

RISKI TITIAN GINTING

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RESEARCH INTERESTS

Research interests in fabrication and characterization of organic optoelectronics devices including, organic/perovskite solar cells, transparent conductive electrodes, printed electronics, electrochromic and supercapacitors.

RESEARCH CAREER

June 2018 - present	Senior Lecturer in Department of Electrical Engineering, Universitas Prima Indonesia.
May 2017 – Feb. 2018	Assistant Research Professor in Department of Flexible and Printed Electronics Chonbuk National University
Jan. 2016 – Feb. 2018	Postdoctoral Researcher funded by Korea Research Fellowship Program - National Research Foundation of Korea
Apr. 2015 - Dec. 2015	Postdoctoral Researcher in Department of Flexible and Printed Electronics – Chonbuk National University
Oct. 2014 - Mar. 2015	Research Assistant – Thin Film Laboratory National University of Malaysia

EDUCATIONS

Oct. 2011- Nov. 2014	Doctor of Philosophy (Ph.D) in Physics- National University of Malaysia (UKM)
July 2008 - Sept. 2011	Bachelor of Science (B.Sc.) in Physics with Honors - National University of Malaysia (UKM)

ACTIVITIES AND AWARDS

Sep. 2019	Keynote Speaker in Seminar Nasional Fisika - Universitas Riau (SNF-UR 2019) yang ke-4, Pekanbaru, Riau.
Aug. 2019	Invited Speaker in 2 nd International Conference on Nanomaterials and Advanced Composites, NTUST, Taipei.
Nov. 2017	Outstanding Reviewer in <i>Solar Energy Journal</i> (Impact factor: 4.01 –Q1) and <i>Material Science & Engineering B Journal</i> (IF: 2.30) – Elsevier.
Dec. 2016	Invited External Reviewer for research proposal by <i>National Science Centre Poland</i> - Polish Ministry of Science and Higher Education.
Nov. 2016	Invited Speaker in International Workshop for Young Scientist (IWYS 2016) in Nanotechnology, Bangi, Malaysia.
Sept. 2016	Korea Innovation Patent – Novel Process of Perovskite Solar Cells Stability Enhancement (2016-0094175) applied date July 25, 2016.

Curriculum Vitae

- Jan. 2016 – Feb. 2018 **Selected as Korea Research Fellowship Program** – National Research Foundation (NRF-Korea) entitled “Study of Wearable Fiber Solar Cells Device”
- Sept. 2015 **Best Oral Presenter for Young Scientist** in International Conference on Organic Materials for Electronics and Photonics (KJF-ICOMEF 2015), KAL-Jeju, Korea.
- Oct. 2012 - Sept. 2014 **National University of Malaysia (UKM) Graduate Fellowship** for four consecutive semesters.
- Sept. 2011- Sept. 2012 **Graduate Research Assistant (GRA)** under Research Grant 03-01-02-SF0725.

TEACHING EXPERIENCE

- Guiding Master and PhD students in organic device laboratory (ODL)-Chonbuk National University for laboratory experiments and writing journals.
- Introduction to Microcomputer and Information Technology (STPD1113) for three consecutive semesters.
- Guiding graduate students and Nano-Engineering students from *Universität Duisburg-Essen (Germany)* in the synthesis of ZnO nanorods by using hydrothermal method for inverted organic solar cells application.

SELECTED PUBLICATIONS

1. **Ginting, et al.** A Novel Design of Hybrid Transparent Electrodes for High Performance and Ultra-Flexible Bifunctional Electrochromic-Supercapacitors, *Nano Energy*, **2018**, 53, 650-657.
2. **Ginting, et al.** Dual Light Trapping and Water Repellent Effects of a Flexible Based Inverse Micro-Cone Array for Organic and Perovskite Solar Cells, *ACS Applied Materials & Interfaces*, **2018**, 10, 31291-31299
3. Jeon, M.K., **Ginting, R.T.**, Kang, J.W. Impact of short-time annealing of methylammonium lead iodide on the performance of perovskite solar cells prepared under a high humidity condition, *Molecular Crystals and Liquid Crystals*, **2018**, 660 (1), 79-84.
4. Kumar, N.*, **Ginting, R.T.***, & Kang, J.W. Flexible, large-area, all-solid-state supercapacitors using spray deposited PEDOT: PSS/reduced-graphene oxide, *Electrochimica Acta*, **2018**, 270, 37-47.
5. **Ginting, et al.** 2017. Plasmonic effect of gold nanostar for highly efficient organic and perovskite solar cells, *ACS Applied Materials & Interfaces*, **2017**, 9 (41), 36111–36118.
6. **Ginting, et al.** Degradation mechanism of planar-perovskite solar cells: correlating evolution of iodine distribution and photocurrent hysteresis, *Journal Materials Chemistry A*, **2016**, 5 (9):4527-4534.
7. **Ginting, et al.** Low-temperature operation of perovskite solar cells: With efficiency improvement and hysteresis-less, *Nano Energy*, **2016**, 27: 569-576.
8. **Ginting, et al.** Highly stable and efficient inverted organic solar cells based on low-temperature solution-processed PEIE and ZnO bilayers, *Journal Materials Chemistry A*, **2016**, 4(10): 3784-3791.
9. **Ginting, et al.** Ultra-Smooth, Fully Solution-Processed Large-Area Transparent Conducting Electrodes for Organic Devices, *Nature-Scientific Reports* 6 (**2016**).
10. **Ginting, et al.*** A simple approach low-temperature solution process for preparation of bismuth-doped ZnO nanorods and its application in hybrid solar cells, *Journal of Physical Chemistry C*, **2015**, 120(1), 771-780.
11. **Ginting, et al.** Solution-Processed Ga-doped ZnO Nanorod Arrays as Electron Acceptors in Organic Solar Cells, *ACS Applied Materials & Interfaces*, **2014** 6(7): 5308-5318.

