Dr. Matthew C. Jewell

177D Phillips Hall
University of Wisconsin – Eau Claire
Eau Claire, WI 54702

jewellmc@uwec.edu
(715) 836-3770

Education

Ph.D. Materials Science, August 2008
University of Wisconsin – Madison GPA 3.8/4.0
Advisor: David Larbalestier
Thesis title: *The effect of strand architecture on the fracture propensity of Nb_3Sn composite superconductors*

M.S. Materials Science, May 2005
University of Wisconsin – Madison GPA 3.9/4.0

B.S. Materials Science and Engineering, *with highest distinction*, December 2002
University of Wisconsin – Madison GPA 3.9/4.0

Academic experience

Associate Professor, Materials Science & Engineering Program, University of Wisconsin – Eau Claire
August 2017 - present

Assistant Professor, Materials Science Program, University of Wisconsin – Eau Claire
August 2011 – August 2017

Monaco Postdoctoral Fellow, ITER Organization
January 2009 – August 2011

Research Assistant, University of Wisconsin – Madison
January 2003 – August 2008

Research Assistant, National High Magnetic Field Laboratory (Internship)
October 2006 – August 2008

Teaching Assistant, University of Wisconsin – Madison
August 2005 – May 2006

K-through-infinity teaching fellow, University of Wisconsin – Madison
June 2004 – May 2005

Extramural Research Awards

National Science Foundation: *Acquisition of a Confocal Laser Scanning Microscope to Enable Cutting-edge Undergraduate Research and Research Training across Disciplines*, $505,526 as a Major Research Instrumentation award.
Awarded July 2014 ($459,569)

U.S. Department of Energy: *Mechanical performance of HTS superconductors*, $750,000 over five years, including funding for one postdoctoral researcher and four UWEC student research collaborators.
Awarded July 2013

ITER Organization: *Strand and conductor manufacture quality control monitoring*, $86,000 over three years, including funding for two UWEC student research collaborators.
Awarded January 2012

Fermi National Accelerator Laboratory: *CS Nb_3Sn Conductor Qualification*, $24,072 over eight months, including funding for one UWEC student research collaborator.
Awarded March 2012

Commercial R&D support
$12,800 over 10 months, including funding for one UWEC student research collaborator.
Awarded October 2012

Student – Faculty Research Collaborations

AJ Kukay, *Cryogenic tensile testing of Bi-2212 wire*, 2016 - present

Kasey Berger (Goldwater nominee), *Metallography of YBCO superconducting tape*, 2016 – present.

Jordan Egner-Schnitzler, *External etching of strained Bi-2212 wires*, 2016 – present.

Devin Sieling, *Mechanical test fixture development*, 2016 – present

Tanner Olson (Blugold Fellow), *Quantitative digital image analysis of YBCO superconducting tape*, 2015 – present.

Grant Hawkins (Blugold Fellow), *Quantitative digital image analysis of composite Bi-2212 superconducting wires*, 2015 – present.

Alex Putney, *Cyclic strain behavior in Bi-2212 superconductors*, 2015 - present

Sarah Sortedahl (Kell Scholarship honorable mention, Larson-Lord Scholarship recipient, Goldwater nominee), *Development of Bi-2212 metallographic preparation techniques,* 2014 – present

Kyle Thao (NSF REU student from UW-Marathon), *External etching of Bi-2212 superconducting wires,* 2016.

Chris Hopp, *Vibratory polishing and chemical etching of Bi-2212 composite wires*, 2015 – 2016

Gavriel DePrenger-Gottfried, *Defect identification in Bi-2212 superconductors*, 2014 – 2016

Sam Schultz, *Tensile testing of individual Nb_3Sn filaments,* 2013 – 2016

Max Dylla (UWEC Blugold Fellow, Kell Scholarship recipient, Goldwater Scholar), *Tensile testing of individual Nb_3Sn filaments*, 2011 – 2015.

