

# Oliver Graudejus, Ph.D

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## EDUCATION

*Ph.D. in Chemistry and Minor in Biology*

1992 to 1996 Justus Liebig-Universität Gießen, Germany; Advisor: Prof. B. G. Müller

*Diploma in Chemistry*

1987 to 1992 Justus Liebig-Universität Gießen, Germany; Advisor: Prof. B. G. Müller

## EMPLOYMENT

*BMSEED LLC, Tempe AZ*

2013 to present Founder and CEO of BioMedical Sustainable Elastic Electronic Devices (BMSEED) LLC

- Received more than \$1,100,000 in phase I SBIR funding from NINDS
- Award of a \$50,000 supplement to participate in the NIH I-Corps program and \$25,000 to participate in the Coulter College Commercialization Innovation (C3i) program
- BMSEED selected for the Flinn Foundation Bioscience Entrepreneurship Program

*Arizona State University, Tempe AZ*

2008 to present Associate Research Professor  
Department of Chemistry and Biochemistry, and Center for Adaptive Neural Systems

- Conducted studies to increase persistence of students in STEM fields in general and organic chemistry courses; currently supervising data collection for ensuing IES grant
- Developed a biomimetic pressure sensor with mechanical properties akin to human skin

2009 to 2016 Faculty Associate, Department of Chemistry and Biochemistry

- Taught General Chemistry, Organic Chemistry and Analytical Chemistry courses

*Princeton University, Department of Electrical Engineering, Princeton NJ*

2006 to 2009 Research Scholar supported by NJCST, NIH, NJCBIR

- Successfully produced functional prototypes of (SMEAs) for soft neural interfaces
- Demonstrated the capability of SMEAs to record and stimulate action potentials of cultured hippocampal tissue slices under bi-axial strain of up to 13%
- Demonstrated that hippocampal tissue slices can be stretched when grown on SMEAs, thus providing a new tool for research on traumatic brain injury (collaboration with B. Morrison, Biomedical Engineering, Columbia University)

*Novellus Systems, Inc., San Jose CA*

2004 to 2006 Key Account Technologist: PVD and ALD technology

- Managed European customers for PVD business (Inova platform) for Ta(N) barrier and Cu seed deposition processes
- Demonstrated benefits of ion assisted Atomic Layer Deposition (iALD) technology

2000 to 2004 Key Account Technologist: CVD technology

- Resolved major technical issues (e.g., gapfill and plasma damage) with a high density plasma (HDP) CVD deposition process for American, Asian and European customers
- Strengthened business position at existing customers and gained new customers
- Improved gapfill and particle performance resulting in business exceeding \$20 million

1999 to 2000 Process Engineer: CVD technology

- Developed a new CVD-based phosphorus-doped silicon glass (PSG) deposition process for pre-metal dielectric applications to a level required for IC manufacturing

*University of California, Department of Chemistry, Berkeley CA*

1996 to 1999 Postdoctoral Researcher (Prof. N. Bartlett's group)

- Developed room temperature synthesis of sensitive fluorides in high oxidation states

## TEACHING EXPERIENCE

- 2009-2016 *Arizona State University, Tempe AZ*  
Instructor for Organic Chemistry (CHM231+233)
- Taught elementary principles of Organic Chemistry to students with majors in Biological, Environmental, and Nutritional Science, Nursing, and Engineering (CHM231), and general Organic Chemistry to pre-med and pre-dental students (CHM233)
  - Used Blackboard as interactive electronic learning tool, and Turningpoint clickers for in class feedback and extra credits
- Instructor for Analytical Chemistry (CHM325, 326, 327)
- Taught principles of Analytical Chemistry and statistical data analysis to students with majors in Biology, Engineering, and Chemistry
  - Supervised laboratory activities
- Instructor for General Chemistry (CHM113+114)
- Taught general principles of chemistry to engineering students
- 2007 *Princeton University, Princeton NJ*  
Instructor for Integrated Circuit Fabrication course
- Taught principles of microfabrication to graduate and undergraduate students
  - Supervised laboratory activities
  - Mentored undergraduate student's in research projects
- 1999 *University of California, Berkeley CA*  
Teaching Assistant for General Chemistry
- Taught General Chemistry to undergraduate students in small groups
  - Supervised laboratory sessions
- 1992 to 1996 *Justus von Liebig Universität Giessen, Germany*  
Teaching Assistant and Assistant Instructor for Inorganic Chemistry
- Taught privately organized classes in Organic and Inorganic Chemistry
- 1983 to 1985 *Tilemannschule, Limburg, Germany (high school)*
- Tutored French and chemistry to eighth and ninth graders

