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Employment

8/2018 – present	**Associate Professor,** Department of Engineering, East Carolina University
9/2017 – 5/2019	**Editor-in-Chief,** Materials Science and Engineering C: Materials for Biological Applications
10/2013 – 04/2018	**University Reader in Bioengineering,** Cambridge University Engineering Department
10/2012 – 04/2018	**Fellow,** Homerton College Cambridge
10/2006 – 9/2013	**University Lecturer in Mechanics of Biological Materials,** Cambridge University Engineering Department
1/2007 – 9/2011	**Fellow,** Sidney Sussex College Cambridge
7/2005 – 7/2006	**Research Scientist,** Center for Applied Biomechanics Dept. of Mechanical Engineering, University of Virginia
9/2002 – 6/2005	**Research Assistant,** University of Minnesota
11/2001 – 5/2002	**Research Scientist,** Hysitron, Inc. (Minneapolis, Minnesota)
8/1998 – 6/2001	**Research Assistant,** University of Minnesota
8/1996 – 7/1997	**Research Assistant,** Michigan State University

Education

July, 2010	**M.A.** University of Cambridge
June, 2005	**Ph.D.** Biophysical Sciences and Medical Physics, University of Minnesota
December, 1998	**M.S.** Engineering Mechanics, Michigan State University
May, 1996	**B.S.** Materials Science and Engineering, Michigan State University

Current Funding

11/2020 – 6/2021	*(internal)* Biomaterials Cluster Seed Grant, Funded by ECU Division of Research, Economic Development and Engagement, $10,000.
8/2020 – 5/2021	*(internal)* Alternative Textbook Program, Funded by ECU Joyner Library, $1,000.
8/2018 – 7/2021	*(internal)* Start-up funds, ECU Division of Research, Economic Development and Engagement, $652,000.

Pending Funding

Details available upon request.

Prior Funding

9/2016 – 4/2018	**Principal Investigator,** Synthesis and characterization of natural and bio-inspired materials | US Army Corps of Engineers, $150,000.
6/2016 – 7/2016	**Principal Investigator,** Nanofibrous materials for stem cell expansion, | BBSRC Impact Acceleration Fund, £10,000.
3/2015 – 4/2018	**Co-Investigator,** The importance of mechanical forces due to prenatal movements for spinal development | Leverhulme Trust, £296,349.
9/2014 – 8/2016	**Principal Investigator,** Engineering tough materials: Biomimetic eggshell | US Army Corps of Engineers, $40,000 USD.
7/2013 – 6/2016	**Co-Investigator,** Materials for Life: Biomimetic multi-scale damage immunity for construction materials | Engineering and Physical Sciences Research Council, £453,632.
10/2013 – 12/2016	**Principal Investigator,** | Single-cell analysis of replicative fate in vivo by heavy water labelling of DNA and mass spectrometry | NC3Rs (Research Councils UK), £90,000 (Ph.D. studentship).
10/2013 – 9/2014	**Principal Investigator,** Towards the development of a virtual placenta | Engineering for Clinical Practice theme, Cambridge University Engineering Department, £8,000.
1/2009 – 12/2012	**Co-Investigator,** Step up in polymer based rapid manufacturing processes | European Research Council, €240,000.
1/2008 – 9/2011	**Principal Investigator,** Small-scale mechanical characterization of adhesive systems | AWE, £72,000 (Ph.D. studentship).
1/2008 – 9/2011	**Co-Principal Investigator,** Wood-polymer composites | Engineering and Physical Sciences Research Council with Ridgeons, £92,319 (Ph.D. studentship).
10/2007 – 3/2009	**Principal Investigator,** Engineering bone-like composite materials: The influence of sugars on biomimetic mineralisation | The Royal Society, £14,600.
6/2008 – 10/2008	**Principal Investigator,** Fetal Membrane Fracture | Cambridge Centre for Trophoblast Research, £3,000.
11/2005 – 11/2006	**Co-Principal Investigator,** Modeling the Local Structural Characteristics and the Material Constitutive Response of the Thorax | Toyota Motor Corporation for $165,000, (University of Virginia).

6/2003 – 12/2004 **Co-Investigator,** Development of a Database to Link Clinical Variables with Biomechanical Properties of the Fetal Membranes | Women's Health Foundation (part of the Minnesota Medical Foundation) for $25,000, (University of Minnesota).

Student Supervision

Post-doc

East Carolina University

2019 – 2021 **Mohammad R. Islam,** current

Cambridge University

2016 – 2018 **Eneko Axpe,** now post-doctoral fellow, Stanford University

2015 – 2018 **David Labonte,** now Lecturer, Department of Bioengineering, Imperial College London

2010 – 2012 **David Cottenden,** now Consultant at The Technology Partnership, Cambridgeshire, UK.

2008 – 2010 **Matteo Galli,** now Deputy Director of the Institute, Section of Mechanical Engineering, EPFL, Switzerland

2008 – 2009 **Joel Cugnoni,** now Research Associate and Lecturer, Section of Mechanical Engineering, EPFL, Switzerland

Ph.D.

Cambridge University

2014 – 2018 **Yassen Abbas,** now post-doctoral research fellow, Centre for Trophoblast Research, Cambridge.

2013 – 2018 **Annabel Butcher,** now post-doctoral research fellow, Weizmann Institute, Rehovat, Israel.

2014 – 2017 **Romina Plitman Mayo,** now post-doctoral research fellow, Tel Aviv University, Israel.

2013 – 2016 **Giovanni Offeddu,** now post-doctoral research fellow, Roger Kamm's lab, Biological Engineering, MIT.

2012 – 2018 **Oliver Armitage,** now Founder and CSO at start-up BIOS, Cambridge, UK.

2011 – 2016 **Jenna Shapiro,** now post-doctoral research fellow at the University of Bristol, UK.

2011 – 2014 **Carolin Oefner,** now employed as Senior Medical Advisor, Bristol-Myers Squibb.

2011 – 2014 **Khaow Tonsomboon,** now researcher at National Center for Genetic Engineering and Biotechnology (BIOTEC), Thailand.

2010 – 2013 **Ching Theng Koh,** now Lecturer at Universiti Tun Hussein Onn, Malaysia.

2009 – 2012 **Daniel Strange,** now Consultant at The Technology Partnership, Cambridgeshire, UK.

2008 – 2011	**Tamaryn Shean,** now Project Manager at National Physical Laboratory, Teddington, UK.
2008 – 2011	**Oliver Hudson,** now private business owner and consultant, UK.

Master's

	East Carolina University
2020 – 2022	Will Miller (M.S.)
2020 – 2022	Mackenzie Wheeler (M.S.)
2019 – 2021	Thomas Buckner (M.S.)
2018 – 2021	Marcus Moody (M.S.)
2018 – 2020	Jacob Ludwick (M.S.)

