# Personal

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# Education

1978-84 University of Liverpool

1981 B.Sc. (Hons.) Physics; 1st class.

1985 Ph.D. in Physics.

Thesis Title: Mössbauer spectroscopic studies of linear and non-linear magnetic excitations in   
crystals.

This included the experimental study of spin waves, solitary excitations, and superparamagnetism at low temperatures and high magnetic fields.

1988-89 City and Guilds Further and Adult Education Teachers Certificate.

1990-91 Certificate in Education (Post 16).

# Professional Organizations

1993 Institute of Physics (UK), Fellow, C. Phys., Treasurer USA, IOP

1995 Institute of Water and Environmental Management

2000 American Crystallographic Society - Amorphous Materials Group Chair

2000- Materials Research Society Member

2000 American Physical Society Member

2000- American Ceramic Society Fellow

# Appointments

1991-95 Associate Professor, Engineering, Liverpool John Moore’s University.

1993-95 Adjunct Professor, Department of Physics, University of Liverpool.

1995-99 Scientist in Material Science Division, Argonne National Laboratory, USA.

1999-01 Assistant Division Director, Material Science Division at Argonne National Laboratory, USA.

2001-2007 Scientist, Energy Technology, Argonne National Laboratory, USA.

2007- 2013 Special Term Appointee, Nuclear Engineering Division, Argonne National Laboratory, USA.

2007-2013 Associate Professor, University of Tennessee Space Institute, Tullahoma, USA.

2013-2018 Associate Professor (with tenure), University of Tennessee Space Institute, Tullahoma, USA.

2018- Professor (with tenure), University of Tennessee Space Institute, Tullahoma, USA.

**Awards**

2007 R & D 100 award

2010 Who’s Who in America

2011 Patent: #, US 8,008,642: Computed Radiography System for Mammography

2011 Fellow of the Institute of Physics

2013 Fellow of the American Ceramic Society

2014 UT College of Engineering Professional Promise in Research Award

2015 PD 15092-07: A Method for Creating Functionally Graded, Optically Active, Glass Ceramics

2017 PD 17078-07: System to Aid Visualization of Cancerous Tissue during a Lumpectomy

2017 PD 17107-07: Thin film fluoride glasses for passive temperature sensing and recording

2017 Albert Nelson Marquis Lifetime Achievement Award

2017 PD 18021-07: Iron Nanoparticles for Hyperthermia and Magnetic Resonance Imaging

**Research Grants**

1995 Engineering and Physical Sciences Research Council, $190K.  
Mössbauer Measurements of Tin in Float Glass

1995 Liverpool John Moore’s University Research Funding Application, $40K  
Tin-Diffused and Tin-Coated Glass Surfaces

1995 Pilkington Glass PLC, $100K  
Mössbauer Measurements of Tin in Float Glass

2002 Department of Energy-Cooperative Research and Development Agreement, $60K  
Glass Design for High Energy Density Lasers

2002 Laboratory Directed Research and Development, $15K  
Scratch-resistant coatings

2002 Department of Energy- Tribological Consortium Glue Money, $20K

2003-05 National Institutes of Health-Improvements in Imaging Methods and Technologies, $482K  
Advanced High-Resolution Two-dimensional X-ray Detector

2003-05 Laboratory Directed Research and Development, $300K  
Advanced High-Resolution Two-dimensional X-ray Detector

2004 Department of Energy -Small Business Technology Transfer Research, $96K  
Extended lifetime neutron chopper system

2004 Department of Energy, $150K  
Grain rotation during deformation

2006 Laboratory Directed Research and Development, $366K  
Anti-Thrombogenic Coatings for Caridovascular Implants

2006 Laboratory Directed Research and Development, $75K

Super solar cell efficiency using up- and down-conversion in fluorozirconate glass ceramics.

2006 Department of Energy-Cooperative Research and Development Agreement, $50K

Combined X-ray/Neutron/Gamma Detector.

2006 DoD, GaSb polishing project, 600K

2007 Advanced Multijunction Solar Cell & Concentrator System Development for DoD Terrestial and Space Applications, 100K

2007 Laboratory Directed Research and Development, $195K  
Superslick anti-fog transparent coating for broncoscope.

2007 Startup Funding UTSI, $75K

2008 NIH, BMIT, $1,768,879 (2008-$534,671); (2009-$492,857);   
(2010-$376,385); (2011-$364,766) No cost extension until 07/31/2013  
Advanced High-Resolution Two-Dimensional X-ray Detector for Mammography

2008 NIH, SBIR subcontract, $24,999  
Nanophase Glass Ceramic X-ray Imaging Materials.

2009 DOE – EERE, $1M - \*Money had to stay at Argonne – pay me as a consultant for synthesis and characterization. Dual Purpose Advanced Heat Transfer Fluids with Enhanced Thermal Properties and Thermal Energy Storage Capabilities.

2010 NSF SBIR Project 1013481, Ultool, $100,000 ($12,000 to UTSI).  
 Environmentally-benign High-Rate Deposition of Alloy Coatings for Electrolytic Hard Chrome Replacement.

2010 NSF, DMR, Award # 1001381 $289,108  
 Study of the Evolution of Nanoparticle Crystallization and Optical Properties in Glass Ceramics.

2010 NIH, SBIR Phase II 261201000113C-0-0-1, MDI, $998,000 ($30,000 to UTSI). No cost extension until 08/31/2013  
Nanotechnology Imaging and Sensing Platforms for Improved Diagnosis of Cancer.

2012 PDA Coated Iron Nanoparticles for hyperthermia and thermal storage. $4,286

2012 NSF, DMR, Award # 1001381 $6,111 \*Supplement to 2010 NSF grant for workshop participation at NSF headquarters. Study of the Evolution of Nanoparticle Crystallization and Optical Properties in Glass Ceramics.

2013 PDA Coated iron nanoparticles for enhanced neurological theranostics, $4608

2013 DOE Y12, $300,000 Large Area, High Resolution Storage Phosphor Detectors for High Energy (MeV) Digital Radiography.

2013 NIH NIDCR, $138,392, Advanced Image Plates for Dental X-ray Diagnostics.

2014 Graftech, $2,221, Raman Spectroscopy Testing of Graphitic Materials

2014 Volkswagon, $48,000, Multielectron cathode materials with capacities > 380 mAh/g  
2014 SARIF Equipment and Infrastructure Award, $32,500, Whole body synthetic cadaver.

2016 NSF, DMR, Award # 1600783 $319,842, Designer Glass Ceramics.

2017 Student/Faculty award: Synthesis of di-sodium as novel rechargeable battery cathodes. $4407  
2018 Middle Tennessee Glass MATE (Materials and Technology Education). $6,662

**Conferences and Symposia organized**

2000 Battery Materials: American Crystallographic Association.  
Minneapolis, USA  
Supported by NIST ($1.5K), PRF ($2K), NSF ($2K), ACA ($2K), NASA ($2K)

2002 International Focused Workshop: Materials in Extreme Environments.  
Denali National Park, USA  
Supported by NSF ($63K)

2002 New Directions in Glass Structure and Dynamics.  
Pittsburgh, USA  
Supported by ACA ($1K), AcerS ($1K), NSF( $11K)

#### 2005 Low Friction Coatings on Glass and Ceramics. Baltimore, USA Supported by ACerS ($1.8K), NSF ($5.5), NIH ($5.2K)

2008 Career Options, 2nd International Congress on Ceramics  
 Verona, Italy

2008 Session chair, American Society of Mechanical Engineers

Boston, USA

2009 Panel Member, American Society of Mechanical Engineers  
 San Francisco, USA

2011 Session chair, American Vacuum Society  
 Nashville, USA

2015 Session Chair, ICACC, Daytona, USA

2015 Scientific Organizing Committee PNCS XIV  
 Niagara Falls, USA

2015 Session Chair, X-ray and Neutron Methods, MS&T15, Columbus, OH, USA

2018 Symposium Organizer, Glasses and Glass-Ceramics in Detector Applications, GOMD, San Antonio, TX

**Award Committees**

Committee Member for the Selection of the Warren Award Recipient for the American Crystallographic Association (2002).

Poster judge for the Glass and Optical Materials Division (ACerS) Annual Meeting (May 2006).

Alfred R. Cooper Award nominations committee (ACerS) 2012-present

Poster judge for the Institute of Biomedical Engineering (iBME) symposium, Knoxville (April 2014).

Nominations Committee for the Kyoto Prize in Advanced Technology (2014 for 2015 prize).

Edward Orton Jr. Memorial Lecture Committee (ACerS) 2015-2017

Glass and Optical Materials Division (GOMD) fellow representative on the ACerS Panel of Fellows 2016-

**Editorial Boards**

Editorial Board of International Scholarly Research Notices (ISRN) – ended 2017

Senior Editor for ScienceJet Journal

Editorial Board for Journal of Biomedical Technology and Research, Elyns Publishing Group

Editor-in-chief/organizing committee member for**International Journal of Aeronautical Science & Aerospace Research (IJASAR).**

Managing Editor for JBR Journal of Translational Space dentistry, Medicine and Exploration (JBR-TSME)

Associate Editor for Frontiers in Materials: Glass Science

Editorial Board - Journal of Nanoparticles & Nanotechnology

Editor – Light & Laser: Current Trends

Editorial Board - Journal of Nanoscience with Advanced Technology

Editorial Board - International Journal of Nano Research & Applications

**Conference Committees**

Local Organizing Committee, Applied Diamond Conference, ANL (May 2005).

International Program Committee (IPC) for the IASTED International Conference on Solar Energy (SOE 2010) Banff, Canada (July 2010).

International Program Committee (IPC) for the IASTED International Conference on Power and Energy Systems and Applications (PESA 2011) Pittsburg, USA (November 2011).

Advisory Board, Brain Tumors: Biology & Therapy Meeting, Stockholm, Sweden (2015).

Organizing Committee, Physics of Non-Crystalline Solids (PNCS) XIV, Niagara Falls, USA (2015).

**Federal Funding Review Panels**

NSF Panel for the Division of Materials Research, Washington, DC (February 2003).

Panelist to Review the Materials Research Science and Engineering Center at Cornell University (April 2003).

NIH Panel for the Division of Biomedical Imaging and Bioengineering, Washington DC (October 2003).

NSF Panel for the Division of Materials Research, Washington, DC (February 2004).

NSF Panel for the Division of Materials Research, Washington, DC (January 2005).

NSF Panel for the Division of Materials Research, Washington, DC (January 2006).

NIH Panel for the Small Business Medical Imaging Study Section, Washington DC, (October 2006).

NIH Panel for the Biomedical Imaging Study Section (BMIT), San Diego, CA (February 2007).

NIH Panel for the Small Business Medical Imaging Study Section, Washington DC, (October 2007).  
NIH Panel for the Small Business Medical Imaging Study Section, San Diego, CA (February 2008).

NIH Panel for the Small Business Medical Imaging Study Section, Washington DC (June 2008).

NIH Panel for the Biomedical Imaging Study Section (BMIT), Dana Point, CA (February 2009).

NSF Panel for MRI/IMR (Major Research Instrumentation and Instrumentation for Materials Research),   
Washington, DC (May 2009).

