Philadelphia, PA, August 17th-21st, 2008.

84. NbN films grown by chemical solution deposition, G. Zou, **M. Jain**, H. Luo, S. Baily, T. M. McCleskey, E. Bauer, A. K. Burrell, and Q. X. Jia, *American Physical Society March Meeting*, New Orleans, LA, March 10-14th, 2008.

85. Epitaxial growth of complex oxide films by a chemical solution method, Q. X. Jia, **M. Jain**, H. Luo, E. Bauer, H. Wang , A. K. Burrell, and T. M. McCleskey, *American Physical Society March Meeting*, New Orleans, LA, March 10-14th, 2008.

86. Perovskite ferroelectric thin films grown by polymer assisted deposition technique, **M. Jain**, E. Bauer, H. Yang, A. K. Burrell, T. M. McCleskey, R. F. DePaula, and Q. X. Jia, *Materials Research Society Spring Meeting*, San Francisco, CA, March 24-28th, 2008.

87. Tunable lead strontium titanate thin films by sol-gel technique, **M. Jain**, N. K. Karan, J. Yoon, H. Wang, R. S. Katiyar, and Q. X. Jia, *17th International Symposium on Applications of Ferroelectrics*, Santa Fe, NM, February 24-27th, 2008.

88. Temperature-dependent leakage mechanisms of $BiFeO_3$ films, H. Yang, **M. Jain**, H. M. Luo, D. M. Feldmann, P. C. Dowden, R. F. DePaula, S. R. Foltyn, and Q. X. Jia, *17th International Symposium on Applications of Ferroelectrics***,** Santa Fe, NM, February 24-27th, 2008.

89. Structural, dielectric, and electrical properties of relaxor $BaZr_xTi_{1-x}O_3$ thin films grown by polymer assisted deposition technique, **M. Jain**, E. Bauer, H. Yang, H. M. Luo, A. K. Burrell, T. M. McCleskey, R. F. DePaula, and Q. X. Jia, *Materials Research Society Fall Meeting*, Boston, MA, November 26-30th, 2007.

90. Dielectric properties of self-assembled $(BiFeO_3)_{0.5}$:$(Sm_2O_3)_{0.5}$ nanocomposite films. H. Yang, **M. Jain**, H. Wang, J. Yoon, P. C. Dowden, J. L. MacManus-Driscoll, and Q. X. Jia, *Materials Research Society Fall Meeting*, Boston, MA, 26-30th November, 2007.

91. Effective thickness and dielectric constant of interfacial layers of $Pt/Bi_{3.15}Nd_{0.85}Ti_3O_{12}/SrRuO_3$ capacitors. H. Yang, N. A. Suvorova, **M. Jain**, M. E. Hawley, P. C. Dowden, R. F. DePaula, C. J. Lu, and Q. X. Jia, *Materials Research Society Fall Meeting*, Boston, MA, November 26-30th, 2007.

92. Device concepts based on ferroics, **M. Jain**, *Electrical and Computer Engineering Department, University of Texas*, San Antonio, TX, November 19th, 2007 **(invited)**.

93. Physical properties of perovskite metal-oxide thin films, **M. Jain**, Department of Physics, University of Connecticut, Storrs, CT, September 27th, 2007 **(invited)**.

94. Solution approach for the growth of rare earth manganite thin films, **M. Jain**, F. Ronning, M. F. Hundley, T. Park, J. D. Thompson, A. K. Burrell, T. M. McCleskey, B. Maiorov, L. Civale, and Q. X. Jia, *Materials Science and Technology 2007 Conference and Exhibition,* Detroit, MI, September 16-20th, 2007 **(invited)**.

95. Chemical solution approach for the growth of a variety of electronic oxide thin films, **M. Jain**, F. Ronning, M. F. Hundley, A. K. Burrell, T. M. McCleskey, B. Maiorov, L. Civale, A. S. Bhalla, R. S. Katiyar, and Q. X. Jia, *Materials Science and Technology 2007 Conference and Exhibition,* Detroit, MI, September 16-20th, 2007 **(invited)**.

96. Physical properties of perovskite thin films, **M. Jain**, *Department of Physics, University of Tuskegee*, Tuskegee, AL, July 18th, 2007 **(invited)**.

