Curriculum Vitae

Bernard Kippelen
Fellow of OSA, Fellow of SPIE

Vice Provost for International Initiatives
and Steven A. Denning Chair for Global Engagement
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I. Chronology of Education

University Louis Pasteur, Strasbourg, France	Ph.D.	Solid State Physics	May, 1990
University Louis Pasteur, Strasbourg, France	D.E.A.	Solid State Physics	June, 1986
University Louis Pasteur, Strasbourg, France	Maitrise	Solid State Physics	June, 1985

Doctoral Dissertation: "Study of the Dynamics of the Nonlinear Optical Properties of CuCl and CdS by Four-Wave Mixing Experiments."
Directors: Profs. J. B. Grun and R. Levy

II. Chronology of Employment

August 2021 to present
Vice Provost for International Initiatives and Steven A. Denning Chair for Global Engagement

August 2003 to present
Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology,
Director, Center for Organic Photonics and Electronics (2011-2019)
Co-President of the Lafayette Institute (since 2012)

October 1991 to October 1993, and November 1994 to August 2003
University of Arizona, Tucson, AZ 85721
1992 to 1993: Research Assistant Scientist
1994 to 1995: Research Assistant Scientist
1995 to 1998: Assistant Research Professor
1998 to 2001: Assistant Professor of Optical Sciences
2001 to 2003: Associate Professor of Optical Sciences with tenure

October 1990 to September 1991, and October 1993 to October 1994

Institut de Physique et Chimie des Matériaux, Unité Mixte du Centre National de la Recherche Scientifique, 23, rue du Loess, 67037 Strasbourg, France

1990 to 1991: Chargé de Recherches 2ème Classe

1993 to 1994: Chargé de Recherches 1ère Classe

III. Teaching

III.A.1 Individual Student Guidance at The University of Arizona (UA)

Graduated UA Ph.D. students

1. "Dynamic response and material processing of photorefractive polymer composites," Jon Herlocker, Committee on Optical Sciences, The University of Arizona, (graduated in 2000), currently employed at Breault Research Organization (BRO), Tucson, AZ.

2. "Frequency conversion in organic conjugated molecules and its applications to ultra-fast pulse diagnostic and imaging," Gabriel Ramos-Ortiz, Committee on Optical Sciences, The University of Arizona, (graduated in 2003), currently employed as a Scientist at the Center for Investigations in Optics (CIO) in Leon Guanajuato, Mexico.

3. "Photorefractive polymers with sub-ms response times and multiphoton absorption," Canek Fuentes-Hernandez, Committee on Optical Sciences, The University of Arizona, (co-advised with N. Peyghambarian, graduated in 2004), currently employed as a Principal Research Scientist at Georgia Tech.

4. "Organic cells based on liquid crystalline and polycrystalline thin films," SeungHyup Yoo, Committee on Optical Sciences, The University of Arizona, (graduated in 2005), currently employed as a Full Professor, Korean Advanced Institute of Science and Technology (KAIST), Daejeon, Republic of Korea.

5. "Liquid-crystal based electro-optic diffractive spectacles and low operating voltage nematic liquid crystals," Joshua Haddock, Committee on Optical Sciences, The University of Arizona, (graduated in Oct. 2005), currently employed as an Engineer at Google, CA.

Former UA advised undergraduate students

Gregoire Guillemet, David Colin, Jean-Francois Belloc, David Haurit, Matthew Taylor, Samuel Brean, Ruben Duarte, Jens Drechsel, James Van Bogaert, Pilar Munguia, Joe A. Cordaro, Mark Inscoe, Nathalie Larribeau, Pascal Caron, Kim Jespersen, Shane Johnson, Bahar Bezhadi-Arab, Tim Budinger, Daniel Koepke, Andreas Haldi, Roberto Termine, Yoko Yamagishi, K. W. Shin.

III.A.2 Individual Student Guidance at The Georgia Institute of Technology (GT)

Graduated GT Master and Ph.D. students

Graduated with Master:

1. "Organic integrated devices based on photonic crystals," Sukanya Randhawa (GT, ECE Student, advised since Jan. 2006), graduated in May 2007.

2. "Organic solar cells and modules," Francois Nicolas Kielwasser (GT, ECE Student, advised since Sep. 2006), graduated in May 2007.

3. "Organic optoelectronics," Michel Apostolou (GT, ECE Student, advised since Jan. 2007), graduated in May 2007.

4. “Organic electro-optic materials and devices,” Brian Graham, (GT, ECE Student, advised since Jan. 2008), graduated in December 2008.

5. “Organic photovoltaic materials and devices,” Sinan Sutcu, (GT ECE student), advised since Fall 2008), graduated in Summer 2010.

Graduated with Ph.D.:

1. “J-V characteristics of organic semiconductors: interfacial control between organic layers and electrodes,” Takeshi Kondo (Student from UA, transferred to GT School of Chemistry and Biochemistry) co-advised with S.R. Marder since 2003, graduated in May 2007. Currently employed by Lintec, Japan.

2. “Patternable electrophosphorescent organic light-emitting diodes with solution-processed organic layers,” Andreas Haldi (GT, ECE student), advised since January 2004, graduated in Aug. 2008. Currently employed by Cynora, Germany.

3. “Organic field-effect transistors and circuits,” Xiaohong Zhang (GT, ECE student), advised since Fall 2004, graduated in Mar. 2009. Current employer unknown.

4. “Organic-inorganic hybrid thin film transistors and electronic circuits,” Jungbae Kim (GT, ECE student), advised since Fall 2004, graduated in May 2010. Currently employed as a Research Manager at Applied Materials, CA.

5. “Linear and nonlinear optical properties of metal-dielectric multilayer structures,” Dan Owens (GT, ECE student), advised since Jan. 2006, graduated in Aug. 2010. Currently employed as an electrical engineer at the Army Evaluation Center, Aberdeen Proving Ground MD.

6. “Physics and engineering of organic solar cells,” William Potscavage (GT, ECE student), advised since Aug. 2004 (recipient of the Colonel Oscar P. Cleaver Award for the highest score on the preliminary exam), graduated Dec. 2010. Currently employed as a postdoctoral at Kyushu University, Fukuoka, Japan.

7. “Engineered linear and nonlinear optical properties of metal-dielectric thin-film structures for ultrafast optical applications,” James June Fan Hsu (GT, ECE student), advised since Spring 2010, graduated Oct. 2013. Currently employed in Taiwan by his family business as executive assistant to the Chairman of CHOININN Medical Care Co.

8. “Study of charge-collecting interlayers for single-junction and tandem organic solar cells,” Jae Won Shim (GT, ECE student), advised since Fall 2008, graduated Feb. 2014. Assistant Professor at Dongguk University, Seoul, Korea.

9. “Stacked inverted top-emitting white organic light-emitting diodes,” Ehsan Najafabani, (GT, ECE student), advised since Summer 2009, graduated Jul. 2014. Currently employed by Sutherland, Asbill & Brennan LLP, a patent firm in Atlanta.

10. “High-performance single unit and stacked inverted top-emitting electrophosphorescent organic light-emitting diodes,” Keith A. Knauer (GT, ECE student), advised since Summer 2010, graduated Sep. 2014. Currently employed by Intel Portland, OR.

11. “Microfabrication of organic electronic devices: organic solar cell module with high total area efficiency,” Amir Dindar (GT, ECE student), advised since Fall 2009, graduated Mar. 2015. Currently employed by Apple, CA.

12. “Organic semiconductor bulk heterojunction diodes with low dark current for photovoltaic, photodetection and scintillator-free ionizing radiation detection applications,” Talha Khan (GT, ECE student), advised since Summer 2010, graduated Mar. 2016. Currently employed by Intel, Portland, OR.

13. “High-performance organic light-emitting diodes for flexible and wearable electronics,” Michael P. Gaj, (GT, ECE student), advised since Summer 2011, graduated Mar. 2016. Currently employed by Corning Inc., Corning, NY.

14. “High-performance organic field-effect transistors and circuits for 3D-shape substrates and applications,” Sangmoo Choi, (GT, ECE student), advised since Fall 2011, graduated Apr. 2016. Currently employed by Samsung, Korea.

15. “Organic field-effect transistors on novel renewable substrates,” Cheng-Yin Wang (GT, ECE student), advised since Spring 2013, graduated Nov. 2016. Currently employed by Intel, Portland, OR.

16. “Physics and engineering of organic solar cells,” Vladimir Kolesov (GT, ECE student), advised since Fall 2013, graduated Apr. 2017. Currently employed as Lead Display Scientist at Solchroma Technologies, Atlanta, GA.

17. “Organic thin-film transistors (OTFTs) and their application in light detection,” Xiaojia Jia (GT, ECE student) advised since Summer 2016, graduated April 2019. Currently employed at Western Digital, San Jose, CA.

18. “High performance organic photodiodes and their applications,” Wen-Fang Chou (GT, ECE student), advised since Fall 2015, graduated May 2019, Recipient of a Taiwanese Government Study Abroad Scholarship (2018). Currently employed at Intel, Portland, OR.

19. "Highly efficient organic light-emitting diodes from thermally activated delayed fluorescence," Xiaoqing Zhang (GT, ECE student), advised since Fall 2015, graduated September 2019. Currently employed at Apple, Cuppertino, CA.

20. "Physics and engineering of organic solar cells: electrical p-type doping with phosphomolybdic acid," Felipe A. Larrain (GT, ECE student), advised since Summer 2015, graduated July 2020. Currently a faculty member at the University of Santiago, Chile.

21. "Low noise organic photodiodes with near infrared sensitivity," Victor Rodriguez-Toro (GT, ECE student), advised since Summer 2016, graduated Aug. 2021. Current employed at IBM.

22. "Low noise stretchable organic photodiode using an elastomeric bulk heterojunction," Youngrak Park (GT, ECE student) advised since Spring 2016, graduated Dec. 2021.

Current GT Ph.D. students

1. “Science and engineering of printed electronics for biosensing,” Gunhee Kim, (GT, ECE student), advised since Fall 2018.

2. “Organic light-emitting diodes for solid-state lighting”, Oliver Moreno, (GT ECE student), advised since Fall 2018.

3. “Organic solar cells for portable power” Yi-Chien (Erik) Chang, GT ECE student, advised since Fall 2018.

4. "Organic electronics" Jingwei Yang, GT ECE student, advised since Spring 2019.

5. Undergraduate GT students

1. Puja Zalavadia, GT ECE student and recipient of President’s Undergraduate Research Award, Spring semester 2004.
2. Neil Joshi, GT ECE student, January 2004 to May 2005.
3. Allen McClinton, GT ECE student recipient of President’s Undergraduate Research Award from June 2004 to July 2005, NSF REU student, Summer 2004 and 2005.
4. Antonio Acosta, GT ECE, student recipient of President’s Undergraduate Research Award, NSF REU student, Summer 2004.
5. Evans Thompson, GT ME student, NSF REU student, Summer 2005.
6. Sarah Montgomery, NSF REU student, Summer 2005.
7. Antony Giardano, NSF REU student, Summer 2006.
8. Kevin Brenner, GT ECE student, Fall 2006.
9. Matthew Rody, NSF REU student, Summer 2007.
10. Ranbel Sun, NSF REU student, Summer 2007.
11. Adrian Grant, NSF REU student, Summer 2008.
12. Michael Gaj, NSF REU student, Summer 2008.
13. Dexter Hypolite, NSF REU student, Summer 2009.
14. Robyn Anderson, NSF REU student, Summer 2009.
15. Jasmine Freeman, NSF REU student, Summer 2010.
16. Katherine Henry, NSF REU student, Summer 2010.
17. Farhan Kamili, NSF REU student, Summer 2011.
18. Michelle Wang, NSF REU student, Summer 2011.
19. Kendall Davis, NSF REU student, Summer 2012.
20. Jonathan K. Ting, GT ECE student, Fall 2013, Spring 2014.
21. Amanda West, GT ECE student, Fall 2014 to Spring 2016.
22. Camila Scotti Pinto, Brazil Scientific Mobility Program (BSMP), Summer 2016,
23. Wesley Victor Melo Bomfim, Brazil Scientific Mobility Program, Summer 2016, (BSMP).
24. Katie Roberts, GT ECE student, Fall 2018, Spring 2019, Fall 2019.
25. Andrew Allan, GR ECE student, Fall 2019, Spring 2020.
26. Caelb Song, GR ECE, Spring 2021.

Postdoctorals advised
(Current employer or country of residence in parentheses when known).

Former (26): Kyle B. Ferrio (Corning); Christine Spiegelberg (Siemens, FL); Jose Luis Maldonado (Faculty at UNAM, Mexico); Myongsik Cha (Korea); Duck Jong Suh (Samsung, Korea); Sungwon Kim (Intel, OR); Junsheng Yu (Faculty at University of Chengdu, China); Seong-Soo Kim; Sung-Ho Han; Shuo-Yen Tseng (Faculty at National Cheng Kung University, Taiwan); Benoit Domercq (Asahi Glass Corporation, Brussels, Belgium); Debdutta Ray (Faculty at IIT Madras, Chennai, India); Severine Coppee (Materia Nova, Mons, Belgium); Jungbae Kim (Advanced Materials, CA); Do-Kyung Hwang (KIST, Korea); Claudiu Cirloganu (Sandia National Laboratories, NM); Seunkeun Choi (Faculty at UW Bothel, WA); Hyeunseok Cheun (LG, Korea); Mathieu Fenoll (Solvay, Belgium), Sanjeev Singh (Nanometrics, NY), Asha Sharma-Singh (Global Foundries, NY); Yinhua Zhou (Faculty HUST Wuhan, China); Minseong Yun (Samsung, Korea); Minwoo Nam (Faculty, Department of Applied Physics Electronics, Sangji University, Korea); Silja Abraham (Postdoc, GT ChBE); Canek Fuentes-Hernandez (Associate Professor Northeastern University).

III.B. Other Teaching Activities

Taught short course on Organic Light-Emitting Devices and Technologies at SPIE Annual Meetings: (2001), (2002), (2003), (2004).

Courses taught:

- OPTI 615 x "Polymer Optics" Spring 1999 (UA).
- OPTI 552x "Introduction to Polymer Optics" Fall 2000 (UA).
- OPTI 545 " Nonlinear Optics," Spring 2000, 2001, 2002, 2003 (UA).
- Guest lecturer in CHEM 535 Spring 2002 (UA).
- ECE 3025 “Electromagnetism”, Fall 2003, Spring 2004, Spring 2006, Spring 2007, Spring 2008, Spring 2010, Spring 2015, Spring 2018, Spring 2019, Fall 2019 (GT), Fall 2020 (GT).
- ECE 6540 “Organic Optoelectronics” Fall 2004, Fall 2005, Spring 2010, Spring 2011, Spring 2012, Spring 2015, Spring 2016, Spring 2017, Spring 2018 (GT), Spring 2020 (GT).
- ECE 6771 “Optoelectronics: Materials, Processes, and Devices,” Spring 2019, Spring 2021 (GT).

Curriculum development:
Recognizing the need for a multidisciplinary course that would build a bridge between the traditional disciplines of physical chemistry, physics, and optics, Prof. Kippelen has developed and taught at the University of Arizona an advanced course on the optical and electrical properties of polymers and organic semiconductors. He has expanded this course that is currently offered as the graduate course ECE 6540A Organic Optoelectronics at Georgia Tech.

IV. Scholarly Accomplishments

IV.A.1 Edited Research Books, Conference Proceedings, and Special Issues

1) *"Polymer Photonic Devices,"* B. Kippelen and D. D. Bradley Eds., SPIE Proceedings Vol. 3281 (1998).

2) *"Organic Photonic Materials and Devices,"* B. Kippelen, Editor, SPIE Proceedings, Vol. 3623 (1999).

3) *"Organic Nonlinear Optical Materials and Devices,"* B. Kippelen, R. Claus, H. Lackritz Eds., *Mater. Res. Soc. Symp. Proc.* Vol. 561 (1999).

4) *"Organic Photonic Materials and Devices II,"* D. D. Bradley and B. Kippelen Eds., SPIE Proceedings, Vol. 3939 (2000).

5) *"Organic Photonic Materials and Devices III,"* B. Kippelen and D. D. Bradley Eds., SPIE Proceedings, Vol. 4279 (2001).

6) *"Organic Photonic Materials and Devices IV,"* B. Kippelen and D. D. Bradley Eds., SPIE Proceedings, Vol. 4642 (2002).

7) *"Photovoltaic Technologies, Devices and Systems Based on Inorganic Materials, Small Organic Molecules and Hybrids,"* K.A. Sablon, J. Heier, S.R. Tatavarti, D.C. Olson, B. Kippelen, L. Fu, C.J. Brabec, Z. Wang, F.A. Nuesch, MRS Symposium Proceedings, Vol. 1493, 2012 MRS Fall Meeting, Cambridge University Press, (2013).

8) "*Special Issue: Printed Electronics*," H. Fujitake, Y. Ao, R. Baumann, B. Kippelen et al. Editors, *Jap. J. of Appl. Phys*. 52, (5) May (2013).

IV.A.2 Book Chapters

1) *"An introduction to photorefractive polymers,"* B. Kippelen, K. Meerholz, and N. Peyghambarian, in *Nonlinear Optics of Organic Molecules and Polymers,* H. S. Nalwa and S. Miyata Eds.*,* 465 (CRC Press, 1997).

2) "*Organic polymers for photorefractive applications,"* B. Kippelen, Sandalphon, B. L. Volodin, K. Meerholz, and N. Peyghambarian, in *Photonic and Optoelectronic Polymers,* S. A. Jenekhe and K. J. Wynne Eds., Chap. 15, 218-235 (ACS Symposium Series 672, 1997).

3) *"Non-crystalline organic photorefractive materials: chemistry, physics and applications,"* K. Meerholz, B. Kippelen, N. Peyghambarian, in "Electrical and Optical Polymer Systems," D. L. Wise and G. E. Wnek, D. J. Trantolo, J. D. Gresser, T. M. Cooper Eds., 571-632 (World Scientific, 1998)

4) *"Current status and future of photorefractive polymers for photonic applications,"* B. Kippelen and N. Peyghambarian, in *"Sol-Gel and Polymer Photonic Devices,"* M. P. Andrews and S. I. Najafi, Eds., Critical Reviews of Optical Science and Technology, Vol. CR68, 343, (SPIE Optical Engineering Press, 1997).

5) *"Advanced organic materials for optoelectronic integrated devices, interconnects, and packaging,"* Sandalphon, E. Hendrickx, J. Herlocker, G. E. Jabbour, Y. Kawabe, B. Kippelen, M. M. Morrell, S. E. Shaheen, D. D. Steele, J. F. Wang, and N. Peyghambarian, (Plenum Press, 1998).

6) *"Photorefractive polymers and polymer dispersed liquid crystals,"* B. Kippelen, A. Golemme, E. Hendrickx, J. F. Wang, S. R Marder, and N. Peyghambarian, in *Field Responsive Polymers,* I. M. Khan and J. S. Harrison Eds., 204-225, (ACS Symposium Series 726, 1999).

7) "*Overview of Photorefractive Polymers for Holographic Data Storage,"* B. Kippelen, in *"Holographic Data Storage"* H. Coufal, D. Psaltis, G. Sincerbox, Eds., Optical Sciences Series (Springer Verlag, 2000).

8) *"Lightwave manipulation using photorefractive polymers,"* N. Peyghambarian, B. Kippelen, K. B. Ferrio, J. Herlocker, J. L. Maldonado, E. Hendrickx, S. Mery, A. Golemme, and S. R. Marder, in *"Light Wave Manipulation,"* Miyata and Sasabe Eds. (2000).

9) *"Photorefractive Polymers and Their Applications,"* B. Kippelen and N. Peyghambarian, in Advances in Polymer Science: *"Polymers for Photonics Applications,"* K. Lee Editor, (Springer Verlag, 2001).

10) *"Liquid-crystal approaches to organic photovoltaics,"* B. Kippelen, S. Yoo, J. A. Haddock, B. Domercq, S. Barlow, B. Minch, W. Xia, S. R. Marder, and N. R. Armstrong, in "*Organic Photovoltaics,"* S. Sariciftci and S. Sun Eds., (Marcel Dekker, (2005).