## PATENTS

*Phosphorus-doped silicon dioxide process to customize contact etch profiles*; US Patent 7,064,087 issued June 2006

*Biomimetic pressure sensor*; M13-187P, non-provisional patent application filed April 2014

## AWARDS AND HONORS

- 2015 Award of \$25,000 by NIH to attend the C3i program by the Coulter Foundation
- 2012 Best Paper of 2011 Award from the Journal of Electronic Materials
- 2005 Promotion to Key Account Technologist, Novellus Systems
- 2003 Promotion to Senior Engineer, Novellus Systems
- 2002 Outstanding Performance Award for the resolution of plasma damage issues during CVD of dielectrics in a high density plasma (HDP) reactor, Novellus Systems
- 2002 Outstanding Performance Award for winning the Infineon 300 mm HDP business, Novellus Systems
- 2001 Outstanding Performance Award for the successful development and productization of a HDP based PSG process, Novellus Systems
- 2000 Award for resolving production issues associated with high Phosphorous content in the HDP PSG process, Cypress Semiconductor
- 1996 Alexander von Humboldt Fellowship award
- 1986 Selected for a seminar from the "Stiftung des Deutschen Volkes"
- 1986 Best Chemistry Student Award at high school (Tilemannschule Limburg)
- 1985 Award for outstanding results at the "International Chemistry Olympiad"

## **SPECIALIZED TRAINING**

### Neuroscience

- Neuroscience Laboratory Course (MOL548) - Princeton University, Spring 2008
- Implantable Neuroprosthetics: Technologies and Techniques - Center for Neural Communication Technology, University of Michigan, June 2007

### Microfabrication

- Introduction to Microfabrication lab course - Princeton University, Department of Electrical Engineering, June 2006
- Advanced Silicon Processing - Stanley Wolf, Moshe Prell, Anthony Lochtefeld, May 2005
- Silicon Processing for the VLSI Era - Stanley Wolf, Moshe Prell, Jerry Healey, Simon A. Prussin, Robert B. Simonton, March 2001
- Process Integration for Submicron IC Technologies - Stanley Wolf, Jerry Healey, Nick Kepler, Robert B. Simonton, March 2000
- Novellus Concept Two: SPEED Process Module Maintenance - Novellus Systems, January 2000
- Novellus Concept Two: System Operations - Novellus Systems Inc., October 1999

### Experimental Design and Data Analysis

- Design of Experiment (DoE) - Novellus Systems, March 2002
- Rietveld Method Short Course - Angus Wilkinson, June 1999

## **LANGUAGE AND OTHER SKILLS**

- Fluent in speaking and writing in German, English and French; conversational level in Italian
- Operate of advanced, automated microfabrication processing equipment
- Design and write photomasks using L-edit and a Heidelberg Laserwriter
- Operate of FEI XL30 SEM
- Used software to solve crystal structures from X-ray (Shell) and Synchrotron (Rietveld Method) radiation diffraction data
- Minor in Biology
- Microelectrodes for *in vivo* and *in vitro* recording of extracellular neural activity

## **AD HOC JOURNAL REVIEWER**

Smart Materials and Structures, Journal of the Electrochemical Society, IEEE Transactions on Biomedical Engineering, Materials Today, Nature Methods, Nature Materials, Nature Communications, Journal of Physical Chemistry, Journal of Physics D: Applied Physics, ACS Applied Materials and Interfaces, Journal of Micromechanics and Microengineering