Jason Luhmann, *Microstructural defects in superconducting wires*, 2012 – 2014

Nick Sullivan, *Statistical analysis of large-scale superconductor production*, 2012 – 2015.

Joe Christian (Lieske Scholarship recipient), *Nanoindentation of bulk Nb_3Sn and Cr coating*, 2013 – 2015.

James McFarlane, *Defect identification in Bi-2212 superconductors*, 2014 – 2015.

Mahira Araujo, *Etching development in Bi-2212 superconductors*, 2014

Diego Vieira, *Etching development in Bi-2212 superconductors*, 2015

Carl Koepke, *Sn content effect on void formation in internal-tin Nb_3Sn*, 2012

Creighton Masters, *Nanoindentation testing of bulk superconductors*, 2012

Teaching experience

Physics 211: *General Physics*, Fall 2011, Spring 2012, Fall 2012, Spring 2016, Fall 2016 (lecture). Fall 2011, Spring 2012, Fall 2012, Spring 2013, Fall 2013 (lab).

MSCI 100: *Introduction to Materials Science and Nanoscience*, Fall 2011 (lecture); Fall 2012 (lab); Fall 2013, Fall 2014, Fall 2015 (lecture + lab).

MSCI 300: *Thermodynamics and Kinetics of Materials*, Spring 2012 (lab).

MSCI 382: ***Advanced Materials Science and Nanoscience***, Spring 2013 – Spring 2016.

MSCI 480: ***Advanced Materials Science Lab***, Fall 2016

MS&E 361: ***Materials Lab I***, UW-Madison, Fall 2005, Spring 2006 (lab, teaching assistant).

Honors and Distinctions

- ☐ 2012 UWEC Services for Students with Disabilities Recognition Award
- ☐ 2009 ITER-Monaco Fellowship recipient
- ☐ 2005 – 2006 Best Teaching Assistant, MS&E department, UW – Madison
- ☐ 2004 – 2005 National Science Foundation K-through-infinity Graduate Fellowship recipient
- ☐ 2003 – 2004 National Science Foundation Graduate Fellowship Honorable Mention
- ☐ 2003 – 2004 University of Wisconsin Graduate Fellowship recipient
- ☐ 2003 International Cryogenics Materials Conference "Student Meritorious Paper Award" winner
- ☐ 2001 – 2002 UW – Madison Hilldale Undergraduate Research Fellowship recipient

Professional Involvement

- ☐ Applied Superconductivity Conference (ASC) Board Member & 2018 ASC conference chair
- ☐ IEEE Council on Superconductivity Technical Operations Chair
- ☐ Technical editor, *IEEE Transactions on Applied Superconductivity*, 2012 – present
- ☐ Advisory Board, *Superconductor Science and Technology*, 2011 - 2012
- ☐ IEEE Senior member and IEEE Magnetics Society member, 2011 - present
- ☐ ASM International member, 1999 – present
- ☐ AAAS (American Association for the Advancement of Science) member, 2011 – present
- ☐ Regular service to technical conferences and journals, including:
    - Program committee, 2014 and 2016 Applied Superconductivity Conference
    - Program committee, 2013 Magnet Technology Conference (MT-23)
    - Technical editor, 2009, 2011, 2013 and 2015 Magnet Technology Conference
    - Local organizing committee and scientific program committee (*deputy chair*) for 2011 Magnet Technology Conference (MT-22)
    - Technical editor, 2012, 2014, and 2016 Applied Superconductivity Conference publication

- Program committee for 2010 Monaco-ITER International Fusion Energy Days (MIIFED)
- 2004, 2006, 2010, 2014, 2016 Applied Superconductivity Conference session chair
- 2009, 2011, 2013, 2015 Magnet Technology Conference session chair
- Regular reviewer for multiple technical journals and U.S. Dept. of Energy (university proposals and Small Business Innovative Research grants)