11) *"Organic Photorefractive Materials and Their Applications 2"* B. Kippelen in *"Photorefractive Materials and Their Applications,"* P. Gunter and J.P. Huignard Eds., Chap. 14, 487-526 (Springer Verlag, 2007).

12) *"Cellulose nanocrystal substrates for recyclable printed electronics,"* Y. Zhou, C. Fuentes-Hernandez, T.M. Khan, J.C. Liu, J. Hsu, J.W. Shim, A. Dindar, J.P. Youngblood, R.J. Moon, and B. Kippelen, in "Production and Applications of Cellulose Nanomaterials", TAPPI p. 167 (2013).

13) *"Organic photovoltaics: physical concepts behind device operation,"* B. Kippelen, in the WSPC Reference on Organic Electronics: Organic Semiconductors: Fundamental Aspects of Materials and Applications, J.L. Brédas and S.R. Marder Eds., p. 115-167 (World Scientific Publishing, 2016).

14) *"Solid-state organic photovoltaics,"* B. Kippelen, in "Photovoltaic Solar Energy: from Fundamentals to Applications, A. Reinders, A. Freundlich, P. Verlinden, and W. van Sark, Eds., (Wiley, 2016).

IV.B. Publications in Peer-reviewed Journals

Number of citations of my publications
Science Citation Index: **> 21,000**, h index of **75**;
Google Scholar: > **28,000**, h index of **86**, and i-10 index of **286**.

*Entries with * indicate publication based on work done as a student.*

1) *(*) "Study of phase coherence times of CuCl,"* M. J. M. Gomes, B. Kippelen, B. Hönerlage, and R. Levy, *Journal de Physique* 49, 263-266 (1988). Doi:10.1051/jphyscol:1988262

2) (*) *"Time, intensity and energy dependence of four-wave mixing processes in CuCl,"* M.J.M. Gomes, B. Kippelen**,** B. Hönerlage, R. Levy, and J. B. Grun, *Journal of Luminescence* 46, 319-322 (1990). Doi:10.1016/0022-2313(90)90045-D

3) (*) *"Coherent signal generation in CuCl by light-induced grating and induced biexciton decay,"* R. Levy, M. J. M. Gomes, B. Kippelen, and B. Hönerlage, *Phys. Stat. Sol. B* 158, 391-393 (1990). Doi:10.1002/pssb.2221580139

4) (*) *"Room temperature fast nonlinearities in the band edge region of CdS studied by picosecond grating experiments,"* B. Kippelen, M. J. M. Gomes, B. Hönerlage, and J. B. Grun, *Annales de Physique* 15, 159-161 (1990).

5) (*) *"Time-resolved four-wave mixing experiments in CuCl,"* M. J. M. Gomes, B. Kippelen**,** R. Levy, and J. B. Grun, *Phys. Stat. Sol. B* 159, 101-103 (1990). Doi:10.1002/pssb.2221590111

6) (*) *"Transient optical nonlinearities in CdS studied by laser-induced grating spectroscopy at room temperature,"* B. Kippelen**,** J. B. Grun, B. Hönerlage, and R. Levy, *J. Opt. Soc. Am. B* 8, 2363-2369 (1991). Doi:10.1364/JOSAB.8.002363

7) (*) *"Single-wavelength pulsed optical logic based on dichroism in CdS,"* J. Oberlé, B. Kippelen, A. Daunois, J. B. Grun, and A. C. Walker, *Opt. Commun*. 90, 339-346 (1992). Doi:10.1016/0030-4018(92)90288-3

8) *"Picosecond excite and probe nonlinear absorption measurements in CuCl quantum dots,"* B. Kippelen, R. Levy, P. Faller, P. Gilliot, and L. Belleguie, *Appl. Phys. Lett.* 59, 3378-3380 (1991). Doi:10.1063/1.105680

9) *"Optical gain and luminescence experiments in CuCl doped glasses,"* P. Faller, B. Kippelen**,** B. Hönerlage, and R. Levy, *Opt. Materials* 2, 39-42 (1993). Doi:10.1016/0925-3467(93)90043-z

10) *"Photorefractive effect in a poled polymer containing the tricyanovinylcarbazole group,"* B. Kippelen, K. Tamura, N. Peyghambarian, A. B. Padias, and H. K. Hall, Jr., *J. of Appl. Phys.* 74, 3617-3619 (1993). Doi:10.1063/1.354501

11) *"Photorefractivity in a functional side-chain polymer,"* B. Kippelen, K. Tamura, N. Peyghambarian, A. B. Padias, and H. K. Hall, Jr., *Phys. Rev. B 48*, 10710-10718 (1993). Doi:10.1103/PhysRevB.48.10710

12) *"Enhancement of optical nonlinearity of heavy-metal oxide glasses by replacing lead and bismuth with thallium,"* J. Yumoto, S. G. Lee, B. Kippelen, N. Peyghambarian, B. G. Aitken, and N. F. Borrelli, *Appl. Phys. Lett.* 63, 2630-2632 (1993). Doi:10.1063/1.110403

13) *"Dual grating formation through photorefractivity and photoisomerization in azo dye doped polymers,"* Sandalphon, B. Kippelen, N. Peyghambarian, S. R. Lyon, A. B. Padias, and H. K. Hall Jr., *Opt. Lett.* 19, 68-70 (1994). Doi:10.1364/OL.19.000068

14) *" New highly efficient photorefractive polymer composite for optical storage and image processing applications,"* B. Kippelen, Sandalphon, N. Peyghambarian, S. R. Lyon, A. B. Padias, and H. K Hall Jr., *Electronics Letters* 29, 1873-1874 (1993). Doi:10.1049/el:19931247

15) *"Recent advances in photorefractive polymer composites,"* B. Kippelen, K. Meerholz, Sandalphon, B. Volodin, and N. Peyghambarian, *Nonlinear Optics* 11, 263-267 (1995).

16) *"Nonlinear photorefractive polymers,"* B. Kippelen, K. Meerholz, Sandalphon, B. Volodin, and N. Peyghambarian, *Opt. Materials* 4, 354-357 (1994). Doi10.1016/0925-3467(94)00086-7:

17) *"A photorefractive polymer with high optical gain and diffraction efficiency near 100 %,"* K. Meerholz, B. Volodin, Sandalphon, B. Kippelen, and N. Peyghambarian, *Nature* 371, 497-500 (1994). Doi10.1038/371497a0:

18) *"Highly efficient photorefractive polymers for dynamic holography,"* B. L. Volodin, K. Meerholz, Sandalphon, B. Kippelen, N. V. Kukhtarev, and N. Peyghambarian, *Opt. Eng.* 34, 2213-2223 (1995). Doi:10.1117/12.209459

19) *"Substituted aluminum and zinc quinolates with blue-shifted absorbance/luminescence bands: synthesis and spectroscopic, photoluminescence and electroluminescence characterization,"* T. A. Hopkins, K. Meerholz, S. Shaheen, M. L. Anderson, A. Schmidt, B. Kippelen, A. B. Padias, H. K. Hall, Jr., N. Peyghambarian, and N. R. Armstrong, *Chem. Mater*. 8, 344-351 (1996). Doi:10.1021/cm9503442

20) *"Birefringence, Pockels and Kerr effects in photorefractive polymers,"* B. Kippelen, Sandalphon, K. Meerholz, and N. Peyghambarian, *Appl. Phys. Lett*. 68, 1748-1750 (1996). Doi:10.1063/1.116653

21) *"Ellipsometric measurements of poling birefringence, Pockels and Kerr effects in high performance photorefractive polymer composites,"* Sandalphon, B. Kippelen, K. Meerholz, and N. Peyghambarian, *Appl. Opt*. 35, 2346-2354 (1996). Doi:10.1364/AO.35.002346

22) *"Non-Bragg orders in dynamic self-diffraction on thick phase gratings in a photorefractive polymer,"* B. L. Volodin, B. Kippelen, K. Meerholz, N. V. Kukhtarev, H. J. Caulfield, and N. Peyghambarian, *Opt. Lett.* 21, 519-521 (1996). Doi:10.1364/OL.21.000519

23) *"Study of Non-Bragg orders in dynamic self-diffraction in a photorefractive polymer: experiment, theory and applications,"* B. L. Volodin, B. Kippelen, K. Meerholz, N. Peyghambarian, N. V. Kuktharev, and H. J. Caulfield, *J. Opt. Soc. Am. B* 13, 2261-2267 (1996). Doi:10.1364/JOSAB.13.002261

24) *"A polymeric optical pattern-recognition system for security verification,"* B. L. Volodin, B. Kippelen, K. Meerholz, B. Javidi, and N. Peyghambarian, *Nature* 383, 58-60 (1996). Doi:10.1038/383058a0

25) *"New stack system for records,"* N. Peyghambarian and B. Kippelen, News and Views, *Nature* 383, 481-481 (1996). Doi:10.1038/383481a0

26) *"Photorefractive polymer dispersed liquid crystals,"* A. Golemme, B. Kippelen, B. L. Volodin, and N. Peyghambarian, *Opt. Lett.* 22, 1226-1228 (1997). Doi:10.1364/OL.22.001226

27) *"Chromophore design for photorefractive applications,"* B. Kippelen, F. Meyers, S. R. Marder, and N. Peyghambarian, *J. Am. Chem. Soc.* 119, 4559-4560 (1997). Doi:10.1021/ja9643477

28) *"Phase stability of guest/host photorefractive polymers studied by light scattering experiments,"* E. Hendrickx, B. L. Volodin, D. D. Steele, J. L. Maldonado Rivera, J. F. Wang, B. Kippelen, and N. Peyghambarian, *Appl. Phys. Lett.* 71, 1159-1161 (1997). Doi:10.1063/1.119612

29) *"Design and synthesis of chromophores and polymers for electro-optic and photorefractive applications,"* S. R. Marder, B. Kippelen, A. K.-Y. Jen, and N. Peyghambarian, *Nature* 388, 845-851 (1997). Doi:10.1038/42190

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IV.C.2 Media Clips

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IV.D. Presentations

IV.D.1 Invited, Keynote, and Plenary Presentations at Conferences (since 1995)

Note: When the invited presentation was combined with a conference proceeding, the reference of the latter is provided.

1) *"Highly efficient photorefractive polymers: their physics, performance, and applications,"* B. Kippelen, B. L. Volodin, K. Meerholz, Sandalphon and N. Peyghambarian, CLEO'95 Technical Digest Vol. 15, p. 164, Baltimore, MD (1995).

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42) *"Recent advances in organic semiconductors for optoelectronic applications,"* B. Kippelen, Annual Technical Conference of the Society for Plastics Engineers, Nashville, TN, May 4-8, (2003).

43) *"Recent advances in photorefractive and third-order nonlinear polymers,"* B. Kippelen, 7th International Symposium on Polymers for Advanced Technologies, Fort Lauderdale, FL, Sep. (2003).

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55) *"Modeling and characterization of excitonic multilayer organic solar cells,"* B. Kippelen, S. Yoo, W. J. Potscavage Jr., B. Domercq, S. H. Han, T. D. Li, S. Jones, R. Szoszkiewicz, D. Levi, E. Riedo, S. R. Marder and B. Kippelen, Organic Thin Films for Photonics Symposium, ACS National Meeting, San Francisco, CA, Sep. 10-14 (2006).

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60) *"Organic photovoltaics,"* B. Kippelen, Tutorial, CLEO/QELS 07, Baltimore, MD, May 7-11 (2007).

61) *"Semiconducting liquid crystals and their applications,"* B. Kippelen, 10th International Symposium on Metallo Mesogens, Cetraro, Calabria, Italy May 30 – Jun. 2 (2007).

62) "*Optics and engineering of organic photovoltaic cells for portable power applications,"* B. Kippelen, 8th International Conference on Novel Optical Materials and Applications, Cetraro, Calabria, Italy, Jun. 3-9 (2007).

63) *"Recent advances in organic photovoltaic cells and integrated modules for portable power,"* B. Kippelen, Materials Research Society (MRS) Fall, Boston, MA, Nov. 27-29 (2007).

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78) *"Optics and engineering of organic solar cells,"* B. Kippelen, Organic Photovoltaics 2008, Philadelphia, PA, Apr. 21-23 (2008).

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81) *"Printable transistors for displays and digital circuits,"* 9th European Conference on Molecular Electronics, Copenhagen, Denmark, Sep. 9-12 (2009).

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83) *"Organic solar cells: physical properties limiting their efficiency,"* B. Kippelen, International Conference on Organic Electronics and Electronics, Beijing, China, Sep. 20-25 (2009).

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85) *"Modeling of large-area organic solar cells,"* B. Kippelen, S. Choi, and W.J. Potscavage Jr., 10th International Conference on Numerical Simulation of Optoelectronic Devices, Atlanta, GA, Sep. 6-9 (2010).

86) *"Organic semiconductors for photovoltaic and light-emitting devices: status and promise,"* B. Kippelen, Frontiers in Optics (FiO) Conference, Rochester, NY, Oct. 24-28 (2010).

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88) (Plenary) *"Organic photonics and electronics: myth or reality?"* B. Kippelen, SPIE Photonics Europe, Brussels, Belgium, Apr. 12-16 (2010).

89) *"Carbon-based optoelectronics,"* B. Kippelen, French-US Symposium: Graphene, taking electronics beyond silicon, Atlanta, GA, Oct. 28 (2011).

90) *"Interface modification in organic photovoltaic devices,"* B. Kippelen, Smart Coatings 2012, Orlando, FL, Feb. 22-24 (2012).

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92) *"The role of ALD in printed electronics,"* B. Kippelen, Cambridge Nanotech User Group Meeting, Atlanta, GA, Nov. 13-15 (2011).

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97) "*Interface science and engineering of organic solar cells,"* B. Kippelen, Materials Research Society Annual Fall Meeting, Boston, MA, Nov. 28 – Dec. 2 (2011).

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100) *"Physics of organic semiconductors: towards flexible optoelectronics,"* B. Kippelen, Composites at Lake Louise, Fairmont Chateau Lake Louise Hotel, Alberta, Canada, Oct. 29 – Nov. 4 (2011).

101) (Keynote) *"Organic photovoltaics: clean energy for the 21st century,"* B. Kippelen, IEEE International Conference on Smart Grid and Clean Energy Technologies, Chengdu, China, Sep. 27-30 (2011).

102) (Plenary) *"The future of organic photovoltaics: controlling interfaces with solution processible materials,"* B. Kippelen, Sun Energy Conference and Exhibition (SuNEC 2010), Sicily, Italy, Jul. 5-7 (2011).

103) *"Advances in organic photovoltaics through interface modification*," B. Kippelen, Materials Research Society (MRS) Fall Meeting, Boston, MA, Nov. 26-30 (2012).

104) *"Recent advances in materials and devices for AMOLED technologies,"* B. Kippelen, 12th International Meeting on Information Technology, Daegu, Korea, Aug. 28-31 (2012).

105) *"Recent advances in printable OLED materials and devices,"* B. Kippelen, W. Haske, K.A. Knauer, E.M. Najafabadi, C. Fuentes-Hernandez, C. Zuniga, S. Slaman, C. Sutton, Y. Zhang, S. Barlow, J.S. Sears, V. Coropceanu, J.L. Bredas, and S.R. Marder, IEEE Photonics Conference, Burlingame, CA, Sep. 23-27, (2012).

106) *"Recent advances in materials and device architectures for OLED technologies,"* B. Kippelen, W. Haske, K.A. Knauer, E.M. Najafabadi, C. Fuentes-Hernandez, C. Zuniga, S. Slaman, C. Sutton, Y. Zhang, S. Barlow, J.S. Sears, V. Coropceanu, J.L. Bredas, and S.R. Marder, Organic Light-Emitting Materials and Devices, SPIE Optics and Photonics Meeting, San Diego, CA, Aug. 12-16 (2012).

107) *"Organic photovoltaics: current status and future opportunities,"* B. Kippelen, Nanostructured Thin Films V, SPIE Optics and Photonics Meeting, San Diego, CA, Aug. 12-16 (2012).

108) (Plenary) *"The role of interfaces in printed electronics,"* B. Kippelen, 10th International Conference on Nano-molecular Electronics, Hyogo, Japan, Dec. 12-14 (2012).

109) *"Modeling of organic solar cells: a semiconductor physics perspective,"* B. Kippelen, NSF/ONR Workshop on Key Scientific and Technological Issues for Development of Next-Generation Organic Solar Cells, Arlington, VA, Sep. 20-21 (2012).

110) *"Organic photovoltaics,"* B. Kippelen, 16th Annual Southeast Ultrafast Conference, Atlanta, GA Jan. 11-12 (2013).

111) *"Air-stable electrodes for organic photovoltaics: toward completely plastic solar cells and modules,"* B. Kippelen, Flexible and Printed Electronics Conference and Exhibition, Phoenix, AZ, Jan. 29 – Feb. 1 (2013).

112) *"Inverted top-emitting organic light-emitting diodes with high current efficacy,"* B. Kippelen, K.A. Knauer, E. Najafabadi, W. Haske, M.P. Gaj, K.C. Davis, C. Fuentes-Hernandez, U. Carrasco, SPIE Optics and Photonics Conference, San Diego, CA, Aug. 25-29 (2013).

113) (Plenary) *"Advances in organic semiconductors for flexible printed electronics,"* B. Kippelen, 8th International Conference on Advanced Materials and Devices (ICAMD), Jeju Island, Korea, Dec. 11-13 (2013).

114) *"The role of interfaces in printed electronics,"* B. Kippelen, ESPM VII Conference, Weizmann Institute of Science, Rehovot, Israel, Apr. 27 – May 3 (2013).

115) *"Inverted device geometries for next-generation AMOLED displays,"* B. Kippelen, OLEDs World Summit, San Francisco, CA, Sep. 17-19 (2013).

116) *"Advances in organic semiconductors for flexible printed electronics,"* B. Kippelen, 7th Solvay-COPE Symposium on Organic Electronics, Bordeaux, France, May 15-16 (2013).

117) (Plenary) *"Innovating organic and printed electronics,"* B. Kippelen, 5th International Conference and Exhibition for the Organic and Printed Electronics Industry, Messe Munchen, Germany, Jun. 11-13 (2013).

118) *"Polymer surface modification to produce low−work function electrodes for single- and multi-junction organic solar cells,"* Y. Zhou, C. Fuentes-Hernandez, J. Shim, J. Meyer, A. J. Giordano, H. Li, P. Winget, T. Papadopoulos, H. Cheun, J. Kim, M. Fenoll, A. Dindar, W. Haske, E. Najafabadi, H. Sojoudi, S. Barlow, S. Graham, J.L. Bredas, S.R. Marder, A. Kahn, and B. Kippelen, SPIE Optics and Photonics Conference, San Diego, CA, Aug. 25-29 (2013).

119) (Plenary) *"Engineering interfaces for organic printed electronics with improved stability,"* B. Kippelen, MNPC 2013 Conference, Annecy, France, Oct. 7-11 (2013).

120) *"All-additive all-organic solar cells and modules,"* B. Kippelen, International Colloquium on Flexible Electronics and Photovotaics (ICFE-PV), King Abdullah University of Science and Technology (KAUST), Jeddah, Saudi Arabia, Nov. 2-5, (2013).

121) *"Interface engineering for organic photovoltaics,"* C. Fuentes-Hernandez, Y. Zhou, T.M. Khan, J.W. Shim, A. Dindar, S.R. Marder, J.L. Bredas, S. Graham, A. Kahn, and B. Kippelen, 2013 International Workshop on Flexible & Printable Electronics, Jeonju, Republic of Korea, Nov. 21 (2013).

122) *"Innovating organic electronics and photonics,"* B. Kippelen, 61st Annual AVS International Symposium and Exhibition (AVS 2014), Baltimore, MA, Nov. 9-14 (2014).