## **AD HOC GRANT REVIEWER**

- Department of Veterans Affairs (VA), Office of Rehabilitation, Research and Development Service
- Center for Scientific Review, ETTN-10 Clinical Neurophysiology, Devices, Neuroprosthetics and Biosensors Small Business Panel

## **AFFILIATIONS**

- American Chemical Society (ACS)
- Material Research Society (MRS)

## **PROFESSIONAL SERVICE**

- Lead organizer for the symposium “Novel Approaches to Reliable Neural Interfaces” at the spring Materials Research Society conference 2015
- Organizer of symposium TT “Materials and Processes for Electronic Skins and Sensing” at the spring Materials Research Society conference 2013
- Session chair for the symposium “Compliant Electronics and Photonics” at the fall MRS conference 2011

## **GRANTS**

### **Active Grants:**

Title: Lab-to-Marketplace: Commercialization of a stretchable microelectrode array

Agency: NIH

Budget: \$595,799

Status: awarded, until December 2016

Role: PI

Co-I: B. Morrison, Department of Biomedical Engineering, Columbia University

Consultant: S. Wagner, Department of Electrical Engineering, Princeton University

Title: Development of a large area high resolution micro ECoG electrode array

Agency: NIH

Budget: \$520,213

Status: awarded, until October 2017

Role: PI

Co-I: Bradley Greger, SBHSE, Arizona State University

Consultants: David Adelson, neurosurgeon in the Phoenix Children Hospital, director of Barrow  
Neurological Institute

Harvey Wiggins, Founder of Plexon Inc.

Title: Strengthening Present-Future Self-Continuity Improves College Persistence

Agency: IES

Budget: \$1,392,233

Status: awarded, until 8/1/2020

Role: Co-I

### **Pending Grants:**

Title: Lab-to-Marketplace: Commercialization of a stretchable microelectrode array (Phase II SBIR)

Agency: NIH

Budget: \$1,500,000

Status: submitted Sep. 2017

Role: PI

Co-I: B. Morrison, Department of Biomedical Engineering, Columbia University

Consultant: S. Wagner, Department of Electrical Engineering, Princeton University

## INVITED TALKS AND PRESENTATIONS (2007 TO PRESENT)

1. From Lab-To-Marketplace: Challenges and Discoveries During the Commercialization of a Stretchable Microelectrode Array, Materials Research Society Meeting, Symposium SM3, Soft Materials for Compliant and Bioinspired Electronics, Phoenix/AZ, March 2016
2. Stretchable Microelectrodes for Biomedical Applications, Shenzhen Institute for Advanced Technology, Shenzhen/China, 17 May 2012
3. Stretchable Microelectrodes for Biomedical Applications, Tsinghua University, Beijing/China, 21 December 2011
4. Understanding the fabrication process: Keys to cost effective, reproducible, and reliable stretchable neural interfaces, Materials Research Society Meeting, Symposium R3.1, *Compliant Electronics and Photonics*, Boston/MA, November 2011
5. Controlling the morphology of gold films on polydimethylsiloxane (PDMS), Materials Research Society Meeting, Symposium JJ7.1, *Stretchable Electronics and Conformal Biointerfaces*, San Francisco/CA, April 2010
6. Novel biomimetic electronic interfaces: Sensing and stimulating, 2<sup>nd</sup> *International Workshop on Flexible & Stretchable Electronics*, Keynote Speaker, Ghent/Belgium, November 2009
7. Tissue-like electronic interfaces, 6<sup>th</sup> *Annual New Jersey Biomedical Engineering Showcase*, Keynote Speaker, Newark/NJ, March 2009
8. Stretchable microelectrodes for biomedical applications, *University of Arizona*, Tempe/AZ, November 2008
9. Stretchable microelectrodes as novel neural interfaces, *University of Louisville*, Louisville/KY, January 2008
10. Stretchable microelectrodes for biomedical applications, *Colby College*, Waterville/ME, December 2007
11. Flexible, stretchable and conformal neural interfaces for neural stimulation and recording, *Jacobs University*, Bremen/Germany, November 2007
12. Encapsulating and patterning elastic thin film interconnects, *PRISM/PCCM University-Industry Research Symposium*, Princeton University, Princeton/NJ, March 2007
13. Stretchable microelectrode arrays – application and fabrication, *Johnson & Johnson Center for Biomaterials and Advanced Technologies (CBAT)*, Somerville/NJ, March 2007
14. Flexible electronic surfaces for biomedical applications, *Innovation Forum*, Princeton University, Princeton/NJ, February 2007