Mentoring and Outreach

- ☐ UWEC student-faculty research collaborations (see previous section)
- ☐ NSF Research Experience for Undergraduates (REU) mentor at both UW-Madison and Florida State University
- ☐ Project Mentor for Masters in Fusion Science Internship Program, ITER Organization
- ☐ 2004 UW Graduate Student Collaborative (UW-Madison) web advisory panel
- ☐ Participation in numerous science outreach efforts, including:
  - Co-founder and steering committee member, UWEC Art AND Science program
    - Organized UWEC showing of *Particle Fever* documentary
  - 2013, 2014 UWEC NanoDays
  - 2013 - 2016 Chi-Hi STEM outreach day
  - 2012, 2013 UWEC Student Research Visit Day
  - 2007 seminar speaker for Panhandle Area Educational Consortium (PAEC) *Seminars in Emerging Science*
  - 2004 & 2006 teacher training for National High Magnetic Field Laboratory (NHMFL) *Project Superconductivity* teacher kit
  - Content development for NHMFL superconducting I-Wall display
  - Judging of local and regional science fairs
  - Content development of online teacher training modules for Florida's Panhandle Area Educational Consortium (PAEC)
  - Organization of and participation in NHMFL annual Open House events, including demonstration development

Publications

1. A. Vostner, M.C. Jewell, I. Pong, N. Sullivan, A. Devred, D. Bessette, G. Bevillard, N. Mitchell, G. Romano, and C. Zhou, "Statistical Analysis of the Nb_3Sn Strand Production for the ITER TF Coils" *Supercond. Sci. Technol.*, **30** 045004, (2017).
2. M.T. Dylla, S.E. Schultz, and M.C. Jewell, "Fracture Strength Distribution of Individual Nb_3Sn Filaments", *IEEE Trans. Appl. Supercond.*, **26** 6001907 (2016).
3. C. Sanabria, P.J. Lee, W. Starch, T. Blum, A. Devred, M.C. Jewell, I. Pong, N. Martovetsky, and D.C. Larbalestier, "Metallographic Autopsies of full-scale ITER prototype cable-in-conduit conductors after full testing in SULTAN: 1. The mechanical role of copper strands in a CICC," *Supercond. Sci. Technol.* **28** 085005 (2015).
4. N. Cheggour, P.J. Lee, L.F. Goodrich, Z.-H. Sung, T.C. Stauffer, J.D. Splett, and M.C. Jewell, "Influence of the heat treatment conditions, microchemistry, and microstructure on the irreversible strain limit of a selection of Ti-doped internal-tin Nb_3Sn ITER wires," *Supercond. Sci. Technol.* **27** 105004 (2014).