	Cambridge University
2015 – 2016	Ann Nguyen (M.Phil.)
2015 – 2016	Dylan Musson (M.Eng.)
2013 – 2014	Rupert Barton (M.Eng.)
2013 – 2014	Sana Waheed (M.Eng.)
2013 – 2014	Nikhila Ravi (M.Eng.)
2012 – 2013	Annabel Butcher (M.Eng.); stayed on to do Ph.D.
2012 – 2013	Manon van Thorenburg (M.Eng.)
2011 – 2012	Mark Varley (M.Eng.)
2011 – 2012	Thomas Wagner (M.Eng.)
2011 – 2012	Sarah Greasly (M.Eng.)
2011 – 2012	Tess Catherwood (M.Eng.)
2011 – 2012	Helen Brawn (M.Eng.)
2011 – 2012	Oliver Armitage (M.Phil.); stayed on to do Ph.D.
2010 – 2011	Oliver Armitage (M.Eng.); stayed on to do M.Phil.
2010 – 2011	Khaow Tonsomboon (M.Eng.); stayed on to do Ph.D.
2009 – 2010	Aran Dasan (M.Eng.)
2009 – 2010	Natasha Williams (M.Eng.)
2008 – 2009	Rosanne Furniss (M.Eng.)
2008 – 2009	Kirsty Main (M.Eng.)
2008 – 2009	Daniel Strange (M.Eng.); stayed on to do Ph.D.
2007 – 2008	Graham MacAree (M.Eng.)
2007 – 2008	Tamaryn Shean (M.Eng.); stayed on to do Ph.D.

Undergraduate

	East Carolina University
2021 – present	Ethan Knorr
2020	Ashley McCreary
2020 – present	Lucci DeRose
2019 – present	Mackenzie Wheeler
2019	Dana Al Jalal (IAU, Saudi Arabia)

2019	Leena Dakhaikh (IAU, Saudi Arabia)
2019 – 2020	Jeremiah James

Cambridge University

2011	Mark Varley
2007, 2008, 2009	Wesley Chua
2009	Henry Pairaudeau
2008	Tarun Gupta
2008	Kirsty Main

Student Awards

East Carolina University

- Spring 2021, ECU CET Outstanding Undergraduate Researcher Awards, Jeremiah James and Mackenzie Wheeler.
- Spring 2021, Undergraduate Research and Creative Activity awards, Ethan Knorr.
- Fall 2020, Undergraduate Research and Creative Activity mini-awards, Mackenzie Wheeler, Jeremiah James, and Lucci DeRose.
- Spring 2020, Undergraduate Research and Creative Activity awards, Mackenzie Wheeler and Jeremiah James.
- April 2019, Research and Creative Achievement Week, Best Oral Presentation Master's level, Engineering/Technology, Jacob Ludwick.

Cambridge University

- National Research Council of Thailand Dissertation Award in Biomaterials Engineering – Excellent Level, Khaow Tonsomboon, 2019.
- DePuy Best Postgraduate Medical Engineering Project, Institution of Mechanical Engineers (London), Romina Plitman Mayo, 2018.
- SET for Britain Finalist, Yassen Abbas (2017), Jenna Shapiro (2014), Khaow Tonsomboon (2013).
- Best Oral Presentation Award, Computer Methods in Biomechanics and Biomedical Engineering, Tel Aviv, Romina Plitman Mayo, 2016.
- Best Research Image, U.S. National Institutes of Health, USA, Romina Plitman Mayo, 2016.
- Trainee Award, World Biomaterials Congress, Montreal, Giovanni Offeddu, 2016.
- YW Loke New Investigator Travel Award, IFPA, Paris, Romina Plitman Mayo, 2014.
- Cambridge Engineering Photo Competition Head of Department Prize, Khaow Tonsomboon, 2013.

- St. Catherine's College Cambridge Research Prize, Ching Theng Koh, 2012.
- Cambridge Engineering Photo Competition SEM Prize, Ching Theng Koh, 2012.
- Cambridge University Nanoscience Doctoral Training Centre Associateship, Annabel Butcher (2014), Khaow Tonsomboon (2013), Daniel Strange (2010).
- IOM3 Materials Literature Review Finalist, Jenna Shapiro (2012), Ching Theng Koh (2012), Daniel Strange (2010).

Theses Examined

2019	Victoria Myers, East Carolina University, M.S.
2018	Paolino De Falco, Queen Mary University of London, Ph.D.
2017	T. Sanchez Monroy, University of Manchester, Ph.D.
2016	S. Bakarich, University of Wollongong, Ph.D.
2016	A. Fotticchia, Loughborough University, Ph.D.
2015	A. Jin, Imperial College London, Ph.D.
2015	C. Litina, Cambridge Engineering, Ph.D.
2015	J. Ashworth, Cambridge Materials, Ph.D.
2014	R. Kurchin, Cambridge Materials, M.Phil.
2014	M. Haghighi Abyaneh, Loughborough University, Ph.D.
2013	M. Farine, ETH Zurich, Ph.D.
2013	A. K. Miri Ramesh, McGill University, Ph.D.
2012	C. Haller, University Hospital Zurich, Ph.D.
2011	T. Oppenheim, Cambridge Engineering, Ph.D.
2010	T. Kelby, Cambridge Chemistry, Ph.D.
2009	E.R. Wise, Cambridge Chemistry, Ph.D.
2008	J.A. Sanz Herrera, University of Zaragoza, Ph.D.
2008	F. Xu, Cambridge Engineering, Ph.D.
2008	J. Gornall, Cambridge Physics, Ph.D.
2007	K. Baxevanakis, Cambridge Engineering, M.Phil.

Personal Awards

- ECU CET Outstanding Faculty Research Award, April 2021.
- Best Lecturer Award, 2nd year undergraduates, Cambridge Engineering, 2017.
- University of Cambridge Public Engagement and Outreach finalist, 2016.
- National Research Council (USA) Post-doctoral fellowship, 2006 (declined).
- Materials Research Society Trophy Award for Best Proceedings Paper, 2005.
- American Society of Mechanical Engineers Bioengineering Division Student Paper Contest, 2nd Place, 2004.
- Society for Experimental Mechanics Student Paper Contest 3rd Place, 2001.

- National Science Foundation (USA) Graduate Research Fellowship, Spring, 1996.
- Society of Women Engineers Scholarship Awards, 1995 and 1996.
- Michigan State University College of Engineering Academic Achievement Awards, 1994, 1995, 1996.