97. Novel approach to grow metal-oxide films for electronic devices, Q. X. Jia, **M. Jain**, Y. Lin, H. Luo, A. K. Burrell, and T. M. McCleskey*, International Conference on Materials for Advanced Technology*, Singapore, July 1-6th, 2007.

98. Magnetoresistance in the multilayer-coated films of hole doped lanthanum manganites grown by polymer assisted deposition, **M. Jain**, P. Shukla, Y. Li, M. F. Hundley, A. K. Burrell, T. M. McCleskey, R. F. DePaula, and Q. X. Jia, *Materials Research Society Spring Meeting*, San Francisco, CA, April 9-13th, 2007.

99. Polymer-assisted deposition of epitaxial $SrRuO_3$ thin films, H. Luo, **M. Jain**, R. F. DePaula, T. M. McCleskey, A. K. Burrell, and Q. X. Jia, *Materials Research Society Spring Meeting*, San Francisco, CA, April 9-13th, 2007.

100. Conduction mechanisms of $BiFeO_3$ thin films, H. Yang, **M. Jain**, B. S. Kang, Y. Li, R. F. DePaula, and Q. X. Jia, *Materials Research Society Spring Meeting*, San Francisco, CA, April 9-13th, 2007.

101. Chemical solution approaches for the growth of a variety of electronic oxide thin films, **M. Jain**, *Materials Science and Technology Division,* Los Alamos National Laboratory, Los Alamos, NM, March 20th, 2007 **(invited)**.

102. Electrical transport and magnetic behavior of $Pr_{0.5}Ca_{0.5}MnO_3$ films grown by chemical solution deposition technique, **M. Jain**, Q. X. Jia, F. Ronning, T. Park, and J. D. Thompson, *American Physical Society March Meeting*, Denver, CO, March 5-9th, 2007.

103. Ferroelectric properties of lanthanum and praseodymium doped bismuth titanate thin films, **M. Jain**, B. S. Kang, and Q. X. Jia, *American Physical Society March Meeting*, Denver, CO, March 5-9th, 2007.

104. Structural and magnetic properties of ferromagnetic metal-oxide films grown by polymer assisted deposition, **M. Jain**, P. Shukla, M. F. Hundley, A. K. Burrell, T. M. McCleskey, and Q. X. Jia, A*merican Physical Society March Meeting*, Denver, CO, March 5-9th, 2007.

105. Comparative studies on dielectric and electrical properties of $Pb_{0.3}Sr_{0.7}TiO_3$ thin films prepared on different substrates, **M. Jain**, N. K. Karan, Q. X. Jia, A. S. Bhalla, and R. S. Katiyar, *Materials Science and Technology 2006 Conference and Exhibition,* Cincinnati, OH, October 15-19th, 2006.

106. Chemical solution approach for the growth of a variety of electronic oxide thin films, **M. Jain**, P. Shukla, Y. Li, M. F. Hundley, B. Maiorov, L. Civale, A. K. Burrell, T. M. McCleskey, A. S. Bhalla, R. S. Katiyar, and Q. X. Jia, *Materials Science and Technology 2006 Conference and Exhibition,* Cincinnati, OH, October 15-19th, 2006 **(invited)**.

107. Metal-oxide films grown by a chemical solution deposition technique, Q. X. Jia, Y. Lin, **M. Jain**, P. Shukla, A. K. Burrell, and T. M. McCleskey, *Materials Science and Technology 2006 Conference and Exhibition,* Cincinnati, OH, October 15-19th, 2006.

108. Tunable dielectric and electrical properties of $PbSrTiO_3$ thin films, N. K. Karan, **M. Jain**, A. S. Bhalla, R. S. Katiyar, and Q. X. Jia, *15th International Symposium on the Applications of Ferroelectrics,* Sunset Beach, NC, July 30th-August 2nd, 2006.

109. Ferroelectric properties of $Bi_{3.25}La_{0.75}Ti_3O_{12}$ films deposited on various substrates with $LaNiO_3$ films as bottom electrode, **M. Jain**, B. S. Kang, Y. Li, and Q. X. Jia, *15th International Symposium on the Applications of Ferroelectrics,* Sunset Beach, NC, July 30th-August 2nd, 2006.

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