5. A. Vostner, I. Pong, D. Bessette, A. Devred, S. Sgobba, A. Jung, K.-P. Weiss, M.C. Jewell, S. Liu, W. Yu, T. Boutboul, K. Hamada, S.-H. Park, V. Tronza, and R.P. Walsh, "Benchmarking of mechanical test facilities related to ITER CICC steel jackets," *IEEE Trans. Appl. Supercond.*, **23** 9500705 (2013).
6. I. Pong, A. Vostner, B. Bordini, M. Jewell, F. Long, W. Yu, L. Bottura, A. Devred, D. Bessette, and N. Mitchell, "Current sharing temperature of NbTi SULTAN samples compared to prediction using a single pinning mechanism parameterization for NbTi strand," *Supercond. Sci. Technol.* **25** 054011 (2012).
7. M.K. Sheth, P.J. Lee, D.M. McRae, R. Walsh, W.L. Starch, M.C. Jewell, A. Devred, and D.C. Larbalestier, "Procedure for evaluating filament cracking during fatigue testing of Nb_3Sn strand," *Advances in Cryogenic Engineering*, **58** 201 – 208 (2012).
8. M. Breschi, A. Devred, M. Casali, D. Bessette, M.C. Jewell, N. Mitchell, I. Pong, A. Vostner, P. Bruzzone, T. Boutboul, N. Martovetsky, K. Kim, Y. Takahashi, V. Tronza, and W. Yu, "Results of the TF Conductor Performance Qualification Samples for the ITER Project," *Supercond. Sci. Technol.* **25**, **095004** (2012). **Featured Article.**
9. M. Breschi, P.L. Ribani, D. Bessette, A. Devred, and M. Jewell, "Error estimation in the measurement of TF conductors in the SULTAN facility," *IEEE Trans. Appl. Supercond.* **22**, 4805205 (2012).
10. C. Sanabria, P.J. Lee, W. Starch, I. Pong, A. Vostner, M.C. Jewell, A. Devred, and D.C. Larbalestier, "Evidence that filament fracture occurs in an ITER toroidal field conductor after cyclic Lorentz force loading in SULTAN," *Supercond. Sci. Technol.***25**, 075007 (2012).
11. C. Calzolaio, P. Bruzzone, D. Uglietti, B. Stepanov, D. Bessette, and M.Jewell, "In-situ Tc measurements of cable-in-conduit conductors via an inductive method," *IEEE Trans. Appl. Supercond.* **22**, 9002604 (2012).
12. N. Cheggour, A. Nijhuis, H. Krooshoop, X. Lu, J. Speltt, T. Stauffer, L. Goodrich, M. Jewell, A. Devred, and Y. Nabara, "Strain and magnetic-field characterization of a bronze-route Nb3Sn ITER wire: Benchmarking of strain measurement facilities at NIST and University of Twente," *IEEE Trans. Appl. Supercond.* **22**, 4805104 (2012).
13. A. Devred, I. Backbier, D. Bessette, G. Bevillard, M. Gardner, M. Jewell, N. Mitchell, I. Pong, and A. Vostner, "Status of ITER Conductor Development and Production," *IEEE Trans. Appl. Supercond.* **22**, 4804909 (2012).