NIH Panel for the Small Business Medical Imaging Study Section, Washington, DC (June 2009).

Proposal Reviewer for Italian Ministry of Health (September 2009).

NSF Panel for MRI-R2/IMR (Major Research Instrumentation and Instrumentation for Materials Research),

Washington, DC (October 2009).

NIH Panel for the Small Business Medical Imaging Study Section, Washington, DC (October 2009).

NIH Panel for the Small Business Medical Imaging Study Section, San Diego, CA (February 2010).

Reviewer for Lytmos/Florida Department of Health (2010).

NIH Panel for the Small Business Medical Imaging Study Section, Washington, DC (June 2010).

NSF Panel for MRI (Major Research Instrumentation), Washington, DC (June 2010).

Proposal Reviewer for Italian Ministry of Health (September 2010).

NIH Panel for the Small Business Medical Imaging Study Section, Santa Monica, CA (February 2011).

NSF Panel for MRI (Major Research Instrumentation), Washington, DC (May 2011).

NIH Panel for the Small Business Medical Imaging Study Section, Washington, DC (June 2011).

NIH Panel for the Small Business Medical Imaging Study Section, Washington, DC (October 2011).

Reviewer for RFA CA 11-011 and 012 Research Answers to Provocative Questions

NIH Panel for the Small Business Medical Imaging Study Section, Los Angeles (February 2012).

Proposal Reviewer – Romanian Research Council (June 2012)

NIH Panel for the Small Business Medical Imaging Study Section, Washington, DC (October 2012).

NIH Panel for the Small Business Medical Imaging Study Section, Los Angeles (February 2013).

Scientific Advisory Board, SNS/HFIR, Oak Ridge National Laboratory (2013-2016).

Reviewer for the Defense Threat Reduction Agency (DTRA) (April 2013).

Reviewer for the Ministry of Business, Innovation & Employment (MBIE), New Zealand (April 2013).

Reviewer for the National Institute of Standards and Technology (NIST), Center for Neutron Research (May 2013).

Reviewer for Smart and Connected Health (NSF/NIH) (August 2013).

NIH Panel for the Small Business Medical Imaging Study Section, Los Angeles (February 2014).

Reviewer for the National Institute of Standards and Technology (NIST), Center for Neutron Research (March 2014).

Reviewer for the Ministry of Business, Innovation & Employment (MBIE), New Zealand (April 2014).

Scientific Advisory Board, SNS/HFIR, ORNL, Disordered Materials Committee co-Chair (April 2014).

Reviewer for Laboratory Direct Research Directorate (LDRD) Oak Ridge National Laboratory (May 2014).

NIH Panel for the Small Business Medical Imaging Study Section, Washington, DC (June 2014).

Scientific Advisory Board, SNS/HFIR, ORNL, Disordered Materials Committee co-Chair (November 2014).

NIH Panel for the Small Business Medical Imaging Study Section, Los Angeles (February 2015).

NIH Panel for the Small Business Medical Imaging Study Section, Washington, DC (June 2015).

Reviewer for the National Institute of Standards and Technology (NIST), Center for Neutron Research (July 2015).

Scientific Advisory Board, SNS/HFIR, ORNL, Disordered Materials Committee (November 2015).

NIH Panel for the Small Business Medical Imaging Study Section, Washington, DC (November 2015).  
Scientific Advisory Board, SNS/HFIR, ORNL, Disordered Materials Committee (May 2016).

NIH panel for the Integration and Validation of Emerging Technologies to Accelerate Cancer Research (R33) (July 2017)-Joe Biden Cancer Moonshot Initiative (first review panel).

NIH - Special Emphasis Panel/Scientific Review Group SBIB-G 83 AREA (R15) (February 2018)

NSF Panel for MRI on Thin Films (Major Research Instrumentation) April 2018.

**Thesis Committees**

Doctoral Thesis Committee, Kyle Williams, Liverpool University (1995)

Doctoral Thesis Committee, Paul Appleyard, Liverpool University (2000)

Doctoral Thesis Committee, Jackson Hu, Monash University, Australia (2005).

Master’s Thesis Committee, Deepak Rajput, UTSI (2008).

Master’s Thesis Committee, Lee Leonard, UTSI (2010).

Master’s Thesis Committee, Manh Vu, UTSI (2011).

Master’s Thesis Committee, Sharon Gray, UTSI (2012).

Master’s non-Thesis Committee, Chris Foerster, UTSI (2012).

Doctoral Thesis Committee, Michel Akiki, UTSI (2012).

Doctoral Thesis Committee, Carlos Alvarez, Northwestern University (2012).

Master’s non-Thesis Committee, Sarah Elizabeth Norred, UTK (2013)

Master’s non-Thesis Committee, Michelle Whorton, UTK (2013)

Master’s non-Thesis Committee, Katie Elicerio, UTK (2013)

Master’s Thesis Committee, Ahmad Algohary, UTK (2013).

Master’s Thesis Committee, Julie King UTSI (2015).

Master’s Thesis Committee, Jason Hah UTSI (2015).

Doctoral Thesis Committee, Lee Leonard, UTSI (2015).

Master’s Thesis Committee, Adam Evans, UTSI (2016).

Doctoral Thesis Committee, Julie King, UTSI (2016).

Doctoral Thesis Committee, Jason Hah, UTSI (2016).

Doctoral Thesis Committee, Adam Evans, UTSI (2016).

Master’s Thesis Committee, Chad Bond, UTSI (2016).

Master’s non-Thesis Committee, Breanna Rhyne, UTK (2017).

Master’s non-Thesis Committee, Chris Joren, UTK (2017).

Master’s non-Thesis Committee, Tony Nguyen, UTK (2017).

Doctoral Thesis Committee, Ghaneshwar Gautam, UTSI (2017)

Master’s non-Thesis Committee, Michael Slater Pennington Jr., UTK (2017)

Master’s non-Thesis Committee, Zachary Kerley., UTK (2017)

Master’s non-Thesis Committee, Jeffrey Womack, UTK (2017)

Master’s non-Thesis Committee, Aditya Hedge., UTK (2017)

Doctoral Thesis Committee, Christopher Brandon Shaver, UTK (2017)

Doctoral Thesis Committee, Yu Jin, Northwestern University (2018).

Doctoral Thesis Committee, Chad Bond, UTSI (2018).

Master’s Thesis Committee, Austin Thomas, UTSI (2018).

**Argonne National Laboratory Committees**

Strategic Planning Retreat for the Advanced Photon Source, Geneva, WI (August 2004).

Outreach Committee, Argonne National Laboratory, IL (from October 2005).

Named Postdoctoral Committee, Argonne, IL (November 2005).

Reviewer for Laboratory Direct Research Directorate (LDRD) Argonne National Laboratory (2012).

Reviewer for Laboratory Direct Research Directorate (LDRD) Argonne National Laboratory (2013).

Reviewer for Laboratory Direct Research Directorate (LDRD) Argonne National Laboratory (2014).

**UTSI/UTK Committees**

Search Committee for new faculty positions in Materials Science and Engineering at UTSI (2007-2008).

UTSI Fellowship Selection Committee (2007 - 2010).

Vision and Mission Statement Committee, UTSI (July – Sep 2008).

Strategic Goal II - Increasing Research Funding Dollars Committee, UTSI, 2008.

Strategic Planning Committee, UTSI (2009).

Committee for Student Affairs, UTSI (2009).

UTSI Nominations Committee (2010 - present)

Student recruiting leader for UTSI from FY 2010 -2011.

UTSI Faculty Search Committee member: Flow-Structure Interactions, 2011.

Search Committee, Information Technology Administrator, UTSI, 2012.

Search Committee, Department Head, MABE, UTK/UTSI, 2013.

Faculty Proposal Review Committee, 2013 onwards.

Search Committee, H. H. Arnold Chair, MABE, UTK/UTSI, 2013.

UTK/UTSI Graduate Admissions and Recruiting Committee, 2013-  
Search Committee: AE faculty, Flight Test Engineering, 2013.

Faculty President, UTSI, 2014

UTK Senator 2014-2016  
Chair, Research Council, 2014

Member Research Council, 2015-

Education Committee, 2014-

Mentor, Reza Abedi, 2014-

Mentor, Feng Yuan Zhang, 2014-

Leader, Summer Interns, 2011-2014

Multi-cultural Advisory Committee 2014

iBME Multiscale Imaging Working Group 2014

iBME Medical Sensors and Devices Working Group 2014

Library and Information Technology Committee, UTK 2014-2016

Nominations and Appointments Committee, UTK 2014

Early Career Mentoring Committee UTK/UTSI 2015-2017

Teaching Peer-Review Committee 2015-

UTSI Executive Director Search Committee 2015

Graduate Programs Committee BME/iBME 2015-

Team Leader – Academic Excellence, UTSI Strategic Initiatives 2016

Search Committee Biomedical Engineer MABE/UTK 2016

Search Committee Boling Chair MABE/UTSI 2017

UTK Senator 2017-2020

UTK Appeals Committee 2017-2020

**Consultancies**

Pilkington Glass (1992).

Biwater Europe (1994).

Lord Bissell Brook (2001).

**Book Reviews**

The Ecology of Biological Sewage Treatment Processes (1994).

Chapman and Hall Publishers.

Review for book proposal “Nano-Glass Ceramics”; Micro and Nanotechnology, Elsevier (2014).

Review for book proposal “Nano-Glass Ceramics”; Processing, Properties and Applications, Elsevier (2014).

**Journal Reviewer**

Carbon; Materials Research Bulletin; Physics and Chemistry of Glasses; Nuclear Instrumentation and Methods; Physics Status Solidi; Materials Chemistry and Physics; Journal of the American Ceramic Society; Journal of Sensors; PloS One; ASME Journal of Tribology; Surface and Coatings Technology; Wear; Hypertension; Applied Physics Letters; Optical Materials; Applied Optics; British Journal of Medicine and Medical Research; International Neuropsychiatric Disease Journal; Journal of Biomaterials and Tissue Engineering; Journal of Cancer and Tumor International; Journal of non-crystalline solids; Journal of Fluorine Chemistry; Journal of Advances in Medicine and Medical Research; British Medical Journal (BMJ) Case Reports.

**Career Break**

I was not conducting research in the years 1985 - 1993 or 1999 - 2001.

As an Instrument Scientist there is also limited time for research, 1995 - 1997.

**Experience**

*High Baird Further Education College*

Predominantly a teacher to adults returning to education - a great experience in imparting information in a way that it can be clearly understood.

*Liverpool John Moores University*

Taught a variety of undergraduate degree courses in physics, mathematics, and engineering, along with laboratory classes. I also supervised undergraduate students for final year projects.

*University of Liverpool (Adjunct position)*

Supervised two graduate students, namely Kyle Williams – graduated, 1995; Paul Appleyard – graduated, 2000.

*Argonne*

Regularly supervised graduate and postgraduate students.