University and College Teaching

	East Carolina University
2021	MENG 6210 Advanced Mechanics of Materials
2019, 2021	ENGR 4503/BIME 6700/BIME 5410 Biomimetics
2020	BIME 5400 Biomaterials
2020	MENG 6350 Theory of Elasticity
2019	BIME 6700 Cell and Tissue Biomechanics
2019, 2020, 2021	ENGR 2070 Materials and Processes
2018	BIME 6400 Biomaterials
2018 – 2021	ENGR 4010/4020 Capstone

	Cambridge University
2016 – 2018	Experimental Methods in Mechanics (graduate)
2008 – 2018	Biomimetics, **Developed as New Module**
2008 – 2018	Biomaterials coursework, **Developed as New Lab**
2011 – 2017	The Engineer in Society
2007 – 2017	Introduction to Bioengineering, **Co-developed as New Module**
2013 – 2014	Continuum Mechanics
2008 – 2014	Introduction to Materials, supervisions (recitation sections, 2-4 students)
2008 – 2014	Biomaterials, **Co-developed as New Module**
2009 – 2012	Advanced Topics in Manufacturing
2007	Nonlinear Mechanics (graduate)

University and College Service

	East Carolina University
2020 – present	ECU Global Affairs Committee
2019	Co-Director, Biomaterials Research Cluster

	Cambridge University
2017 – 2018	Steering group, Women's Staff Network, Cambridge University
2017 – 2018	Academic Board for West and Northwest Cambridge
2016 – 2018	Faculty advisor, Homerton College Engineering Society
2016 – 2018	Homerton College Council
2014 – 2018	Faculty advisor, Robogals Cambridge
2014 – 2018	Departmental Biological Safety Committee
2014 – 2018	Homerton College Fellowships Committee

2013 – 2018	Homerton College Investments Committee
2012 – 2018	Homerton College Admissions Director for Undergraduate Engineering
2008 – 2018	Director of Studies (academic advisor) for 12-18 undergraduate students
2009 – 2014	University Biosafety Committee
2008 – 2014	Departmental Biological Safety Officer
2008 – 2014	Local Officer Responsible for Safety, Bioengineering Lab
2006 – 2011	Secretary, Engineering for the Life Sciences Teaching Committee
2007 – 2009	Department Representative, Women in Science and Engineering Initiative

Public Engagement and Outreach

Lectures, Panels, and Broadcast

- Lightning Talk, SciFoo Alumni (Virtual), May 2021.
- Reflections as a Woman in STEM, Society of Women Engineers fundraising gala, ECU-ECHI, April 2019.
- Radio/Podcast Interview, The Naked Scientists, Eggshells, bones and the buildings of tomorrow, September 2018, The Naked Scientists
- Participant, Science Foo, Googleplex, Palo Alto, CA, 22 – 24 June 2018.
- Film Clip, The future of medicine, Cambridge University, October 2017, YouTube
- Film Clip, The Hay Levels (career support for high school students), June 2017, YouTube
- Lecture, Cambridge Series: Re-thinking engineering with inspiration from nature, The Hay Festival, Hay-on-Wye, Wales, 4 June 2017.
- Film Clip, *mega.online*, Biological building blocks, May 2017, mega.online
- Lecture and Film Clip, Reducing our carbon footprint by listening to nature, TEDx Cambridge University, 11 February 2017, YouTube.
- Panelist, Championing success and avoiding the echo chamber, Women in STEM Spotlight, Digital Science, London, UK, 6 October 2016. YouTube
- Participant, Science Foo, Googleplex, Palo Alto, CA, 22 – 24 July 2016.
- Lecture, Biomimetic materials: Re-thinking how we build stuff, Cambridge Science Festival, 9 March 2016.
- Panelist, Staying in science and doing science communication, how to have your cake and eat it too, Spot On London, 9 September 2013.
- Documentary Segment, NOVA (US)/Channel 4 (UK), Zeppelin Terror Attack, filmed 2012, aired 2013 – 4.
- Documentary Segment, Operation Ouch, CBBC/Maverick Productions, first aired Autumn, 2012. BBC

- Film Clip, How can robots aid scientific research? with Google and Lego, for the Google Science Fair, March 2012. YouTube
- Lecture, Collagen: It's everywhere! Hills Road 6th Form College, Cambridge, 18 October 2011.
- Lecture, When engineers meet midwives: The mother as a pressure vessel, Cambridge University 800th Anniversary Alumni Weekend, Cambridge, 26 September 2009.

Articles Authored for a General Audience

- Emmanuel College Alumni Magazine, Thomas Young: Polymath, bioengineer and interdisciplinary pioneer, November 2017, emma.cam.ac.uk
- The Conversation, Dreaming big with biomimetics: Could future buildings be made with bone and eggshells? 8 March 2016. The Conversation
- The Royal Society Publishing blog, Thomas Young's surprising contribution to biomechanics, 14 May 2015, royalsociety.org
- The Conversation, Artificial whiskers could inspire future instruments to aid keyhole surgery 15 August 2015. The Conversation
- The Conversation, Nature must remain at the heart of engineering solutions, 19 June 2014. The Conversation
- The Conversation, Spider silk is a wonder of nature, but it's not stronger than steel 5 June 2013. The Conversation
- Nature.com, Guest blog post on academic mentoring, June 2012. nature.com

Featured in Articles by Others

- Newspaper Feature, The future of skyscrapers: a mile high, slimmer than ever and made from wood, The Telegraph, 30 July 2020. telegraph.co.uk
- Web Feature, ECU Researchers Examine Link Between Hurricanes, Premature Birth, 23 June 2020. NC Public Radio WUNC.org
- Personal Profile, STEM Stories, January 2020. Geeky Girl Reality
- Blog post on Bioengineering in Women's Health, July 2019, Royal Society Publishing Blog
- Lab Profile, Materials Today, Spring 2019. Materials Today
- Web Feature, I am not a Woman in Science. I am a Scientist. March 2019. Hindawi Blog
- Newspaper Feature, Miscarriage research: The bioengineers taking a fresh look at pregnancy, The Guardian, 10 November 2017, theguardian.com

- Profile, Body works, CAM (Cambridge Alumni Magazine), March 2017, issuu.com
- Web Feature, Biomimicry, The Long and Short, 22 June 2016, thelongandshort.org
- Newspaper Feature, Seashells or spider silk: How nature could transform the structure of cities, The Guardian, 8 March 2016, theguardian.com
- Web Feature, Swapping steel and concrete for buildings of bone, The Memo, 7 March 2016, thememo.com
- Web feature, Walking on Eggshells: Anatomy of a Science Story by Jennifer Oullette, 26 September 2012 Cocktail Party Physics Blog
- Magazine Feature, Playful prototyping, Wired UK, July 2012. Wired.co.uk

Editorial Contributions

Journals

2019	**Special Issues,** Bioengineering in Women's Health parts 1 and 2, Journal of the Royal Society Interface Focus, Volume 9, Issues 4 and 5.
2017 – 2019	**Editor-in-Chief,** Materials Science and Engineering C
2014	**Special Issue,** Nanobiomechanics of Living Materials, Journal of the Royal Society Interface Focus, Volume 4, Issue 2.
2006 – 2012	**Principal Editor,** Journal of Materials Research
2009	**Special Issue,** Nanoindentation of Biological Materials, Journal of the Mechanical Behavior of Biomedical Materials, Volume 2, Issue 4.
2006	**Special Issue,** Mechanics of Biological and Biomimetic Materials at Small Length Scales, Journal of Materials Research, Volume 21, Number 8.