123) *"Recent advances in stacked inverted top-emitting organic electrophosphorescent diodes,"* B. Kippelen, K. A. Knauer, E. Najafabadi, W. Haske, M.P. Gaj, Y. H. Zhou, C. Fuentes-Hernandez, SPIE Optics and Photonics, San Diego, CA, Aug. 17-21 (2014).

124) *"Atomic layer deposition for flexible printed electronics,"* B. Kippelen, Ultratech User Group Conference, Stanford University, Stanford, CA, Apr. 1-2 (2014).

125) *"Recent advances in all-additive solution-processed organic solar cells and modules"* B. Kippelen, C. Fuentes-Hernandez, Y. Zhou, J. Shim, A. Dindar, and T. M. Khan, 2014 Materials Research Society (MRS) Spring Meeting and Exhibit, San Francisco, CA, Apr. 21-25 (2014).

126) *"Recent advances in organic light-emitting diodes with unconventional architecture,"* B. Kippelen, W. Haske, K.A. Knauer, E. M. Najafabadi, M. P. Gaj, C. Fuentes-Hernandez, 10th

International Conference on Electroluminescence and Organic Optoelectronics, Cologne, Germany, Aug. 31 - Sep. 3 (2014).

127) "*Towards sustainable all-plastic solar cells by additive film transfer lamination methods,"* C. Fuentes-Hernandez, Y. Zhou, T.M. Khan, J.W. Shim, J.-C. Liu, A. Dindar, J.P. Youngblood, R.P. Moon, and B. Kippelen, 247th ACS National Meeting and Exposition, Dallas, TX, Mar. 18 (2014).

128) *"Stability and reliability of top-gate organic field-effect transistors using bilayer gate dielectrics,"* C. Fuentes-Hernandez, D.K. Hwang, M. Yun, J. Park, S. Choi, A. Dindar, and B. Kippelen, E-MRS Spring 2014, Lille, France, Jun. 29 (2014).

129) *"Recent advances in hybrid flexible printed electronics,"* B. Kippelen, 2015 Flexible and Printed Electronics Conference and Exhibition, Monterey, CA, Feb. 23-26 (2015).

130) *"Printed electronics: the endless frontier,"* B. Kippelen, Canadian Printable Electronics Symposium (CPES), Montreal, Canada, Apr. 21-22, (2015).

131) *"Innovations in organic printed optoelectronics,"* B. Kippelen, 227th Meeting of The Electrochemical Society, Symposium on Organic Semiconductor Materials, Devices, and Processing, Chicago, IL, May 24-28, (2015).

132) *"Organic semiconductors for energy efficiency,"* B. Kippelen, 8th International Photonics and Electronics Meetings (POEM), Photonics for Energy (PFE), Wuhan, PR China, Jun. 16-19 (2015).

133) *"Nanocellulose for electronics and energy,"* B. Kippelen, TAPPI International Conference on Nanotechnology for Renewable Materials, Atlanta, GA, Jun. 22-25 (2015).

134) (Keynote) *"Organic electronics: the endless frontier,"* B. Kippelen, 8th International Symposium on Flexible Organic Electronics, Thessaloniki, Greece, Jul. 6-9, (2015).

135) *"Progress in device platforms for organic electronics,"* B. Kippelen, 12th International Symposium on Functional Pi-Electron Systems, Univ. of Washington, Seattle WA, Jul. 19-24 (2015).

136)*"Next generation organic light-emitting materials and devices"* B. Kippelen, M. P. Gaj, C. Fuentes-Hernandez, Y. Zhang, S.R. Marder, E. Najafabadi, Y. H. Zhou, K. A. Knauer, A. Wei, W. Voit, SPIE Optics and Photonics, San Diego, CA, Aug. 9-13 (2015).

137)*"Organic photovoltaics: challenges and opportunities,"* B. Kippelen, Workshop on Powering the World with Photovoltaics: Status and Opportunities, France-Atlanta, Atlanta, GA, Nov. 3 (2015).

138) (Keynote) *"Organic photovoltaics: the ultimate green energy solution or a distant dream,"* B. Kippelen, Korean Advanced Institute of Science and Technology (KAIST), Energy, Environment, Water, and Sustainability (EEWS) International Workshop on Emerging PV Technologies, KAIST, Daejeon, Korea, Oct. 29 (2015).

139) (Keynote) *"Organic printed electronics: the endless frontier,"* B. Kippelen, Specialty Graphic Imaging Association (SGIA) 2015 EXPO, Printed Electronics Symposium, Atlanta, GA Nov. 4-6 (2015).

140) (Plenary) "*Strategies for efficient charge collection in thin-film photovoltaic devices,"* B. Kippelen, 3rd International Workshop on Nano and Bio-Photonics, Cabourg, France, Dec. 6-11 (2015).

141) "*Organic solar cells: recent advances in simplifying device architecture,"* B. Kippelen, T. M. Khan, V. Kolesov, F. Larrain and C. Fuentes-Hernandez, *Organic Photonic Materials and Devices XVIII,* part of SPIE conference Photonics West, San Francisco, CA, Feb. 13-18 (2016).

142) *"Highly stable organic field-effect transistors with engineered gate dielectrics,"* B. Kippelen, C.-Y. Wang, C. Fuentes-Hernandez, M. Yun, A. K. Singh, A. Dindar, S. Choi, and S. Graham, Optics and Photonics SPIE conference, San Diego, CA, Aug. 28 – Sep. 1 (2016).

143)*"Recent advances in the science and engineering of organic light-emitting diodes",* B. Kippelen, M.P. Gaj, X. Zhang, S. Choi, C. Fuentes-Hernandez, Y. Zhang, S. Barlow, S.R. Marder, A. Weri, and W. Voit, SPIE Optics and Photonics Conference, San Diego, CA, Aug. 28 – Sep. 1 (2016).

144) *"Recent advances in organic photodiodes,"* B. Kippelen, T.M. Khan, L. Diniz, J.M. Lukens, F. Larrain, and C. Fuentes-Hernandez, SPIE Optics and Photonics Conference, San Diego, CA, Aug. 28 – Sep. 1 (2016).

145) (Keynote) *"Methods for tailoring the electronic properties of polymers for organic electronics,"* B. Kippelen, 14th International Conference on Frontiers in Polymer and Advanced Materials (ICFAM), Daejeon, Korea, Nov. 4 (2016).

146) *"New strategies for simplifying the device architecture of organic solar cells,"* B. Kippelen, 252nd ACS National Meeting & Exposition, Symposium on "Polymer and Polymer Hybrid Electronics and Biosensors" part of the Division of Polymeric Materials Science and Engineering, 2016 Philadelphia, PA, Aug. 21-25 (2016).

147)*"Organic photovoltaics: the ultimate green energy solution or a distant dream,"* B. Kippelen, Nanoworld Conference, Boston, MA, Apr. 4-6 (2016).

148) (Keynote) "*New frontiers in organic electronics*," B. Kippelen, French-Romanian Topical Meeting on Nano and Biomaterials, Constanta, Romania, Sep. 21 - 25 (2016).

149)*"Organic electronics: the endless frontier,"* B. Kippelen, SPIE Europe Security and Defence, in Edinburgh, Scotland, Sep. 26-29 (2016).

150) *"Organic photovoltaics: new perspectives,"* B. Kippelen, International Conference on Energy, Materials and Photonics, Troyes, France, Jul. 10-13 (2016).

151) *"New strategies for controlling interfaces in organic electronic devices,"* B. Kippelen, International Conference on Electroluminescence and Optoelectronic Devices, Raleigh, NC, Oct. 2-5 (2016).

152) *"Recent advances in OLEDs on unconventional substrates,"* B. Kippelen, X. Zhang, C. Fuentes Hernandez, F. A. Larrain, S. Choi, SPIE Optics and Photonics Conference, San Diego, CA, Aug. 6-10 (2017).

153) *"A simple processing technique for the electrical doping of organic semiconductors,"* B. Kippelen, V. A. Kolesov, C. Fuentes-Hernandez, W.-F. Chou, N. Aizawa, F. A. Larrain, A. Perrotta, S. Choi, S. Graham, M. Wang, G.C. Bazan, T.-Q. Nguyen, and S. R. Marder, SPIE Optics and Photonics Conference, San Diego, CA, Aug. 6-10 (2017).

154)*"New methods for tailoring the electronic properties of organic semiconductors near electrodes,"* B. Kippelen, V. A. Kolesov, C. Fuentes-Hernandez, N. Aizawa, F. A. Larrain, W.-F. Chou, S. Choi, Materials Research Society (MRS) Annual Fall Meeting, Boston, MA, Nov. 26 – Dec. 1 (2017).

155) *"Novel methods to tailor the electrical properties of interfaces for organic optoelectronics,"* B. Kippelen, V. A. Kolesov, C. Fuentes-Hernandez, N. Aizawa, F. A. Larrain, W. -F. Chou, S. Choi, 13th Mediterranean Workshop and Topical Meeting on Novel Optical Materials and Applications (NOMA), Cetraro, Italy, Jun. 4-10 (2017).

156) *"Simple methods to control the electrical properties of organic semiconductors near interfaces for printed electronics*," B. Kippelen, V. A. Kolesov, C. Fuentes-Hernandez, N. Aizawa, F. A. Larrain, W. -F. Chou, S. Choi, European Materials Research Society (E-MRS) meeting, Strasbourg, France, May 22-26 (2017).

157) *"Organic semiconductors for radiation detection: fundamentals and applications*," B. Kippelen, C. Fuentes-Hernandez, N. Hertel, IEEE Nuclear Science Symposium and Medical Imaging Conference, Workshop on Organic Detectors and Materials, Atlanta, GA, Oct. 21-28 (2017).

158) "*Controlling the electrical properties of organic semiconductors near interfaces for printed electronics*," B. Kippelen, 4th International Workshop on Nano and Bio-Photonics, Vogue, France, Sep. 24-29 (2017).

159) *"Solar energy for generation Z,"* B. Kippelen, V. A. Kolesov, C. Fuentes-Hernandez, N. Aizawa, F. A. Larrain, W.-F. Chou, V. Rodriguez Toro, Next Generation Solar Energy (NGSE) conference, Cali, Colombia, Dec. 4 - 7 (2017).

160) *"Intelligent paper: printed electronics on advanced cellulosic nanomaterials,"* B. Kippelen, Felipe A. Larrain, W.-F. Chou, C.-Y. Wang, S. Choi, and C. Fuentes-Hernandez, presented at the 255th American Chemical Society (ACS) National Meeeting, New Orleans, LA, Mar. 18-22 (2018).

161) *"Recent advances in organic light-emitting diodes based on thermally activated delayed fluorescence,"* B. Kippelen, C. Fuentes-Hernandez, X. Zhang, Y. Zhang, M. W. Cooper, S. Barlow, and S. R. Marder, International Conference on Electroluminescence and Optoelectronic Devices (ICEL), Jeju Island, Korea, Oct. 14-17 (2018).

162) *"Recent advances in organic materials and devices for adaptive solid-state lighting,"* B. Kippelen, X. Jia, X. Zhang, Y. Park, F. A. Larrain, C. Fuentes Hernandez, SPIE Optics and Photonics, Aug. 19-23, San Diego, CA, (2018).

163) *"Organic materials and devices for next-generation imaging applications,"* B. Kippelen, presented at SPIE Photonics West Conference, Feb. 3-7, San Francisco, CA (2019).

164) "*Organic optoelectronics: the endless frontier*," B. Kippelen, 10th annual USA India Business Summit, 25th Annual Georgia Tech Global Business Forum, "Global Advanced Industries: Creating Local Opportunities," Aug. 27-28, Atlanta, GA (2019).

165) *"Recent advances in TADF materials and devices,"* B. Kippelen, C. Fuentes-Hernandez, X. Zhang, Y. Zhang, M. W. Cooper, S. Barlow, S. R. Marder, Z. Zheng, V. Coropceanu, J. L. Brédas, Optical Probes 2019 Conference, Jul. 7-12, Vilnius, Lithuania, (2019).

166) *"Organic photonics and electronics: the endless frontier,"* B. Kippelen, 3rd International Symposium on Molecular Design of Optoelectronic Materials, ICCAS, May 22-24, Beijing, China (2019).

167) (Keynote) *"Organic optoelectronics rhapsody,"* B. Kippelen, presented at SPIE Security and Defense, Sep. 9-12, Strasbourg, France (2019).

168) *"Balancing aging mechanisms in organic field-effect transistors,"* B. Kippelen, X. Jia, C. Fuentes-Hernandez, C.Y. Wang, Y. Park, G. Kim, presented at SPIE Optics and Photonics, Aug. 11-15, San Diego, CA, (2019). Proceedings published in Organic and Hybrid Field-Effect Transistors XVIII, edited by Iain McCulloch, Oana D. Jurchescu, Proc. of SPIE Vol. 11097, 110970D Doi: 10.1117/12.2528071

169) *"The Pasteurization of light,"* B. Kippelen, 4th Arizona Winter School & Workshop, The College of Optical Sciences, The University of Arizona, Tucson, AZ, Jan. 4-7 (2019).

170) *"Organic photodetectors reach silicon-level performance,"* B. Kippelen and C. Fuentes-Hernandez, presented at SPIE Photonics West OPTO Conference "Ultra-High-Definition Imaging Systems IV" to be held during March 6-11, San Francisco, CA (2021).

171) *"Recent progress in organic semiconductors for active matrix displays,"*
B. Kippelen, G. Kim, X. Jia, X. Zhang, and C. Fuentes-Hernandez, IMID 2020, International Meeting on Information Display, Online Meeting, Aug. 25-28 (2020).

172) "*Low-noise large-area organic photodiodes,"* C. Fuentes-Hernandez, W.-F. Chou, V. A. Rodriguez-Toro, Y. Park, Y.-C. Chang, F. A. Larrain, and B. Kippelen, presented at SPIE Optics and Photonics, Aug. 23-27, San Diego, CA (2020).

174) *"Organic electronics for next generation imaging systems,"* B. Kippelen, presented at SPIE Photonics West Conference, Feb. 1-6, San Francisco, CA (2020).

IV.D.2 Conference Presentations with Proceedings (since 1995)

1) "*A photorefractive guest/host polymer with high efficiency,"* B. Kippelen, K. Meerholz, B. L. Volodin, Sandalphon, and N. Peyghambarian, *Photorefractive Materials Effects and Devices,* June 11-14, Estes Park, CO, Technical Digest, p.5 (1995).

2) *"Improved stability of photorefractive polymer composites by use of eutectic mixture of EO chromophores,"* K. Meerholz, B. Kippelen, B. L. Volodin, Sandalphon and N. Peyghambarian, Conference on Lasers and Electro-Optics, Technical Digest Vol. 9, 477 (1996).

3) *"Electroluminescence in an organic polymer channel waveguide,"* B. Kippelen, S. E. Shaheen, M. M. Morrell, P. T. Guerreiro, P. M. Allemand and N. Peyghambarian, Conference on Lasers and Electro-Optics, Technical Digest Vol. 9, 88 (1996).

4) *"Photorefractive polymers with improved efficiency,"* B. Kippelen, B. L. Volodin, O. Savina, Sandalphon, H. Röckel, L. Erskine, S. R. Marder, and N. Peyghambarian, Conference on Lasers and Electro-Optics, Technical Digest, Vol. 11, p. 335 (1997).

5) *"Photorefractivity in polymer dispersed liquid crystals,"* B. Kippelen, A. Golemme, B. L. Volodin, and N. Peyghambarian, Conference on Lasers and Electro-Optics, Technical Digest, Vol. 11, p. 334 (1997).

6) *"Imaging through scattering media using photorefractive polymers,"* B. L. Volodin, D.D. Steele, B. Kippelen, and N. Peyghambarian, Conference on Lasers and Electro-Optics, Technical Digest, Vol. 11, p. 184 (1997).

7) *"Thermally stable high-gain photorefractive polymers based on a tri-functional chromophore,"* B. Kippelen, E. Hendrickx, J. Herlocker, J.L. Maldonado, S. R. Marder, and N. Peyghambarian, CLEO '98, Technical Digest Series Vol. 6, p. 30 (1998).

8) *"Efficient Photorefractive Polymer Dispersed Liquid Crystals,"* B. Kippelen, A. Golemme, J. L. Maldonado, and N. Peyghambarian, CLEO '98, Technical Digest Series Vol. 6, p. 33 (1998).

9) *"Progress in organic photorefractive material development,"* B. Kippelen, J. A. Herlocker, J.-L. Maldonado, K. B. Ferrio, E. Hendrickx, S. Mery, A. Golemme, S. R. Marder, and N. Peyghambarian, SPIE Vol. 3471, 22-28 (1998).

10) *"Progress in organic photorefractive material development,"* B. Kippelen, J. A. Herlocker, J.-L. Maldonado, K. B. Ferrio, E. Hendrickx, S. Mery, A. Golemme, S. R. Marder, and N. Peyghambarian, SPIE Vol. 3471, 22-28 (1998).

11) *"Molecular self-assembly routes to optically functional thin films: electroluminescent multilayer structures,"* W. Li, J. E. Malinsky, H. Chou, W. Ma, L. Geng, T. J. Marks, G. E. Jabbour, S. E. Shaheen, B. Kippelen, N. Peyghambarian, and N. R. Armstrong, *Mat. Res. Soc. Symp. Proc.* Vol. 488, p. 385-393, Materials Research Society (1998).

12) *"Semiconducting conjugated polymers: light amplification and lasing,"* A. Schülzgen, Ch. Spiegelberg, M. M. Morrell, S. B. Mendes, P. M. Allemand, Y. Kawabe, M. Kuwata Gonokami, S. Honkanen, M. Fallahi, B. Kippelen, and N. Peyghambarian, SPIE Proceedings, vol. 3281, p. 192 (1998).

13) *"Effects of insulating layers and modified hole transporters on the performance of organic electroluminescent devices,"* G. E. Jabbour, R. Schlaf, N. R. Armstrong, B. Kippelen, and N. Peyghambarian, SPIE Proceedings, Polymer Photonic Devices, vol. 3281 p. 182 (1998).

14) *"Molecular self-assembly approaches to organic LED structures,"* T. J. Marks, H.Chou, W. Ma, N. Peyghambarian, B. Kippelen, S. Shaheen, and N. R. Armstrong, SPIE Proceedings, Polymer Photonic Devices, vol. 3281, p. 148 (1998).

15) *"Whispering-gallery modes in microring lasers made from conjugated polymers,"* Ch. Spiegelberg, A. Schülzgen, Y. Kawabe, S. Honkanen, P. M. Allemand, B. Kippelen, M. Kuwata-Gonokami, K. Takeda, and N. Peyghambarian, CLEO '98, Technical Digest Series Vol. 6, p. 486 (1998).

16) *"Fabrication of micro-pixel arrays of bright organic electroluminescent devices,"* D. L. Mathine, G. E. Jabbour, M. M. Morrell, S. E. Shaheen, Y. Kawabe, B. Kippelen, N. Peyghambarian, CLEO '98, Technical Digest Series Vol. 6, p. 7 (1998).

17) *"Effects of ionization potential of the hole transport layer on the electroluminescent characteristics of organic light-emitting devices,"* B. Kippelen, G. E. Jabbour, S. E. Shaheen, M. M. Morrell, J. D. Anderson, P. Lee, E. Bellmann, S. Thayumanavan, S. Barlow, R. H. Grubbs, S. R. Marder, N. R. Armstrong, and N. Peyghambarian, Proceedings of the MRS Spring meeting, April (1999).

18) *"Stabilized response-time in a photorefractive polymer composite doped with a styrene chromophore and C_{60},"* K. B. Ferrio, J. A. Herlocker, E. Hendrickx, J. F. Wang, Y. Zhang, A. P. Persoons, N. Peyghambarian, and B. Kippelen, Conference on Lasers and Electro-optics, 2000, Technical Digest Series, p. 9, (2000).

19) *"Temperature dependence of the threshold for laser emission in polymer microlasers,"* G. Ramos-Ortiz, Ch. Spiegelberg, N. Peyghambarian, and B. Kippelen, ACS National Meeting Fall, Symposium on Organic Thin Films for Photonic Applications, *Proc. Am. Chem. Soc* 83, 233 (2000).