14. K. Hamada, Y. Nunoya, T. Isono, Y. Takahashi, K. Kawano, T. Saito, M. Oshikiri, Y. Uno, N. Koizumi, H. Nakajima, H. Matsuda, Y. Yano, A. Devred, P. Libeyre, D. Bessette, and M. Jewell, "Preparation for the ITER Central Solenoid conductor manufacturing," *IEEE Trans. Appl. Supercond.* **22**, 4203404 (2012).
15. P. Libeyre, D. Bessette, M. Jewell, C. Jong, C. Lyraud, F. Rodriguez-Mateos, K. Hamada, W. Reiersen, N. Martovetsky, C. Rey, R. Hussung, S. Litherland, K. Freudenberg, L. Myatt, E. Dalder, R. Reed, and S. Sgobba, "Addressing the technical challenges for the construction of the ITER Central Solenoid," *IEEE Trans. Appl. Supercond.* **22**, 4201104 (2012).
16. S.A. March, P. Bruzzone, B. Stepanov, D. Bessette, and M. Jewell, "Effect of thermal loading on Nb_3Sn CICC performance," *IEEE Trans. Appl. Supercond.*, **22**, 4803604 (2012).
17. I. Pong, M. Jewell, B. Bordini, L. Oberli, S. Liu, F. Long, T. Boutboul, P. Readman, S.H. Park, P.Y. Park, V. Patsyrny, V. Tronza, N. Martovetsky, J. Lu, and A. Devred, "Worldwide benchmarking of ITER internal tin and NbTi strand test facilities," *IEEE Trans. Appl. Supercond.*, **22**, 4802606 (2012).
18. M. Sheth, P. Lee, D. McRae, C. Sanabria, W. Starch, R. Walsh, M. Jewell, A. Devred, and D. Larbalestier, "Study of filament cracking under uniaxial repeated loading for ITER TF strands," *IEEE Trans. Appl. Supercond.* **22**, 4802504 (2012).
19. B. Bordini, D. Bessette, L. Bottura, A. Devred, M. Jewell, D. Richter, C. Senatore, "Magnetization and Inter-filament contact in HEP and ITER bronze-route Nb3Sn wires," *IEEE Transactions on Applied Superconductivity*, 21, 3373 (2011).
20. M. C. Jewell, T. Boutboul, L. Oberli, F. Liu, Y. Wu, A. Vostner *et al.*, "World-wide benchmarking of ITER strand test facilities," *IEEE Transactions on Applied Superconductivity*, **20**, 1500 (2010).
21. K. Seo, M. C. Jewell, C. Capuano, G. Bevillard, S. Modi, D. Bessette, and A. Devred, "Implementation of the ITER Conductor Database," *IEEE Transactions on Applied Superconductivity*, **20**, 499 (2010).
22. A.A. Polyanskii, P.J. Lee, E. Barzi, D. Turrioni, A.V. Zlobin, and D.C. Larbalestier, "Evidence for highly localized damage in internal tin and powder-in-tube Nb3Sn strands rolled before reaction obtained from coupled magneto-optical imaging and confocal laser scanning microscopy," *Superconductor Science and Technology*, **22**, 095008 (2009). **Selected as featured paper on journal cover.**
23. A. Nijhuis, Y. Miyoshi, M.C. Jewell, W. Abbas, and W.A.J. Wessel, "Systematic study on filament fracture distribution in ITER Nb_3Sn strands," *IEEE Transactions on Applied Superconductivity*, **19**, 2628 (2009).
24. E.G. Mednikov, M.C. Jewell, and L.F. Dahl, "Nonosized (mu(12)-Pt)Pd164-xPtx(CO)(72)(PPh3)(20) (x approximate to 7) containing Pt-centered four-shell 165-atom Pd-Pt core with unprecedented intershell bridging carbonyl ligands: Comparative analysis of icosahedral shell-growth patterns with geometrically related Pd-145(CO)(x)(PEt3)(30) (x approximate to 60) containing capped three-shell Pd-145 core," *Journal of the American Chemical Society*, **129**, 11619 (2007)
25. Y. Zhu, A. Matsumoto, B.J. Senkowicz, H. Kumakura, H. Kitaguchi, M.C. Jewell, E.E. Hellstrom, D.C. Larbalestier, and P.M. Voyles, "Microstructures of SiC nanoparticle-doped MgB2/Fe tapes," *Journal of Applied Physics*, **102**, 013913 (2007).