*University of Tennessee Space Institute (current position)*

Graduated students (Masters) - Lee Leonard, Manh Vu, Sharon Gray, Christian Foerster, Jason Hah, Julie King, Adam Evans, Chad Bond

Doctoral – Lee Leonard

Current students (Masters) – Austin Thomas

Doctoral – Julie Swafford, Jason Hah, Adam Evans, Chad Bond

**Courses**

Course: 576 Special Topic: Nanomaterials, Nanostructures, and Nanosensors – Spring 2008

Course: 576 Special Topic: Physics of Thin Films – Fall 2008

Course: 676 Special Topic: Luminescent Materials – Spring 2009

Course: 676 Special Topic: All Things Carbon – Fall 2009

Course: 474/578 Biomaterials – Spring 2010

Course: 512 Fundamentals of Materials Science and Engineering IV – Fall 2010

Course: 511 Fundamentals of Materials Science and Engineering I – Spring 2011

Course: 503 Seminar – Spring 2011

Thin Film Lecture Series - University of the South, Sewanee, TN – Spring 2011

Course: 610 Biomedical Imaging – Fall 2011

Course: 595 Biomedical Engineering Seminar – Fall 2011

Course: 610 Biofunctionalization of Nanomaterials – Spring 2012

Course: 595 Biomedical Engineering Seminar – Spring 2012

Course: 599 Data Interpretation for Engineers I – Fall 2012

Course: 590 Selected Problems in Biomedical Engineering – Fall 2012

Course: 595 Biomedical Engineering Seminar – Fall 2012

Course: 595 Biomedical Engineering Seminar – Spring 2013

Course: 610 Mechanics for Dental Materials – Spring 2013

Course: 599 Data Interpretation for Engineers II – Summer 2013

Course: 610 Luminescent Materials – Fall 2013

Course: 595 Biomedical Engineering Seminar – Fall 2013

Course: 610 Biomedical Imaging – Spring 2014

Course: 595 Biomedical Engineering Seminar – Spring 2014

Course: 599 Physics of Radiation Oncology I – Fall 2014

Course: 595 Biomedical Engineering Seminar – Fall 2014

Course: 599 Physics of Radiation Oncology II – Spring 2015

Course: 595 Biomedical Engineering Seminar – Spring 2015

Course: 610 Magnetic Nanoparticles in Medicine – Fall 2015

Course: 595 Biomedical Engineering Seminar – Fall 2015

Course: 578 Advanced Biomaterials: Biological Applications of Nanomaterials – Spring 2016

Course: 595 Biomedical Engineering Seminar – Spring 2016

Course: 505 All things carbon – Fall 2016

Course: 595 Biomedical Engineering Seminar – Fall 2016

Course: 595 Biomedical Engineering Seminar – Spring 2017

Course: 590 Selected Problems in Biomedical Engineering – Spring 2017

Course: 599 Thin film enhancement of biomedical devices – Spring 2017

Course: 590 Selected Problems in Biomedical Engineering – Summer 2017

Course: 595 Biomedical Engineering Seminar – Fall 2017

Course: 610 Advanced Topics in Biomedical Engineering/Artificial Organs – Fall 2017

Course: 590 Selected Problems in Biomedical Engineering – Fall 2017

Course: 595 Biomedical Engineering Seminar – Spring 2018

Course: 610 Advanced Topics in Biomedical Engineering: Biofunctionalization of Nanomaterials – Spring 2018

Course: 595 Biomedical Engineering Seminar – Fall 2018

Course: 599 Special Topics in Biomedical Engineering: The art and science of performing advanced experiments on Materials and Biomaterials at large facilities – Fall 2018

**Recruiting Presentations**

Tennessee Technological University, Cookeville TN, 09/23/2010

East Tennessee State University, Johnson City TN, 09/27/2010

University of the South, Sewanee TN, 09/28/2010

Coe College, Cedar Rapids IA, 10/05/2010

Berea College, Berea KY, 10/08/2010

King College, Bristol TN, 10/11/2010

Middle Tennessee State University, Murfreesboro TN, 10/28/2010

Christian Brothers University, Memphis TN, 11/02/2010

Memphis University, Memphis TN, 11/03/2010

Rhodes College, Memphis TN, 11/04/2010

Union University, Memphis TN, 11/05/2010

Western Carolina University, Cullowhee NC, 01/28/2011

Tennessee State University, Nashville TN, 02/15/2011

Centre College, Danville KY, 03/02/2011

Mississippi University, Oxford TN, 03/10/2011

Western Kentucky University, Bowling Green KY, 04/01/2011

University of the South, Sewanee TN, 11/16/2011

Austin Peay, Clarksville TN, 02/02/2012

Xavier University, New Orleans LA, 03/01/2012

University of North Georgia, Dahlonega GA, 09/18/2013

University of Alabama, Huntsville AL, 03/18/2014

**Publications**

1. A Mössbauer study of the variation in Néel temperature in iron-rare earth layer compounds.   
   J.A. Birch (now Johnson) and M.F. Thomas   
   *J. Mag. Mag. Mat.* **36**, 141-50 (1983).
2. A Mössbauer effect study of the magnetic phase diagram and spin wave excitations in the antiferromagnet Cs2FeCl5.H2O.  
   J.A. Johnson, C.E. Johnson, and M.F. Thomas.  
   *J. Phys. C: Solid State Physics* **20**, 91-109 (1987**)**.
3. Phase transitions in doped antiferromagnets.  
   J. Chadwick, D.H. Jones, J.A. Johnson, C.E. Johnson, and M.F. Thomas.  
   *Hyperfine Int.* **42**, 1039-42 (1988).
4. Magnetic behavior of the doped antiferromagnet K2Fe1-xGaxF5.  
   J. Chadwick, D.H. Jones, J.A. Johnson, C.E. Johnson, and M.F. Thomas.  
   *J. Phys.: Condens. Matter* **1,** 6731-6744 (1989**)**.
5. Tin silicate glasses.  
   D. Holland, M.M. Karim, C.E. Johnson, K. Williams, and J.A. Johnson.  
   Fundamentals of Glass Science and Technology, Supp. to Revista della  
   *Stazione Sperimentale del Vitro,* **XXIII**, 223-228 (1993).
6. Mössbauer spectra of tin in float glass.  
   J.A. Johnson, C.E. Johnson, K. Williams, D. Holland, and M.M. Karim.  
   *Hyperfine Interactions* **95** (1-4), pp 41-51 (1993).
7. A novel high efficiency plant for oxygen transfer.  
   J.A. Johnson, C. Dyson, and D.A. Phipps.  
   *Water Pollution III: Modeling, Measuring and Prediction*, pp 347-354 (1995).  
   Computational Mechanics Publications.
8. Mössbauer spectra of tin in binary Si-Sn oxide glasses.  
   K.F.E. Williams, C.E. Johnson, J.A. Johnson, D. Holland and M.M. Karim.  
   *J. Phys.:Condens. Matter* **7**, 9485-9497 (1995).
9. Home Energy Performance Fails to Meet Objectives.  
   J.A. Johnson.  
   The Natural Environment: Interdisciplinary Views, pp 130-138 (1995).
10. Tin oxidation state, depth profiles of Sn2+ and Sn4+ and oxygen diffusivity in float glass by Mössbauer spectroscopy.  
    C.E. Johnson, K.F.E. Williams, J. Greengrass, B.P. Tilley, D. Gelder and J.A. Johnson.  
    *Journal of Non-crystalline Solids* **211** 164-172 (1997).
11. Oxidation states of tin and iron in clear and tinted float glass by Mössbauerspectroscopy.  
    K. Williams, M.F. Thomas, C.E. Johnson, J. Greengrass, B. Tilley, and J.A. Johnson.  
    *Fundamentals of Glass Science and Technology*, pp 127-134 (1997).
12. Determination of the sign of the quadrupole coupling constant (*e2qQ)* of Sn2+in silicate glasses by Mössbauer spectroscopy.  
    P. Appleyard, J.A. Johnson, C.E. Johnson, M.F. Thomas, D. Holland and A. Sears.   
    *J. Phys: Condens. Matter* **9,** 7477-7483 (1997).
13. Polyselenides and their radical ions.  
    A. J. Goldbach, J. A. Johnson, M. L. Saboungi, L. A. Curtiss, A. R. Cook and D. Meisel.  
    Abstracts of papers of the American Chemical Society **213** Phys. Part: 2 146 (1997).
14. Identification and characterization of polyselenides and their radical ions.  
    A. J. Goldbach, J. A. Johnson, M. L. Saboungi, L. A. Curtiss, A. R. Cook and D. Meisel.  
    IS&T 50th Annual Conference, final program and proceedings, Page 63 (1997).
15. Characterization of tin at the surface of float glass.  
    K.F.E. Williams, C.E. Johnson, O. Nikolov, M.F. Thomas, J.A. Johnson, and   
    J. Greengrass.  
    *Journal of Non-crystalline Solids* **242,** 183-188 (1998).
16. Atomic structure of solid and liquid polyethylene oxide.  
    J.A.Johnson, M.L. Saboungi, D.L. Price, S. Ansell, T. Russell, J.W. Halley and B. Nielsen.  
    *J. Chem. Phys.* **109** (16) 7005-7010 (1998).
17. Selenium nanoparticles: A small angle neutron scattering study.  
    J.A. Johnson, M.L. Saboungi, P. Thiyagarajan, and R. Csencsits.  
    *Journal of Physical Chemistry B* **103**(1) 59-63 (1999).
18. Transition metal ions in ternary sodium silicate glasses, a Mössbauer and neutron study.  
    J.A. Johnson, C.E. Johnson, D. Holland, A. Mekki, P. Appleyard and M.F. Thomas.  
    *Journal of Non-Crystalline Solids* **246,** 104-114 (1999).
19. On the constituents of Aqueous Polyselenide Electrolytes: A Combined Theoretical and Raman Spectroscopic Study.  
    A. Goldbach, J. Johnson, D. Meisel, L.A. Curtiss and Marie-Louise Saboungi,*Journal**of the American Chemical Society* Vol. **121**, 18, 4461-4467, (1999).
20. The structure of sodium iron silicate glass - a multi-technique approach.  
    D. Holland, A. Mekki, I. Gee, C.F. McConville, J. A. Johnson, C.E. Johnson, P. Appleyard, and M.F. Thomas.  
    Selected paper given at *Int. Congress on Glass: ICG98* San Francisco, July 1998.  
    *Journal of Non-Crystalline Solids* **253,** 192-202 (1999).
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31. The effects of sodium fluoride content on the properties of fluorochlorozirconate glass ceramics and their performance as storage phosphors.  
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36. The effect of trivalent iron on the properties of fluorochlorozirconate glass ceramics   
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37. Pulsed Laser Deposition of Transparent Fluoride Glass.  
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38. Characterization of Luminescent Materials with 151Eu Mössbauer Spectroscopy.  
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39. Magnetic interactions in Fe1-xMxSb2O4, M = Mg, Co, deduced from Mössbauer spectroscopy.  
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40. Synthesis of Iron Nanoparticles for Enhanced MRI Contrast Agents.  
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**Book Chapters/Manuals**