## PUBLICATIONS ON STRETCHABLE ELECTRONICS

### *Refereed Journal Publications*

1. **O. Graudejus**, T. Li, J. Cheng, N. Keiper, R.D. Ponce Wong, A.B. Pak, J. Abbas, The effects of bending on the resistance of elastically stretchable metal conductors, and a comparison with stretching. *Applied Physics Letters*, 2017, 110, 221906
2. W. H. Kang, W. Cao, **O. Graudejus**, T.P. Patel, S. Wagner, D.F. Meaney, B. Morrison III, Alterations in hippocampal network activity after in vitro traumatic brain injury, *Journal of Neurotrauma*, 2015, 32(13):1011-1019
3. **O. Graudejus**, Z. Jia, T. Li, S. Wagner, Size dependent rupture strain of elastically stretchable metal conductors, *Scripta Materialia*, 2012, 66, 919-922
4. **O. Graudejus**, B. Morrison, C. Goletiani, Z. Yu, S. Wagner, Encapsulating elastically stretchable neural interfaces: yield, resolution, and recording/stimulation of neural activity, *Advanced Functional Materials*, 2012, 22, 640-651
5. J. Jones, **O. Graudejus**, S. Wagner, Elastically stretchable insulation and bi-level metallization and its application in a stretchable RLC circuit, *Journal of Electronic Materials*, 2011, 40(6), 1335-1344.
6. **O. Graudejus**, P. Görrn, S. Wagner, Controlling the morphology of gold films on poly(dimethylsiloxane), *ACS Applied Materials & Interfaces*, 2010, 2(7), 1927-1933
7. S. P. Lacour, S. Benmerah, E. Tarte, J. FitzGerald, J. Serra, S. McMahon, J. Fawcett, **O. Graudejus**, Z. Yu, B Morrison, Flexible and stretchable micro-electrodes for in vitro and in vivo neural interfaces, *Medical & Biological Engineering Computation*, 2010, 48(10), 945-954 (Special Issue)

- Z. Yu, **O. Graudejus**, C. Tsay, S. P. Lacour, S. Wagner, B. Morrison, Monitoring hippocampus electrical activity in vitro on an elastically deformable microelectrode array, *Journal of Neurotrauma*, 2009, 26(7), 1135-1145
- O. Graudejus**, Z. Yu, J. Jones, B. Morrison III, S. Wagner, Characterization of an elastically stretchable microelectrode array and its application to neural field potential recordings, *Journal of the Electrochemical Society*, 2009, 156(6) P85-P94

#### *Refereed Conference Publications*

- Z. Yu, **O. Graudejus**, S.P. Lacour, S. Wagner, B. Morrison III: Neural sensing of electrical activity with stretchable microelectrode arrays, *Conf. Proc. IEEE Eng. Med. Biol. Soc.* 1:4210 (2009)
- O. Graudejus**, C. Tsay, Z. Yu, B. Morrison, S. P. Lacour, S. Wagner: Advances in encapsulating elastically stretchable microelectrode arrays, *Materials Research Society Symposium Proceedings*, Vol. 1009E, U04.2 (2007)
- C. Tsay, **O. Graudejus**, S. Wagner, S. P. Lacour, B. Morrison: Morphology and stretchability of thin film metal conductors on elastomeric substrates, *Materials Research Society Symposium Proceedings*, Vol. 1009E, U06.3-03 (2007)
- Z. Yu, **O. Graudejus**, C. Tsay, S.P. Lacour, S. Wagner, B. Morrison: Stretchable microelectrode array: A potential tool for monitoring neuroelectrical activity during drain tissue deformation, *Journal of Neurotrauma*, 24(7), 1278, P200 (2007)