Editorial Boards

2021 – present	Journal of Physics: Materials (IOP)
2019 – present	Computer Methods in Biomechanics and Biomedical Engineering
2016 – present	Journal of Biomechanics
2014 – present	Journal of the Royal Society Interface
2014 – present	Extreme Mechanics Letters
2011 – present	Journal of the Mechanical Behavior of Biomedical Materials
2011 – 2018	Acta Mechanica Sinica
2012 – 2018	Bioinspiration and Biomimetics

Society Activities

- Biomedical Engineering Society
  - Special Session Organizer, Bioengineering in Women's Health (2019)
- Materials Research Society

  - Chair, Proceedings Editorial Board (2011 – 2015)
  - Chair, Tutorials Review Committee segment of the Program Development Subcommittee (2011 – 2014)
  - Member, Tutorials Review Committee segment of the Program Development Subcommittee (2005 – 2011)
  - Symposium Organizer, Fall 2007 Annual Meeting, Nanoindentation and Nanotribology IV
  - Symposium Organizer, Fall 2005 Annual Meeting, Mechanical Behavior of Biological and Biomimetic Materials

- American Society for Mechanical Engineering (ASME)
  - Judge, Student Paper Competition, Summer Bioengineering Meeting, 2006, 2007, 2008, 2009, 2010
  - Abstract reviewer, Summer Bioengineering Meeting, 2011, 2012, 2013

- The Bioengineering Society (UK)
  - Founding member, Executive Committee (2008 – 2011)

- Global Enterprise for Micro-Mechanics and Molecular Medicine (GEM4)
  - Member, Executive Committee (2007 – 13)

Publications

Google Scholar
ORCID
My NCBI/PubMed

1. Oyen-Tiesma M, Atkinson J, Haut RC, A method for promoting regular exercise in rabbits involved in orthopaedics research. *Contemp. Topics in Lab. Animal Res.* 37 (1998) 77 – 80.

   https://www.ingentaconnect.com/contentone/aalas/jaalas/1998/00000037/00000006/art00008

2. Atkinson PJ, Oyen-Tiesma M, DeCamp CE, Mackenzie CD, Haut RC, Patellar tendon augmentation after removal of its central third limits joint tissue changes. *J. Orthop. Res.* 17 (1999) 28 – 36.

   DOI: 10.1002/jor.1100170106

3. Oyen-Tiesma M and Cook RF, Technique for estimating the fracture resistance of cultured neocartilage. *J. Mat. Sci. Mater. Med.* 12 (2001) 327 – 32.

   DOI: 10.1023/A:1011247104621

4. Oyen ML and Cook RF, Load-displacement behavior during sharp indentation of viscous-elastic-plastic materials. *J. Mater. Res.* 18 (2003) 139 – 50.

   DOI: 10.1557/JMR.2003.0020

5. Lewis JL, Deloria LB, Oyen-Tiesma M, Thompson RC, Ericson M, Oegema TR, Cell death after cartilage impact occurs around matrix cracks. *J. Orthop. Res.* 21 (2003) 881 – 7.

   DOI: 10.1016/S0736-0266(03)00039-1

6. Oyen ML, Calvin SE, Cook RF, Uniaxial stress-relaxation and stress-strain responses of human amnion. *J. Mater. Sci. Mater. Med.* 15 (2004) 619 – 24.

   DOI: 10.1023/b:jmsm.0000026102.85071.1f

7. Oyen ML, Cook RF, Calvin SE, Mechanical failure of human fetal membrane tissues. *J. Mater. Sci. Mater. Med.* 15 (2004) 651 – 8.

   DOI: 10.1023/b:jmsm.0000030205.62668.90

8. Oyen ML, Cook RF, Moody NR, Emerson JA, Indentation responses of time-dependent films on stiff substrates. *J. Mater. Res.* 19 (2004) 2487 – 97.

   DOI: 10.1557/JMR.2004.0308

9. Oyen ML, Spherical indentation creep following ramp loading. *J. Mater. Res.* 20 (2005) 2094 – 2100.

   DOI: 10.1557/JMR.2005.0259

10. Oyen ML, Cook RF, Stylianopoulos T, Barocas VH, Calvin SE, Landers DL, Uniaxial and biaxial mechanical behavior of human amnion. *J. Mater. Res.* 20 (2005) 2902 – 9.

    DOI: 10.1557/JMR.2005.0382. *Outstanding Meeting Paper*

11. Oyen ML and Ko C-C, Examination of local variations in viscous, elastic, and plastic indentation responses in healing bone. *J. Mater. Sci. Mater. Med.* 18 (2007) 623 – 8.

DOI: 10.1007/s10856-007-2311-7

12. Oyen ML, Nanoindentation hardness measurements of mineralized tissues. *J. Biomech.* 39 (2006) 2699 – 2702.

DOI: 10.1016/j.jbiomech.2005.09.011

13. Oyen ML, Calvin SE, Landers DV, Premature rupture of the fetal membranes: Is the amnion the major determinant? *Am. J. Obstet. Gynecol.* 195 (2006) 510 – 5.

DOI: 10.1016/j.ajog.2006.02.010

14. Bembey AK, Oyen ML, Bushby AJ, Boyde A, Viscoelastic properties of bone as a function of hydration state determined by nanoindentation. *Phil. Mag.* 86 (2006) 5691 – 703.

DOI: 10.1080/14786430600660864

15. Oyen ML, Analytical techniques for indentation of viscoelastic materials. *Phil. Mag.* 86 (2006) 5625 – 41.

DOI: 10.1080/14786430600740666

16. Bembey AK, Bushby AJ, Boyde A, Ferguson VL, Oyen ML, Hydration effects on the micromechanical properties of bone. *J. Mater. Res.* 21 (2006) 1962 – 8.

DOI: 10.1557/jmr.2006.0237

17. Mattice JM, Lau AG, Oyen ML, Kent RW. Spherical indentation load-relaxation of soft biological tissues. *J. Mater. Res.* 21 (2006) 2003 – 10.