1. The structure of industrial glasses probed by Mössbauer Spectroscopy.  
   C.E. Johnson, K.F.E. Williams, and J.A. Johnson.  
   Chapter 7 in *Mössbauer Spectroscopy Applied to Magnetism and Materials Science,*Volume **2.** Edited by Gary J. Long and Fernande Grandjean (Plenum Press, New York   
   1996) pp 153-166.
2. The GLAD manual: A guide to performing experiments on the Glass, Liquids, and Amorphous Materials diffractometer at IPNS.  
   J. A. Johnson, A. J. G. Ellison, and D. L. Price.  
   IPNS manual, Argonne National Laboratory, US (1999).
3. Chapter: Down-conversion in rare-earth doped glasses and glass ceramics.  
   Book: Photon management in Solar Cells, Ed. R. Wehrspohn et al. (Wiley-VCH 2015).  
   S. Schweizer, C. Paßlick, F. Steudel, M. Dyrba, B. Ahrens, P.-T. Miclea, J. A. Johnson, K. Baumgartner, R. Carius.  
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4. Chapter: Up-conversion for enhanced efficiency of solar cells.  
   Book: Photon management in Solar Cells, Ed. R. Wehrspohn et al. (Wiley-VCH 2015).  
   J. C. Goldschmidt, S. Fischer, H. Steinkemper, B. Herter, S. Wolf, F. Hallermann, G. von Plessen, J. A. Johnson, B. Ahrens, Paul-T. Miclea, S. Schweizer. *Published March 27 2015 by VCH Wiley Books (2015)*.
5. Chapter: Glass Ceramic Scintillators. Book: Nanocomposite, ceramic and thin film scintillators  
   Jacqueline A. Johnson, Russell L. Leonard, Carlos Alvarez, Brooke Bartaand Stefan Schweizer.  
   ISBN 9789814745222 *Published* November 11, 2016
6. Chapter Title: Scintillating Glasses. Handbook Section: Optical and Photonic Applications.  
   Jacqueline Anne Johnson and Russell Lee Leonard.  
   *Accepted by* Springer Handbook Program – The Springer Handbook of Glass (2018).
7. Chapter title: MR Guided Laser Induced Thermal Therapy of Glioblastoma.   
   Book: Glioblastoma: State-of-the-Art Clinical Neuroimaging   
   Johnson, Jacqueline A., Ph.D., King, Julie. *Accepted by* Nova Science Publishers Inc. (2018).