#### **PUBLICATIONS ON EDUCATIONAL SCIENCE**

- R. M. Adelman, S. D. Herrmann, J. E. Bodford, J. E. Barbour, **O. Graudejus**, M. A. Okun, V. S. Y. Kwan: Feeling Closer to the Future Self and Doing Better: Temporal Psychological Mechanisms Underlying Academic Performance, *Journal of Personality*, in press
- S.D. Herrmann, R.M. Adelman, J.E. Bodford, **O. Graudejus**, M.A. Okun, V.S.Y. Kwan (2016) The Effects of a Female Role Model on Academic Performance and Persistence of Students Enrolled in STEM Courses, *Basic and Applied Social Psychology*, 38(5):258-268.

#### **PUBLICATIONS ON FLUORINE CHEMISTRY**

- H. Fitz, B. G. Müller, **O. Graudejus**, N. Bartlett, Einkristalluntersuchungen an  $\text{LiMF}_6$  ( $M=\text{Rh, Ir}$ ),  $\text{Li}_2\text{RhF}_6$  und  $\text{K}_2\text{IrF}_6$  (Single crystal investigations on  $\text{LiMF}_6$  ( $M=\text{Rh, Ir}$ ),  $\text{Li}_2\text{RhF}_6$  and  $\text{K}_2\text{IrF}_6$ ), *Zeitschrift für anorganische und allgemeine Chemie* 2002, 628(1), 133-137
- O. Graudejus**, A. P. Wilkinson, L. C. Chacón, N. Bartlett, M-F interatomic distances and effective volumes of second and third transition series  $\text{MF}_6^-$  and  $\text{MF}_6^{2-}$  anions, *Inorganic Chemistry* 2000, 39(13), 2794-2800
- O. Graudejus**, A. P. Wilkinson, N. Bartlett, Structural features of  $\text{Ag}[\text{AuF}_4]$  and  $\text{Ag}[\text{AuF}_6]$  and the structural relationship of  $\text{Ag}[\text{AgF}_4]_2$  and  $\text{Au}[\text{AuF}_4]_2$  to  $\text{Ag}[\text{AuF}_4]_2$ , *Inorganic Chemistry* 2000, 39(7), 1545-1548
- L. Graham, **O. Graudejus**, N.K. Jha, N. Bartlett, Concerning the nature of  $\text{XePtF}_6$ , *Coordination Chemistry Reviews* 2000, 197, 321-334
- C. Shen, B. Zemva, G.M. Lucier, **O. Graudejus**, J.A. Allman, N. Bartlett, Disproportionation of  $\text{Ag(II)}$  to  $\text{Ag(I)}$  and  $\text{Ag(III)}$  in fluoride systems and the synthesis and structure of  $(\text{AgF}^+)_2\text{AgF}_4\text{MF}_6^-$  salts ( $M=\text{As, Sb, Pt, Au, Ru}$ ), *Inorganic Chemistry* 1999, 38(20), 4570-4577
- O. Graudejus**, S.H. Elder, G. M. Lucier, C. Shen, N. Bartlett, Room temperature synthesis of  $\text{AuF}_6^-$  and  $\text{PtF}_6^-$  salts,  $\text{Ag}^+\text{AuF}_6^-$ ,  $\text{Ag}^{2+}\text{PtF}_6^{2-}$  and  $\text{Ag}^{2+}\text{PdF}_6^{2-}$ , and an estimate for  $E(\text{MF}_6^-)$   $M=\text{Pt}$  and  $\text{Pd}$ , *Inorganic Chemistry* 1999, 38(10), 2503-2509
- H. Wang, P. Ge, C. G. Riordan, S. Brooker, C. G. Woomer, T. Collins, C. A. Melendres, **O. Graudejus**, N. Bartlett, S. P. Cramer, Integrated X-ray L absorption spectra. Counting holes in Ni complexes, *The Journal of Physical Chemistry B* 1998, 102(42), 8343-8346
- O. Graudejus**, B. G. Müller, Zur Kenntnis von  $\text{NiPtF}_6$  und  $\text{CdPtF}_6$  (Annotation to compounds  $\text{NiPtF}_6$  and  $\text{CdPtF}_6$ ), *Zeitschrift für anorganische und allgemeine Chemie* 1996, 622(10), 1711-1714
- O. Graudejus**, B. G. Müller,  $\text{Ag}^{2+}$  in trigonal-bipyramidal Umgebung: Neue Fluoride mit zweiwertigem Silber:  $\text{AgM}_3^{\text{II}}\text{M}_3^{\text{IV}}\text{F}_{20}$  ( $M^{\text{II}}=\text{Cd, Ca, Hg}$ ;  $M^{\text{IV}}=\text{Zr, Hf}$ ) ( $\text{Ag}^{2+}$  in trigonal-bipyramidal surrounding: New