12. **Ginting, et al.** Improvement of inverted type organic solar cells performance by incorporating Mg dopant into hydrothermally grown ZnO nanorod arrays. *Journal of Alloys and Compounds*, **2014**, 585, 696-702.
13. **Ginting, et al.** Influence of poly (2-methoxy-5-(2'-ethyl)-hexyloxy-p-phenylene vinylene):(6, 6)-phenyl C61 butyric acid methyl ester blend ratio on the performance of inverted type organic solar cells based on Eosin-Y-coated ZnO nanorod arrays, *Thin Solid Films* **2013**, 536, 286-290.
14. **Ginting, et al.** 2013, MEH-PPV and PCBM solution concentration dependence of inverted-type organic solar cells based on Eosin-Y-coated ZnO nanorod arrays. *International Journal of Photoenergy* **2013**, 503715.
15. Tan, C. H. Tan, S. T. Lee, H. B. **Ginting, R. T.**, Oleiwi, H. F. Yap, C. C. Jumali, M. H. H.; Yahaya, M., 2017, Automated room temperature optical absorbance CO sensor based on In-doped ZnO nanorod. *Sensors and Actuators B: Chemical* **2016**, 248, 140-152.
16. Lee, H. B. **Ginting, R. T.***, Tan, S. T. Tan, C. H. Alshangleh, A. Oleiwi, H. F. Yap, C. C. Jumali, M. H. H. Yahaya, M., Controlled Defects of Fluorine-incorporated ZnO Nanorods for Photovoltaic Enhancement. *Scientific Reports* **2016**, 6.
17. Alshangleh, A., Yap, C. C., Tan, S. T., Lee, H. B., Tan, C. H., **Ginting, R. T.**, & Jumali, M. H. H. 2016. Novel hydrothermal approach to functionalize self-oriented twin ZnO nanotube arrays. *Materials Letters* **2016**, 165, 75-78.
18. Lee, H. B., Jumali, M. H. H., **Ginting, R. T.**, Tan, S. T., Yap, C. C., & Tan, C. H. 2015. Mechanistic study on highly crystalline (002) plane bounded ZnO nanofilms prepared via direct current magnetron sputtering. *Materials Letters* **2015**, 161, 83-88.
19. Oleiwi, H.F., Tan, S.T., Lee, H.B., Yap, C.C., **Ginting, R.T.**, Zakaria, A., Alshangleh, A., Tan, C.H., Jumali, M.H.H., Yahaya, M. and Talib, Z.A., 2016, Two-dimensional CdS intercalated ZnO nanorods: a concise study on interfacial band structure modification. *RSC Advances* **2016**, 6 (57), 52395-52402.
20. Tan, T. S., Tan C. H., Chong W. Y., Yap C. C., Akrajas A. U., **Ginting R. T.**, Lee H. B., Lim K. S., 2016, Microwave-assisted hydrolysis preparation of highly crystalline ZnO nanorod array for room temperature photoluminescence-based CO gas sensor. *Sensors and Actuators B: Chemical* **2017**, 227, 304-312.
21. H.F. Oleiwi, A. Zakaria, C.C. Yap, S.T. Tan, H.B. Lee, C.H. Tan, **R.T. Ginting**, Surface modification of ZnO nanorods with CdS quantum dots for application in inverted organic solar cells: effect of deposition duration. *Journal of Materials Science: Materials in Electronics*, **2018**, 29 (4), 2601-2609.
22. Kumar, N., **Ginting, R.T.**, Ovhall, M., Kang, J.W. All-solid-state flexible supercapacitor based on spray-printed polyester/PEDOT: PSS electrodes. *Molecular Crystals and Liquid Crystals* **2018**, 660 (1), 135-142.
23. Hong, K.J., Tan, S.T., Chong, K.K., Lee, H.B. **Ginting, R.T.**, Lim, F.S., Yap, C.C., Tan, C.H., Chang, W.S., Jumali, M.H. Synergy study on charge transport dynamics in hybrid organic solar cell: Photocurrent mapping and performance analysis under local spectrum. *Current Applied Physics* **2018**, 18(12), 1564-1570.

CONFERENCE PRESENTATIONS

- Materials Research Society (MRS 2017 Fall, Boston), Korea-Japan Forum (KJF 2017-Gwangju), European Material Research Society (E-MRS, Lille France, 2016), Autumn Korea Polymer Society (Jeju, 2016), ICOMEP-KJF (Jeju, 2015), Spring Korea Polymer Society (Daejeon 2015) 13th Postgraduate Colloquium at Faculty of Science and Technology, UKM (2013), The 3rd ISESCO International Workshop and Conference on Nanotechnology (IWCN) December 2012.