**Invited Lectures at Conferences and Universities**

1. Tin Mössbauer in glass (1994).  
   Jacqueline A. Johnson  
   University of Liverpool, UK.
2. Mössbauer spectra of tin in float glass (1994).  
   Jacqueline A. Johnson  
   4th Seeheim Workshop, Germany.
3. A Mössbauer study of tin at the surface of float glass (1995).  
   Jacqueline A. Johnson.  
   Argonne National Laboratory, Chicago, Illinois, USA.
4. A material science approach to nanomaterials: The case of selenium (1997).  
   Jacqueline A. Johnson  
   Argonne National Laboratory, Chicago, Illinois, USA.
5. Transition metals in glass. A structural study (1997).  
   Jacqueline A. Johnson.  
   University of Rolla, Rolla, Missouri, USA.
6. Ternary alkali stannosilicate glasses: A Mössbauer and neutron study (1999).  
   Jacqueline A. Johnson.  
   University of Wales, Aberystwyth, U.K.
7. Through a glass, darkly (1999).  
   Jacqueline A. Johnson.  
   University of Virginia, Charlottesville, USA.
8. Seeing our way through glass (2000).  
   Jacqueline A. Johnson.  
   Intense Pulsed Neutron Source, Argonne, USA.
9. Materials research at Argonne National Laboratory (2001).  
   Jacqueline A. Johnson.  
   University of Alaska, Fairbanks, USA.
10. Cation coordination in oxychloride glasses (2001).  
    Jacqueline A. Johnson  
    Intense Pulsed Neutron Source, Argonne, USA.
11. Past, present and future: Materials in Argonne National Laboratory (2001).  
    Jacqueline A. Johnson.  
    Coe College, Cedar Rapids, Iowa, USA.
12. NanoScience at Argonne National Laboratory: The small and the big picture (2001).  
    Jacqueline A. Johnson.  
    DOE EPSCoR Workshop, Brookhaven National Laboratory, New York, USA.
13. Structure and properties of complex glasses (2001).  
    Jacqueline A. Johnson, Charles E. Johnson, and Diane Holland.  
    VII International Conference on Advanced Materials, Cancun, Mexico.
14. Glass science at a National Laboratory (2002).  
    Jacqueline A. Johnson  
    Glass and Optical Materials Division Fall Meeting, AcerS, Pittsburgh, USA.
15. Structure-property relationships in optically active glasses (2003).  
    Jacqueline A. Johnson, Marcos H. Grimsditch, and J. K. Richard Weber.  
    Glass and Optical Materials Division Fall Meeting, AcerS, Corning, USA.
16. Structure and properties of novel rare earth-doped glasses (2004).  
    Jacqueline A. Johnson, J. K. Richard Weber, Marcos H. Grimsditch, Stefan Schweizer, Douglas R. MacFarlane, Martin Spaeth, and Francesco de Carlo.  
    American Association for the Advancement of Science, Seattle, USA.
17. Effects of surface adsorbates on friction and wear of diamondlike carbon films (2004).  
    Ali Erdemir and Jacqueline A. Johnson.Frontiers in Tribology at the Atomic Scale, Oak Ridge, USA.
18. Secure fingerprint module (2004).  
    Jacqueline A. Johnson.  
    Office of Technology Transfer and Commercialization Technology Panel Presentations, California State University, San Bernadino, USA.
19. Can we move on from X-ray film? (2004).  
    Jacqueline A. Johnson,Francesco de Carlo, John B. Woodford, Gang Chen, J. K. Richard Weber, Scott Hampton, Douglas R. MacFarlane, Stefan Schweizer, and Martin Spaeth.  
    Biomedical Engineering Series of Lectures, IIT, Chicago, USA.
20. Characterization of carbon materials for hydrogen storage (2005).  
    Jacqueline A. Johnson.  
    Northwestern University, Evanston, USA.
21. Manipulation effects in chemical-mechanical planarization (2005).  
    Milind Kulkarni, Dedy Ng, Hong Liang, Jacqueline A. Johnson, and Alex Zinovev.  
    IMIC - Tenth International Conference on Chemical-Mechanical Polishing, Fremont, USA.
22. A 2D x-ray detector made from glass (2005).  
    Jacqueline A. Johnson, Gang Chen, Francesco de Carlo, John B. Woodford, J. K. Richard Weber, Scott Hampton, Douglas R. MacFarlane, Stefan Schweizer, and Martin Spaeth,  
    User Science Seminar, Advanced Photon Source, Argonne, USA.
23. Deposition and Characterization of Super-low Friction Carbon Films on Glass and Ceramic Substrates (2005).   
    Ali Erdemir, Osman L. Eryilmaz, Jacqueline A. Johnson, Oyelayo O. Ajayi.  
    107th Annual Meeting and Exposition of the American Ceramic Society, Baltimore, USA.
24. The joy of working at a National Laboratory (2005).   
    Jacqueline A. Johnson.  
    107th Annual Meeting and Exposition of the American Ceramic Society, Baltimore, USA.
25. Characterization of thin films at facilities large and small (2005).  
    Jacqueline A. Johnson, Robert E. Erck, Osman L. Eryilmaz, Ali Erdemir, and John B. Woodford  
    XIV International Materials Research Congress, Cancun, Mexico.
26. Medical x-ray imaging plates (2005).  
    Jacqueline A. Johnson, Stefan Schweizer, Gang Chen, and J. K. Richard Weber.  
    The Medical Imaging Research Center, IIT, Chicago, USA.
27. Around the Ring (2006).  
    Jacqueline A. Johnson.  
    BioCARS, Advanced Photon Source, Argonne, USA.
28. Multifunctionality of optically-active nanoparticles in fluorozirconate glasses (2006).  
    Stefan Schweizer and Jacqueline A. Johnson.  
    Department of Engineering, Northern Illinois University, DeKalb, USA.
29. 2D glass-ceramic plate for mammography (2006).  
    Jacqueline A Johnson and Stefan Schweizer.  
     Cancer Research Center, University of Chicago, USA.
30. Nano-crystallized glasses for x-ray scintillation applications (2006).  
    Douglas R. MacFarlane, Peter Newman, Gang Chen, Jacqueline A. Johnson, and Stefan Schweizer.  
    International Symposium on Non Oxide and Optical Glasses, Department of Physics, Indian Institute of Science, Bangalore, India.
31. Grain rotation and deformation in ceramics (2006).  
    Gang Chen, Ulrich Lienert, Cinta Lorenzo–Martin, Jacqueline A. Johnson, Dileep Singh, and Jules Routbort.  
    International Workshop. Mechanical Properties in Advanced Materials: Recent Insights, June 7-11, 2006, Fuenteheridos, Spain.
32. Deformation Behavior and Joining of an MgF2 Optical Ceramic (2006)  
    C. Lorenzo–Martin, D. Singh, J. Johnson, and J. L. Routbort  
    International Workshop. Mechanical Properties in Advanced Materials: Recent Insights, Fuenteheridos, Spain.
33. Fluorozirconate-based glass ceramic x-ray detectors for digital radiography (2006).  
    Stefan Schweizer and Jacqueline A. Johnson.  
    6th European Conference on Luminescent Detectors and Transformers of Ionizing Radiation (LUMDETR 2006), Lviv, Ukraine.
34. A Glass-Ceramic Plate for Medical, Energy, and Homeland Security Applications (2006).  
    Jacqueline A. Johnson and Stefan Schweizer.  
    EPIR Technologies, Inc., Bolingbrook, USA.
35. Sensors and Contraband Detection - Homeland Security Applications (2006).  
    Jacqueline A. Johnson, Stefan Schweizer, J. P. Allain, Ali Erdemir, Millie Firestone, Brian Reiss, Paul Raptis, Shuh-Haw Sheen, and George Fenske.National Security matrix meeting, Argonne, USA.
36. Super solar cell efficiencies using glass ceramics (2006).  
    Jacqueline A. Johnson, Stefan Schweizer, Amanda Petford-Long, and Peter Zapol.  
    Solar and Biomass matrix meeting, Argonne, USA.
37. Nanocrystalline scintillators in a glass matrix for both active and passive radiological and explosives detection (2006).  
    Jacqueline A. Johnson, Stefan Schweizer, and Chris Deemer.  
    Presentation to the National Security Associate Laboratory Directorate (ALD), Argonne, USA.
38. Nanocrystalline scintillators for Homeland Security (2006).  
    Jacqueline A. Johnson, Stefan Schweizer, and Chris Deemer.  
    Presentation to the National Nuclear Security Administration, Argonne, USA.
39. Glass Ceramics and Medical Imaging (2007).  
    Jacqueline A. Johnson.  
    Colloquium, San Diego State University, USA.
40. Glass Ceramics – Science and Applications (2007).  
    Jacqueline A. Johnson.  
    Colloquium, Ohio University, USA.
41. Scintillating Nanoparticles for Medical Imaging (2007).  
    Jacqueline A. Johnson.  
    Colloquium, St. Johns University, USA.
42. Optically Active Barium Halide Nanocrystals in Glasses for Radiation Detection (2007)  
    S. Schweizer, J. Selling, B. Henke, B. Ahrens, J. A. Johnson.  
    Advanced Wide Band Gap Materials for Radiation Detectors MATRAD 2007, Sinaia, Romania.
43. The Character and Application of Glass Ceramics and Diamond-Like Carbon. (2007).  
    Jacqueline A. Johnson.  
    Colloquium, University of Tennessee Space Institute, USA.
44. Optical Applications of Glass Ceramics. (2007).  
    Jacqueline A. Johnson.  
    Colloquium, Clemson University, USA.
45. Up-conversion in glasses and glass ceramics for photovoltaic applications (2007).  
    Stefan Schweizer, Bernd Ahrens, Bastian Henke, Paul T. Miclea, and J.A. Johnson.  
    Photon Management in Solar Cells,Bad Honnef, Germany.
46. A new mammography plate and other health-related applications of materials (2008).  
    Jacqueline A. Johnson.  
    University of Tennessee Knoxville, USA.
47. Mammography and Prosthesis Coatings (2008).  
    Jacqueline A. Johnson.  
    Colloquium, Vanderbilt University, USA.
48. Working at a National Laboratory –When to transition to a university and why (2008).  
    Jacqueline A. Johnson.  
    Glass and Optical Materials Division of the American Ceramic Society, Tucson, USA
49. Mammography and Prosthesis Coatings alias Glass Ceramics and Diamond-like Carbon (2008).  
    Jacqueline A. Johnson.  
    Colloquium, Coe College, USA.
50. Europe vs. USA and National Laboratory *vs.* University (2008).  
    Jacqueline A. Johnson.  
    2nd International Congress on Ceramics, Verona, Italy
51. Nanoscience in Mammography (2008).  
    Jacqueline A. Johnson.  
    Colloquium, Temple University, USA.
52. Materials for Mammography (2008).  
    Jacqueline A. Johnson.  
    Presentation to President Peterson of the University of Tennessee Knoxville at the   
    University of Tennessee Space Institute, USA.
53. Nanomaterials in Medical Imaging (2008).  
    Jacqueline A. Johnson.  
    Colloquium, University of Missouri, Rolla, USA.
54. Biomedical materials - A new mammography image plate and implant coatings (2008).  
    Jacqueline A. Johnson.  
    Colloquium, Texas A&M University, College Station, USA.
55. Mammography and Implant Coatings (2008).  
    Jacqueline A. Johnson.  
    VINSE Colloquium, Vanderbilt University, USA.
56. Materials design for medical applications (2009).  
    Jacqueline A. Johnson  
    Colloquium, University of Memphis, Memphis, USA.
57. Applications and Future Challenges in X-ray Imaging (2009).  
    Jacqueline A. Johnson and Stefan Schweizer.  
    ASME Summer Heat Transfer Conference, San Francisco, USA.
58. Multi-functionality of fluorescent nanocrystals in glass ceramics (2009).  
    S. Schweizer, B. Henke, M. Dyrba, P. T. Miclea, B. Ahrens, M. Secu, and J. A. Johnson.   
    7th International Conference on Luminescent Detectors and Transformers of Ionizing Radiation (LUMDETR), Kraków, Poland.
59. ZBLAN glasses for imaging plates and solar up-conversion (2009)  
    Jacqueline A. Johnson  
    Seminar, Oak Ridge National Laboratory, Oak Ridge, USA.
60. What goes on in the lab? (2009)   
    Jacqueline A. Johnson  