20) *"Photoconductive fatigue studies in fast photorefractive polymers,"* J. A. Herlocker, K.B. Ferrio, E. Hendrickx, Y. Zhang, J. F. Wang, E. Mash, N. Peyghambarian, and B. Kippelen, ACS National Meeting Fall, Symposium on Organic Thin Films for Photonic Applications, *Proc. Am. Chem. Soc* 83, 190 (2000).

21) *"Temperature dependence of the laser emission threshold in organic semiconductor lasers,"* G. Ramos-Ortiz, Ch. Spiegelberg, N. Peyghambarian, and B. Kippelen, *CLEO Technical Digest* p. 112, (2000). Doi:10.1109/CLEO.2000.906792

22) *"Photorefractive properties of polymer composites fabricated by injection molding,"* J.A. Herlocker, C. Fuentes-Hernandez, J. F. Wang, N. Peyghambarian, Y. Zhang, S. R. Marder, and B. Kippelen, *CLEO Technical Digest* p. 399 (2001). Doi:10.1063/1.1451990

23) "*Optimization of photorefractive polymers doped with styrene-based chromophores,"* C. Fuentes-Hernandez, J. A. Herlocker, J. F. Wang, N. Peyghambarian, Y. Zhang, S. R. Marder, and B. Kippelen, SPIE Vol. 4279, p. 63 (2001).

24) *"Hole mobility in substituted N, N'-bis-(m-tolyl)-N-N'-diphenyl-1,1'-biphenyl-4,4'-diamine (TPD) derivatives doped poly(styrene) (PS),"* M. Bishop, J. L. Maldonado, C. Fuentes-Hernandez, B. Domercq, S. Barlow, S. Thayumanavan, M. Malagoli, M. Manoharan, J. -L. Brédas, S. R. Marder, and B. Kippelen, Proceedings of IS&T's NIP18: The International Conference on Digital Printing Technologies, p. 413-417, (2002).

25) *"Dipole-dipole interaction between a fluorescent dye and a phosphorescent dopant in solid thin films: a concentration and excitation intensity study,"* G. Ramos-Ortiz, Y. Oki, B. Domercq, B. Kippelen, Proceedings of IS&T's NIP18: The International Conference on Digital Printing Technologies, p. 418-423 (2002).

26) *"Photo-crosslinkable polymers as hole transport materials for organic light-emitting diodes,"* B. Domercq, R. D. Hrera, N. Larribeau, J. N. Haddock, Y. Zhang, S. R. Marder, and B. Kippelen, SPIE Vol. 4642, 88-96 (2002).

IV.D.3 Conference Presentations without Proceedings (since 1997)

1) *"Design of second-order NLO chromophores for electro-optic applications,"* S. Thayumanavan, K. Staub, J. Mendez, A. K. Y. Jen, L. R. Dalton, S. Ermer, B. Kippelen, N. Peyghambarian, and S. R. Marder, MRS Fall Meeting, Boston, MA, Dec. (1997).

2) *"Ultra-bright and highly efficient organic electroluminescent devices with Al cathode,"* G. E. Jabbour, Y. Kawabe, S. E. Shaheen, J. F. Wang, M. M. Morrell, B. Kippelen, and N. Peyghambarian, Postdeadline paper CPD19, CLEO'97, Baltimore, MD (1997).

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181) *"Engineering cellulose nanomaterial substrates for flexible electronics,"* Y. Zhou, C. Fuentes-Hernandez, T. M. Khan, J. -C. Liu, J. Hsu, J. W. Shim, A. Dindar, J. P. Youngblood, R. J. Moon, and B. Kippelen, 61st Annual AVS International Symposium and Exhibition (AVS 2014), Baltimore, MA, Nov. 9-14 (2014).

182) *"All-plastic organic photovoltaic cells with a photovoltaic dynamic range of five orders of magnitude,"* Y. Zhou, T. M. Khan, J. W. Shim, A. Dindar, C. Fuentes-Hernandez, and B. Kippelen, SPIE Optics and Photonics annual meeting, San Diego, CA, Aug. 17-21 (2014).

183) *" Stable organic-based label-free chemical and biological sensors for aqueous environments,"* M. Yun, C. Fuentes-Hernandez, A. Sharma, D. K. Hwang, A. Dindar, S. Singh, S. Choi, and B. Kippelen, SPIE Optics and Photonics annual meeting, San Diego, CA, Aug. 17-21 (2014).

184) "*Organic photovoltaic cells with stable top metal electrodes modified with polyethylenimine* T. M. Khan, Y. Zhou, A. Dindar, J. W. Shim, C. Fuentes-Hernandez, and B. Kippelen, SPIE Optics and Photonics annual meeting, San Diego, CA, Aug. 17-21 (2014).

185) *"Organic transistor circuit implementation using reverse stamping for interconnections between electrodes,"* S. Choi, C. Fuentes-Hernandez, M. Yun, A. Dindar, T. M. Khan, C. -Y.

Wang, and B. Kippelen, SPIE Optics and Photonics annual meeting, San Diego, CA, Aug. 17-21 (2014).

186) *"Highly efficient green inverted top-emitting light-emitting diodes on shape memory polymer substrates for flexible electronic applications,"* M. P. Gaj, C. Fuentes-Hernandez, A. Wei, W. Voit, B. Kippelen, 2015 FlexTech Conference, Monterey, CA, Feb. 23-26 (2015).

187) "*Stable top-gate organic field-effect transistors on cellulose nanocrystal substrates",* C. -Y. Wang, C. Fuentes-Hernandez, A. Dindar, S. Choi, J.-C. Liu, J. P. Youngblood, R. J. Moon, B. Kippelen, TAPPI International Conference on Nanotechnology for Renewable Materials, Atlanta, GA, Jun. 22-25 (2015).

188) *"Top-gate organic field-effect transistors and circuits on shape-memory polymer substrates,"* S. Choi, C. Fuentes-Hernandez, C. -Y. Wang, A. Wei, W. Voit, B. Kippelen, SPIE Optics and Photonics annual meeting, San Diego, CA, Aug. 9-13 (2015).

189)*"Creating thin film hybrid moisture barriers for packaging organic electronic devices,"* A. Kumar, C. Fuentes Hernandez, C. Y. Wang, A. Dindar, H. Kim, B. Kippelen, S. Graham," MRS Spring 2015, San Francisco, CA, Apr. 6-10 (2015).

190)*"Organic photovoltaic devices with a single layer geometry,"* V. A. Kolesov, C. Fuentes-Hernandez, N. Aizawa, F. A. Larrain, W. -F. Chou, A. Perrotta, S. Graham, and B. Kippelen, SPIE Optics and Photonics annual meeting, San Diego, CA, Aug. 28 – Sep. 1 (2016).

191) "*Highly stable organic field-effect transistors with bilayer gate dielectrics comprised of a perfluorinated polymer and a metal-oxide nanolaminate,"* C. -Y. Wang, C. Fuentes-Hernandez, M. Yun, A. Singh, A. Dindar, S. Choi, S. Graham, and B. Kippelen, 58th Electronic Materials Conference (EMC), University of Delaware, Newark, DE, Jun. 22-24 (2016).

192) *"Thin-film large-area organic detectors for ionizing radiation,"* C. Fuentes-Hernandez, T. M. Khan, L. Diniz, J. Stooksbury, N. E. Hertel and B. Kippelen, *2016 IEEE Symposium on Radiation Measurements and Applications*, University of California Berkeley, Berkeley, CA, May 22-26 (2016).

193) *"Printed electronic devices on nanocellulose substrates: towards recyclable electronics,"* C. -Y. Wang, C. Fuentes-Hernandez, Y. Zhou, E. Najafabadi, J. -C. Liu, T. M. Khan, S. Choi, J. P. Youngblood, R. J. Moon, B. Kippelen, 2016 Flex Conference, Monterey, CA, Feb. 29 - Mar. 3 (2016).

194) *"Solution-processed organic photodetectors with high detectivity*," T. M. Khan, C. Fuentes-Hernandez, and B. Kippelen, 2016 Flex Conference, Monterey, CA, Feb. 29 - Mar. 3 (2016).

195) *"Interface engineering for flexible hybrid electronics,"* B. Kippelen, 2016 Flex Conference, Monterey, CA, Feb. 29 - Mar. 3 (2016).

196) "*Solution-based electrical doping of semiconducting polymer films and demonstration of single-layer solar cells,"* V. A. Rodriguez-Toro, V. A. Kolesov, C. Fuentes-Hernandez, W.-F. Chou, N. Aizawa, F. A. Larrain, M. Wang, A. Perrota, S. Choi, S. Graham, G. C. Bazan, T.-Q. Nguyen, S. R. Marder, and B. Kippelen, Next Generation Solar Energy (NGSE) conference, Cali, Colombia, Dec. 4 - 7 (2017).

197) *"Low-power wearable sensors enabled by large-area flexible organic photodiodes,"* C. Fuentes-Hernandez, W.-F. Chou, A. Carek, O. Inan, and B. Kippelen, presented at the 17th Annual Flexible Electronics Conference and Exhibition (2018FLEX) Monterey, CA, Feb. 12-15 (2018).

198) *"Organic photodiodes for wearable sensing platforms,"* W. F. Chou, V. A. Rodriguez-Toro, C. Fuentes-Hernandez, F. A. Larrain, A. Carek, O. Inan, and B. Kippelen Flexible Hybrid Electronics - Powering the Internet of Everything Workshop, Atlanta, GA, Nov. 6-8 (2017).

199) *"High-performance organic optoelectronics for large-area radiation detectors with low radiation damage,"* C. Fuentes-Hernandez, W.-F. Chou, X. Jia, J. Inman, N. Hertel, and B. Kippelen, presented at SPIE Optics and Photonics, Aug. 19-23, San Diego, CA, (2018).

200) *"Plastic scintillators based on polystyrene-TADF-Bismuth ternary systems for gamma-spectroscopy,"* S. Abraham, C. Fuentes-Hernandez, X. Jia, J. Inman, N. Hertel and B. Kippelen, poster presented at the 2018 STAMI Industrial Partners Day and Exposition, Atlanta, GA, Sep. 27-28 (2018).

201) *"Organic photodetectors with infrared response,"* V. A. Rodriguez-Toro, C. Fuentes-Hernandez, W.-F. Chou, F. A. Larrain, Y.-C. Chang and B. Kippelen, poster presented at the 2018 STAMI Industrial Partners Day and Exposition, Atlanta, GA, Sep. 27-28 (2018).

202) *"Printable circuits and solution-processed electronics on paper for the Internet of Things,"* C.-Y. Wang, F. A. Larrain, C. Fuentes-Hernandez, R. J. Moon and B. Kippelen, poster presented at the 2018 STAMI Industrial Partners Day and Exposition, Atlanta, GA, Sep. 27-28 (2018).

203) *"The field-effect electron mobility of the non-fullerene acceptor ITIC,"* Y. Park, C. Fuentes-Hernandez, X. Jia, F. A. Larrain, J. Zhang, S. R. Marder and B. Kippelen, poster presented at the 2018 STAMI Industrial Partners Day and Exposition, Atlanta, GA, Sep. 27-28 (2018).

204) *"A reevaluation of emissive layer design for high performance blue-emitting organic light-emitting diodes from thermally activated delayed fluorescence,"* X. Zhang, C. Fuentes-Hernandez, Y. Zhang, M. W. Cooper, S. Barlow, S. R. Marder, and B. Kippelen, poster presented at the 2018 STAMI Industrial Partners Day and Exposition, Atlanta, GA, Sep. 27-28 (2018).

205) *"Novel organic field-effect transistor-based photodetector for radiation detection,"* X. Jia, C. Fuentes-Hernandez, W.-F. Chou, J. Inman, N. Hertel and B. Kippelen, poster presented at the 2018 STAMI Industrial Partners Day and Exposition, Atlanta, GA, Sep. 27-28 (2018).

206) "*A simple and efficient solution-based technique to electrically dope organic semiconductors,"* F. A. Larrain, C. Fuentes-Hernandez, W.-F. Chou, V. A. Rodriguez-Toro and B. Kippelen, 235th Meeting of The Electrochemical Society, 7th International Symposium on Organic Semiconductor Materials, Devices and Processing, Dallas TX, May 26 - 31 (2019).

207) *"A new assessment of the performance of low-noise organic photodetectors,"* C. Fuentes-Hernandez, W.-F. Chou, V. A. Rodriguez-Toro, Y. Park, Y.-C. Chang, F. A. Larrain, and B. Kippelen, submitted to CLEO, to be held during May 9-14, San Jose, CA (2021).

208) *" OptoSense: towards ubiquitous self-powered ambient light sensing surfaces,"* D. Zhang, J.W. Park, Y. Zhang, Y. Zhao, Y. Wang, Y. Li, T. Bhagwat, W.-F. Chou, X. Jia, B. Kippelen, C. Fuentes-Hernandez, T. Starner, and G. D Abowd, Proc. Association for

Computing Machinery Interact. Mob. Wearable Ubiquitous Technol. Vol. 4, Article 103, September (2020). Doi: 10.1145/3411826

IV.D.4 Invited Seminar and Reviews Presentations (since 1995)

1) "*High efficiency guest/host photorefractive polymers,"* B. Kippelen, DOD/MOD Photorefractive Workshop, Wright Patterson Air Force Base, Dayton, OH, Aug. 16 (1995).

2) "*New Photorefractive Materials for Holographic Storage,"* B. Kippelen, Workshop on High Density Optical Data Storage, Stanford, CA, Sep. 20 (1995).

3) "*Polymers for photorefractive and light emitting applications,"* B. Kippelen, Naval Research Laboratories, Washington DC, Oct. 18 (1995).

4) *"Polymers for optoelectronic applications,"* B. Kippelen, DARPA Optoelectronic Materials Center, Annual review meeting, Palo Alto, CA, Apr. 18 (1996).

5) *"Quantum dots and advanced polymers,"* B. Kippelen, Photonics Technology Applications Review, BMDO/AFOSR, Tucson, AZ, Nov. 6-7 (1996).

6) "*Recent advances in photorefractive and light-emitting polymers,"* B. Kippelen, Kodak, Rochester, NY, Jul. 9 (1997).

7) *"Advanced organic materials for optical processing and display applications,"* B. Kippelen, Toray Industries, Otsu, Shiga, Japan, Jul. 22 (1997).

8) *"Recent advances in photorefractive polymers and their applications,"* B. Kippelen, RIKEN, Tokyo, Japan, Jul. 23 (1997).

9) *"Photorefractive polymers for storage,"* B. Kippelen and N. Peyghambarian, Industrial Advisory Board meeting of the Optical Data Storage Center, Optical Sciences Center, The University of Arizona, Tucson, AZ, Oct. 6 (1997).

10) *"Recent advances in photorefractive polymers and liquid crystals,"* B. Kippelen, Kent State University, Kent, OH, Oct. 8 (1997).

11) *"Photorefractive polymers and liquid crystals for photonic applications,"* B. Kippelen, UNAM, Mexico City, Mexico, Oct. 23 (1997).

12) *"Organic light-emitting diodes and lasers for display applications,"* B. Kippelen, UNAM, Mexico City, Mexico, Oct. 24 (1997).

13) "*Advanced organic molecules and polymers for photonic applications,"* B. Kippelen, University of Leuven, Leuven, Belgium, Dec. 18 (1997).

14) *"Organic LEDs and lasers,"* B. Kippelen, Center for Advanced Studies Workshop, University of New Mexico, Albuquerque, NM, Mar. 19-20 (1998).

15) *"Photorefractive and light-emitting organic materials and related devices,"* B. Kippelen, NRC Conference, Ottawa, Canada, Dec. 4-5 (1998).

16) *"Polymer photonics,"* B. Kippelen, Arizona/Los Alamos Days meeting, Applied Mathematics Department, The University of Arizona, Tucson, AZ, Jan. 13 (1999).

17) *"Recent advances in organic light-emitting diodes,"* B. Kippelen, The Knowledge Foundation, San Diego, CA, Apr. 26 (1999).

18) *"Organic Photonic Materials and Technologies,"* B. Kippelen, Militarily Critical Technologies Review, Institute for Defense Analysis Review, Tucson, AZ, May 18 (1999).

19) *"Towards an organic optoelectronics technology: recent advances in photorefractive and electroluminescent polymers,"* B. Kippelen, IPCMS, University of Strasbourg, France, Jun. 17 (1999).

20) *"Towards an organic optoelectronics technology: recent advances in photorefractive and electroluminescent polymers,"* B. Kippelen, Corning Europe, Avon, France, Jun. 24 (1999).

21) *"Towards an organic optoelectronics technology: recent advances in photorefractive and electroluminescent polymers,"* B. Kippelen, Thomson-CSF, LCR, Chateau de Corbeville, France, Jun. 25 (1999).

22) *"Towards an organic optoelectronics technology: recent advances in photorefractive and electroluminescent polymers,"* B. Kippelen, VUB, University of Brussels, Brussels, Belgium, Jun. 29 (1999).

23) *"Recent advances in organic electroluminescent materials and devices,"* B. Kippelen, eMagin Corp., Hopewell Junction, NY, Aug. 30 (1999).

24) *"Recent advances in photorefractive and electroluminescent polymers,"* B. Kippelen, Northwestern University, Evanston, IL, Sep. 27 (1999).

25) *"Polymer optoelectronics,"* B. Kippelen, Materials Chemistry Initiative, Southern University at Carbondale, 2nd Annual Southern Illinois Materials Chemistry Conference, Carbondale, IL, Oct. 24 (1999).

26) *"Plastic optoelectronic devices: tailoring the electronic properties of organic molecules for devices with improved performance,"* B. Kippelen, University of Munich, Germany, Jun. 30 (2000).

27) *"Polymer optics,"* B. Kippelen, University of Washington, Seminar Series in Materials Science, Seattle, WA, Feb. 26 (2001).

28) *"Polymer optics,"* B. Kippelen, Arizona Research Forum, Nanotechnology, The University of Arizona, Tucson, AZ, Mar. 21 (2001).

29) *"Materials for plastic electronics,"* B. Kippelen, Workshop on Plastic Electronics, Corning, NY, Oct. 15 (2001).

30) *"Plastics for optics and electronics: Can carbon compete with silicon?",* B. Kippelen, seminar at ETH Zurich, Zurich, Switzerland, Jun. 13 (2002).

31) *"Plastics for optics and electronics: Can carbon compete with silicon?"* B. Kippelen, National Conference of the American High IQ Society Mensa, Scottsdale, AZ, Jul. 4 (2002).

32) *"Organic semiconductors and their applications,"* B. Kippelen, Physics Colloquium, Department of Physics, University of Arizona, Tucson, AZ, Nov. 22 (2002).

33) *"Organic semiconductors and their applications,"* B. Kippelen, Photonics Initiative Workshop, Tucson, AZ, Jan. 23 (2003).

34) *"Organic electroluminescent materials and devices for display applications,"* B. Kippelen, Durel Corp. Technology Conference, Chandler, AZ, Feb. 19 (2003).

35) "O*rganic photovoltaics based on self-assembled mesophases,"* B. Kippelen, DOE National Center for Photovoltaics and Solar Program Review Meeting, Denver, CO, Mar. 25 (2003).

36) "*Tailoring the morphology and electronic properties of organic semiconducting materials for optoelectronic applications,"* B. Kippelen, NSF Workshop on Fundamental Research Needs in Photonic Materials Synthesis and Processing at the Interface, Center for Optoelectronics and Imaging, University of Rochester, Rochester, NY, Apr. 28 (2003).

37) "*Development of organic materials for electronics,"* B. Kippelen, Review of the Center for Material Development in Space, University of Alabama at Huntsville, Huntsville, AL, Nov. 18 (2003).

38) "*Organic solar cells: promise and progress,"* B. Kippelen, Center for Nanoscale Systems, Seminar Speaker, Cornell University, Ithaca, NY, Dec. 2 (2004).

39) "*Organic semiconductors and their applications,"* B. Kippelen, COPE Seminar Series, Georgia Institute of Technology, Atlanta, GA, Oct. 4 (2004).