26. A. Matsumoto, H. Kumakura, H. Kitaguchi, B.J. Senkowicz, M.C. Jewell, E.E. Hellstrom, Y. Zhu, P.M. Voyles, D.C. Larbalesteir, “Evaluation of connectivity, flux pinning and upper critical field contributions to the critical current density of bulk MgB_2,” *Applied Physics Letters*, **89**, 132508 (2006).
27. A.A. Polyanskii, A.A. Squitieri, M.C. Jewell, P.J. Lee, A. Gurevich, D.C. Larbalestier, P. Bauer, L. Bellantoni, C. Boffo, H. Edwards, “Inhomogeneous Flux Penetration in Niobium Sheet Sampled Across the Cavity Production Route,” accepted for publication in *SRF 2005 – Proceedings* (not peer-reviewed).
28. A. Godeke, M. C. Jewell, C. M. Fischer, A. A. Squitieri, P. J. Lee, and D. C. Larbalestier, “The upper critical field of filamentary Nb_3Sn conductors,” *J. Appl. Phys.*, **97-9**, 093909 (2005) (also selected to appear in *Virtual Journal of Applications of Superconductivity*, May 1, 2005).
29. P. Bauer, L. Bellantoni, C. Boffo, H. Edwards, M. C. Jewell, D. C. Larbalestier, P. J. Lee, A. Polyanskii, A. A. Squitieri, “An Investigation of the Properties of BCP Niobium for Superconducting RF Cavities,” Argonne National Laboratory Report ANL-05/10, ed. Kwang-Je Kim and Catherine Eyberger, pp 84-93, March 2005 (presented at the "Pushing the Limits of RF Superconductivity" workshop, held at Argonne National Laboratory, September 22-24, 2004). (also published in *ICFA Beam Dynamics Newsletter*, Issue No. 39, April 2006).
30. V. Braccini, A. Gurevich, J. E. Giencke, M. C. Jewell, C. B. Eom, D. C. Larbalestier *et al.*, “High-field superconductivity in alloyed MgB_2 thin films,” *Phys. Rev. B*, **71** 012504 (2005).
31. M. C. Jewell, A. Godeke, P. J. Lee, and D. C. Larbalestier, “The upper critical field of stoichiometric and off-stoichiometric bulk, binary Nb_3Sn,” *Adv. Cryo. Eng. (Materials)*, **50B**, 474 (2004).
32. P. Bauer, L. Bellantoni, T. Berenc, C. Boffo, R. Carcagno, C. Chapman, H. Edwards, L. Elementi, M. Foley, E. Hahn, D. Hicks, T. Khabiboulline, D. Mitchell, A. Rowe, N. Solyak, I. Terechkine, M.C. Jewell, D. C. Larbalestier, P.J. Lee, A. Gurevich, A.A. Polyanskii, A.A. Squitieri, “SRF Cavity and Materials R&D at Fermilab,” Paper MOP82 at LINAC 2004, held August 16-20, 2004 in Lübeck, Germany, published in LINAC 2004 – Proceedings (not peer-reviewed).
33. A. Godeke, M. C. Jewell, A. A. Golubov, B. Ten Haken and D. C. Larbalestier, “Inconsistencies between extrapolated and actual critical fields in Nb_3Sn wires as demonstrated by direct measurements of H_{c2}, H*, and T_c,” *Supercond. Sci. Tech.*, **16**, 1019 (2003).
34. M. C. Jewell, P. J. Lee and D. C. Larbalestier, “The influence of Nb_3Sn strand geometry on filament breakage under bend strain as revealed by metallography,” *Superconductor Science and Technology*, **16**, 1005 (2003). **Selected as featured paper on journal cover.**
35. M. T. Naus, M. C. Jewell, P. J. Lee and D. C. Larbalestier, " Lack of influence of the Cu-Sn mixing heat treatments on the super-conducting properties of two high-Nb, internal-Sn Nb_3Sn conductors," *Adv. Cryo. Eng. (Materials)*, **48**, 1016 (2001).