    Seminar, University of Tennessee Space Institute, Tullahoma, USA.
61. Progress on up-converted fluorescence in Er-doped fluorozirconate-based glass ceramics for high efficiency solar cells. (2010)  
    Stefan Schweizer, Bastian Henke, Bernd Ahrens, Paul T. Miclea, and Jacqueline A. Johnson.  
    *Photonics for Solar Energy Systems: SPIE Photonics Europe,* Brussels, Belgium.
62. Science and Engineering of Materials for Medical Applications. (2010)  
    Jacqueline A. Johnson  
    Seminar, Old Dominion University, Norfolk, USA.
63. Materials and Medicine. (2010)  
    Jacqueline A. Johnson  
    Colloquium, San Diego State University, San Diego, USA.
64. Materials for Medical Applications. (2010)  
    Jacqueline A. Johnson  
    Seminar, University of Tennessee, Knoxville, USA.
65. The Physics of Materials for Medical Applications (2010).  
    Jacqueline A. Johnson  
    Seminar, SUNY, Binghamton, USA.
66. Materials Design for Medical Imaging (2010).  
    Jacqueline A. Johnson  
    Seminar, Wright State University, Dayton, USA.
67. Mammography Image Plates and Coatings for Implants (2010).  
    Jacqueline A. Johnson  
    Seminar, Rhodes College, Memphis, USA.
68. Mössbauer spectroscopy of europium-containing glasses (2011).  
    C.E. Johnson, M. Vu, J.A. Johnson, D.E. Brown and R.J.K. Weber.  
    ***The Sixth Nassau-Argonne Mössbauer International Symposium*, New York, USA.**
69. **A mother in science. (2011)**Jacqueline A. Johnson ***Sustainability Women Engineering Conference* (Knoxville, USA).**
70. **Medical Imaging and other fun projects (2011).  
    Jacqueline A. Johnson.  
    Seminar, MABE Department, University of Tennessee, Knoxville, USA.**
71. Charge Collection and Photon Conversion for Radiation Sensing(2011).  
    **Jacqueline A. Johnson.**UTK & Y-12 Partnership in Technology Forum (Oak Ridge, USA).
72. ZBLAN glass ceramics for X-ray imaging (2011).  
    Jacqueline A. Johnson, Christian Paßlick and Stefan Schweizer.  
    ***PacRim 9 - The 9th International Meeting of Pacific Rim Ceramic Societies* Cairns, Australia.**
73. **Developing an x-ray image plate – engineering the material** (2011).  
    Jacqueline A. Johnson  
    Seminar, Tennessee State University, Nashville, USA.
74. Fifty years of Mössbauer Spectroscopy: From alloys and oxides to glasses and nanoparticles. (2011)  
    C.E. Johnson and J.A. Johnson.  
    *International Conference on the Applications of the Mössbauer Effect* Kobe, Japan.
75. Luminescent Materials for Medical, Defense and Solar Applications (2011).  
    Jacqueline A. Johnson  
    Seminar, University of the South, Sewanee, USA.
76. ZBLAN glass ceramics for X-ray imaging (2012).  
    Jacqueline A. Johnson, Christian Paßlick and Stefan Schweizer.  
    ***36th International Conference and Exposition on Advanced Ceramics and Composites* Daytona Beach, USA.**
77. Luminescent Materials for Devices (2012).  
    Jacqueline A. Johnson  
    Austin Peay, Clarksville, USA.
78. Study of Europium Valence in ZBLAN Imaging Plates (2012).  
    Jacqueline A. Johnson, S. Gray, C.E. Johnson, R. Weber, C. Paßlick and S. Schweizer.  
    *Glass and Optical Materials Division Annual Meeting, American Ceramic Society* St. Louis, USA.
79. Applications of Luminescent Materials (2012).  
    Jacqueline A. Johnson  
    Seminar, Xavier University, New Orleans, USA.
80. Graduate and Intern Opportunities at the UT Space Institute (2012).  
    Jacqueline A. Johnson  
    *Kentucky Nanotechnology Symposium* Bowling Green, USA.
81. Evolution of Nanocrystals in Fluorochlorozirconate Glasses.Carlos Alvarez, Yuzi Liu, Jacqueline Johnson and Amanda K. Petford-Long.   
    **EMC Workshop 8:** In situ **and Environmental Science: How Can Electron Microscopy and Spectroscopy Help?** *Argonne National Laboratory Users Meeting* (Argonne, USA, May 2012).
82. Glass ceramics for storage phosphor applications (2012).  
    C. Paßlick, J. A. Johnson, A. R. Lubinsky and S. Schweizer.  
    ***8th International Conference on Luminescent Detectors and Transformers of Ionizing Radiation - LUMDETR* Halle (Saale) Germany.**
83. X-ray imaging enhancement with glass ceramic plates (2012).  
    Jacqueline Johnson, Lee Leonard, Sharon Gray, Christian Paßlick, Carlos Alvarez, Stefan Schweizer and Amanda Petford‐Long.  
    *Innovations in Biomedical Materials 2012* Raleigh, USA.
84. On Optical Imaging of Tissue: Aspects of Photo-Acoustic Femtosecond Spectroscopy (2012).  
    Christian G. Parigger, Jacqueline A. Johnson, and Robert Splinter  
    *34th Annual International Conference on the IEEE Engineering in Medicine and Biology* San Diego, USA.
85. Glass Ceramics for Radiation Detection (2012).  
    Jacqueline Anne Johnson, Rick Lubinsky and Stefan Schweizer.  
    *Materials Science & Technology 2012 Conference & Exhibition* Pittsburgh, USA.
86. Physiological Sensing through Tissue with Femto-second Laser Radiation (2012).  
    Christian G. Parigger, Jacqueline A. Johnson and Robert Splinter.  
    International Conference on *High Capacity Optical Networks and Emerging/Enabling Technologies (HONET)* Istanbul, Turkey.
87. Mössbauer Spectra and Superparamagnetism of Europium Sulfide Nanoparticles (2013).  
    C.E. Johnson, L. Costa, J.A. Johnson, D.E. Brown, S. Somarajan, W. He and J.H. Dickerson.  
    *7th North American Mössbauer Symposium*, Austin, USA.
88. X-ray imaging enhancement using nanoscience (2013).  
    Jacqueline Johnson, Lee Leonard, Carlos Alvarez, Sharon Gray, Rick Lubinsky, Amanda Petford-Long, Stefan Schweizer and Charles Johnson.  
    [*37th International Conference and Expo on Advanced Ceramics and Composites*](http://ceramics.org/meetings/37th-international-conference-and-expo-on-advanced-ceramics-and-composites) Daytona Beach, USA.
89. Nanoparticles in Medicine (2013)  
    Jacqueline Johnson  
    Seminar, Middle Tennessee State University, Murfreesboro, USA.
90. Nanostructured bio-ceramic x-ray imaging plate (2013).  
    Jacqueline Johnson, Lee Leonard, Hien-Yoong Hah, Carlos Alvarez, Rick Lubinsky, Amanda Petford-Long and Charles Johnson.  
    *10th Pacific Rim Conference on Ceramic and Glass Technology* San Diego, USA.
91. Nanoparticles in Medicine (2013).  
    J. A. Johnson, L. Leonard, C. Alvarez, C. E. Johnson, S. Schweizer, R. Lubinsky, A. Petford-Long, S. Clare and T. Gorgio.  
    *8th Pacific Rim International Conference on Advanced Materials and Processing*, Hilton Waikoloa Village, Big Island of Hawaii, USA.
92. Nanoparticles in Medicine/Graduate Opportunities and Internships (2013).  
    Jacqueline A. Johnson  
    Seminar, University of North Georgia, Dahlonega, USA.
93. γ-ray imaging enhancement using nanoscience (2014).   
    Russell Lee Leonard, Julie King, Jacqueline Johnson and Schweizer, Stefan.  
    [*38th International Conference and Expo on Advanced Ceramics and Composites*](http://ceramics.org/meetings/37th-international-conference-and-expo-on-advanced-ceramics-and-composites) Daytona Beach, USA.
94. Radiation Detection: The case for glass ceramics (2014).  
    Jacqueline Anne Johnson  
    Seminar, Oak Ridge National Laboratory, Oak Ridge, USA.
95. Nanoscience in Imaging (2014).  
    Jacqueline Anne Johnson  
    Lightening talk, Symposium, Institute of Biomedical Engineering (iBME), Knoxville, USA.
96. Nanocrystalization in Fluorochlorozirconate Glasses (2014).Carlos J. Alvarez, R. Lee Leonard, Julie King, Jacqueline A. Johnson, Amanda K. Petford-Long.   
    *Argonne National Laboratory Users Meeting* (Argonne, USA)
97. Gamma-Ray CR using an FCZ Glass-Ceramic Storage Phosphor Plate (2014).  
    R.L. Leonard1, S.K. Gray1, C.J. Alvarez2, A.K. Moses3, L.F. Arrowood, A.R. Lubinsky4, A.K. Petford-Long and J.A. Johnson.  
    *Consolidated Nuclear Security LLC*, MOU signing with UT, Oak Ridge, USA.
98. Computed radiography with glass ceramic imaging plates (2015)  
    Jacqueline A. Johnson, Russell Lee Leonard, Sharon Gray, Richard Lubinsky, RichardWeber; and Stefan Schweizer.  
    [*39th International Conference and Expo on Advanced Ceramics and Composites*](http://ceramics.org/meetings/37th-international-conference-and-expo-on-advanced-ceramics-and-composites) Daytona Beach, USA.
99. Gamma-Ray Computed Radiography using a Fluorochlorozirconate Glass-Ceramic Storage Phosphor Plate (2015).   
    Jacqueline A. Johnson  
    *Seminar: The Center for Research and Education in Optics and Lasers (CREOL),* University of Central Florida.
100. *In situ* techniques to characterize glass ceramics (2015).  
     Jacqueline Anne Johnson, Russell lee Leonard, Carlos Alvarez, Amanda Petford-Long.  
     *Materials Science & Technology 2015*, Columbus, OH, USA
101. γ-ray and neutron imaging enhancement using nanoscience (2016).  
     Jacqueline A. Johnson and Russell Lee Leonard.  
     [*40th International Conference and Expo on Advanced Ceramics and Composites*](http://ceramics.org/meetings/37th-international-conference-and-expo-on-advanced-ceramics-and-composites) Daytona Beach, USA.
102. Computed Radiography using a Fluorochlorozirconate Glass-Ceramic Storage Phosphor Plate (2016).  
     Jacqueline A. Johnson and Russell L. Leonard.  
     *Seminar: Tennessee Technological University,* Cookeville, TN, USA.
103. Glasses doped with trivalent rare-earth ions as photon downshifters for photovoltaic applications (2016).  
     Franziska Steudel, Sebastian Loos, Bernd Ahrens, Russell L. Leonard, Jacqueline A. Johnson and Stefan Schweizer. *Materials Challenges in Alternative & Renewable Energy 2016*, Clearwater Beach, USA.
104. Iron nanoparticles for Theranostics in Glioblastoma Multiforme.  
     Jacqueline Johnson, Julie King, Charles Johnson.  
     *UT CORNET Cancer Conference* (Murfreesboro, USA November 2016).
105. Science of Search and Rescue Dogs-Outreach presentation  
     Jacqueline Anne Johnson  
     *Hands on Science Center*, (Tullahoma, TN, USA July 2017).
106. Antifogging Diamond-like Carbon Coatings for Laparoscope Lenses (2018).  
     Adam W. Evans, R. Lee Leonard, and Jacqueline A. Johnson  
     [*42nd International Conference and Expo on Advanced Ceramics and Composites*](http://ceramics.org/meetings/37th-international-conference-and-expo-on-advanced-ceramics-and-composites) Daytona Beach, USA.
107. Luminescent Glasses and Glass Ceramics for Radiation Detection in Imaging Applications  
     Charles W. Bond, Adam W. Evans, Julie E. King, Jacqueline A. Johnson, R. Lee Leonard   
     and A. Richard Lubinsky.  
     *2018 Glass and Optical Materials Division (GOMD) Annual Meeting*, San Antonio, USA.
108. Magnetic Interactions in Fe1-xMxSb2O4, M=Mg,Co, Deduced from Mössbauer Spectroscopy.  
     F.J.Berry, B.P.de Laune, C.Greavesa , H.-Y.Hah, C.E.Johnson, J.A. Johnson, S. Kamali, J.F.Marco, M.F.Thomas and M.J.Whittaker.  
     *4th Mediterranean Conference on the Applications of the Mössbauer Effect (MECAME 2018*), Zadar, Croatia.
109. Thin Film Storage Phosphors for Medical Imaging.  
     Jacqueline A. Johnson, Charles W. Bond, Russell Lee Leonard, Anthony Richard Lubinsky, Yu Jin Shin and Amanda Petford-Long.  
     *Materials Science & Technology 2018 (MS&T 2018)*, Columbus, OH, USA