40) "*Organic electronics: progress and challenges,"* B. Kippelen, Imperial College, London, UK, Jul. 15 (2005).

41) *"A flexible future: organic solar cells and plastic chips,"* B. Kippelen, Homecoming seminar series, Organized by the Alumni Association, Georgia Tech, Atlanta, GA, Oct. 28 (2005).

42) "*Organic electronics: progress and challenges,"* B. Kippelen, Thales Research and Technology (TRT), Domaine de Corbeville, Orsay, France, Mar. 24 (2005).

43) *"Organic electronics: progress and challenges,"* B. Kippelen, Institut d'Alembert, Laboratoire de Physique Quantique et de Moleculaire, Ecole Normale Superieure, Cachan, France, Mar. 23 (2005).

44) *"Organic electronics: progress and challenges,"* B. Kippelen, Institut de Physique et Chimie des Materiaux, CNRS, Universite Louis Pasteur, Strasbourg, France, Mar. 21 (2005).

45) *"Organic solar cells: promise and progress,"* B. Kippelen, Laboratory for Physical Sciences, National Security Agency and University of Maryland, Seminar Speaker, College Park, MD, Feb. 16 (2005).

46) *"Organic electronics: progress and promise,"* B. Kippelen, Graduate Student Seminar Series, Georgia Institute of Technology, Sep. 14, (2005).

47) "*Organic photovoltaics: promise and challenges,"* B. Kippelen, Seminar at Shanghai Jiao Tong University (SJTU), Shanghai, China, Nov. 1 (2005).

48) *"Organic photovoltaics: promise and challenges,"* B. Kippelen, Seminar at Wuhan University, Wuhan, China, Nov. 3 (2005).

49) *"Organic electronics: progress and promise,"* B. Kippelen, Seminar, Yonsei University, Seoul, S. Korea, Jul.12, 2006.

50) *"Printable organic solar cells: progress and challenges,"* B. Kippelen, Seminar, Hewlett-Packard, Corvallis, OR, May 25 (2006).

51) *"Organic optoelectronics at Georgia Tech,"* B. Kippelen, Bio-X workshop, Wright Patterson Air Force Base, Dayton, OH, May 18 (2006).

52) *"Organic electronics: progress and promise,"* B. Kippelen, Graduate Student Seminar Series, Georgia Institute of Technology, Feb. 15 (2006).

53) *"Engineering inside the M building: Organic optoelectronics,"* B. Kippelen, College of Science Advisory Board Meeting, Atlanta, GA, Oct. 27 (2006).

54) *"Organic semiconductors for portable printed electronics,"* B. Kippelen, Seminar at Imperial College, London, UK, Jul. 6 (2007).

55) *"Organic photovoltaic devices for low-cost portable power,"* B. Kippelen, Institut D'Alembert, Ecole Normale Superieure de Cachan, Cachan, France, Mar. 22 (2007).

56) "*Innovations from printable nanostructured materials: from discovery to commercialization,"* B. Kippelen, Thales France, Thales Research Center, Palaiseau, France, Mar. 23 (2007).

57)*"The dawn of organic optoelectronics,"* B. Kippelen, Lintec Corporation, Warabi-shi, Saitama, Japan, Nov. 28 (2007).

58) "*The dawn of organic optoelectronics,"* B. Kippelen, University of Louisville, Kentucky, KY, Nov. 9 (2007).

59) *"The dawn of organic optoelectronics,"* B. Kippelen, University of Mons-Hainaut, Mons, Belgium, Oct. 31 (2007).

60) *"The dawn of organic optoelectronics,"* B. Kippelen, IMEC, Leuven, Belgium, Oct. 31 (2007).

61) "*The dawn of organic optoelectronics,"* B. Kippelen, Institute of Optics, Fine Mechanics, and Physics, Chinese Academy of Sciences, Cahngchun, Jilin, P.R. China, Oct. 10 (2007).

62) *"The dawn of organic optoelectronics,"* B. Kippelen, School of ECE Seminar Series, Georgia Institute of Technology, Atlanta, GA, Sep. 26 (2007).

63) *"The dawn of organic optoelectronics,"* B. Kippelen, Nano@Tech Seminar Series, Microelectronics Research Center, Georgia Institute of Technology, Atlanta, GA, Aug. 14 (2007).

64) "*Organic semiconductors for portable printed electronics,"* B. Kippelen, Imperial College, London, UK, July 6 (2007).

65) *"Organic photovoltaics: status and promise,"* B. Kippelen, University of Central Florida, Center for Electro-Optics and Lasers, Orlando, FL, Nov. 21 (2008).

66) *"Organic photovoltaics: status and promise,"* B. Kippelen, National Environmentally Sound Production Agriculture Laboratory, The University of Georgia, Tifton, GA, Oct. 2 (2008).

67) *"Organic photovoltaics: status and promise,"* B. Kippelen, College of Optical Sciences, University of Arizona, Tucson, AZ, Sep. 19 (2008).

68) *"Printable organic optoelectronics: status and promise,"* B. Kippelen, School of ECE Seminar Series, Georgia Institute of Technology, Atlanta, GA, Sep. 10 (2008).

69) *"The dawn of organic optoelectronics,"* B. Kippelen, School of ECE Seminar Series, Georgia Institute of Technology, Atlanta, GA, Jan. 16 (2008).

70)*"Organic photovoltaics: status and promise,"* B. Kippelen, Auburn University, Auburn, AL, Aug. 27 (2009).

71) *"Organic semiconductors for flexible optoelectronics,"* B. Kippelen, Imperial College London, London, UK, Jul. 14 (2009).

72) *"Organic photovoltaics: status and promise,"* B. Kippelen, Student Faculty Committee, School of ECE, Georgia Tech, Atlanta, GA, Apr. 16 (2009).

73) *"Organic photovoltaics: status and promise,"* B. Kippelen, University of Tennessee, Department of Materials Science and Engineering, Knoxville, TN, Feb. 24 (2009).

74) *"Printable organic optoelectronics: status and promise,"* B. Kippelen, School of ECE Seminar Series, Georgia Institute of Technology, Atlanta, GA, Feb. 14 (2009).

75) *"Heterointerfaces in printed organic electronic devices,"* B. Kippelen, Commonwealth Scientific and Research Organization (CSIRO), Molecular and Health Technologies, Clayton South, Australia, Feb. 4 (2009).

76) *"Printed electronics: recent progress,"* B. Kippelen, Kimoto Tech Inc., Cedartown, GA, Oct. 2 (2009).

77) *"Organic photovoltaics: a myth or reality?,"* B. Kippelen, School of ECE Seminar Series, Georgia Institute of Technology, Atlanta, GA, Sep. 22 (2010).

78) *"Organic photovoltaics: status and promise,"* B. Kippelen, Department of Materials Science, University of Florida, Gainesville, FL, Sep 14 (2010).

79) *"Interfaces in organic photovoltaics,"* B. Kippelen, Sustainable Energy Future: Focus on Organic Photovoltaics, Oak Ridge National Laboratories (ORNL), Knoxville, TN, Sep. 15 - 16 (2010).

80) *"Tailoring interfaces in organic and printed electronics,"* B. Kippelen, 9th North American Organic Electronics Association (OE-A) Working Group Meeting, Atlanta, GA, Mar. 5 (2010).

81) *"Organic photovoltaics,"* Invited seminar, Energy Forum for Energy and the Environment, Georgia Tech, Feb. 11 (2010).

82) *"Organic photovoltaics: a myth or reality?,"* B. Kippelen, School of ECE Seminar Series, Georgia Institute of Technology, Atlanta, GA, Feb. 4 (2011).

83) *"Organic photovoltaics: status and promise"* B. Kippelen, OSA International Lecturer Program, Department of Materials Science, Photonics and Mathematical Optics Group, Technologico de Monterrey, Monterrey, Mexico, Feb. 17 (2011).

84) *"Organic semiconductors: toward flexible optoelectronics,"* B. Kippelen, School of ECE Seminar Series, Georgia Institute of Technology, Atlanta, GA, Nov. 9 (2011).

85) *"Organic semiconductors: toward flexible optoelectronics,"* B. Kippelen, School of ECE Seminar Series, Georgia Institute of Technology, Atlanta, GA, Feb. 15 (2012).

86) *"Advances in printed organic electronics through interface modification."* B. Kippelen, Princeton Institute for the Science and Technology of Materials & Princeton Center for Complex Materials, Spring 2012 Seminar Series, Princeton, NJ, Mar. 14 (2012).

87) *"The future of organic optoelectronics,"* B. Kippelen, PSA Peugeot Citroen, Paris, France, Jun. 22 (2012).

88) *"Organic semiconductors: toward flexible optoelectronics,"* B. Kippelen, Korea University, Sejong Campus, Sejong, Korea, Aug. 30 (2012).

89) *"New materials and device architectures for energy and flexible electronics,"* B. Kippelen, Samsung Institute of Advanced Science and Technology (SAIT), Suwan City, Korea, Aug. 31 (2012).

90) *"Organic semiconductors for flexible printed electronics,"* B. Kippelen, Nano@Tech Seminar Series, Georgia Institute of Technology, Atlanta, GA, Sep. 11 (2012).

91) *"Organic semiconductors for flexible printed electronics,"* B. Kippelen, School of ECE Graduate Seminar Series, Georgia Institute of Technology, Atlanta, GA, Oct. 3 (2012).

92) *"Progress in organic optoelectronics for automotive applications,"* B. Kippelen, France-Atlanta 2012, Atlanta, GA, Oct. 26 (2012).

93) *"Organic semiconductors for flexible printed electronics,"* B. Kippelen, School of ECE Graduate Seminar Series, Georgia Institute of Technology, Atlanta, GA, Feb. 6 (2013).

94) *"Advances in organic semiconductors for flexible printed electronics,"* B. Kippelen, Ecole Normale Supérieure de Cachan, Cachan, France, Jul. 2 (2013).

95) *"Organic semiconductors for flexible printed electronics,"* B. Kippelen, School of ECE Graduate Seminar Series, Georgia Institute of Technology, Atlanta, GA, Sep. 4 (2013).

96) *"Organic photovoltaics: new strategies and old concepts,"* B. Kippelen, ANSER Solar Energy Research Center, Argonne National Laboratories and Northwestern University, Evanston, IL, Oct. 3 (2013).

97) *"Organic photovoltaics: status and outlook,"* B. Kippelen, Electronic Science and Technology Division Colloquium, US Naval Research Laboratory, Washington, DC, Jan. 21 (2014).

98) *"Organic semiconductors for flexible printable optoelectronics,"* B. Kippelen, Winter School, Modern Optics and Photonics, Unicamp, Campinas, Brazil, Jul. 30 (2014).

99) *"Strategies to control interfaces in organic electronic devices,"* B. Kippelen, IEN Technical Seminar Series on Advanced Fabrication, Georgia Institute of Technology, Atlanta, GA, Oct. 16 (2014).

100) *"Organic semiconductors for energy efficiency,"* B. Kippelen, The Institute for Energy Efficiency Seminar Series, University of California at Santa Barbara (UCSB), Santa Barbara, CA, Jan. 21 (2015).

101) *"The rise of organic photonics and electronics,"* B. Kippelen, Nanoscience Technology Center Distinguished Seminar Series, University of Central Florida (UCF), Orlando, FL, Mar. 27 (2015).

102) *"Organic semiconductors for energy efficiency,"* B. Kippelen, Seminar at Wuhan University, Wuhan, PR China, Jun. 17 (2015).

103) *"Adjusting interfaces in organic printed electronics"* B. Kippelen, Seminar at Ecole Polytechnique Federale de Lausanne (EPFL), Lausanne, Switzerland, Jul. 9 (2015).

104) *"The rise of organic photonics and electronics,"* B. Kippelen, the inaugural Harrison-MacRae lecture in Physics and Chemistry and Keynote lecture of the 8th Queen's Graduate Chemistry Symposium, Queen's University, Kingston, Ontario, Canada, Sep. 11 (2015).

105) *"Center for advanced organic photovoltaics: an overview and recent highlights,"* B. Kippelen, Office of Naval Research, Division 332 Naval Materials Seminars, Washington DC, Sep. 14 (2015).

106) "*New frontiers in organic electronics*," B. Kippelen, OSA Traveler Lecture, Southern University of Scince and Technology (SUSTEch), Shenzhen, People's Republic of China, Nov. 8 (2016).

107) "*New frontiers in organic electronics*," B. Kippelen, Seminar at Georgia Tech Shenzhen, Shenzhen, People's Republic of China, Nov. 8 (2016).

108) *"New frontiers in organic electronics,"* B. Kippelen, Seminar at the Korean Advanced Institute of Science and Technology (KAIST), Daejeon, Korea, Nov. 4 (2016).

109) *"Organic electronics: finding simplicity in complexity,"* B. Kippelen, Seminar to the Faculty of Mathematics and Natural Sciences, Quantum Matter and Materials, University of Cologne, Cologne, Germany, May 25 (2016).

110) *"Interface engineering for organic electronics,"* B. Kippelen, Inauguration of the Center for Organic Processing (COPT), University of Cologne, Cologne, Germany, May 20 (2016).

111) *"New frontiers in organic electronics,"* B. Kippelen, Seminar at the Korean Advanced Institute of Science and Technology (KAIST), Daejeon, Korea, Nov. 4 (2016).

112) "*New frontiers in organic electronics*," B. Kippelen, Seminar at Georgia Tech Shenzhen, Shenzhen, People's Republic of China, Nov. 8 (2016).

113) "*New frontiers in organic electronics*," B. Kippelen, OSA Traveler Lecture, Southern University of Science and Technology (SUSTEch), Shenzhen, People's Republic of China, Nov. 8 (2016).

114) " *Global engagement at Georgia Tech – Strategies and lessons learned,"* Y. Berthelot, A. Henry, and B. Kippelen, Georgia Tech Seminar Series "Demystifying Tech, Atlanta, GA, Jan. 19 (2017).

115) "*Innovations in organic light-emitting diode technologies*," B. Kippelen, OLED Stakeholders Meeting, 3M Innovation Center, Minneapolis, MN, Oct. 10-11 (2017).

116) *"Organic semiconductors: a blessing and a curse,"* B. Kippelen, Hybrid Inorganic/Organic Systems for Optoelectronics, Collaborative Research Center 951 Seminar Series, Berlin, May 29, (2017).

117) "*Organic photonics and electronics: the endless frontier,"* B. Kippelen, Birck Nanotechnology Center Distinguished Lecture, Purdue University, West Lafayette, IN, Dec. 3 (2018).

118) "*Organic photonics and electronics: the endless frontier,"* B. Kippelen, Invited Seminar, Dongguk University, Seoul, Korea, Oct. 18 (2018).

119) "*Organic photonics and electronics: the endless frontier,"* B. Kippelen, Invited Seminar, Korean Advanced Institute for Science and Tehcnology (KAIST), Daejeon, Korea, Oct. 12 (2018).

120) *"New frontiers in printed organic optoelectronics*," Invited talk, Kimoto Technical Conference, Kimoto Tech, Cedartown, GA, Oct. 3 (2018).

121) "*New frontiers in organic optoelectronics*," B. Kippelen, Invited seminar, Institute of Chemical Sciences (ICS), Heriot Watt University, Edinburgh, Scotland, May 29 (2018).

122) *"High performance electronics: can carbon compete with silicon?,"* B. Kippelen, 2nd Annual James D. Meindl Distinguished Lecture Series and Technical Exchange Conference 2018, Institute of Electronics and Nanotechnology, Georgia Tech, Atlanta, GA May 21-22 (2018).

123) *"Organic photonics and electronics: the endless frontier,"* B. Kippelen, Distinguished Birck Nanotechnology Center Lecture, Purdue University, West Lafayette, IN, Dec. 3 (2018).

124) *"Organic photonics and electronics: the endless frontier,"* B. Kippelen, Invited Seminar, Dongguk University, Seoul, Korea, Oct. 18 (2018).

125) *"Organic photonics and electronics: the endless frontier,"* B. Kippelen, Invited Seminar, Korean Advanced Institute for Science and Tehcnology (KAIST), Daejeon, Korea, Oct. 12 (2018).

126) *"New frontiers in printed organic optoelectronics,"* B. Kippelen, Invited talk, Kimoto Technical Conference, Kimoto Tech, Cedartown, GA, Oct. 3 (2018).

127) *"New frontiers in organic optoelectronics,"* B. Kippelen, Invited seminar, Institute of Chemical Sciences (ICS), Heriot Watt University, Edinburgh, Scotland, May 29 (2018).

128)) *"Organic photonics and electronics: the endless frontier,"* B. Kippelen, Air Force Research Laboratories, Wright Patterson Air Force base, Dayton, OH, May 13 (2019).

129) *"Organic semiconductors in the fourth industrial revolution,"* B. Kippelen, Wuhan Optoelectronics Forum, invited lecture #156, Huazhong University of Science and Technology, May 27, Wuhan, China (2019).

130) *"Navigating academia: excerpts from an unlikely journey,"* B. Kippelen, Success Seminar Series, Women in Material Science and Engineering (WiMSE), Feb. 27, Atlanta, GA, (2019).

IV.E Other Scholarly Accomplishments

IV.E.1 Patents issued

1) *"Azo-dye-doped photorefractive polymer composites for holographic testing and image processing,"* K. Meerholz, B. Kippelen**,** N. Peyghambarian, S. R. Lyon, H. K. Hall Jr., A. B. Padias, Sandalphon, and B. L. Volodin, US patent # 5,744,267, issued Apr. 28 (1998).

2) *"Process of changing the refractive index of a composite containing a polymer and a compound having large dipole moment and polarizability and applications thereof,"* S. R. Marder, N. Peyghambarian, B. Kippelen, B. Volodin, and E. Hendrickx, US patent # 6,090,332, issued Jul. 18 (2000).

3) *"Organic light-emitting diodes and methods for assembly and emission control,"* T. J. Marks, J. E. Malinsky, B. Kippelen, N. Peyghambarian, and G. E. Jabbour, US patent # 6,399,221, issued Jun. 4 (2002).

4) *"Thermally stable molecules with large dipole moments and polarizabilities and applications thereof,"* S. R. Marder, N. Peyghambarian, B. Kippelen, B. Volodin, and E. Hendrickx, US patent # 6,402,994, issued Jun. 11 (2002).

5) *"Cathode including a mixture of a metal and an insulator for organic devices and method of making the same,"* G. E. Jabbour, N. Peyghambarian, and B. Kippelen, US patent # 6,525,466B1, issued Feb. 25 (2003).

6) *"Polymer, producing method thereof, and photorefractive composition,"* M. Yamamoto, S.R. Marder, and B. Kippelen, US patent # 6,610,809B1, issued Aug. 26 (2003).

7) "*Photorefractive composition,"* M. Yamamoto, S.R. Marder, B. Kippelen, US patent #6,653,421, issued Nov. 25 (2003).

8) *"Polydioxaborines,"* S. Marder, B. Kippelen, K. Cammack, US patent #6,916,894, issued Jul. 12 (2005).

9) *"Hybrid electro-active lens"* G. Meredith, B. Kippelen, and D. Mathine, US patent #7,019,890, issued Mar. 28 (2006).

10) *"Photorefractive composite,"* M. Yamamoto, P. Wang, S.R. Marder, B. Kippelen, US patent #7,067,230, issued Jun. 27 (2006).

11) *"Third-order optical autocorrelator for time-domain operation at the telecommunication wavelengths,"* G. Ramos-Ortiz, M. Cha, S. R. Marder, B. Kippelen, US patent #7,612,935, issued Nov. 3 (2009).

12) *"Thin flexible radio frequency identification tags and subsystems thereof,"* B. Kippelen, G. D. Durgin, US patent #7,642,918, issued Jan. 5 (2010).

13) *"Transition-metal charge-transport materials, methods of fabrication thereof, and methods of use thereof,"* S. Marder, J.Y Cho, B. Kippelen, B. Domercq, S. Barlow, US patent #7,842,830 B2, issued Nov. 30 (2010).