DOI: 10.1557/jmr.2006.0243

18. Ko C-C, Oyen ML, Fallgatter AM, Kim J-H, Douglas WH, Fricton J, Hu W-S, Mechanical properties and cytocompatibility of biomimetic hydroxyapatite-gelatin nano-composites. *J. Mater. Res.* 21 (2006) 3090 – 8.

DOI: 10.1557/jmr.2006.0394

19. Bass CR, Lucas SR, Salzar RS, Oyen ML, Planchak C, Shender BS, Paskoff G, Failure properties of cervical spinal ligaments under fast strain rate deformations. *Spine* 32 (2007) E7 – 13.

DOI: 10.1097/01.brs.0000251058.53905.eb

20. Oyen ML and Bushby AJ, Viscoelastic effects in small-scale indentation of biological materials. *Int. J. Surf. Sci. Eng.* 1 (2007) 180 – 97.

DOI: 10.1504/IJSURFSE.2007.015024

21. Cook RF and Oyen ML, Nanoindentation behavior and mechanical properties measurement of polymeric materials. *Int. J. Mater. Res.* 98 (2007) 370 – 8.

DOI: 10.3139/146.101480

22. Oyen ML, Sensitivity of polymer nanoindentation creep properties to experimental variables. *Acta Mater.* 55 (2007) 3633 – 9.

DOI: 10.1016/j.actamat.2006.12.031

23. Calvin SE and Oyen ML, Microstructure and mechanics of the chorioamnion membrane with an emphasis on fracture properties. *Annals N. Y. Acad. Sciences* 1101 (2007) 166 – 85.

DOI: 10.1196/annals.1389.009

24. Lau AG, Oyen ML, Kent RW, Murakami D, Torigaki T, Indentation stiffness of aging human costal cartilage. *Acta Biomat.* 4 (2008) 97 – 103.

DOI: 10.1016/j.actbio.2007.06.008

25. Lucas SR, Bass CR, Salzar RS, Oyen ML, Planchak C, Ziemba A, Shender BS, Paskoff G, Viscoelastic properties of the cervical spine under fast strain rate deformations. *Acta Biomat.* 4 (2008) 117 – 25.

DOI: 10.1016/j.actbio.2007.08.003

26. Oyen ML, The materials science of bone: Lessons from nature for biomimetic materials synthesis. *Mater. Res. Soc. Bull.* 33 (2008) 49 – 55.

DOI: 10.1557/mrs2008.14

27. Oyen ML and Ko CC, Indentation variability of natural nanocomposite materials. *J. Mater. Res.* 23 (2008) 760 – 7.

DOI: 10.1557/JMR.2008.0103

28. Oyen ML, Poroelastic nanoindentation responses of hydrated bone. *J. Mater. Res.* 23 (2008) 1307 – 14.

DOI: 10.1557/JMR.2008.0156

29. Oyen ML, Relating viscoelastic nanoindentation creep and load relaxation experiments. *Int. J. Mater. Res.* 99 (2008) 823 – 8.

DOI: 10.3139/146.101705

30. Oyen ML, Ferguson VL, Bembey AK, Bushby AJ, Boyde A, Composite bounds on the elastic modulus of bone. *J. Biomech.* 41 (2008) 2585 – 8.

DOI: 10.1016/j.jbiomech.2008.05.018

31. Galli M and Oyen ML, Spherical indentation of a finite poroelastic coating. *Appl. Phys. Lett.* 93 (2008) 031911.

DOI: 10.1063/1.2957993

32. Oyen ML and Cook RF, A practical guide for analysis of nanoindentation data. *J. Mech. Behav. Biomed. Mater.* 2 (2009) 396 – 407.

DOI: 10.1016/j.jmbbm.2008.10.002

33. Hauch KN, Oyen ML, Odegard GM, Haut Donahue TL, Nanoindentation of the insertional zones of human meniscal attachments into underlying bone. *J. Mech. Behav. Biomed. Mater.* 2 (2009) 339 – 47.

DOI: 10.1016/j.jmbbm.2008.10.005

34. Galli M, Comley KSC, Shean TAV, Oyen ML, Viscoelastic and poroelastic mechanical characterization of hydrated gels. *J. Mater. Res.* 24 (2009) 973 – 9.

DOI: 10.1557/jmr.2009.0129

35. Chua W and Oyen ML, Do we know the strength of the chorioamnion? A critical review and analysis. *Eur. J. Obstet. Gynecol. Reprod. Biol.* 144 Supp. 1 (2009) 128 – 33.

DOI: 10.1016/j.ejogrb.2009.02.029

36. Galli M and Oyen ML, Creep properties from indentation tests by analytical and numerical techniques. *Int. J. Mater. Res.* 100 (2009) 954 – 9.

DOI: 10.3139/146.110131

37. Chua W and Oyen ML, Viscoelastic properties of membranes measured by spherical indentation. *Cell. Molec. Bioeng.* 2 (2009) 49 – 56.

DOI: 10.1007/s12195-009-0049-7

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Books

- Oyen ML, editor. *Handbook of Nanoindentation: with Biological Applications.* Singapore: Pan Stanford Press/World Scientific Publishing (2010).
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Book Chapters

1. Oyen ML and Ferguson VF, Bone as a composite material. In *Biomechanics of Hard Tissues - Modeling, Testing, and Materials,* Oechsner A and Ahmed W, eds. Germany: Wiley-VCH (2010). ISBN: 978-3-527-32431-6 .
2. Shean TAV, Oyen ML and Ashby M, Introduction. In *Handbook of Nanoindentation: with Biological Applications,* Oyen ML ed. Singapore: Pan Stanford Publishing (2010) ISBN 978-9814241892.
3. Oyen ML, Mechanics of indentation. In *Handbook of Nanoindentation: with Biological Applications,* Oyen ML ed. Singapore: Pan Stanford Publishing (2010) ISBN 978-9814241892.
4. Oyen ML, Conclusions and outlook. In *Handbook of Nanoindentation: with Biological Applications,* Oyen ML ed. Singapore: Pan Stanford Publishing (2010) ISBN 978-9814241892.
5. Strange DGT and Oyen ML, Biomimetic composites. In *Biomimetics: Nature-Based Innovation,* Bar-Cohen Y, ed. USA: CRC Press (2011). ISBN 978-1439834763.
6. Armitage OE and Oyen ML, Hard-soft tissue interface engineering. In *Engineering Mineralized and Load Bearing Tissues,* Bertassoni, Luiz E., Coelho, Paulo G. eds., USA: Springer (2015) ISBN 978-3-319-22345-2.
7. Offeddu GS and Oyen ML, Smart nanofibrous materials for tissue engineering. In *Smart Materials for Tissue Engineering: Fundamental Principles,* Wang Q, ed. UK: Royal Society of Chemistry (2016) ISBN: 978-1-78262-464-6.