Fluorides with divalent Silver:  $\text{AgM}_3^{\text{II}}\text{M}_3^{\text{IV}}\text{F}_{20}$  ( $\text{M}^{\text{II}}=\text{Cd, Ca, Hg}$ ;  $\text{M}^{\text{IV}}=\text{Zr, Hf}$ ), *Zeitschrift für anorganische und allgemeine Chemie* 1996, 622(9), 1549-1556

10. **O. Graudejus**, B. G. Müller, Neue Fluoride  $\text{M}^{\text{III}}\text{M}^{\text{IV}}\text{F}_7$  mit  $\text{M}^{\text{III}}=\text{SE, Tl}$  und  $\text{M}^{\text{IV}}=\text{Sn, Pb, Pt}$  (New fluorides  $\text{M}^{\text{III}}\text{M}^{\text{IV}}\text{F}_7$  with  $\text{M}^{\text{III}}=\text{SE, Tl}$  and  $\text{M}^{\text{IV}}=\text{Sn, Pb, Pt}$ ), *Zeitschrift für anorganische und allgemeine Chemie* 1996, 622(9), 1601-1608
11. **O. Graudejus**, B. G. Müller, Zur Kristallstruktur von  $\text{O}_2^+\text{MF}_6^-$  ( $\text{M}=\text{Sb, Ru, Pt, Au}$ ) (On the crystal structure of  $\text{O}_2^+\text{MF}_6^-$  ( $\text{M}=\text{Sb, Ru, Pt, Au}$ )), *Zeitschrift für anorganische und allgemeine Chemie* 1996, 622(6), 1076-1082
12. **O. Graudejus**, B. G. Müller, Zur Kristallstruktur von  $\text{La}[\text{AuF}_4]_3$ , dem Anfangsglied der Reihe  $\text{M}[\text{AuF}_4]_{3-x}\text{F}_x$  ( $x=0, 0,5$  und  $1$ ) (On the Crystal Structure of  $\text{La}[\text{AuF}_4]_3$ , the final link in the series  $\text{M}[\text{AuF}_4]_{3-x}\text{F}_x$  ( $x=0, 0,5$  und  $1$ )), *Zeitschrift für anorganische und allgemeine Chemie* 1996, 622(1), 187-190
13. **O. Graudejus**, F. Schrötter, B. G. Müller, R. Hoppe, Zur Kristallstruktur von  $\text{SmZrF}_7$  mit einem Anhang über  $\text{EuSnF}_7$  und  $\text{YSnF}_7$  (On the crystal structure of  $\text{SmZrF}_7$  with an appendix on  $\text{EuSnF}_7$  and  $\text{YSnF}_7$ ), *Zeitschrift für anorganische und allgemeine Chemie* 1994, 620(5), 827-832