14) *"Charge-transport materials, methods of fabrication thereof, and methods of use thereof,"* S.R. Marder, B. Kaafarani, S. Barlow, B. Kippelen, B. Domercq, Q. Zhang, T. Kondo, US patent #7,994,423, issued Aug. 9 (2011).

15) *"Coronene charge-transport materials, methods of fabrication thereof, and methods of use thereof,"* S.R. Marder, Z. An, J. Yu, B. Kippelen, US patent #8,039,625B2, issued Oct. 18 (2011).

16) *"Perylene charge-transport materials, methods of fabrication thereof, and methods of use thereof,"* S. R. Marder, Z. An, S. Barlow, and B. Kippelen, US patent #8,344,142 B2, issued Jan. 1 (2013).

17) *"Printable thin-film transistors with high dielectric constant gate insulators and methods for producing same,"* B. Kippelen, J. Perry, S. R. Marder, P. Kim, S. Jones, J.N. Haddock, X. Zhang, B. Domercq, P. Hotchkiss, US patent #8,405,069 B2, issued Mar. 26 (2013).

18) *"Carbazole-based hole transport and/or electron blocking materials and/or host polymer materials,"* Y. Zhang, C. Zuniga, S. Barlow, B. Kippelen, A. Haldi, B. Domercq, M. Weck, A. Kimyonok, US patent #8,546,505 B2, issued Oct. 1 (2013).

19) *"Stable electrodes with modified work functions and methods for organic electronic devices,"* A. Sharma, P. Hotchkiss, B. Domercq, S. R. Marder, and B. Kippelen, US patent #8,586,208 B2, issued Nov. 19 (2013).

20) *"Naphthalene diimide heterocycle naphthalene diimide oligomers as organic semiconductors and transistors thereof,"* L.E. Polander, S. -P. Tiwari, S. R. Marder, B. Kippelen, R.R. Dasari, Y. A. Getmanenko, D.-K. Hwang, and M. Fenoll, US patent #8,912,535, issued Dec. 16 (2014).

21) *"Systems and methods for producing low work function electrodes,"* B. Kippelen, C. Fuentes-Hernandez, Y. Zhou, A. Kahn, J. Meyer, J.W. Shim, S. R. Marder, US patent #9,076,768, issued July 7 (2015).

22) *"Ambipolar small molecule hosts for phosphorescent guest emitters,"* Y. Zhang, C. Zuniga, G. Deshayes, J. Leroy, S. Barlow, S.R. Marder, X. He, S.-J. Kim, B. Kippelen, US patent #9,133,177 B2, issued Sep. 15 (2015).

23) *"Recyclable organic solar cells on cellulose nanocrystal substrates,"* Y. Zhou, C. Fuentes-Hernandez, J. Youngblood, R. J. Moon, and B. Kippelen, US patent #9,203,030 B2, issued Dec. 1 (2015).

24) "*Multilayer gate dielectric field-effect transistor and manufacturing process thereof,"* D.K. Hwang, J. Kim, C. Fuentes-Hernandez, and B. Kippelen, US patent #9,368,737, issued Jun. 14 (2016).

25) *"Devices, systems and methods for ultrafast optical applications,"* B. Kippelen, C. Fuentes-Hernandez, J. J. Fan Hsu, US patent #9,658,510, issued May 23 (2017).

26) *"Devices with organic semiconductor layers electrically-doped over a controlled depth,"* B. Kippelen, N. Aizawa, C. Fuentes-Hernandez, V. Kolesov, F.A. Larrain, W.-F. Chou, J. Kido, S.R. Marder, US patent #10,763,447, issued Sep. 1 (2020).

IV.E.1 Patents pending

27) *"Stable organic thin-film transistors,"* Xiaojia Jia, Canek Fuentes-Hernandez, Bernard Kippelen, GTRC 7740 Provisional filed with USPTO Nov. 16, (2018). Serial# 62/768,483.

28) *"A method to produce high-sensitivity stable sensors,"* Wen-Fang Chou, Canek Fuentes-Hernandez, Xiaojia Jia, Bernard Kippelen, GTRC 7789 Provisional filed with USPTO Feb. 8, (2019). Serial# 62/803,360.

29) *"A self-powered conformable optical sensing surface for multitouch and in-air gesture input using organic optoelectronic devices,"* D. Zhang, D. Abowd, W.F. Chou, C. Fuentes-Hernandez, B. Kippelen, J. W. Park, E. Starner, Y. Zhao, GTRC 8226 Provisional filed with USPTO Jul. 17 (2019). Serial #62/875,039.

V. Service

V.A. Professional Contributions

LEADERSHIP ACTIVITIES IN PROFESSIONAL SOCIETIES:

1998:

- Participation in the panel review of instrumentation research proposals for the Puerto Rico Experimental Program to Stimulate Competitive Research (PR-EPSCoR), San Juan, Puerto Rico, Jul. (1998).
- Co-Chair of the SPIE Conference on *Polymer Photonic Devices,* San Jose, CA, Jan. (1998).
- Member of the Program Committee of the SPIE Conference *Organic Photorefractive Materials,* San Diego, CA, Jul. (1998).
- Member of the Program Committee for IEEE Organic Optoelectronics, Monterey, CA, Jul. 13-17 (1998).

1999:

- Chair of the SPIE Conference on *Organic Photonic Devices*, Photonic West, San Jose, CA, (1999).
- Co-chair of the symposium on *Organic Nonlinear Optical Materials and Devices,* MRS Spring Meeting, San Francisco, CA, (1999).
- Member of the Program Committee of the SPIE Conference *Organic Photorefractive Materials V,* Denver, CO, Jul. (1999).
- Member of the Program Committee for QELS, Baltimore, MD, (1999).
- Reviewer for the Air Force Office of Scientific Research (AFOSR), (1999).
- Reviewer for the European Cooperation in the Field of Scientific and Technical Research: COST Chemistry proposal, (1999).

2000:

- Member of the Program Committee of the SPIE Conference *Organic Photorefractive Materials VI,* San Diego, CA, Aug. (2000).
- Participation on the panel discussion *What is the future of LEDs in Display and Lighting,* SPIE, Photonics West San Jose, CA, Jan. (2000).
- Co-chair of the SPIE Conference on *Organic Photonic Materials and Devices II*, Photonic West, San Jose, CA (2000).
- Reviewer for the National Research Council, (2000).
- Reviewer for the Department of Energy, (2000).
- Reviewer for the Air Force Office for Scientific Research, (2000).

2001:

- Co-chair of the SPIE Conference on *Organic Photonic Materials and Devices III*, Photonic West, San Jose, CA, (2001).
- Member of the Program Committee of the SPIE Conference *Organic Photorefractive Materials VII,* San Diego, CA, Aug. (2001).
- Member of the Program Committee for CLEO, Baltimore, MD, Spring, (2001).
- Member of the Organizing Committee for *International Conference on Organic Nonlinear Optical Materials, ICONO6,* Tucson, AZ, Fall (2001).
- Member of the Program Committee of the SPIE Conference *Solid State Lighting and Displays,* Annual Meeting, San Diego, CA, (2001).
- Reviewer for NSF CAREER Chemistry, (2001).
- Reviewer for the Hebrew University of Jerusalem, (2001).

• Reviewer for the Space and Basic S&T Programs, Division of National R&D Program, KISTEP, Korea, (2001).
• Reviewer for the Petroleum Research Fund, (2001).

2002:
• Member of the Program Committee of the SPIE Conference *Organic Photorefractive Materials VIII,* Seattle, WA, Jul. (2002).
• Reviewer for the National Science Foundation, panel for Major Research Instrumentation, Washington DC, Apr. (2002).
• Co-chair of the SPIE Conference on *Organic Photonic Materials and Devices IV*, Photonic West, San Jose, CA, (2002).
• Member of the Program Committee for CLEO, Long Beach, CA, Spring (2002).
• Reviewer for Petroleum Research Fund, (2002).
• Reviewer for NSF, ECS division, (2002).
• Reviewer for the University of Connecticut, (2002).

2003:
• Program Co-chair, ILS, Annual Meeting, Tucson, AZ, Oct. (2003).
• Member of the Program Committee for CLEO, Baltimore, MD, Spring (2003).
• Member of the Program Committee of the SPIE Conference *Organic Holographic Materials and Applications,* San Diego, CA, Summer (2003).
• Reviewer for NSF, ECS Division, (2003).

2004:
• Member of the Program Committee of the SPIE Conference *Organic Holographic Materials and Applications II,* San Diego, CA, Summer (2004).
• Member of the Program Committee for CLEO, San Francisco, CA, Spring (2004).
• Reviewer for the ETH Research Commission, Swiss Federal Institute of Technology Zurich, Switzerland, Oct. (2004).
• Reviewer for the US Civilian Research and Development Foundation, 2003 Cooperative Grants program, Jun. (2004).
• Reviewer for the National Science Foundation, panel for unsolicited proposals to the ECS division, Jan. (2004).
• Member of the Program Committee for CLEO, Spring (2004).
• Reviewer for NSF, ECS Division, (2004).

2005:
• Member of the Program Committee of the SPIE Conference *Organic Holographic Materials and Applications III,* San Diego, CA, Aug. (2005).
• Guest Editor, Journal of the Society for Information Display, Special Issue on Organic-Light-Emitting Diodes, (2005).
• Reviewer for the American Chemical Society, Petroleum Research Fund, Aug. (2005).
• Reviewer for the Croucher Foundation, Hong Kong, Jan. (2005).
• Reviewer for the Initiatives for Proliferation Prevention, Feb. (2005).

2006:
• Reviewer for the American Chemical Society, Petroleum Research Fund, (2006).
• Reviewer for the Singapore Science and Engineering Research Council, (2006).
• Reviewer for the Canadian Space Agency, (2006).

• Reviewer for the US Department of Energy, Mar. (2006).
• Reviewer for the Austrian Research Fund, Mar. (2006).

2007:
• Reviewer for the Technion, Haifa, Israel, Dec. (2007).
• Reviewer for the Alberta Ingenuity Fund, Edmonton, Alberta, Canada, May (2007).
• Co-chair of the Organization Committee of the *7th European Conference on Molecular Electronics* (ECME) held in Metz, France, Sep. (2007).
• Member of the International Advisory Board for the Tenth *International Conference on Organic Nonlinear Optics* (ICONO 10), Santa Fe, NM, to be held May 18-23 (2008).
• Reviewer for the Institute for the Promotion of Innovation by Science and Technology in Flanders, Belgium, Feb. (2007).
• Member of the Program Committee of the SPIE Conference *Organic Photovoltaics VIII,* San Diego, CA, Aug. 26-30 (2007).

2008:
• Member of the International Advisory Board for the Eleventh International Conference on Organic Nonlinear Optics (ICONO 11), held in Beijing, China, Sept. (2009).
• Co-chair of the Conference *Thin-Film Transistors 2008* part of the 6th annual Flexible Displays and Electronics Conference, La Jolla, CA, Nov. 13 (2008).
• Member of the Program Committee of the SPIE Conference *Organic Photovoltaics IX,* San Diego, CA, Aug. 13 (2008).
• Reviewer for the National Science Foundation, Dec. (2008).
• Reviewer for the National Research Foundation, Clean Energy Research Programme, Singapore, Mar. (2008).
• Reviewer for Imperial College London, UK, Feb. (2008).

2009:
• Member of the Program Committee of the SPIE Conference *Organic Photovoltaics X,* San Diego, CA, Aug. 3-6 (2009).
• Member of the International Scientific Program of the *2nd International Conference on Microelectronics and Plasma Technology* (ICMAP 2009) held in Busan, Korea, Sep. 23-25 (2009).
• Member of the local Program Committee of the *9th International Conference on Functional Pi-Electron Systems*, to be held at Georgia Tech, Atlanta, GA, May (2010).
• Member of the Program Committee of the *Conference on Optical Material, Detector, Imager and Energy Conversion Technology* part of the *5th International Symposium on Advanced Optical Manufacturing and Testing Technologies* (AOMATT 2010) held Apr. 26-29 Dalian, China (2010).
• Program Chair of the Conference *Solid State and Organic Lighting (SOLED)* as part of Renewable Energy Topical Meeting of OSA, co-located with *Advanced Photonics 2010 Optics & Photonics Congress*, Karlsruhe, Germany, Jun. 21-24 (2010).
• Reviewer for the National Science Foundation, May (2009).
• Reviewer for the Research Corporation's Science Advancement Programs, Cottrell College Science Award proposals, Jan. (2009).
• Reviewer for Deutsche Forschungsgemeinschaft, Gottfried Wilhelm Leibniz Prize, Germany, Sep. (2009).
• Reviewer for the University of California, Santa Barbara, CA, Sep. (2009).
• Reviewer for the University of Florida, Aug. (2009).

• Reviewer for the Department of Energy, SBIR/STTR program part of the American Recovery and Reinvestment Act (ARRA), Oct. (2009).
• Reviewer for Case Western University, OH, Dec. (2009).

2010:
• Program Chair of the Conference *"Solid State and Organic Lighting (SOLED)"* as part of Renewable Energy topical meeting of OSA, co-located with Advanced Photonics 2010 Optics & Photonics Congress, Karlsruhe, Germany, Jun. 21-24 (2010).
• Member of the Program Committee of the Conference on Optical Material, Detector, Imager and Energy Conversion Technology part of the 5th International Symposium on Advanced Optical Manufacturing and Testing Technologies (AOMATT 2010) held in Dalian, China, Apr. 26-29 (2010).
• Member of the Program Committee of the SPIE Conference *"Organic Photovoltaics XI,"* San Diego, CA, Aug. 2010.
• General Chair of the Conference *"Solid State and Organic Lighting (SOLED)"* as part of Renewable Energy topical meeting of OSA, held in Austin, TX, Nov. 2-5 (2011).
• Reviewer for the Nebraska Center for Energy Sciences Research, University of Nebraska-Lincoln, Lincoln, NE, Oct. 2010.
• Member of the Local Organizing Committee of the International Conference on the Science and technology of Synthetic Metals (ICSM 2012), held in Atlanta, GA, Jul. 8-13 (2012).
• Reviewer for the Missouri University of Science and Technology, Sep. (2010).
• Reviewer for the Academy of Finland, Apr. (2010).
• Reviewer for the Department of Energy, Office of Energy Efficiency and Renewable Energy, Mar. (2010).
• Member of the Program Committee of the 10th Asia-Pacific Conference on Plasma Science and Technology (APCPST) held in Jeju, Korea, Jul. 4-8 (2010).

2011:
• Reviewer for the Swiss National Science Foundation, Sino-Swiss Science and Technology Cooperation Program, Jun. (2011).
• Reviewer for A-star, the Agency for Science, Technology, and Research, for the 2011 President's Science and Technology Award, Singapore, Jun. (2011).
• Member of the International Program Committee of the Asia Communications and Photonics Conference (ACP 2011), Subcommittee 6: Displays, Solid-state Lighting, Photovoltaics and Optoelectronics in Energy, Shangai, PRC, Nov. 13-16 (2011).
• Reviewer for the Koerber European Science Award 2011, Koerber Foundation, Hamburg, Germany, Apr. (2011).
• Member of the Program Committee of the SPIE Conference *"Organic Photovoltaics XII,"* held in San Diego, CA, Aug. (2011).
• Reviewer for KAUST (King Abdullah University of Science and Technology), Global Collaborative Research Program, Mar. (2011).
• Reviewer for the Indian Institute of Technology at Kanpur, Feb. (2011).

2012:
• Co-chair of Symposium H, Small Molecule Organic Solar Cells, Materials Research Society Fall Meeting, Boston, MA, Nov. 26-29 (2012).
• Academic Co-Chair for the LOPE-C 2012 conference, held in Munich, Germany, Jun. 19-21, (2012).

• Co-chair of the 6th Solvay-COPE Symposium on Organic Electronics, Pittsburgh, PA May 10-11 (2012).
• Reviewer for the DOE-BES program, Apr. (2012).
• Member of the Program Committee of the SPIE Conference *"Organic Photovoltaics XIII,"* held in San Diego, CA, Aug. 12-16 (2012).
• Member of the International Organizing Committee of the International Conference on Flexible and Printed Electronics (ICFPE), held in Tokyo, Japan, (2012).

2013:
• Member of the International Advisory Board of the symposium on Materials and Technologies for Solid-State Lighting, part of the CIMTEC series of International Conferences on Modern Materials and Technologies, to be held in Montecatini Terme, Tuscany, Italy Jun. 15-20, 2014.
• Member of the Advisory Committee of the FlexTech 2013 Conference, held in Phoenix, AZ, Jan. 29 – Feb. 1 (2013).
• Member of the Program Committee of the SPIE Conference *"Organic Photovoltaics XIV,"* held in San Diego, CA, Aug. 25-29 (2013).
• Academic Co-Chair for the LOPE-C 2013 conference, held in Munich, Germany, Jun. 11-13 (2013).
• Reviewer for the National Science Foundation (NSF), Apr. (2013).

2014:
• Member of the International Program Committee of the *"2nd Symposium on Self-Organizing Molecular Semiconductors,"* held in Tokyo, Japan, Feb. 27-28 (2014).
• Co-chair of the Program Subcommittee topic 7. Display substrates, Components and Materials, part of the International Meeting on Information Technology (IMID 2014), held in Daegu, Korea, Aug. 26-29 (2014).
• Member of the Program Committee of the SPIE Conference *"Organic Photovoltaics XV,"* held in San Diego, CA, Aug. 17-21 (2014).
• Reviewer for the University of Central Florida, Jun. (2014).
• Reviewer for the Agence Nationale de la Recherche (ANR), France, Jun. (2014).
• Reviewer for the Natural Sciences and Engineering Research Council of Canada (NSERC) Strategic Research Grants, May (2014).
• Reviewer for Imperial College London, Mar. (2014).

2015:
• Member of the International Program Committee of the *"58th Electronic Materials Conference,"* held at the University of Delaware, Neward, DE, Jun. 22-24 (2016).
• Reviewer for Arizona State University, Tempe, AZ, Aug. (2015).
• Reviewer for US-Army Research Office (ARO), May (2015).
• Reviewer for the Agence Nationale de la Recherche (ANR), France, Jun. (2015).
• Member of the Program Committee of the SPIE Conference *"Organic Photovoltaics XVI,"* held in San Diego, CA, Aug. 9-13 (2015).

2016:
• Reviewer for UC Berkeley, Berkeley, CA, Oct. (2016).
• Reviewer for The University of Michigan, Ann-Arbor, MI, Sep. (2016).
• Reviewer for the Ministry of Science Technology and Space of the State of Israel, Korea-Israel Cooperative Scientific Research Program, Aug. (2016).
• Reviewer for the US-Air Force Office of Scientific Research (AFOSR), May (2016).

• Member of the Program Committee of the SPIE Conference *"Organic Photovoltaics XVII,"* held in San Diego, CA, Aug. 27- Sep. 2 (2016).
• Member of the International Advisory Board of the International Workshop on Photonic Polymer for Innovation, held in Tochigi, Japan, Oct. 11 – 14 (2016).
• Reviewer for Imperial College London, Mar. (2016).
• Member of the International Program Committee of the *"58th Electronic Materials Conference,"* held at the University of Delaware, Newark, DE, Jun. 22-24 (2016).

2017:
• Reviewer for the Mork Family Department of Chemical Engineering and Materials Science, University of Southern California, Los Angeles, CA, Sep. (2017).
• Reviewer for Kent State University, Kent, OH, Jul. (2017).
• Member of the International Advisory Board of the International Symposium FI "Materials and Technologies for Highly Efficient Solid State Lighting" of CIMTEC : International Conference on Modern Materials and Technologies, Salsomaggiore Terme, Italy, to be held Jun. (2018).

2018:
• Reviewer for the Lawrence Livermore National Laboratory (LLNL), Livermore, CA, Dec. 19 2018.
• Reviewer for the Cariplo Foundation's Scientific Committee on Material Science, Lombardia Region, Milano, Italy, Oct. 2018.
• Reviewer for the University of California, Davis, CA, Aug. 2018.
• Reviewer for the Royal Military College of Canada, Kingston, Ontario, Mar. 2018.
• Member of the 5-year review team of the Provost for International Affairs, Georgia Tech, Atlanta, GA, Feb. - May 2018.
• Panelist on panel entitled "What to Expect When You're Expecting to Innovate Intellectual Properties," part of the Career, Research, and Innovation Development (CRIDC), held in Atlanta, GA, Feb. 8, 2018.