8. Islam MR and Oyen ML, Mechanical Characterisation of Hydrogels, in *The Mechanics of Hydrogels: Mechanical Properties, Testing, and Applications,* Li H and Silberschmidt VV, eds. Cambridge, UK: Woodhead Publishing, Elsevier Series in Mechanics of Advanced Materials (2021) ISBN: 978-0081028629.

Invited Presentations

1. Soft tissue failure and fracture, Oyen ML. Dept. of Materials, Queen Mary, University of London (departmental seminar), London, UK, 5 October 2004.
2. Analytical techniques for indentation of viscoelastic materials, Oyen ML. Instrumented Indentation Testing in Materials Research and Development, Fodele, Crete, Greece, 9 – 14 October 2005.
3. Mechanical factors in premature birth, Oyen ML. Dept. of Mechanical Engineering, University of Virginia (departmental seminar), 27 October 2005.
4. Indentation techniques for biological materials, Oyen ML. MTS Nano Instruments, Oak Ridge, TN, 19 December 2005.
5. Indentation techniques for characterization of material time-dependence, Oyen ML. National Physical Laboratory, Teddington, UK, 10 August 2006.
6. Time-dependent mechanical responses of two-phase collagenous soft tissues loaded in tension, Oyen ML. European Solid Mechanics Conference, Budapest, Hungary, 28 August – 1 Sept. 2006.
7. Rethinking bone as a composite material, Oyen ML, Ko C-C, Bembey AK, Bushby AJ, Boyde A. Cambridge University Engineering Dept. (Micromechanics Seminar Series), Cambridge, UK, 3 November 2006.
8. Indentation characterization of material viscoelasticity, Oyen ML, Bembey AK, Bushby AJ, Boyde A, Ferguson VL. Cambridge Center for Medical Materials, Cambridge, UK, 5 December 2006.
9. Soft tissue fracture: Injury and related research, Oyen ML. Cambridge University Dept. of Veterinary Medicine, Cambridge, UK, 14 March 2007.
10. Soft tissue fracture in joint injury and in premature birth, Oyen ML. Dept. of Bioengineering, Trinity College, Dublin, Ireland, 13 April 2007.
11. Soft tissue fracture in joint injury and in premature birth, Oyen ML. Dept. of Mechanical Engineering, University of Colorado, Boulder, CO, 20 June 2007.
12. Cell-material interactions in biomimetic bone-like composites, Oyen ML, Ko C-C. Horizons Forum: The Cell-Material Interface, Cambridge, UK, 26 June 2007.

13. Fracture studies of collagenous soft tissues, Oyen ML. GEM4 Summer School on Cell and Molecular Mechanics in BioMedicine, National University of Singapore, 25 June – 6 July 2007.

14. Viscoelastic and poroelastic analyses for nanoindentation creep characterization of biological materials, Oyen ML. Nanomech 8 (The 8th European Symposium on Nanomechanical Testing), Hueckelhoven, Germany, 3 – 5 September 2007.

15. Nanomechanical probe techniques for biological surface characterization, Oyen ML. Horizons Forum, Functional Structures and Biological Surfaces. Cambridge University Botanic Gardens, Cambridge, UK, 5 October 2007.

16. Soft tissue fracture in joint injury and in premature birth, Oyen ML. University of Oxford, Oxford, UK, 15 October 2007.

17. Bone: Nanomechanics and biomimetics, Oyen ML. Biological and Soft Systems, The Cavendish Laboratories (Cambridge University Experimental Physics Department), Cambridge, UK, 17 October 2007.

18. Characterization of time-dependent deformation and fracture in soft tissues, Oyen ML. Dept. of Mechanical and Industrial Engineering, Northeastern University, Boston, MA, 30 November 2007.

19. Mechanics of fracture in collagenous soft tissues, Oyen ML. Dept. of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, 5 December 2007.

20. Nanoindentation characterization of bone and biomimetic nanocomposite materials, Oyen ML. Dept. of Materials, Imperial College, London, UK, 20 February 2008.

21. Do we know the strength of the chorioamnion membrane? Oyen ML, Chua WK. Reproductive Bioengineering 2008, Wenns im Pittal, Austria, 1 – 5 April 2008.

22. Collagen hydration state and bone deformation mechanics, Oyen ML, Galli M. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, Cape Cod, MA, 18 – 21 June 2008.

23. Nanomechanical behavior of hydrated biological materials, Oyen ML, Shean T, Galli M, Comley KSC. Gordon Research Conference, Thin Films and Small Scale Mechanical Behavior, Colby College, ME, 27 July – 1 August 2008.

24. Nanomechanical behavior of hydrated biological materials, Oyen ML, Shean T, Galli M, Comley KSC. Massachusetts Institute of Technology, Cambridge, MA, 6 August 2008.

25. Collagen mechanics: From basic understanding to clinical applications, Oyen ML. Cambridge University Bioengineering Horizons Seminar, Cambridge, UK, 1 October 2008.

26. Consider the mother as a pressure vessel: Adventures in bioengineering and obstetrics, Oyen ML, Calvin SE, Cugnoni J, Chua W, Prevost T, House M, Socrate S, Charnock-Jones S, Burton G. Cambridge University Department of Physiology, Development and Neuroscience, Cambridge, UK, 16 October 2008.

27. Nanoindentation and microindentation studies of compliant polymers and hydrogels, Oyen ML, Shean TAV, Galli M, Chua WK, Gupta T. Hysitron User Meeting, Munich, Germany, 30 October 2008.

28. Nanoindentation and microindentation studies of polymers, hydrogels and biological tissues, Oyen ML, Shean TAV, Galli M, Chua WK, Gupta T. CSM Instruments, Neuchatel, Switzerland, 6 February 2009.

29. Nanoindentation and microindentation studies of biological tissues and hydrogels, Oyen ML, Shean TAV, Galli M, Chua WK, Gupta T. University of Manchester, Dept. of Materials, Manchester, Switzerland, 13 February 2009.

30. Indentation stiffness mapping of tissue samples, Oyen ML, Chua WK, Gupta T, Shean TAV, Galli M. Cambridge Research Institute, Cambridge, UK, 27 February 2009.

31. Viscoelastic and poroelastic material characterization by nanoindentation, Oyen ML, Galli M, Shean TAV. TU Eindhoven, 9 March 2009.

32. Nanoindentation and microindentation studies of biological tissues and hydrogels, Oyen ML, Galli M, Shean TAV, Chua WK, Gupta T. ICMAT Singapore, 29 June 2009.

33. Nanoindentation and microindentation studies of hydrated materials, Oyen ML, Shean TAV, Galli M, Main K, Chua WK, Gupta T. 3rd Australian Nanoindentation Workshop, Canberra, 6 July 2009.