Oral Presentations

1. M.C. Jewell, G.L. Deprenger-Gottfried, S.V. Sortedahl, A.R. Putney, C.T. Hopp, T.E.R. Olson, G.L. Hawkins, N. Cheggour, and J. Jiang, "Microstructural origins of degradation in Bi-2212 composite wires," *2016 Low Temperature Superconductivity Workshop*, Santa Fe, NM, February 8-10, 2016.
2. M.C. Jewell and N.J. Sullivan, "Investigation of TF Nb_3Sn Cr plating damage," oral presentation at the *2015 ITER Conductor Workshop*, Grindelwald, Switzerland, 17-19 March 2015.
3. M.C. Jewell and A. Vostner, "Maturity of Nb_3Sn – the view from fusion," oral presentation at the 2011 *Low Temperature High Field Superconductivity Workshop*, Providence, RI, November 7 – 9, 2011.
4. M.C. Jewell, A. Vostner, D. Bessette, A. Devred *et al.*, "Performance qualification of the ITER TF magnet conductors," presented at 2010 Applied Superconductivity Conference, Washington, DC, August 1-6, 2010.
5. M.C. Jewell, A. Nijhuis, P.J. Lee, and D.C. Larbalestier, "Fracture in ITER and HEP Nb_3Sn strands under bending at 77K," presented at 2008 Applied Superconductivity Conference, Chicago, IL, August 19 – 23, 2008.
6. M.C. Jewell, P.J. Lee, and D.C. Larbalestier, "Irreversible strain in Nb_3Sn conductors," presented at the 2008 CARE-HHH-AMT WAMSDO workshop, May 20, 2008. **Invited presentation**
7. M.C. Jewell, P.J. Lee, and D.C. Larbalestier, "Nb_3Sn filament fracture observations for CICC applications," presented at the 20th Magnet Technology Workshop, Philadelphia, PA, August 27 – 31, 2007 (presented by P.J. Lee in my absence).
8. M.C. Jewell, P.J Lee, and D.C. Larbalestier, "Nb_3Sn fracture at cryogenic temperatures: a metallographic perspective," presented at 2007 International Cryogenic Materials Conference, Chattanooga, TN, July 16 – 20, 2007.
9. M.C. Jewell, P.J. Lee, and D.C. Larbalestier, "Strand Architecture Effects in Nb_3Sn Filament Cracking and fracture toughness," presented at 2007 ITER Conductor Modeling Workshop, Cadarache, France, January 15 – 17, 2007.
10. M.C. Jewell, B.J. Senkowicz, P.J. Lee and D.C. Larbalestier, "Strand Architecture Effects in Nb_3Sn Filament Cracking," presented at 2006 Low Temperature Superconductivity Workshop, Tallahassee, FL, November 7 – 9, 2006.
11. M.C. Jewell, T.J. Gerczak, and D.C. Larbalestier, "Putting a Different 'P' in PIT: Phase Equilibria in High-Sn Intermetallics," presented at 2006 Applied Superconductivity Conference, Seattle, WA, August 27 – September 1, 2006.
12. M.C. Jewell, T.J. Gerczak, P.J. Lee, and D.C. Larbalestier, "Novel Approaches to Forming Nb_3Sn," presented at 2005 Low Temperature Superconductivity Workshop, Napa, CA, November 7-9, 2005.
13. M.C. Jewell, "SBIR Reporting Analysis" presented at 2004 Low Temperature Superconductivity Workshop, Monterrey, CA, November 15-17, 2004.
14. M. C. Jewell, A. Godeke, P. J. Lee and D. C. Larbalestier, "Off-Stoichiometric Effects in Nb_3Sn," presented at 2003 Low Temperature Superconductivity Workshop, Monterrey, CA, November 10-12, 2003.
15. M. C. Jewell, A. Godeke, P. J. Lee, and D. C. Larbalestier, "The upper critical field of stoichiometric and off-stoichiometric Nb_3Sn," presented at 2003 International Cryogenic Materials Conference, Anchorage, AK, September 2003.

16. P. J. Lee, M. C. Jewell and D. C. Larbalestier, “The influence of Nb_3Sn strand geometry on filament breakage under bend strain as revealed by metallography,” presented at 2nd Workshop on Mechano-Electromagnetic Properties of Composite Superconductors (MEM03), Kyoto, Japan, March 3-5, 2003 (presented by P.J. Lee in my absence).
17. M. C. Jewell, P. J. Lee and D. C. Larbalestier, “Irreversible bend strain in Nb_3Sn strands: a metallographic perspective,” presented at 2002 Low-Temperature Superconductivity Workshop, Napa, CA, November 11, 2002.