#### CONFERENCE PRESENTATIONS (2007 TO PRESENT)

1. **O. Graudejus**, R. Ponce Wong, S. Ahuja, A. Pak, S. Wagner, B. Morrison, MEASSuRE-A novel tool to mechanically stretch and record electrophysiological activity and image cells, all at the same time, *Materials Research Society Meeting, Symposium SM3.4.06, Advanced Biomaterials for Neural Interfaces*, Phoenix, AZ, April 2017
2. **O. Graudejus**, R. Ponce Wong, S. Ahuja, S. Wagner, B. Morrison, From Lab-To-Marketplace: Commercialization of a stretchable microelectrode array. *Society for Neuroscience Annual Meeting; Session 469.02/NNN17*; San Diego CA, 12-16 November 2016
3. **O. Graudejus**, R. Ponce Wong, S. Ahuja, S. Wagner, B. Morrison, From Lab-To-Marketplace: Commercialization of a stretchable microelectrode array. *Front Neurosci Conference Abstract: MEA Meeting 2016, 10th International Meeting on Substrate-Integrated Electrode Arrays*, Reutlingen (Germany), June 2016.
4. **O. Graudejus**, R. Ponce Wong, MicroElectrode Array Stretching Stimulating und Recording Equipment (MEASSuRE). Innovation in Material Science (iMatSci); *Material Research Society Spring Meeting*, Phoenix AZ, March 2016.
5. A. B. Pak, T. Nguyen, J. Abbas, **O. Graudejus**, Angle-Dependent Rupture Strain of Elastically Stretchable Microcracked Gold Conductors for Stretchable Microelectrode Array Applications, *Materials Research Society Meeting, Symposium SM3, Soft Materials for Compliant and Bioinspired Electronics*, Phoenix, AZ, March 2016
6. T. Nguyen, A. B. Pak, J. Abbas, **O. Graudejus**, Resistance Changes and Shear Forces upon Bending in Stretchable Interconnects, *Materials Research Society Meeting, Symposium SM3, Soft Materials for Compliant and Bioinspired Electronics*, Phoenix, AZ, March 2016
7. R.M. Adelman, S.D. Herrmann, J.E. Barbour, **O. Graudejus**, M.A. Okun, V.S.Y. Kwan, Future self-connectedness buffers the effect of academic setbacks on grade expectations. Society of Personality and Social Psychology conference, San Diego, CA, January 2016.
8. **O. Graudejus**, T. Li, J. Cheng, J. Abbas, Changes in Resistance of a Stretchable Interconnect Upon Bending, *Materials Research Society Meeting, Symposium LL, Novel Approaches to Reliable Neural Interfaces*, San Francisco, CA, April 2015
9. J. S. Shropshire, S. D. Herrmann, R. A. Adelman, **O. Graudejus**, M. A. Okun, V. S. Y. Kwan, It's a Man's World: Gender Differences in Regulatory Focus and Academic Performance in STEM Fields. *Poster presented at the annual conference of the Society for Personality and Social Psychology*, Long Beach, CA, February 2015
10. R. M. Adelman, S. D. Herrmann, J. E. Bodford, M. A. Okun, **O. Graudejus**, V. S. Y. Kwan, Feeling Closer to the Future Self and Doing Better in School: Future Self-Continuity, Self- Control, and Academic Performance. *Poster presented at the annual meeting for the Society of Personality and Social Psychology*, Long Beach, CA, February 2015

