Recent Publications

Editor

1. Y. Kuo, Editorial Board, IOP *J. Physics D: Applied Physics*, 2016-present.
2. Y. Kuo, Technical Editor, *ECS J. Solid State Science and Technology*, 2012-2015.
3. Y. Kuo, Technical Editor, *ECS Solid State Letters*, 2012-2015.
4. Y. Kuo, Associate Editor, *J. Electrochemical Society*, 2003-2012.
5. Y. Kuo, Associate Editor, *Electrochemical Society Letters*, 2003-2012.
6. Y. Kuo, Editor, ECS Transactions 7th Semiconductor Technology for Ultra Large Scale Integrated Circuits and Thin Film Transistors, 90(1), Electrochem. Soc., Pennington, 2019.
7. Y. Kuo, Editor, ECS Trans.14th Thin Film Transistor Technologies, Electrochem. Soc., Pennington, 2018.
8. Y. Kuo, Editor, ECS Transactions 6th Semiconductor Technology for Ultra Large Scale Integrated Circuits and Thin Film Transistors, 67(1), Electrochem. Soc., Pennington, 2017.
9. Y. Kuo, Editor, ECS Trans.13th Thin Film Transistor Technologies, Electrochem. Soc., Pennington, 2016.
10. Y. Kuo, Editor, *ECS Transactions 5th Semiconductor Technology for Ultra Large Scale Integrated Circuits and Thin Film Transistors*, 67(1), Electrochem. Soc., Pennington, 2015.
11. Y. Kuo and M. Furuta, Guest Editors, Focused Issue on Oxide Thin Film *Transistors, ECS J. Solid State Science and Technology*, 3(9), 2014.
12. Y. Kuo, Editor, *ECS Trans.12th Thin Film Transistor Technologies*, 64(1), Electrochem. Soc., Pennington, 2014.
13. Y. Kuo, Editor, ECS Transactions 4th Semiconductor Technology for Ultra Large Scale Integrated Circuits and Thin Film Transistors, 54(1), Electrochem. Soc., Pennington, 2013.
14. P. Mascher, P. Joshi, M. E. Overberg, and Y. Kuo, *ECS Transactions Nanocrystal Embedded Dielectrics for Electronic and Photonic Devices*, 53(4), Electrochem. Soc., Pennington, 2013.
15. Y. Kuo, *ECS Transactions Thin Film Transistor Technologies 11*, 50(8), Electrochem. Soc., Pennington, 2012.

16. A. Flewitt, Y. Kuo, and J. Jang, Guest Editors, *IEEE J. Display Technology*, special issue on TFTs, 8(1), 2012.
17. Q. Lin, R. Huang, R. Liu, C. Claeys, K. Lai, T. Jiang, D. Huang, Y. Zhang, P. Song, H. Wu, Z. Guo, C. Lam, Y. Kuo, and S. Wang, *ECS Transactions China Semiconductor Technology International Conference 2012, 44*(1), Electrochem. Soc., Pennington, 2012.
18. Y. Kuo and G. Bersuker, 3rd Eng. Conf. Intl. ULSIC vs. TFT Conference, *ECS Transactions*, 37(1), Electrochem. Soc., Pennington, 2011.
19. H. Wu, Q. Lin, C. Claeys, D. Huang, Y. Kuo, R. Huang, K. Lai, Y. Zhang, A. Philipossian, R. Liu, T. Jiang, P. Song, S. Xiaoping, *ECS Transactions China Semiconductor Technology International Conference 2011, 34*(1), Electrochem. Soc., Pennington, 2011.
20. Y. Kuo, *ECS Transactions Thin Film Transistor Technologies 10*, 33(5), Electrochem. Soc., Pennington, 2010.
21. H. Wu, Q. Lin, C. Claeys, D. Huang, Y. Shi, Y. Kuo, R. Huang, P. Song, F. Chen, K. Lai, W. Wang, T. Jiang, A. Philipossian, S. Krishnan, *ECS Transactions China Semiconductor Technology International Conference 2010, 27*(1), Electrochem. Soc., Pennington, 2010.
22. Y. Kuo, 2nd Eng. Conf. Intl. ULSIC vs. TFT Conference, ECS Transactions, 22(1) Electrochem. Soc., Pennington, 2009.
23. P. Mascher, P. Joshi, M. E. Overberg, and Y. Kuo, *ECS Transactions Nanocrystal Embedded Dielectrics for Electronic and Photonic Devices*, 19(8), Electrochem. Soc., Pennington, 2009.
24. Y. Kuo, *ECS Transactions Thin Film Transistor Technologies 9*, 16(9), Electrochem. Soc., Pennington, 2008.
25. Y. Kuo, D. Ast, and M. Shur, Eng. Conf. Intl. ULSIC vs. TFT Conference, ECS Transactions, 8(1), Electrochem. Soc., Pennington, 2006.
26. Y. Kuo, Editor, *ECS Transactions Thin Film Transistor Technologies 8*, 3(8), Electrochem. Soc., Pennington, 2006.