2019:
• Reviewer for the Natural Sciences and Engineering Reseerch Council (NSERC), Ottawa, Canada, Jul. 24-25, 2019.
• Member of the Program Committee for IEEE RAPID (Research and Applications of Photonics in Defense) conference held Aug. 19-21, Miramar Beach, FL (2019).
• Reviewer for the University of Southern Mississippi, Hattiesburg, MS, Sep. 2019.
• Reviewer for the University of Colorado, Boulder, CO, Dec. 2019.

2020:
• Reviewer for the Croucher Foundation, Hong Kong, Nov. 2020.
• Reviewer for the South Africa's National Research Foundation (NRF) Sep. 2020.

V.B. Campus Contributions

Georgia Institute of Technology
• ECE student/faculty standing committee, 2003, 2004.
• Serving as the Director (since 2011) and Associate Director (2003-2011) of the Center for Organic Photonics and Electronics, Georgia Institute of Technology.

• Served as a Thrust Leader for the NSF Science and Technology Center for Materials and Devices for Information Technology Research (2002-2010) and Associate Director (2005 – 2010).
• Served as the Chair of the Optics and Photonics technical interest group within the School of Electrical and Computer Engineering, 2005-2007.
• ECE student/faculty standing committee, 2007, 2008.
• Served on COE committee for reappointment promotion and tenure from associate to full-professor, 2007, 2008.
• Served as a faculty representative on the Academic Senate of the Georgia Institute of Technology, 2009-2012.
• Serving as President (since 2012) and Co-President (since 2014) of Institut Lafayette, Georgia Tech Lorraine campus, Metz, France.
• Served on the ECE faculty honors committee, 2013, 2014, 2015.
• Served on the ECE faculty promotion reappointment and tenure committee, 2015-2021.
• Served as a faculty representative on the Academic Senate of the Georgia Institute of Technology, 2015-2018.
• Served as Chair of the ECE research faculty evaluation and promotion committee, 2018-2021.
• Served on the ECE Diversity, Equity, and Inclusion Council, 2020-2021.
• Served on the COE Diversity, Equity, and Inclusion Council, 2020-2021.

<u>Served on the dissertation proposal examination of the following GIT students:</u> Seok Hun Hyun (2004), Jeff Lillie (2004), Kelly Lancaster (Chemistry, 2005); Roel S. Sanchez-Carrera (Chemistry, 2005); Chi-Ti Hsieh (ECE, 2006); Xuan Zhang (Chemistry, 2006); Chinnakrishanan Ballapuram (June 2006); Alan Ristow (June 2006), Kenta Nakayashiki (Sep. 2006); Seyhan Salman (Chemistry, Nov. 2006); Takeshi Kondo (Chemistry, Feb. 2007); PaDreyia Lawson (Chemistry, Feb. 2007); Chun Huang (Chemistry, Apr. 2007); Andreas Haldi (ECE, Oct. 2007); Susan Odom (Chemistry, Nov. 2007); Carlos Zuniga (Chemistry, Apr. 2008); N. Kim (Mechanical Engineering, May 2008), R. Jackson (Afr. Amer. Mechanical Engineering, Sep. 2008); Nicholas Haase (Chemistry, Nov. 2008); Seyhan Salman (Chemistry, Feb. 2009); Daniel Owens (ECE, Feb. 2009); PaDreyia Lawson (Afr. Amer. Chemistry, Feb. 2009); Kelly Lancaster (Chemistry, Mar. 2009); Shino Ohira (Chemistry, Mar. 2009); Xuan Zhang (Chemistry, Mar. 2009); Anthony Giordano (Chemistry, Mar. 2009); Lauren Hayden (Chemistry, Apr. 2009); Stuart Truax (ECE, Jul. 2009); Kyle Anderson (PTFE, Aug. 2009); Jungbae Kim (ECE, Nov. 2009); Jonathan Vernon (MES, Nov. 2009); Avishek Aiyar (ChBE, Dec. 2009); Chun Huang (Chemistry, Jan. 2010); Dan Berrigan (MSE, Feb. 2010); Carlos Zuniga (CHEM, Mar. 2010); Sergio Paniagua-Barrantes (CHEM, Apr. 2010); Laxman Pandey (CHEM, Apr. 2010); Anthony Appleton (CHEM, May 2010); Ildar Musin (ChBE, July 2010); Ariel Marshall (CHEM, July 2010); Saptharishi Ramanathan (Chair, ECE, Mar. 2011); Shu-Hao Fan (ECE, Mar. 2011); Anthony Desimone (CHEM, Apr. 2011); Stephen Lee (CHEM, Apr. 2011); Arnab Das (ECE, Apr. 2011); Lauren Polander (CHEM, May 2011); Suk Choi (ECE, Aug. 2011, Chair); Taylor McLachlan (MSE, Feb. 2012); Fadi Jradi (CHEM, Apr. 2012); Luke Johnstone (CHEM, May 2012); Laxman Pandey (CHEM, Jun. 2012); Moon Hee Kang (ECE, chair, Aug. 2012); Yunsang Kim (MSE, Nov. 2012); Josep Jornet (ECE, Nov. 2012); Sergio Paniagua-Barrantes (CHEM, Jan. 2013); Ildar Musin (ChBE, Feb. 2013); James Hsu (ECE, Mar. 2013); Jaewon Shim (ECE, Mar. 2013); Karttikay Moudgil (CHEM, Mar. 2013); Alexander Hyla (CHEM, Apr. 2013); Ji-Kwan Kang (ChBE, Jul. 2013), Ehsan Najafabadi (ECE, Aug. 2013); Anthony Giordano (CHEM, Sep. 2013); Ariel Marshall (CHEM, Oct. 2013); Stephen Shiring (CHEM, Apr. 2014); Hye Kyung Kim (CHEM, Apr. 2014); Amir Dindar (ECE, Jun. 2014); Rebecca Gieseking (CHEM, Nov. 2014); Matthieu Leibovici (Chair, ECE, March 2015); Chia-Wei Chen (ECE, Mar. 2015); Karttikay Moudgil (CHEM, Jul. 2015); Spyridon Pavlidis (Chair, ECE, Aug. 2015); Michael P. Gaj (ECE, Aug. 2015); Fadi Jradi (CHEM, Sep. 2015); Talha Khan (ECE,

Sep. 2015); Sangmoo Choi (ECE, Oct. 2015); Marcel Said (CHEM, Nov. 2015); Shoufeng Lan (ECE, Dec. 2015); Cheng-Yin Wang (ECE, Jan. 2016); Sean Rodrigues (Chair, ECE, Mar. 2016); Xiaochu Ba (CHEM, Apr. 2016); Alexander Hyla (CHEM, Jun. 2016); Ji-Hwan Kang (ChBE, Oct. 2016); Eunhwan Cho (ECE, Oct. 2016); Stephen B. Shiring (CHEM, Dec. 2016); Akanksha Menon (ME, May 2017); Federico Pulverenti (CHEM, Nov. 2017); Lukas Johnstone (CHEM, Nov. 2017); Hye Kyung Kim (CHEM, Dec. 2017); Yohan Park (MSE, Dec. 2017); Nikolay Semenikhin (MSE, May 2018); Haiyang Zou (MSE, Jun. 2018); Xiaoqing Zhang (ECE, Sep. 2018); Xiaojia Jia (ECE, Sep. 2018); Wen-Fang Chou (ECE, Oct. 2018); Jacob Inman (ME/NRE, Apr. 2019); Felipe Larrain (ECE, Nov. 2019); Helen Wong (ChBE, Nov. 2019); Victor Rodriguez-Toro (ECE, Dec. 2019); Ying-Yuan Huang (Chair, ECE, Jan. 2020); Habib Ahmad (ECE, Dec. 2020); Oliver Moreno (ECE, Dec. 2020); Youngrak Park (ECE, Jan. 2021); Sivaramakrishnan Sethuraman (MSE, Apr. 2021); Helen Wong (ChBE, Jul. 2021); Yi-Chien Chang (ECE, Jul. 2021).

Served on the Ph.D. defense of the following GIT students: Pejman Monadgemi (May 2006); Amalia Agnew (Chemistry, June 2006); Ramanan Bairavasubramanian (ECE, March 2007); Kenta Nakayashiki (ECE, Oct. 2007); C.S. Ballapuram (ECE, Mar. 2008); A. Haldi (ECE. Aug. 2008); R. S. Sanchez-Carrera (Hisp. Chemistry, Aug. 2008); S. Odom (Fem. Chemistry, Sep. 2008); P. Kim (Chemistry, Oct. 2008); R. Jackson (Afr. Amer. ME, Jun. 2009); S. Ohira (Fem. Chemistry, Jun. 2009); S. Salman (Fem. Chemistry, Jun. 2009); K. Lancaster (Fem. Chemistry, Jul. 2009); Xuan Zhang (Fem. Chemistry, Oct. 2009); Chi-Ti Hsieh (ECE, May 2010); Jungbae Kim (ECE, May 2010); Chun Huang (Chemistry, Aug. 2010); Daniel Owens (ECE, Aug. 2010); Anthony Appleton (CHEM, Nov. 2010); William Potscavage (ECE, Dec. 2010); Carlos Zuniga (CHEM, Feb. 2011); Stuart Truax (ECE, Aug. 2011); Lauren Polander (Fem. CHEM, Oct. 2011); Shu-Hao Fan (ECE, Nov. 2011); Avishek Aiyar (ChBE, Dec. 2011); Arnab Das (ECE, Apr. 2012); Saptharishi Ramanthan (ECE, Apr. 2012); Dan Berrigan (MSE, May 2012); Suk Choi (ECE, Aug. 2012); Moon Hee Kang (ECE, Mar. 2013); John Renshaw (ECE, May 2013); Josep Jornet (ECE, Aug. 2013); Sergio Paniagua-Barrantes (CHEM, Aug. 2013); Ildar Musin (ChBE, Oct. 2013); Yunsang Kim (CHEM, Mar. 2014); Anthony Giordano (CHEM, Apr. 2014); Ehsan Najafabadi (ECE, Aug. 2014); Keith A. Knauer (ECE, Sep. 2014); Amir Dindar (ECE, Mar. 2015); Rebecca Gieseking (CHEM, Apr. 2015); Matthieu Leibovici (ECE, Nov. 2015); Karttikay Moudgil (CHEM, Feb. 2016); Chia-Wei Chen (ECE, Mar. 2016); Fadi M. Jradi (CHEM, Mar. 2016); Talha Khan (ECE, Mar. 2016); Marcel M. Said (CHEM, Jun. 2016); Spyridon Pavlidis (ECE, Jun. 2016); Alexander Hyla (CHEM, Nov. 2016); Ji-Hwan Kang (ChBE, Mar. 2017); Shoufeng Lan (ECE, Mar. 2017); Vladimir Kolesov (ECE, Chair, Apr. 2017); Eunhwan Cho (ECE, Apr. 2017); Stephen Shiring (CHEM, May 2017); Akanksha Menon (ME, Mar. 2018), HyeKyung Kim (CHEM, Jul. 2018); Yohan Park (CHEM, Oct. 2018); Lucas Johnstone (CHEM, Nov. 2018); Nikolay Semenikhin (MSE, Jan. 2019); Min-Gu Kim (ECE, Mar 2019); Federico Pulverenti (CHEM, Mar. 2019); Xiaojia Jia (ECE, Apr. 2019); Wen-Fang Chou (ECE, May 2019); Xiaoqing Zhang (ECE, Sep. 2019); Yiran Hu (Physics, May 2020); Felipe Larrain (ECE, July 2020); Victor Rodriguez-Toro (ECE, Aug. 2021); Ying-Yuan Huang (ECE. Oct. 2021); Youngrak Park (ECE, Dec. 2021).

University of Arizona

Departmental - Optical Sciences Center:

- Executive Committee, 2000-2001
- Preliminary Exam Committee, 2000-2001
- Intellectual Property Committee, 1999-2000
- Admissions Committee, 1999-2000
- Colloquium Committee, 1997-1998, 1999-2000

Served on the examining committee of the following UA Master and Ph. D. Students:
Mark Kroll, Harald Giessen, Georg Mohs, Boris Volodin, Sandalphon, Derek Steele, Mike Morrell, Jason Watson, Sean Shaheen, J. A. Herlocker (2000), Y. Enami (2002), Gabriel Ramos-Ortiz (2003), Richard Hreha (2003).

Served on the UA Ph.D. oral exam of the following students: J. Haddock (2000), G. Ramos-Ortiz (2000), D. Clarke (2000), R. Hreha (2000), D. Baiocchi (2001), J. Rodgers (2002), Y.-C. Chen (2002), Chad Weiler (2003).

Served on the UA dissertation proposal examination of the following students:
Jesse Frantz (2001), Josh Haddock (2002), Gabriel Ramos-Ortiz (2002).

V.C. Other Contributions

- Co-Founder of NP Photonics, Inc., a Sensing and Telecom Company (www.npphotonics.com).
- Co-Founder of LumoFlex, L.L.C. an Organic Electronics Company.
- Participation in the NSF *Science Bridge Program* between the University of Arizona and Pima Community College, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002.
- Consultant for Arizona Microsystems LLC, LumoFlex, LLC, and Solvay SA.
- Consultant for Solvay (2009-2012)
- Co-founder and founding President of Institut Lafayette, a Private Innovation Center located on the Technopôle of Metz, France (25 M€ project).
- Fellow of the Council of Global Affairs, Georgia Tech International Initiatives (2016-present)
- Member of the Georgia Tech Lorraine Advisory Board (2012-present)

Reviewer activities for peer-reviewed journals (shown 1999-2020):
Served as referee for papers submitted to the following journals (number of papers is indicated in parentheses):

ACS Applied Materials and Interfaces (11)
ACS Applied Electronic Materials (2)
ACS Macro Letters (1)
Advanced Functional Materials (2)
Advanced Electronic Materials (1)
Advanced Materials (11)
Advanced Materials Technologies (2)
Annalen der Physik (1)
Applied Optics (3)
Applied Physics Letters (27)
Chemistry of Materials (30)
Chemical Physics Letters (1)
Chemical Reviews (1)
Chemical Society Reviews (1)
Electronics Letters (2)
Energy and Environmental Science (4)
IEEE Journal of Quantum Electronics (1)
Joule (2)
Journal of the American Chemical Society (11)

Journal of Applied Physics (6)
Journal of Chemical Physics (2)
Journal of Lightwave Technology (1)
Journal of Materials Chemistry A (1)
Journal of Materials Science (1)
Journal of Materials Research (1)
Journal of Macromolecular Science (1)
Journal of the Optical Society of America B (3)
Journal of Physical Chemistry (2)
Journal of Physics D: Applied Physics (1)
Journal of Selected Topics in Quantum Electronics (1)
Journal of Vacuum Science and Technology A (1)
Langmuir (2)
Light: Science and Applications (1)
Macromolecules (7)
Macromolecular rapid communications (2)
Materials Horizons (1)
Measurement Science and Technology (1)
Nature (4)
Nature Communications (8)
Nature Electronics (2)
Nature Materials (10)
Nature Photonics (13)
Nature Physics (1)
Nature Reviews (1)
Optical Engineering (2)
Optics Express (2)
Optics Letters (8)
Organic Electronics (29)
Organometallics (1)
Photochemistry and photobiology (1)
Physical Chemistry Chemical Physics (1)
Physical review B (1)
Physica Status Solidi a (1)
Physica Status Solidi Rapid Research Letters (1)
Physical Review Letters (2)
Science (8)
Science Advances (3)
Semiconductor Science and Technology (1)
Solid State Electronics (1)
Synthetic Metals (3)
Thin Solid Films Science (1)
Transactions on Nanotechnology (1)

VI. Grants and Contracts

Note: In the support shown below, the dollar amounts reported are those that were allocated to me.

Past (obtained at University of Arizona):

1. Source: Office of Naval Research (ONR)
Title: "MURI: Center for Advanced Multifunctional Nonlinear Optical Materials and Molecular Assemblies." *(Federal)*
(Kippelen, Peyghambarian PI)
Rate: $200,000 **Period Covered:** 1/1999 - 12/2000

2. Source: Air Force Office of Scientific Research (AFOSR).
Title: "Photon-gated photorefractive polymers." *(Federal)*
(Kippelen, Peyghambarian PI)
Rate: $125,000 **Period Covered:** 3/1999 – 3/2002

3. Source: Air Force Office of Scientific Research (AFOSR)
Title: "A femtosecond laser source for the study and development of organic photonic materials (DURIP)." *(Federal)*
(Kippelen, PI)
Rate: $154,000 **Period Covered:** 3/2000 – 3/2001

4. Source: The University of Arizona
Title: Cost sharing for: "A femtosecond laser source for the study and development of organic photonic materials." *(State)*
(Kippelen, PI)
Rate: $30,220 **Period Covered:** 3/2000 – 3/2001

5. Source: Durel Corporation
Title: "New devices for the front lighting of reflective liquid crystal displays." *(Industry)*
(Kippelen, PI)
Rate: $55, 697 **Period Covered:** 2/2000 – 1/2001

6. Source: 3M Corp.
Title: "Young faculty award." *(Industry)*
(Kippelen, PI)
Rate: $10,000 **Period Covered:** 2/2000 – 1/2001

7. Source: The University of Arizona
Title: Cost sharing for: "CAREER: Organic Photonic Materials and Plastic Optoelectronic Technologies" *(State)*
(Kippelen, PI)
Rate: $25,000 **Period Covered:** 6/2000 – 5/2001

8. Source: The University of Arizona, Small Grant Program, Office of the Vice President for Research
Title: "Color Organic Electrochromic Materials and Devices." *(State)*
(Kippelen, PI)
Rate: $4,900 **Period Covered:** 1/1999 – 12/1999

9. Source: Office of Naval Research (ONR) for MRS Symposium
Title: "Organic Nonlinear Optical Materials and Devices." *(Federal)*
(Kippelen, PI)
Rate: $5,000 **Period Covered:** 4/2000 – 3/2001

10. Source: Air Force Office of Scientific Research (AFOSR)

Title: "A femtosecond optical parametric oscillator for the study of organic photonic materials and devices (DURIP)." *(Federal)*
(Kippelen, PI)
Rate: $65,000 **Period Covered:** 2/2001 – 2/2002

11. Source: National Science Foundation (NSF)
Title: "Center for Optoelectronic Devices, Interconnects and Packaging." *(Federal)*
(Kippelen, Peyghambarian PI)
Rate: $5,000 **Period Covered:** 6/2000 – 5/2001

12. Source: AFOSR
Title: " Nanocomposite Materials and Micro Structure Devices for Optical Limiting and Switching" *(Federal)*
(Kippelen, with Perry (PI), Marder and Bredas)
Rate: $61,018 **Period Covered:** 7/2002 - 6/2003

13. Source: NSG (Nippon Sheet Glass)
Title: "Photorefractive polymers with infrared sensitivity," *(Industry)*
(Kippelen, with Peyghambarian PI, and Marder)
Rate: $107,406 **Period Covered:** 5/2001 - 5/2003

14. Source: NSF
Title: "Center for Optoelectronic Devices, Interconnects and Packaging," (with University of Maryland) *(Federal)*
(Kippelen, Peyghambarian, PI)
Rate: $4,384 **Period Covered:** 09/2001 **-** 08/2002

15. Source: NSF- MRI Equipment Grant
Title: "Acquisition of an Organic Thin Film Deposition System for Research and Training in Organic Electronics and Nanophotonics" *(Federal)*
(Kippelen, PI)
Rate: $250,000 **Period Covered:** 7/2001 – 7/2002

16. Source: NASA
Title: Subcontract University of Alabama at Huntsville "NASA/ MSFC/Electro-Optical Photonic Materials Research Program " *(Federal)*
(Kippelen, PI)
Rate: $170,236 **Period Covered:** 1/2001 **-** 10/2003