**Contributed Lectures at Conferences**

1. Tin silicate glasses.  
   D. Holland, M.M. Karim, C.E. Johnson, K. Williams, and J.A. Johnson.  
   *The 2nd International Conference of the European Society of Glass* (Venice, Italy, 1993).
2. The variation in f-factor of Sn2+ and Sn4+ in tin doped glasses.  
   K. Williams, C.E. Johnson, J.A. Johnson, D. Holland, and M.M. Karim.  
   *The Royal Society of Chemistry 34th Mössbauer Spectroscopy Discussion Group   
   Meeting* (Nottingham, UK, 1993).
3. The Mössbauer effect of tin doped float glass and the temperature dependence of the   
   f- factor.  
   K. Williams, C.E. Johnson, J.A. Johnson, D. Holland, and M.M. Karim.  
   *The Society of Glass Technology New Researchers Forum on Glass* (Warwick, UK, 1993).
4. Novel contactor for the treatment of aqueous waste.  
   C. Dyson, D. Phipps, and J.A. Johnson.  
   *The ACHEMA Trade Fair* (Frankfurt, Germany, 1994).
5. Mössbauer spectra of tin silicate binary glasses, float glass and tin doped float glass.  
   K. Williams, C.E. Johnson, J.A. Johnson, D. Holland, and M.M. Karim.  
   *The Royal Society of Chemistry 35th Mössbauer Spectroscopy Discussion Group Meeting* (Nottingham, UK, 1994).
6. Mössbauer spectra of tin in float glass.  
   K. Williams, C.E. Johnson, J. Greengrass, B. Tilley, and J.A. Johnson.  
   *Condensed Matter and Materials Physics Conference* (Warwick, UK, 1994).
7. The enhancement of oxygen transfer by the use of mixing devices.  
   R.M. Al-Khaddar and J.A. Johnson.  
   *Putting a Price on Water* (Bahrain, 1995).
8. A novel high efficiency plant for oxygen transfer.  
   J.A. Johnson, C. Dyson, and D.A. Phipps.  
   *Third International Conference on Water Pollution* (Porto Carras, Greece, 1995).
9. Home energy performance fails to meet objectives.  
   J.A. Johnson.  
   *First Interdisciplinary Conference on the Environment* (Boston, USA, 1995).
10. A comparison of the surface and bulk of iron-containing (tinted) float glass by Mössbauer spectroscopy.  
    K. Williams, M.F. Thomas, C.E. Johnson, J. Greengrass, B. Tilley, and J.A. Johnson.  
    *The Royal Society of Chemistry 36th Mössbauer Spectroscopy Discussion Group   
    Meeting* (Nottingham ,UK, 1995).
11. Oxidation states of tin and iron in clear and tinted float glass by Mössbauerspectroscopy.  
    K. Williams, M.F. Thomas, C.E. Johnson, J. Greengrass, B. Tilley, and J.A. Johnson.  
    *Conference on Fundamentals of Glass Science and Technology* (Växjö, Sweden, 1997).
12. Polyselenides and their radical ions.  
    A.J. Goldbach, J.A. Johnson, M.L. Saboungi, L.A. Curtiss, A.R. Cook, and D. Meisel.  
    *American Chemical Society* (San Francisco, USA, 1997).
13. Semiconductors in confined geometries: A material sciences approach.  
    J. A. Johnson, M.L. Saboungi, P. Thiyagararjan, and R. Csencsits.  
    *American Crystallographic Association* (St. Louis, USA, 1997).
14. Structure of lithium conducting polymers.  
    J. A. Johnson, M.L. Saboungi, D.L. Price, S. Ansell, and T. Russell.  
    *American Crystallographic Association* (St. Louis, USA, 1997).
15. The role of iron in commercial float glass, a neutron scattering study.  
    J. A. Johnson, D. Holland, C.E. Johnson, and A. Mekki.  
    *International Conference on Neutron Scattering* (Toronto, Canada, 1997).
16. Structure of solid and liquid polyethylene oxide.  
    J. A. Johnson, M.L. Saboungi, D.L. Price, S. Ansell, and T. Russell.  
    *Materials Research Using Cold Neutrons at Pulsed Neutron Sources Conference* (Chicago, USA, 1997).
17. Interactions of iron and tin in the float glass surface.  
    K. Williams, M.F. Thomas, C.E. Johnson, J.A. Johnson, and J. Greengrass.  
    *Society of Glass Technology Meeting* (Lathom, UK, 1997).
18. Atomic structure of PEO and LiClO4-PEO.  
    M.L. Saboungi, S. Ansell, H.P. Hauck, J.A.Johnson, D.L. Price, and T. Russell.  
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19. Ternary alkali stannosilicate glasses: A Mössbauer and neutron study.  
    J.A. Johnson, D. Holland, C.E. Johnson, A. Sears, J.F. Bent, P. Appleyard, M.F. Thomas, and A.C. Hannon.  
    *American Crystallographic Association* (Buffalo, USA, 1999).
20. Shape effects on the magnetization of cobalt and permalloy nano-scale arrays.  
    J.A. Johnson, V. Metlushko, P. Vavassori, M. Grimsditch, B. Ilic, P. Neuzil, and R. Kumar.  
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21. MOKE investigation of cobalt and permalloy nano-scale dot arrays: Shape effects on magnetization reversal.   
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22. Cation coordination in oxychloride glasses.  
    J.A. Johnson, D. Holland, P. Appleyard, and C.E. Johnson.  
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23. Tin germanate glasses.  
    D. Holland, Mark E. Smith, I.J.F. Poplett, J.A. Johnson, M.F. Thomas, and J. Bland.   
    *The Eighth International Conference on the Structure of Non-Crystalline Materials* (Aberystwyth, UK, July 2000).
24. The structure of glasses by pulsed neutron diffraction and Mössbauer Spectroscopy.  
    J.A. Johnson, D. Holland, C.E. Johnson, A. Sears, J.F. Bent, P. Appleyard, and M.F. Thomas, A.C. Hannon.  
    *The American Ceramic Society, Glass and Optical Materials Division Meeting* (Corning, USA, October 2000).
25. Shape tuning of magnetic stability in nano-particles: The role of dipolar instability pockets.  
    M. Grimsditch, A. Berger, J.A. Johnson, V. Metlushko, B. Ilic, P. Neuzil, and R. Kumar.  
    *Materials Research Society Meeting* (San Francisco, USA, April 2001).
26. The structure of rare earth glasses by pulsed neutron diffraction and X-ray photoelectron spectroscopy.  
    J. A. Johnson, D. Holland, A. Mekki, K. A. Ziq, and C.F. McConville.  
    *Pac Rim IV: An International Conference on Advanced Ceramics and Glasses* (Maui, USA, November 2001).
27. Structural characterization of near frictionless carbon (NFC) films for tribological applications.  
    J.A. Johnson and J.B. Woodford.  
    *American Conference on Neutron Scattering* (Knoxville, USA, June 2002).
28. Low friction coatings.   
    G. Fenske, A. Erdemir, J. Woodford, J. Johnson, and L. Ajayi.   
    *International Conference on Materials for Extreme Environments* (Denali, AK, USA, August 2002).
29. Near frictionless carbon (NFC) films for tribological applications – a neutron reflectivity and UV Raman study.  
    J.A. Johnson, J.B. Woodford, and A. Erdemir.  
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30. Structural characterization of diamond-like-carbon films.  
    J.A. Johnson, J.B. Woodford, and A. Erdemir.  
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31. Structural characterization of diamond-like-carbon films.  
    J.A. Johnson, J.B. Woodford and A. Erdemir.  
    *105th Annual Meeting and Exposition of the American Ceramic Society* (Nashville, USA, April 2003).
32. What difference does it make?J.A. Johnson.  
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33. Medium-range order in diamond-like carbon films by fluctuation microscopy.  
    X. Chen and J. A. Johnson.  
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34. Raman spectroscopy of nanostructured diamond.  
    J. Birrell, O. Auciello, J.E. Gerbi, J. Johnson, X. Xiao, and J.A. Carlisle.  
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35. High-temperature deformation of SrTiO3.  
    D. Singh, J. Johnson, U. Lienert, and J. Routbort.  
    *106th Annual Meeting and Exposition of the American Ceramic* Society (Indianapolis, USA, April 2004).
36. Fluctuation microscopy studies of medium-range order structures of near frictionless carbon films.  
    X. Chen, J. A. Johnson, J. Hiller, and Z. Liu.  
    *Microscopy and Microanalysis Conference, Microscopy Society of America* (Savannah, USA, August 2004).
37. X-ray studies of near-frictionless carbon films.  
    Nikhil J Mehta, Sujoy Roy, Jacqueline Anne Johnson, John Woodford, Alexander Zinovev, Zahirul Islam, Ali Erdemir, Sunil Sinha, George Fenske, and Barton Prorok.  
    *Materials Research Society Meeting* (Boston, USA, November 2004).
38. ZBLAN-based x-ray storage phosphors and scintillators for digital x-ray imaging.  
    Gang Chen, Jacqueline Johnson, Richard Weber, Stefan Schweizer, Doug MacFarlane, John Woodford, and Francesco de Carlo.  
    *SPIE - International Society for Optical Engineering* (San Diego, USA, February, 2005).
39. Inelastic neutron scattering of diamond-like carbon films.  
    Alok Chatterjee, Jacqueline A. Johnson, and John B. Woodford.  
    *107th Annual Meeting and Exposition of the American Ceramic* Society (Baltimore, USA, April 2005).
40. Effect of reinforcing carbon fiber morphology on tribological behavior of PEEK polymers.  
    A. Greco, O. O. Ajayi, R. A. Erck, J. A. Johnson, and G. R. Fenske.  
    *STLE Annual Meeting* (Las Vegas, USA, May 2005).
41. Structural changes during the wear of diamondlike carbon films at low temperature.  
    J. B. Woodford, G. Helen Xu, H. Liang, and J. A. Johnson  
    *Applied Diamond Conference* (Chicago, USA, May 2005).
42. Structure-property relationships in near frictionless carbon.  
    Jacqueline Johnson, Ali Erdemir, Osman Eryilmaz, Ian, Gee, Diane Holland, Amelia Liu, Nikhil Mehta, Sujoy Roy, Sunhil Sinha John Woodford, and Alex Zinovev.  
    *Applied Diamond Conference* (Chicago, USA, May 2005).
43. A mechanistic study of the effects of environmental species on the friction and wear behavior of highly hydrogenated DLC films.  
    O. L. Eryilmaz, J. A. Johnson, A. Erdemir, N. Mehta, and B. Prorok.  
    *International Tribology Conference* (Kobe, Japan, June 2005).
44. Synchrotron x-ray study of ZBLAN-based glass ceramics for medical x-ray imaging.  
    Gang Chen, Jacqueline Johnson, Richard Weber, Stefan Schweizer, Doug MacFarlane, and John Woodford.  
    *17th University Conference on Glass Science, and 1st International Materials Institute Workshop on New Functionality in Glasses* (Penn State, USA, June 2005).
45. A surface analytical study of the effects of water and oxygen on tribological behavior of DLC films.  
    Osman Eryilmaz, Ali Erdemir, Jacqueline Johnson, Nikhil J Mehta, and Barton Prorok.  
    *World Tribology Congress* (Washington D.C., USA, September 2005).
46. Manipulating reactive metals during chemical-mechanical polishing.  
    H. Liang, J. Johnson, A. Zinovev, M. Kulkarni, G.H. Xu, and D. Yang.  
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47. Effect of reinforcing carbon fiber morphology on tribological behavior of PEEK polymers.  
    Aaron C. Greco, Oyelayo O. Ajayi, Robert A. Erck, Jacqueline A. Johnson, and George R. Fenske.  
    *World Tribology Congress* (Washington D.C., USA, September 2005).
48. A transparent BaCl2:Eu2+ glass-ceramic scintillator with high efficiency.  
    Gang Chen, Jacqueline A. Johnson, Francesco De Carlo, Richard Weber, Stefan Schweizer, Peter Newman and Douglas MacFarlane.  
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49. Energy-dependent scintillation efficiency of fluorozirconate-based glass-ceramic x-ray detectors.   
    Stefan Schweizer, Stephanie Köneke, Gang Chen, Jacqueline A. Johnson, Francesco De Carlo, and Richard Weber.  
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50. Short and medium range orders in nearly frictionless diamond-like carbon.  
    Amelia Liu, Raul Arenal de la Concha, Dean Miller, Xidong Chen, Jacqueline Johnson, Osman Eryilmaz, and Ali Erdemir.  
    *University of Chicago Review, Materials Science Division* (Argonne, IL, USA, February 2006).
51. Glass-ceramic scintillator for biomedical x-ray imaging.  
    G. Chen, J. A. Johnson, S. Schweizer, and D. MacFarlane.  
    *BIO 2006, Annual International Convention* (Chicago, USA, April 2006).
52. Glass-ceramic x-ray storage phosphors for high-resolution medical imaging.  
    S. Schweizer, G. Chen, and J. A. Johnson  
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53. Short and medium range orders in nearly frictionless diamond-like carbon.  
    Amelia Liu, Raul Arenal de la Concha, Dean Miller, Xidong Chen, Jacqueline Johnson, Osman Eryilmaz, and Ali Erdemir.  
    *Department of Energy Operations Review of the Electron Microscopy Center, Materials Science Division* (Argonne, IL, USA, April 2006).
54. Mechanical, tribological, and heamo-compatibility properties of ZrN-Ag, ZrN-Au, and ZrN-Pd nanocomposite films.P. Basnyat, A. Aul, S.M. Aouadi, P. Kohli, S.R. Mishra*,* O. Eryilmaz, J. A. Johnson, and A. Erdemir.  
    *The International Conference on Metallurgical Coatings and Thin Films (ICMCTF)* (San Diego, USA, May 2006).
55. A glass-ceramic plate for medical, non-destructive testing and homeland security applications.   
    Jacqueline A. Johnson, Gang Chen, Stefan Schweizer, Peter Newman, and Douglas MacFarlane, John Woodford, Richard Weber.  
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56. Conductivity measurements on near-frictionless carbon films.  
    C. Zuniga, A. Kosarev, A. Torres, J. A. Johnson, A. Erdemir, and O. L. Eryilmaz.  
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57. A glass-ceramic plate for mammography.  
    J. A. Johnson, S. Schweizer, B. Henke, G. Chen, J. Woodford, P. J. Newman, and D. R. MacFarlane.  
    *ACerS 8th International Symposium on Crystallization in Glasses and Liquids* (Jackson Hole, USA, September, 2006).
58. Complementary techniques for the determination of glass structure – ternary tin silicates.  
    Diane Holland, J.F. Bent, A.C. Hannon, P. Appleyard, M.F. Thomas, J.A. Johnson, C.E. Johnson, and J. Urquidi.  
    International Workshop on Current Challenges in Liquid and Glass Science (Abingdon, UK, January, 2007).
59. A glass ceramic plate to increase solar cell efficiency.  
    J. A. Johnson and S. Schweizer.  
    *The American Ceramic Society, Glass and Optical Materials Division Meeting* (Rochester, USA, May 2007).
60. Fluorozirconate-based glass-ceramic storage phosphors for digital mammography.  
    Anthony R. Lubinsky, Stefan Schweizer, and Jacqueline A. Johnson.  
    *SPIE - International Society for Optical Engineering* (San Diego, USA, February, 2007).
61. Short and Medium Range Order in Hydrogenated Diamond-Like Carbon Films.  
    A. C. Y. Liu, R. Arenal, X. Chen, D. J. Miller, A. Erdemir, J. A. Johnson, O. L. Eryilmaz, and J. B. Woodford.  
    *Microscopy and Microanalysis* (Ft. Lauderdale, USA, August, 2007).
62. Enhanced up-converted fluorescence in fluorozirconate based glass ceramics for high efficiency solar cells.  
    Bernd Ahrens, Bastian Henke, J.A. Johnson, Paul T. Miclea, and Stefan Schweizer.  
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63. Erbium-doped barium chloride nano-crystals in fluorozirconate based glasses for enhanced up-converted fluorescence.  
    Bastian Henke, Bernd Ahrens, Paul T. Miclea, Jacqueline A. Johnson, and Stefan Schweizer.  
    *16th International Symposium on Non oxide and New Optical Glasses, ISNOG (Montpellier, France, April, 2008).*
64. Strontium Environment Transition in Tin Silicate Glasses by Neutron and X-ray Diffraction.  
    Jacqueline. A. Johnson, Jacob Urquidi, Diane Holland, Charles Johnson, and Paul Appleyard.  
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65. Glass Ceramics for High-Resolution Imaging.  
    Jacqueline A. Johnson, Stefan Schweizer, Alexander Kolesnikov, and Rick Weber.  
    *ASME International Mechanical Engineering Congress and Exposition* (Boston, USA, November 2008).
66. Upconverted fluorescence in Er-doped fluorozirconate based glass ceramics for high efficiency solar cells  
    Bastian Henke, Bernd Ahrens, Jacqueline A. Johnson, Paul T. Miclea, and Stefan Schweizer.*SPIE Solar Energy and Technology Conference (S*an Diego, USA, August 2009).
67. Progress on erbium-doped fluorozirconate glass ceramics for upconversion-based solar cell systems  
    Stefan Schweizer, Bastian Henke, Jacqueline A. Johnson, Bernd Ahrens, and Paul T. Miclea  
    *24th European Photovoltaic Solar Energy Conference* (Hamburg, Germany, September 2009).
68. Nanocrystal formation in Modified ZBLAN Glass Ceramics studied by Differential Scanning Calorimetry.   
    Jacqueline A. Johnson, Rick Weber, and Stefan Scweizer  
    *Crystallization 2009: 9th International Symposium on Crystallization in Glasses and Liquids (*Foz do Iguaçu, Brazil, September 2009).
69. Scanning translucent glass-ceramic x-ray storage phosphors.  
    A.R. Lubinsky, J. A. Johnson, S. Schweizer, J. K. R. Weber, R. M. Nishikawa, P. Domenicali, S. Fantone.  
    *SPIE Medical Imaging Conference* (San Diego, USA, February 2010).
70. Eu oxidation state in fluorozirconate-based glass ceramics.  
    B. Henke, C. Paßlick, P. Keil, J. A. Johnson, and S. Schweizer.  
    *German Conference for Research with Synchrotron Radiation, Neutrons and Ion Beams at Large Facilities (SNI2010)* (Berlin, Germany, February 2010).
71. Crystallization and structural investigation of Eu-dopedfluorozirconate-based glass ceramics.  
    C. Paßlick, B. Ahrens, B. Henke, J. A. Johnson, and S. Schweizer.  
    *Condensed Matter Division of the German Physical Society (DPG),* (Regensburg March 2010).
72. Time-resolved optical spectroscopy on Er-doped fluorozirconate basedglasses for efficient up-conversion.  
    UlrichSkrzypczak, Manuela Miclea, Jacqueline A. Johnson,and Stefan Schweizer.  
    *Condensed Matter Division of the German Physical Society (DPG),* (Regensburg March 2010).
73. XANES on Eu-doped fluorozirconate based glass-ceramic x-ray detectors.B. Henke, C. Paßlick, M. C. Wiegand, P. Keil, J. A. Johnson, and S. Schweizer.  
    *MRS Spring Meeting* (San Francisco, USA, April 2010).
74. A secondary ion mass spectroscopy (SIMS) and Mössbauer study of modified ZBLAN glasses.  
    Manh Vu, Alexander Terekhov, George Murray, Stefan Schweizer, Rick Weber, Charles Johnson and Jacqueline Johnson.  
    *The American Ceramic Society, Glass and Optical Materials Division Meeting* (Corning, USA, May 2010).
75. Crystallization behavior of rare-earth doped fluorochlorozirconate glasses.  
    Christian Paßlick, Bernd Ahrens, Bastian Henke, Jacqueline A. Johnson, and Stefan Schweizer.   
    *17th International Symposium on Non-Oxide and New Optical Glasses XVII ISNOG* (Ningbo, China, June 2010).
76. Optimizing the performance of ZBLAN glasses as image plates.