Books

1. Y. Kuo, Editor, "Polycrystalline Silicon Thin Film Transistors," Kluwer Academic Publishers, Norwell, MA, 2003.
2. Y. Kuo, Editor, "Amorphous Silicon Thin Film Transistors," Kluwer Academic Publishers, Norwell, MA, 2003.

3. Y. Kuo, AVS short course lecture book - *Plasma Technologies in the Fabrication of Thin Film Transistors for Liquid Crystal Displays*, San Jose, 1997; Denver, 1999; Boston, 2000.
4. Y. Kuo, D. G. Ast, and M. Hack, ECS short course lecture book - *Processes, Materials, and Electrical Properties of Thin Film Transistors*, Pennington, 1994 and 1996.
5. Y. Kuo, Monograph of TFT LCD Workshop - *Thin Film Transistor Technologies-a Review*, SID and Taiwan ROC Department of Economic Affairs, 1995.

Special honored or cited papers

- Y. Kuo, invited, "Nano-resistor Based Devices – Effects of Size, Structure, and Performance," *ECS Trans.*, **90**(1), 171-176 (2019).
- Y. Kuo, invited "Progress of Thin Film Transistor Technology," *2018 14th IEEE Intl. Conf. Solid-Satate and IC Technol. Procs.*, S 44-1 (2018). ISBN: 978-1-5386-4439-3
- Y. Kuo, invited, "SSI-LED: nano-resistors formation, electrical and optical properties, and applications," *26th Intl. Symp. Nanostructures: Physics and Technology* Proc., 11-13 (2018).
- Y. Kuo, invited, "Multifunctional Amorphous Metal Oxide Thin Films – Structure Transformation for Various Functions," *ECS Trans.*, **79**(1), 21-29 (2017).
- Cover page article (03/2016). C.-C. Lin* and Y. Kuo, "Light emission enhancement by embedding nanocrystalline cadmium selenide in amorphous ZrHfO high-*k* dielectric thin film deposited on silicon wafer," *ECS J. Solid State Sci. Technol.*, **5**(3), Q75-Q80 (2016).
- Y. Kuo, invited, "A Metal Oxide Antifuse-Diode Device," *ECS Trans.*, 69(12) 23-29 (2015).
- Y. Kuo, invited, "A new type of solid state incandescent LED (SSI-LED) prepared by sputter deposited metal oxide thin film on Si wafer," *13th ISSP Proc.*, 20-24 (2015).
- D. Li, K. Kim, S. Zhang, G. Dong, Y. Kuo, "High-performance organic–inorganic hybrid optocouplers based on organic light-emitting diodes and a-Si:H photodiodes," *Sensors and Actuators A*, 236, 364-368 (2015).
- Y. Kuo, plenary, "Principles and possible system-on-wafer applications of SSI-LEDs." *AM-FPD Proc.*, 9-12 (2015).