Poster Presentations

1. M.C. Jewell, C.T. Hopp, and T.E.R. Olson, "Auger Electron Spectroscopy Investigation of Delamination Behavior in REBCO Superconducting Tapes," poster presentation at the Low Temperature Superconductor Workshop, February 27 – March 1, 2017, Santa Fe, NM, USA.
2. C.T. Hopp, Y. Zhang, and M.C. Jewell, "Auger Electron Spectroscopy and Ar Sputtering for the Determination of Y2O3 Buffer Layer Thickness in REBCO Superconducting Tapes," poster presentation at 2017 International Cryogenic Materials Conference, July 9-13, 2017, Madison, WI, USA.
3. J. Egner-Schnitzler, C.T. Hopp, A. Putney, K. Thao, and M.C. Jewell, "Filament Damage in $Bi_2Sr_2CaCu_2O_{8-x}$ (Bi-2212) Superconducting Wires as Revealed by External Etching," poster presentation at 2017 International Cryogenic Materials Conference, July 9-13, 2017, Madison, WI, USA.
4. T.E.R. Olson, K. Berger, Y. Zhang, and M.C. Jewell, "Post-Delamination Structural Investigation of REBCO Superconducting Tape," poster presentation at 2017 International Cryogenic Materials Conference, July 9-13, 2017, Madison, WI, USA.
5. S.V. Sortedahl, C.T. Hopp, G. Deprenger-Gottfried, A.R. Putney, K. Thao, N. Cheggour, and M.C. Jewell, "Characterization of Mechanical Properties of Composite $Bi_2Sr_2CaCu_2O_{8+x}$ Superconductor through Scanning Electron Microscopy," presented at the 2016 Applied Superconductivity Conference, Denver, CO, September 4 – 9, 2016.
6. G. Deprenger-Gottfried, S.V. Sortedahl, C.T. Hopp, A.R. Putney, T.E.R. Olson, G.L. Hawkins, and M.C. Jewell, "Characterization of Mechanical Properties of $Bi_2Sr_2CaCu_2O_{8+x}$ Superconductor through Scanning Electron Microscopy," presented at the 2016 National Conference on Undergraduate Research, Asheville, NC, April 7 – 9, 2016.
7. M.C. Jewell, N. Cheggour, A. Kajbafvala, T.C. Stauffer , J. Jiang, and E.E. Hellstrom, "Strain and Microstructural Properties of $Bi_2Sr_2CaCu_2O_{8+x}$Superconducting Wires" poster presented at the 2015 International Conference on Magnet Technology (MT-24), Seoul, South Korea, October 18 – 24, 2015.
8. J. Christian, J. Luhmann, and M.C. Jewell, "Nanoindentation of Cr-coated superconducting wires," presented at the 2015 National Conference on Undergraduate Research, Spokane, WA, April 16 – 18, 2015.
9. N.J. Sullivan and M.C. Jewell "Characterization of Post-Reaction Void Structures from Various Pre-Reaction Architectures for Internal-Sn Process Nb_3Sn Wires" presented at the 2014 Applied Superconductivity Conference, Charlotte, NC, August 10 – 16, 2014.
10. M.T. Dylla, S.E. Schultz, N.J. Sullivan, and M.C. Jewell, "Fracture statistics of individual Nb_3Sn filaments," presented at the 2013 Magnet Technology Conference (MT-23), Boston, MA, July 14 – 19, 2013.
11. M.C. Jewell, P.J. Lee, H. Bajas, C. Sanabria, W. Starch, and D.C. Larbalestier, "Development of metallographic procedures for imaging cable-in-conduit conductors," presented at the 2010 Applied Superconductivity Conference, Washington, DC, August 1-6, 2010.
12. M. C. Jewell, T. Boutboul, L. Oberli, F. Liu, Y. Wu, A. Vostner *et al.*, "World-wide benchmarking of ITER strand test facilities," presented at the 21st Magnet Technology Workshop, Hefei, China, October 19 – 23, 2009.

13. K. Seo, M. C. Jewell, C. Capuano, G. Bevillard, S. Modi, D. Bessette, and A. Devred, "Implementation of the ITER Conductor Database," presented at the 21st Magnet Technology Workshop, Hefei, China, October 19 – 23, 2009.
14. M.C. Jewell, A. Godeke, P.J. Lee, and D.C. Larbalesetier, "Sn Content and Inhomogeneities in ITER and HEP Nb_3Sn Strand," presented at the 16th ANS Topical Meeting on the Technology of Fusion Energy, Madison, WI, September 14-16, 2004.
15. M. C. Jewell, S. A. Hynes, J. J. Uhlrich and M. Suenaga, "Sn and Ti Diffusion Effects in High I_c Internal-Sn Processed Wire," presented at 2003 Low Temperature Superconductivity Workshop, Monterrey, CA, November 10-12, 2003.
16. M. C. Jewell, D. C. Christensen, P. J. Lee and D. C. Larbalestier, "Crack Formation in Nb_3Sn Strands," presented at 2001 International Cryogenic Materials Conference, Madison, WI, July 16-20, 2001.