34. High throughput poroelastic analysis for mapping tissue hydraulic permeability by nanoindentation, Oyen ML, Shean TAV, Galli M. 3rd International Conference on Mechanics of Biomaterials and Tissues, Orlando, Florida, 17 December 2009.

35. Probe-based mechanical characterization of developing and developed tissues (and gels), Oyen ML. GEM4 Winter School, Austin, Texas, 7 January 2010.

36. Time-dependent and adhesive effects in nanoindentation of hydrogels, Oyen ML, Shean TAV, Main K, Galli M. Nanobrücken: Hysitron European Workshop 2010, Saarbrücken, Germany, 25 February 2010.

37. Characterization of poroelastic properties of hydrated tissues by indentation testing, Oyen ML, Shean TAV, Galli M. Michigan Technological University, Houghton, MI, 18 March 2010.

38. Probing the soft side with nanoindentation techniques, Oyen ML, Shean TAV, Main K, Galli M. Johns Hopkins University, Baltimore, MD, 24 March 2010.

39. Time-dependent deformation during nanoindentation testing, Oyen ML, Shean TAV, Main K, Galli M. Xinghua University, Beijing, China, 8 April 2010.

40. Biological materials with structural roles, Oyen ML. Cambridge Engineering Structures group, Cambridge, UK, 7 May 2010.

41. Probing the soft side with nanoindentation techniques, Oyen ML, Shean TAV, Main K, Chua W, Galli M. EPFL, Lausanne, Switzerland, 20 May 2010.

42. Biomechanical applications of nanoindentation testing, Oyen ML, Shean TAV, Chua WK, Galli M. World Congress on Biomechanics, Singapore, 3 August 2010.

43. Probing soft and hydrated materials using nanoindentation testing, Oyen ML, Shean TAV, Chua WK, Galli M. University of Southampton, Southampton, UK, 3 November 2010.

44. Probing length-scale effects in hydrated tissues via nanoindentation, Oyen ML. Materials Research Society Fall Meeting, Boston, MA, 29 November 2010.

45. Probing the soft side with nanoindentation techniques, Oyen ML, Shean TAV, Strange DGT, Galli M. Florida International University, Miami, FL, 1 April 2011.

46. Probing the soft side with nanoindentation techniques, Oyen ML, Shean TAV, Strange DGT, Galli M. Harvard University, Cambridge, MA, 5 April 2011.

47. Engineering approaches for the study of reproductive physiology, Oyen ML, Calvin SC, Chua WK, Charnock-Jones S, Burton G, Cugnoni J, Frei E. Columbia University, New York, NY, 8 April 2011.

48. Engineering approaches for the study of reproductive physiology, Oyen ML, Calvin SC, Chua WK, Charnock-Jones S. University of Reading, Reading, UK, 24 May 2011.

49. Viscoelastic and poroelastic deformation of gels, Oyen ML. Gordon Research Conference on the Science of Adhesion, Lewiston, ME, 24 – 29 July 2011.

50. Time-dependent behaviour of composite hydrogels, Oyen ML, Shean TAV, Strange DGT, Tonsomboon K, Galli M. Imperial College, London, UK, 14 March 2012.

51. Time-dependent behaviour of composite hydrogels, Oyen ML, Shean TAV, Strange DGT, Tonsomboon K, Galli M. Newcastle University, Newcastle-Upon-Tyne, UK, 10 May 2012.

52. Size effects in indentation of hydrogels, Oyen ML, Shean TAV, Strange DGT, Galli M. Agilent Nanoindentation Workshop, Queen Mary, University of London, London, UK, 17 May 2012.

53. Size effects in indentation of hydrogels, Oyen ML, Shean TAV, Strange DGT, Galli M. European Solid Mechanics Conference, Graz, Austria, 9 – 13 July 2012.

54. Formation of mechanically-robust protein-mineral composites, Oyen ML, Strange DGT, Armitage OE, Greasley S. Structure-Property Relationships in Hierarchical Biocomposites (CECAM Workshop), Lausanne, Switzerland, 16 – 18 July 2012.

55. (keynote) Length-scale effects in mechanical characterization of hydrated biological tissues, Oyen ML, Shean TAV, Strange DGT, Galli M. GEM4 Summer School, Imperial College, London, UK, 10 – 14 September 2012.

56. Mechanically-robust composite hydrogels for tissue engineering, Oyen ML, Shean TAV, Strange DGT, Tonsomboon K, Galli M. Materials Dept., Sheffield University, Sheffield, UK, 24 October 2012.

57. Composite hydrogels for tissue engineering applications, Oyen ML, Strange DGT, Tonsomboon K, Shean TAV, Galli M. Harvard-MIT Health Sciences and Technology Program, Cambridge, MA, 30 November 2012.

58. Composite hydrogels for tissue engineering applications, Oyen ML, Strange DGT, Tonsomboon K, Koh CT, Shapiro JM, Shean TAV, Galli M. Dept. of Materials, Cambridge University, Cambridge, UK, 14 February 2013.

59. Computational modeling of poroviscoelastic hydrogel composites, Oyen ML, Galli M, Shean TAV, Koh CT, Strange DGT, Tonsomboon K. Oxford University Engineering Science, Oxford, UK, 7 March 2013.

60. Nanoindentation characterization of hydrogels, Oyen ML, Galli M, Shean TAV, Shapiro J, Strange DGT, Tonsombon K. Hysitron European User Meeting, Nanobrücken-Dresden, Dresden, Germany, 20 March 2013.

61. Mechanically-robust composite hydrogels for tissue engineering, Oyen ML, Strange DGT, Tonsomboon K, Koh CT, Shapiro JM, Shean TAV, Galli M. National Institute of Standards and Technology (Biosystems and Biomaterials Division), Gaithersburg, MD, 25 April 2013.

62. Unravelling length- and time-scale effects in hydrated tissues, Oyen ML, Galli M, Koh CT, Shean TAV, Shapiro J, Strange DGT, Tonsomboon K. Bioengineering Department, Imperial College, London, UK, 9 July 2013.

63. Nanofiber composites as biomimetic soft tissue scaffolds, Oyen ML, Koh CT, Shapiro J, Offeddu G, Strange DGT, Tonsomboon K. Materials Research Society Fall Meeting, Boston, MA, 4 December, 2013.

64. Nanofiber composites as biomimetic soft tissue scaffolds, Oyen ML, Koh CT, Shapiro J, Strange DGT, Tomsonboon K. COMPO 2014 — International Symposium on Composite Materials, Rehovat, Israel, 1 May 2014.

65. Nanofiber composites as biomimetic soft tissue scaffolds, Oyen ML, Koh CT, Shapiro J, Strange DGT, Tomsonboon K. Newcastle University, Newcastle, UK, 27 May 2014.