- Y. Kuo, invited, "A Diode-Like Antifuse Device Made of High-k Dielectric," *ECS Trans.*, 67(1) 183-189 (2015).
- Y. Kuo, invited, "A Solid State Thin Film Incandescent Light Emitting Device," *IEEE Trans. Elec. Dev.*, 62(11), 3536-3540 (2015).
- Cover page article. Y. Kuo, invited, "Solid State Incandescent Light Emitting Devices Made of IC Compatible Material and Fabrication Process," *IEEE Elec. Dev. Soc. News Lett.*, 22-2, 1-5 (2015).
- Y. Kuo, Gordon E. Moore Medal for Outstanding Achievement in Solid State Science and Technology paper, "Research on Nano and Giga Electronics – Breakthroughs Along the Path," *ECS Trans.*, 66(5), 139-154 (2015).
- C.-C. Lin and Y. Kuo, "Light emission from conductive paths in nanocrystalline CdSe embedded Zr-doped HfO2 high-k stack," *Appl. Phys. Lett.*, 106, 121107 (2015).
- Y. Kuo, invited, "A Solid State Thin Film Incandescent Light Emitting Device," *IDEM 2014*, 104-107 (2014).
- Tech News in *IEEE Spectrum* website (12/2/2014). http://spectrum.ieee.org/tech-talk/semiconductors/devices/meet-the-microscopic-light-bulb
- Cover page article. C.-C. Lin and Y. Kuo, "White Light Emission from Ultra Thin Tungsten Metal Oxide Film," *J. Vac. Sci. Technol. B*, 32, 011208-1 to -6 (2014).
- A top 20 Most Downloaded Paper. *J. Vac. Sci. Technol. B* on a new metal-doped High-*k* film, May 2013.
- A Research Highlight paper. *Appl. Phys. Letts*., February, 2013.
- #1 Most-Cited Article of *ECS Transactions* as of December 1, 2012 Yue Kuo, J. Lu, J. Yan, T. Yuan, H. C. Kim, J. Peterson, M. Gardner, S. Chatterjee, and W. Luo, "Sub 2 nm Thick Zirconium Doped Hafnium Oxide High-K Gate Dielectrics," *ECS Trans. 2006 1(5): 447-454; doi:10.1149/1.2209294*
- #4 Most-Cited Article of *ECS Transactions* as of December 1, 2012 C.-H. Lin and Y. Kuo, "Embedding of Nanocrystalline Ruthenium in ZrHfO High-k Film for Nonvolatile Memories," *ECS Trans. 2008 13(1): 465-470; doi:10.1149/1.2911531*
- #29 Most-Cited Article of *ECS Transactions* as of December 1, 2012 Reliability Issues:
  Y. Kuo, "Mixed Oxide High-k Gate Dielectrics - Interface Layer Structure, Breakdown Mechanism, and Memories," *ECS Trans. 2006 3(3): 253-263; doi:10.1149/1.2355717*

- A key article chosen by the Guest Editor of IIE Transactions Volume 44, Issue 7, 2012 Special Issue: Quality and Design Issues in Nanomanufacturing Systems
  C.-H. Yang, T. Yuan, W. Kuo, and Y. Kuo," Non-Parametric Bayesian Modeling of Hazard Rate with a Change Point for Nanoelectronic Devices," *IIE Trans.* 44(7), 496-506 (2012).
- *J. Appl. Phys.* Research Highlights & News, April 19, 2012
  C.-C. Lin and Y. Kuo, "Failure mechanism of electromigration of copper interconnections deposited on topographic steps with a plasma-based etch process," *J. Appl. Phys.*, 111, 064909 (2012).
- Paper selected by AIP/APS in *AIP/APS Virtual J. Nanoscale Sci. and Technol.* 24(5) 2011
  http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=VIRT010000240000050001040000001&idtype=cvips&gifs=yes
- Paper selected by AIP/APS in *AIP/APS Virtual J. Nanoscale Sci. and Technol.* 22(22) 2010
  http://scitation.aip.org/vsearch/servlet/VerityServlet?KEY=VIRT01&smode=results&maxdisp=10&possible1=Yue+Kuo&possible1zone=article&OUTLOG=NO&id=ESLEF6000014000001000H50000001&viewabs=VIRT01&key=DISPLAY&docID=1&page=0&chapter=0
- Paper selected by AIP/APS in *AIP/APS Virtual J. Nanoscale Sci. and Technol.* 17(21) 2008
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- Paper selected by AIP/APS in *AIP/APS Virtual J. Nanoscale Sci. and Technol.* 17(17) 2008
  http://scitation.aip.org/dbt/dbt.jsp?KEY=VIRT01&Volume=CURVOL&Issue=CURISS
- Top 20 most downloaded paper in *Jpn. J. Appl. Phys.2008*
  http://www.ipap.jp/jjap/index.htm
- 3rd poster award in *ECI Semiconductor Conference*, Italy, 2007
- Paper selected by AIP/APS in *Virtual J. Bio. Phys. Res.* 15(10), 2008.
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- Paper selected by AIP/APS in *Virtual J. Bio. Phys. Res.* 11(8), 2006. http://www.vjbio.org/vsearch/servlet/VerityServlet?KEY=VIRT02&smode=results&maxdisp=10&possible1=Yue+Kuo&possible1zone=article&OUTLOG=NO&id=ESLEF6000009000006000J21000001&viewabs=VIRT02&key=DISPLAY&docID=2&page=0&chapter=0
- Top 25 Hottest paper in *Microelectronics Reliability 2006* http://top25.sciencedirect.com/index.php?cat_id=7&subject_area_id=7&journal_id=00262714.
- Citation in news media *Semiconductor International* (02/02), *C&E News*, Reuters, *Industry Week, and Semiconductor International Electronic News* (04/01/02), etc.
- "Tech Highlights" section of *Interface* (June 1994)
- *Semiconductor International* (p.6 and p.22, June 1992)