Manh Vu, Jacqueline A. Johnson and Stefan Schweizer.  
Comparative & Experimental Medicine and Public Health Research Symposium (Knoxville, USA, June 2010).

1. Synthesis and Characterization of Diamond-like Carbon Films for Biomedical Applications.  
   Lee Leonard and Jacqueline A. Johnson   
   Comparative & Experimental Medicine and Public Health Research Symposium (Knoxville, USA, June 2010).
2. Advances in up- and down-converted fluorescence for high efficiency solar cells using rare-earth doped fluorozirconate-based glasses and glass ceramics.  
   Christian Paßlick, Bastian Henke, István Császár, Bernd Ahrens, Paul-T. Micleab, Jacqueline A. Johnson and Stefan Schweizer.  
   *SPIE Optics and Photonics Conference* (San Diego, USA, August 2010).
3. Time-resolved investigatios of erbium ions in ZBLAN glasses and glass ceramics.  
   U. Skrzypczak, M. Miclea, A. Stalmashonak, B. Ahrens, B. Henke, G. Seifert, J. A. Johnson and S. Schweizer.  
   *Fourth International Conference on Optical, Optoelectronic and Photonic Materials and Applications* (Budapest, Hungary, August 2010).
4. Rare-earth doped fluorozirconate-based glass ceramics for high efficiency solar cells: Recent developments.  
   Stefan Schweizer, Bastian Henke, István Császár, Christian Paßlick, Bernd Ahrens, Paul T. Miclea,   
   and Jacqueline A. Johnson.  
   *25th European Photovoltaic Solar Energy Conference and Exhibition (25th EU PVSEC) and 5th World Conference on Photovoltaic Energy Conversion (WCPEC-5)* (Feria Valencia, Spain, September 2010).
5. Synthesis and Characterization of Diamond-like Carbon Films for Medical Applications.  
   R. L. Leonard, S. A. Hassan, A. Terekhov, R. A. Erck, J. A. Dickerson, and J. A. Johnson.  
   *Materials Science & Technology 2010 Conference & Exhibition* (Houston, USA, October 2010).
6. Time-dependent spectroscopy on Nd3+- and Er3+-doped fluorochlorozirconate glasses.  
   U. Skrzypczak, M. Miclea, J. A. Johnson, B. Ahrens, G. Seifert and S. Schweizer. *European Optical Society Annual Meeting (EOSAM) (*Paris, France, October 2010).
7. Optical and structural properties of fluorozirconate-based glass ceramics doped with divalent and trivalent europium.  
   Christian Paßlick, Bernd Ahrens, Bastian Henke, Jacqueline A. Johnson and Stefan Schweizer.  
   *75th Annual Meeting of the DPG and DPG Spring Meeting* (Dresden, Germany, March 2011).
8. In-situ TEM Investigation of Nanocrystallization in a Fluorozirconate (ZBLAN) Glass Matrix  
   Carlos Alvarez, Yuzi Liu, Jacqueline Johnson and Amanda K. Petford-Long.   
   *Argonne National Laboratory Users Meeting* (Argonne, USA, May 2011).
9. Mössbauer spectroscopy of europium-containing glasses: Optical activator study for x-ray image plates.  
   C.E. Johnson, M. Vu, J.A. Johnson, D.E. Brown and R.J.K. Weber. *7th Seeheim Workshop on Mössbauer Spectroscopy* (Frankfurt, Germany, June 2011).
10. Crystallization behaviour of rare-earth co-doped fluorochlorozirconate based glasses.  
    C. Paßlick, J. A. Johnson and S. Schweizer.  
    ***PacRim 9 - The 9th International Meeting of Pacific Rim Ceramic Societies* (Cairns, Australia, July 2011).**
11. In Situ TEM Studies of Nanoparticle Growth in a Fluorozirconate (ZBLAN) Glass Matrix.  
    M. Vu, C. Alvarez, Y. Liu, A. K. Petford-Long and J. A. Johnson.  
    *Microscopy & Microanalysis 2011 Meeting* (Nashville, USA, August 2011).
12. Scintillation in multi-valent Eu-doped image platesChristian Paßlick, Jacqueline A. Johnsonand Stefan Schweizer.  
    *11th International Conference on Inorganic Scintillators and their Applications SCINT 2011* (Science Campus Justus-Liebig-University Giessen, Germany, September 2011).
13. Optical Properties of Samarium-doped Oxyfluoride Glasses Containing CaF2 Nanocrystallites.  
    Marcel Dyrba, Paul-Tiberiu Miclea, Mihail Secu, Jacqueline Johnson and Stefan Schweizer.*Materials Science & Technology 2011 Conference & Exhibition* (Columbus, USA, October 2011).
14. In Situ TEM Studies of Nanoparticle Growth in a Fluorozirconate (ZBLAN)Glass Matrix.  
    C. Alvarez, S. Gray, Y. Liu, A. K. Petford-Long and J. A. Johnson.  
    *AVS 58th International Symposium & Exhibition* (Nashville, USA, November 2011).
15. ZBLAN Glass: Improving Medical Imaging with Europium Doped HoF3 and SrCl2 Based Storage Phosphors.  
    A. Eastes, L. Brothers and J. A. Johnson  
    *National Conference on Undergraduate Research* (Ogden, USA, March 2012).
16. Evolution of Nanocrystals in Fluorochlorozirconate Glasses.Carlos Alvarez, Yuzi Liu, Jacqueline Johnson and Amanda K. Petford-Long.   
    *Argonne National Laboratory Users Meeting* (Argonne, USA, May 2012).
17. Two-step annealing process for controlled barium halide crystallization in Eu-doped fluorozirconate-based glasses.C. Paßlick, J. A. Johnson and S. Schweizer.  
    *ISNOG 2012 -International Symposium on Non-Oxide and New Optical Glasses* (Saint -Malo, France, July 2012).
18. Crystallization studies of ZBLAN glasses by DSC and *in situ* TEM  
    L. Leonard, C. Foerster, C. Alvarez, A. Petford-Long, R. Weber, C. Paßlick and S. Schweizer.  
    *Glass and Optical Materials Division Annual Meeting, American Ceramic Society* (St. Louis, USA, May 2012).
19. Investigations of Nanocrystal Phase Transformation in Glass Ceramics.  
    Carlos Alvarez, Yuzi Liu, Jacqueline Johnson and Amanda Petford-Long.  
    *2012 SACNAS National Conference* (Seattle, USA, October 2012).
20. Phase Transformations in ZBLAN Glass CeramicsJacqueline Johnson, Carlos Alvarez, Yuzi Liu, Charles Johnson and Amanda Petford-Long.  
    *AVS International Symposium and Exhibition* (Tampa, USA, October 2012).
21. Stoichiometry of Fe3O4 nanoparticles determined by Mössbauer spectroscopy.   
    H-Y Hah, M. Cole, S. Gray, C.E. Johnson, J.A. Johnson, V. Kolesnichenko, P. Kucheryavy and G. Goloverda.  
    *79th Annual Meeting of the APS Southeastern Section*(Tallahassee, USA, November 2012).
22. Iron nanoparticle Mössbauer Spectroscopy with rare-earth permanent magnets.  
    L. Swafford, C.G. Parigger, H-Y Hah, S. Gray, M. Cole, D. Warnberg, C.E. Johnson, J.A. Johnson and E. Shafranovsky.  
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26. Image Guided Surgery for Resource-limited CountriesDr. Susan E. Clare, Dr. Catherine Jones Murphy, Dr. Jacqueline A. Johnson  
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27. Development of Iron Nanoparticles for Brain Cancer (2014).  
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29. LiSiBaB: Eu (II) neutron scintillator.  
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41. Pulsed Laser Deposition of Transparent Fluoride Glass  
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42. Scintillating Glasses for Digital Radiography Flat Panel Imagers  
    A. R. Lubinsky, A. Howansky, R. L. Leonard, S. Dow, J. A. Johnson, and W. Zhao.  
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43. Thin Film Storage Phosphors for Computed Radiography Applications.

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1. Thin Film Storage Phosphors.

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