11. S. D. Herrmann, J. E. Bodford, R. M. Adelman, **O. Graudejus**, M. A. Okun, V. S. Y. Kwan, Tomorrow never knows: Paradoxical effects of a future prime on performance among low SES college students, *Annual Meeting of The Society for Personality and Social Psychology*, Austin, February 2014
12. S. D. Herrmann, J. E. Bodford, **O. Graudejus**, M. A. Okun, V. S. Y. Kwan, Effects of socioeconomic status on academic engagement, *International Association for Cross-Cultural Psychology*, Los Angeles, June 2013
13. **O. Graudejus**, L. Chen, J. Abbas, A soft and compliant sensor for measuring shear forces, Material Research Society Meeting, Symposium TT5.07, *Materials and Processes for Electronic Skin*, San Francisco, April 2013
14. S. Wagner, W. Cao, P. Görrn, **O. Graudejus**, Elastically stretchable metallization for interconnects, Materials Research Society Meeting, Symposium T3.1, *Large-area processing and patterning for active optical and electronic devices III*, Boston, November 2011 (invited)
15. W. Cao, **O. Graudejus**, J. Jones, S. Wagner, Electrical, mechanical and thermal studies, Material Research Society Meeting, Symposium JJ1.2, *Stretchable Electronics and Conformal Biointerfaces*, San Francisco, April 2010
16. C. Goletiani, Z. Yu, **O. Graudejus**, W. Cao, S. Wagner, B. Morrison, The stretchable microelectrode array: Recent progress on a compliant interface for brain tissue, Material Research Society Meeting, Symposium JJ2.2, *Stretchable Electronics and Conformal Biointerfaces*, San Francisco, April 2010
17. P. Görrn, W. Cao, **O. Graudejus**, S. Wagner, Wrinkling and micro-cracking of gold on PDMS, *9<sup>th</sup> Annual Flexible Electronics and Displays Conference*, Phoenix, February 2010
18. W. Cao, **O. Graudejus**, J. Jones, S. Wagner, Electrical, mechanical and thermal studies on stretchable electrodes – potential application for e-skin, *9<sup>th</sup> Annual Flexible Electronics and Displays Conference*, Phoenix, February 2010
19. Z. Yu, **O. Graudejus**, S. Lacour, S. Wagner, B. Morrison, Neural sensing of electrical activity with stretchable microelectrode arrays, Paper FrE10.3, *31<sup>st</sup> Annual International IEEE EMBS Conference*, Minneapolis (Minnesota), September 2009 (invited)
20. S. Wagner, K. H. Cherenack, B. Hekmatshoar, P. Mandlik, L. Han, **O. Graudejus**, J. Jones, W. Cao, J.C. Sturm, Flexible and stretchable electronic surfaces, Session 11.2, *International Display Research Conference EuroDisplay 2009*, Rome, September 2009 (invited)
21. W. Cao, **O. Graudejus**, J. Jones, S. Wagner, Mechanical and thermal stretching of fully encapsulated elastomeric conductors, Session U9, *Electronic Materials Conference*, University Park (Pennsylvania), June 2009
22. J. Jones, **O. Graudejus**, W. Cao, S. Wagner, Two-level stretchable conductors on elastomeric substrates, Session U7, *Electronic Materials Conference*, University Park (Pennsylvania), June 2009
23. W. Cao, J. Jones, **O. Graudejus**, S. Wagner, Highly stretchable fully encapsulated elastomeric conductors, Material Research Society Meeting, Symposium PP 14.3, *Materials and Devices for Flexible and Stretchable Electronics*, San Francisco, April 2009
24. The critical strain of elastomeric metal interconnects, Material Research Society Meeting, Symposium PP 15.6, *Materials and Devices for Flexible and Stretchable Electronics*, San Francisco, April 2009
25. **O. Graudejus**, J. Jones, W. Cao, S. Wagner, Multi-layered Encapsulated stretchable conductors on PDMS substrates, *8<sup>th</sup> Annual Flexible Electronics and Displays Conference*, Phoenix, February 2009
26. W. Cao, **O. Graudejus**, J. Jones, S. Wagner, Processing of vias in elastically stretchable microelectrode arrays, Session 23.21, *8<sup>th</sup> Annual Flexible Electronics and Displays Conference*, Phoenix, February 2009
27. **O. Graudejus**, J. Jones, W. Cao, S. Wagner, The critical strain of elastically stretchable thin film metal interconnects, Session 23.23, *8<sup>th</sup> Annual Flexible Electronics and Displays Conference*, Phoenix, February 2009
28. **O. Graudejus**, J. Jones, S. Wagner, Improving the adhesion of photopatternable silicone on poly dimethyl siloxane (PDMS) to encapsulate elastically stretchable microelectrode arrays, *The Symposium on Polymers for Microelectronics*, Wilmington, May 2008
29. **O. Graudejus**, J. Jones, Z. Yu, B. Morrison, S. Wagner, Application of photopatternable silicone to encapsulate elastically stretchable microelectrode arrays: Benefits and issues, Symposium M 4.2, *Materials*



- and Technology for Flexible, Conformable, and Stretchable Sensors and Transistors, MRS, San Francisco, April 2008*
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