66. Composite hydrogels as tissue engineering scaffolds, Oyen ML, Tonsomboon K, Strange DGT, Koh CT. World Congress of Biomechanics, Boston, MA, 8 July 2014.

67. Biomechanics of fetal membrane fracture, Oyen ML, Koh CT, Tonsomboon K. World Congress of Biomechanics, Boston, MA, 9 July 2014.

68. Mechanically robust biomimetic materials, Oyen ML, Armitage OE, Koh CT, Strange DGT, Tonsomboon K. Army Corps of Engineers Research and Development Center, Vicksburg, MS, 22 July 2014.

69. Nanofiber composites as biomimetic soft tissue scaffolds, Oyen ML, Koh CT, Shapiro J, Strange DGT, Tomsonboon K. Cambridge-Taiwan Nanoscience Workshop, Hsinchu, Taiwan, 1 October 2014.

70. Experimental variations in nanoindentation testing, Oyen ML. Workshop on Nanoindentation and its Applications, Champaign-Urbana, Illinois, 1 – 2 April 2015.

71. Nanoindentation of hydrogels and soft biological materials, Oyen ML. Workshop on Nanoindentation and its Applications, Champaign-Urbana, Illinois, 1 – 2 April 2015.

72. Hydrogel composites to mimic the stem cell niche, Oyen ML. Stem Cell Institute Research Interfaces Workshop, Cambridge, UK, 28 October 2015.

73. Nanofiber composites as biomimetic soft tissue scaffolds, Oyen ML. Cambridge Chemical Engineering and Biotechnology Dept., Cambridge (departmental seminar), UK, 12 January 2016.

74. Nanofiber composites as biomimetic soft tissue scaffolds, Oyen ML. Plasticell LLC, Stevenage, UK, 10 February 2016.

75. OyenLab research overview and eggshell biomimetics update, Oyen ML, Armitage OE, Caliskan HB, Labonte D. Army Corps of Engineers Research and Development Center, Vicksburg, MS, 18 March, 2016.

76. Nanofiber composites as biomimetic soft tissue scaffolds, Oyen ML. University of Manchester (departmental seminar), Manchester UK, 11 November 2016.

77. Biomimetics: Changing engineering practice by learning from nature, Oyen ML. King's College, Cambridge, UK, 18 November 2016.

78. Mechanically robust and biomimetic soft tissue scaffolds, Oyen ML. Soft Matter Workshop, University of Cambridge, Cambridge, UK, 16 January 2017.

79. A microfluidics assay to study invasion of human trophoblast cells, Oyen ML, Oefner C, Abbas Y, Moffet A, Burton G. University of Manchester Placental Biophysics Workshop, University of Manchester, Manchester, UK, 29 August, 2017.

80. How do we validate virtual placenta models? Oyen ML, Plitman Mayo R, Charnock-Jones S, Burton G. International Federation of Placenta Associations annual meeting, Manchester, UK, 30 August, 2017.

81. Physically robust hydrogels for biomedical applications, Oyen ML. University of Delaware Biomedical Engineering (departmental seminar), Newark, DE, 11 September 2017.

82. Poroelastic Properties of Biomimetic Cartilage-Like Scaffolds, Oyen ML. Materials Research Society annual meeting, Boston, MA, 28 November 2017.

83. Physically robust hydrogels for biomedical applications, Oyen ML. Northeastern University (departmental seminar), Boston, MA, 1 December 2017.

84. Physically robust hydrogels for biomedical applications, Oyen ML. Johns Hopkins University (departmental seminar), Baltimore, MD, 17 April 2018.

85. Indentation characterization of hydrogels and biological tissues, Oyen ML, International Materials Symposium Celebrating the 50+ years Career of Brian Lawn, Brown University, 16-17 July, 2018.

86. Physically robust hydrogels for biomedical applications, Oyen ML. UNC-NC State Joint Department of Biomedical Engineering (departmental seminar), 11 January 2019.

87. Contact mechanics for characterization of hydrogel material properties, Oyen ML. STLE Annual Meeting, Nashville, TN, 23 May 2019.

88. Discrete Models of Fibrous Soft Tissue Fracture, Oyen ML. 16th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering (CMBBE), Columbia University, New York, 14 August 2019.

89. (keynote) Identification of Poroviscoelastic Material Properties of Hydrogels, Oyen ML. 16th International Symposium on Computer Methods in Biomechanics and Biomedical Engineering (CMBBE), Columbia University, New York, 16 August 2019.

90. Size Effects in Indentation of Biological Tissues and Hydrogels, Oyen ML. The College of New Jersey (departmental seminar), Ewing, NJ, 15 October 2019.

91. (panelist and organizer) (Bio)Engineering in Women's Health. Biomedical Engineering Society (BMES) Annual Meeting, Philadelphia, PA, 17 October 2019.

92. Biomechanical Functions of the Extraembryonic Tissues Throughout Pregnancy, Columbia University (special seminar), New York City, NY, 13 November 2019.

93. Failure and Fracture of Hydrogels and Hydrogel Composites, Materials Research Society Annual Meeting, Boston, MA, 4 December 2019.

94. Physical Properties of Biomimetic Artificial Cartilage, North Carolina Cartilage and Arthritis Research Alliance (NC-CARA) meeting, Chapel Hill, NC, 6 December 2019.

95. Biomechanical Functions of the Extraembryonic Tissues Throughout Pregnancy, University of Virginia (departmental seminar), Charlottesville, VA, 7 February 2020.

96. Size Effects in Indentation of Biological Tissues and Hydrogels, online Biological Soft Matter Seminar Series, 18 June 2020. Available online at

    https://www.youtube.com/watch?v=n7J8BsS1WxM

97. (keynote) Characterization of Physically Robust Hydrogels for Biomedical Applications, ACIS 2021 The Australian Colloid and Interface Symposium, University of Melbourne, Australia, virtual, 9 February 2021.

98. (convener/moderator) JMBBM Frontiers Webinar, Bioengineering in Women's Health. Online, 11 February 2021. Available online at:

    https://www.youtube.com/watch?v=hyUS7XN5joE

99. Biomechanical Functions of the Extraembryonic Tissues Throughout Pregnancy, Arizona State University (departmental seminar), virtual, 9 April 2021.

100. (upcoming) Failure and fracture of hydrogels and hydrogel composites, IUTAM Symposium on Hydrogels, 24-28 May 2021.

101. (upcoming) Workshop speaker, Workshop: Mechanics and Mechanobiology Surrounding Tissue Failure, SB3C virtual meeting 14-18 June, 2021.

102. (upcoming) Biomechanical Functions of the Extraembryonic Tissues Throughout Pregnancy, Oyen ML, Washington University St. Louis (departmental seminar), September 2021.