17. Source: DARPA
Title: "Evaluation of Molecular Photonic Technologies for DoD Applications" *(Federal)*
(Kippelen, with Perry PI)
Rate: $45,089 **Period Covered:** 03/2002 - 06/2002

18. Source: ONR
Title: DURIP: "Sputter deposition and e-beam evaporation systems." *(Federal)*
(Kippelen, Armstrong PI,)
Rate: $105,000 **Period Covered:** 3/2002 - 2/2003

19. Source: Nitto Denko
Title: "Advanced photorefractive polymers for real-time optical processing,"

(Kippelen, Peyghambarian PI and Marder)
Rate: $200,000 **Period Covered:** 12/2000 - 12/2003

20. Source: Durel
Title: "Novel Organic Electroluminenescent Materials and Devices for Display Applications" *(Industry)*
(Kippelen PI, with Marder)
Rate: $136,467 **Period Covered:** 7/2002 - 7/2003

21. Source: ONR
Title: "Thermally stable organic films for electroluminescence and photovoltaic applications" *(Federal)*
(Kippelen, PI, with Armstrong, Bredas, Marder)
Rate: $130,500 **Period Covered:** 3/2001 - 1/2004

22. Source: The Egg Factory
Title: "Development of electro-active materials and adaptive lenses," *Industry)*
(Kippelen, with Mathine and Peyghambarian PI)
Rate: $190,747 **Period Covered:** 1/2001 - 12/2003

Past funding obtained while at the UA and transferred to GT:

23. Source: NSF
Title: "CAREER: Organic Photonic Materials and Plastic Optoelectronic Technologies." *(Federal)*
(Kippelen, PI)
Rate: $133,456 **Period Covered:** 08/2003 - 05/2005

24. Source: NREL (sub-contract from UA)
Title: "Liquid Crystal-Based Photovoltaic Technologies" *(Federal)*
(Kippelen, with Armstrong (PI), Bredas, Marder)
Rate: $124,668 **Period Covered:** 06/2001 - 05/2004

25. Source: NSF (sub-contract from UA)
Title: "Infrared Photorefractive and Light-Emitting Polymers for Optical Technologies," *(Federal)*
(Kippelen, with Peyghambarian PI and Mazumdar)
Rate: $54,020 **Period Covered:** 08/2003 - 08/2004

26. Source: NSF
Title: "NIRT: Optical and Electronic Processes in Metal Nanoparticle-Conjugated Organic Materials." *(Federal)*
(Kippelen, Goodson, PI with Stellaci, Marder, and Perry)
Rate: $304,801 **Period Covered:** 9/2003 - 8/2007

27. Source: NSF
Title: "Studies of Metal-Organic and Organic Charge Transport for Plastic Optoelectronics." *(Federal)*
(Kippelen, Marder PI)
Rate: $240,000 **Period Covered:** 9/2003 - 8/2006

28. Source: DARPA

Title: Phase I: **"**Molecular Photonics: High Speed Materials for Optical Signal Processing." *(Federal)*
(Kippelen, Perry PI)
Rate: $224,861 **Period Covered:** 11/2003 – 4/2005

29. Source: Lintec
Title: "New Materials for Optoelectronics." *(Industry)*
(Kippelen PI, with Marder).
Rate: $244,500 **Period Covered:** 08/2003 - 07/2005

30. Source: Office of Naval Research
Title: "MURI: Templation of Long-Chain Sequence-Controlled Heteropolymers" *(Federal)*
(Kippelen, Grubbs, PI with Mansuripur, Marder, Perry, Stoddart, and Tirrell)
Rate: $471,443 **Period Covered:** 04/2003 - 11/2008

31. Source: Office of Naval Research
Title: "High performance nanostructured polymer composites for capacitor applications," *(Federal)*
(Kippelen, Marder PI, with Perry)
Rate: $60,000 **Period Covered:** 5/2003 – 9/2004

Raised while at Georgia Tech:

32. Source: Georgia Research Alliance
Title: LumoFlex (*State of Georgia)*
(Kippelen PI)
Rate: $50,000 **Period Covered:** 7/2004 - 6/2005

33. Source: Georgia Research Alliance
Title: "Technology development grant for organic solar cells." *(State of Georgia)*
(Kippelen PI)
Rate: $25,000 **Period Covered:** 9/2007 – 06/2008

34. Source: Solvay, SA
Title: "Organic Materials for New Generations of Solar Cells for Portable Power," *(Industry)*
(Bredas PI, with Marder and Kippelen)
Rate: $399,399 **Period Covered:** 10/2006 – 9/2009

35. Source: ONR
Title: "High performance nanostructured polymer composites for capacitor applications," *(Federal)*
(Marder PI, with Perry and Kippelen)
Rate: $20,000 **Period Covered:** 6/2005 – 5/2008

36. Source: Solvay, SA
Title: "Materials for high performance light-emitting diodes: surface modification of charge-injection layers" *(Industry)*
(Bredas PI, with Marder and Kippelen)
Rate: $375,000 **Period Covered:** 4/2006 – 6/2009

37. Source: Solvay, SA

Title: "Organic materials for new generations of displays and solid-state light sources" *(Industry)*
(Bredas PI, with Marder and Kippelen)
Rate: $570,000 **Period Covered:** 4/2006 – 3/2007

38. Source: DARPA
Title: Phase II: "Molecular Photonics: High-speed Materials for Optical Signal Processing"
(Federal)
(Perry PI, with Marder, Bredas, Bunz, and Kippelen)
Rate: $259,861 **Period Covered:** 11/2003 – 10/2007

39. Source: Solvay, SA
Title: "Hybrid organic materials with white electroluminescence for lighting," *(Industry)*
(Bredas PI, with Marder and Kippelen)
Rate: $210,000 **Period Covered:** 2/2007 – 07/2008

40. Source: NSF
Title: "Science and technology center on materials and devices for information technology research" *(Federal)*
(Kippelen co-PI, L. Dalton PI)
Rate: $1,411,890 **Period Covered:** 8/2002 – 7/2010

41. Source: DARPA
Title: Phase III: "Molecular Photonics: High-speed Materials for Optical Signal Processing"
(Federal)
(Perry PI, with Marder, Bredas, Bunz, and Kippelen)
Rate: $409,472 **Period Covered:** 11/2003 – 6/2010

42. Source: ARL- ARO
Title: "MURI: Engineered Multifunctional Nanophotonic Materials for Ultrafast Optical Switching" *(Federal)*
(Van Stryland PI, with Marder, Perry, Shalaev, Kippelen)
Rate: $288,000 **Period Covered:** 11/2006 – 10/2010

43. Source: ONR
Title: "New materials for high efficiency solar cells and integrated modules," *(Federal)*
(Kippelen PI, with Perry, Marder and Bredas)
Rate: $255,000 **Period Covered:** 09/2007- 08/2010

44. Source: ONR
Title: "High performance nanostructured polymer composites for capacitor applications,"
(Federal)
(Kippelen, with Marder PI , and Perry)
Rate: $120,000 **Period Covered:** 04/2008 – 02/2010

45. Source: AFOSR
Title: "Air Force Center of Excellence on Bio-nano-enabled Energetic and Adaptive Materials"
(Federal)
(Sandhage PI, Center proposal with multiple PIs)
Rate: Total: $300,000 **Period Covered:** 10/2008 – 9/2011

46. Source: ONR

Title: "Ink-jet printed large-area polymer solar cells," *(Federal)*
(Kippelen PI)
Rate: $100,000 **Period Covered:** 3/2009 – 2/2010

47. Source: AFOSR
Title: "Linear metal-dielectric photonic bandgap filters with high transmittance passband in the visible spectral region and strong out-of-band rejection," *(Federal)*
(Kippelen PI)
Rate: $225,000 **Period Covered:** 3/2009 – 12/2011

48. Source: Solvay, SA
Title: "Solution processible emitters and devices for lighting applications," *(Industry)*
(Bredas PI, with Marder and Kippelen)
Rate: $305,000 **Period Covered:** 4/2009 – 3/2010

49. Source: Solvay, SA
Title: "Surface modification of charge-injection layers - Phase 2," *(Industry)*
(Bredas PI, with Marder and Kippelen)
Rate: $325,000 **Period Covered:** 7/2009 – 6/2010

50. Source: AFOSR
Title: "DURIP: Acquisition of an ex-situ visible near-infrared phase modulated spectroscopic ellipsometer," *(Federal)*
(Kippelen PI)
Rate: Total: $141,355 **Period Covered:** 1/2010 –12 /2011

51. Source: DOE-BES
Title: "Understanding and design of polymer device interfaces," *(Federal)*
(A. Kahn PI, Princeton University, Kippelen)
Rate: Total: $90,000 **Period Covered:** 4/2010 –3/2011

52. Source: Solvay, SA
Title: "Inverted hybrid light-emitting diodes with ZnO-based transparent cathodes and organic active layers," *(Industry)*
(Bredas PI, with Marder and Kippelen)
Rate: $150,000 **Period Covered:** 6/2010 – 5/2011

53. Source: Solvay, SA
Title: "Organic-based thin film transistors for plastic electronics" *(Industry)*
(Bredas PI, with Marder and Kippelen)
Rate: $2,027,789 **Period Covered:** 10/2008 – 12/2012

54. Source: DOE
Title: "EFRC: Center for Interface Science: Solar Electric Materials and Devices," *(Federal)*
(N. Armstrong PI, U. of Arizona, Center proposal with multiple PIs)
Rate: $1,118,488 **Period Covered:** 8/2009 – 7/2013

55. Source: ONR
Title: "Organic solar cells based on metal-organic compounds," *(Federal)*
(Kippelen PI, with Marder co-PI)
Rate: $390,000 **Period Covered:** 01/2011 – 1/2014

56. Source: ONR
Title: "Nanocomposite materials for high energy density capacitors," *(Federal)*
(Perry PI, with Marder and Kippelen)
Rate: $85,372 **Period Covered:** 05/2011 – 4/2014

57. Source: DARPA
Title: "Materials and devices for Zeno-based optoelectronics" *(Federal)*
(Perry PI, Center proposal with multiple PIs)
Rate: $185,000 **Period Covered:** 9/2009 – 5/2013

58. Source: ONR
Title: "Printed organic photovoltaic modules with high total-area efficiency" *(Federal)*
(Kippelen PI)
Rate: $103,000 **Period Covered:** 4/2012 – 3/2013

59. Source: USDA
Title: "Nanocellulose for Flexible Electronics" *(Federal)*
(Kippelen, PI)
Rate: $200,000 **Period Covered:** 10/2012 – 9/2014

60. Source: NextInput
Title: "Novel organic field-effect transistor-based pressure sensors," *(Industry)*
(Kippelen, PI)
Rate: $150,000 **Period Covered:** 5/2013 – 4/2014

61. Source: NSF
Title: "I-Corps: Ultrafast All-Optical Shutter Technology" *(Federal)*
(B. Kippelen PI)
Rate: $50,000 **Period Covered:** 8/2013 – 1/2014

62. Source: DOE
Title: "Tailoring electrostatic interactions to produce hybrid barrier films for photovoltaics" through the Bay Area Photovoltaic Consortium *(Federal)*
(Kippelen PI with Graham)
Rate: $360,000 **Period Covered:** 10/2012 – 12/2015

63. Source: Georgia Research Alliance (GRA)
Title: "Optically-gated camera," *(Georgia public/private partnership)*
(Kippelen, PI)
Rate: $49,989 **Period Covered:** 9/2014 – 6/2015

64. Source: Mitsubishi Chemical
Title: "Characterization and optimization of p-channel organic field-effect transistors," *(Industry)*
(Marder PI, Kippelen)
Rate: $ 60,000 **Period Covered:** 9/2014 – 3/2015

65. Source: ONR
Title: "Organic photovoltaic materials and devices: improved understanding and performance" *(Federal)*
(Kippelen, PI, Marder)

Rate: $420,000 **Period Covered:** 1/2014 – 12/2016

66. Source: USDA
Title: "Printed Electronics on Advanced Cellulosic Nanomaterials for Smart Packaging," *(Federal)*
(Kippelen, PI)
Rate: $63,269 **Period Covered:** 7/2016 – 9/2017

67. Source: Samsung GRO
Title: "GRO: Carbazole-Oxadiazole Delayed Fluorescence Materials" *(Industry)*
(Marder PI, Kippelen)
Rate: $ 50,000 **Period Covered:** 7/2016 – 6/2017

68. Source: Mitsubishi Chemical
Title: "Organic light-emitting diodes with 100% internal quantum efficiency based on noble-metal-free hosts and emitters," *(Industry)*
(Marder PI, Kippelen)
Rate: $ 300,000 **Period Covered:** 4/2015 – 3/2018

69. Source: Samsung GRO
Title: "A new substrate platform for soft wearable printed electronics" *(Industry)*
(Kippelen, PI)
Rate: $ 200,000 **Period Covered:** 7/2015 – 12/2017

70. Source: ONR-MURI
Title: "Center for Advanced Organic Photovoltaics," *(Federal)*
(Bredas PI, McGehee, Friend, Heeger, Toney, Bazan, Nguyen, Reynolds, Marder, Kippelen)
Rate: $750,000 **Period Covered:** 9/2014 – 8/2019

71. Source: National Nuclear Security Administration (NNSA)
Title: "Consortium for nonproliferation enabling capabilities" *(Federal)*
(Consortium led by North Carolina State University, R. Gardner PI, Hertel and Kippelen Co-PI Georgia Tech)
Rate: $650,000 **Period Covered:** 9/2014 – 8/2019

72. Source: DOE EERE
Title: "Stable White Organic Light-Emitting Diodes Enabled by New Materials with Reduced Excited-State Lifetimes" *(Federal)*
(Kippelen, PI, with Marder and Brédas)
Rate: $ 400,000 **Period Covered:** 9/2017 – 8/2019

73. Source: AFOSR
Title: "High detectivity organic photodetectors with ultra broadband spectral response" *(Federal)*
(Kippelen, PI)
Rate: $ 488,760 **Period Covered:** 4/2016 – 9/2019

Current at Georgia Tech

74. Source: Defense Threat Reduction Agency (DTRA)
Title: "Robust Spectroscopic Organic Scintillators for Detection of RN Threats" (Federal)
(Kippelen PI, with Hertel and Shannon)

Rate: $450,000 **Period covered:** 4/2018 – 3/2022

75. Source: National Nuclear Security Administration (NNSA)
Title: "Consortium for Enabling Technologies and Innovations" *(Federal)*
(Consortium led by Georgia Tech, A. Erickson (PI), Kippelen Co-PI)
Rate: $877,023 for Kippelen **Period Covered:** 3/2019 – 2/2024

76. Source: BECSIS, L.L.C.
Title: "Programmable organic electronic devices." *(Industry)*
Kippelen PI
Rate: $100,000 **Period Covered:** 1/2021 - 12/2021

Total amount of funding for my group as PI or Co-PI while at Georgia Tech (sum of amounts from grants # 23 – 75)**:** > $13 M

VII. Honors and Awards

- National Science Foundation (NSF) CAREER award (2000).
- 3M Corporation Young Faculty award (2000).
- Member of the *Experts Group 21* of the French Ministry of Research and Education (1993, 1994).
- Elected Senior Member of IEEE (2005).
- Elected OSA Fellow (2006).
- Appointed member of the IEEE EDS Organic Electronics Committee (2007-2009).
- Guest Professor of Huazhong University of Science and Technology (HUST), Wuhan, Hubei, China (2005-2007).
- Elected SPIE Fellow (2007).
- Member of the International Advisory Board of the Center for Advanced Flexible Display Convergence (CAFDC), KAIST, Daejeon, Rep. of Korea (2008-2011).
- Member of the IEEE EDS Organic Electronics Committee (2nd term 2009-2011).
- Member of the Solar Officers Advisory Group of the Optical Society of America (2009).
- Associate Editor for *Optics Express* (Sep. 2009 – Jul. 2010).
- Deputy Editor for *Optics Express* (Aug. 2010 – 2012).
- Founding Editor of *Energy Express* (Sep. 2009 – 2012).
- Editorial Board Member of *Journal of Electronic Science and Technology* (JEST) (Nov. 2009 – present).
- Recipient of a *"Thank a Teacher"* Certificate by the Center for Enhancement of Teaching and Learning (CTEL), Organic Optoelectronics ECE6540, Georgia Tech, Spring (2010).
- Recipient of a *"Thank a Teacher"* Certificate by the Center for Enhancement of Teaching and Learning (CTEL), Organic Optoelectronics ECE6540, Georgia Tech, Spring (2011).
- Co-Recipient (with S. Marder, J.L. Brédas, and J. Perry, co-founders of the Center for Organic Photonics and Electronics) of the *Materials Award* of the Georgia Tech Research Corporation Annual Awards for Impact in Innovation (Dec. 2011).
- Recipient of a *"Thank a Teacher"* Certificate by the Center for Enhancement of Teaching and Learning (CTEL), Organic Optoelectronics ECE6540, Georgia Tech, Spring (2012).

- Recipient of the FLEXI Award to the Center for Organic Photonics and Electronics for *"Technology Leadership in Education Award,"* from FlexTech Alliance, Phoenix, AZ, Feb. 6-9, (2012).
- Recipient of the *"Academic R&D Award"* from IDTechEX at the Printed Electronics USA Conference 2012, held in Santa Clara, CA, Dec. 5-6 (2012).
- Chair of the Optoelectronics Technical Group, part of the Photonics and Optoelectronics Division, Optical Society of America (Jan. 2012 – 2014).
- Editorial Board Member of *Display and Imaging,* Old City Publishing Science (2013 – present).
- Editorial Board Member of *Organic Electronics,* Elsevier (2014 – present)
- Named the Joseph M. Pettit Professor in Electrical and Computer Engineering, School of ECE, Georgia Institute of Technology, Atlanta, GA, Sep. (2013).
- Recipient of the *"Class of 1934 Outstanding Interdisciplinary Activity Award"* given by the Institute Faculty Honors Committee, Georgia Tech, Atlanta, GA, Apr. 11 (2014).
- Member of the International Faculty, University of Cologne, Koln, Germany, (2014 – 2016).
- Member of the Editorial Advisory Board of *ACS Applied Electronic Materials*, American Chemical Society (ACS) Publications (Jan. 2019- Dec. 2021).
- Recipient of a *"Thanks for Being a Great Teacher"* Certificate by the Center for Enhancement of Teaching and Learning (CTEL), Organic Optoelectronics ECE 6540, Georgia Tech, Fall (2018).
- Recipient of the Steven A. Denning Faculty Award for Global Engagement given by the Office of the Vice Provost for International Initiatives, Georgia Tech, Atlanta, GA, April 19 (2019).
- Recipient of a *"Thanks for Being a Great Teacher"* Certificate by the Center for Enhancement of Teaching and Learning (CTEL), Electromagnetism ECE 3025, Georgia Tech, Fall (2019).
- Recipient of a "*Thanks for Being a Great Teacher*" Certificate by the Center for Enhancement of Teaching and Learning (CTEL), Organic Optoelectronics ECE 6540, Georgia Tech, Spring (2020).
- Recipient of the *"Student Recognition of Excellence in Teaching: Class of 1934 Award,"* Georgia Tech, (2021).
- Member of the *Universal Scientific Education and Research Network (USERN)* Boad of Advisors (2021-present).
- Recipient of a "*Thanks for Being a Great Teacher*" Certificate by the Center for Enhancement of Teaching and Learning (CTEL), Optoelectronics: Materials, Processes and Devices, ECE/PHYS 6771, Georgia Tech, Spring (2021).

Professional Affiliations

- Optica (formerly Optical Society of America (OSA)), Fellow since 2006.
- American Physical Society (APS).
- American Chemical Society (ACS).
- International Society for Optical Engineering (SPIE), Fellow since 2007.
- Materials Research Society (MRS).
- Institute of Electrical and Electronics Engineers (IEEE) Senior Member since 2005.
- European Association for International Education (EAIE), since 2021.
- Association of International Education Administrators (AIEA), since 2021.