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| |  |  |  | | --- | --- | --- | | **Name** | **Kuan-Jen Chen** |  | | **Title** | Assistant Professor | | **Office** | K204-1 | | **Phone** | 886-6-2533131 Ext. 3529 | | **Email** | [kjchen@stust.edu.tw](mailto:kjchen@stust.edu.tw) | | **Webpage** |  | | **Education** | Ph.D., Institute of Microelectronics, National Cheng Kung University | | **Research Interests** | Metal materials, Material analysis, Photovoltaic ribbon, Fine metal wires, Secondary ion batteries | | | **Laboratory** | Electricity Heat Force application Lab. | |     **Publications**   |  | | --- | | **Journal Papers** | | 1. K. J. Chen, “Rechargeable all-solid-state tin ion battery in a low-temperature environment”, Results in Materials 10 (2021) 100190. 2. K. J. Chen, Y. H. Fang, F. Y. Hung, “Novel photovoltaic ribbon technology: interfacial behavior of IN-50Sn alloy ribbon without metal matrix under electrothermal effects and chlorine corrosion”, Mater. Today Commun. 26 (2021) 101865. 3. K. J. Chen, F. Y. Hung, T. S. Lui, C. L. Tsai, “Improving the applicability of wear-resistant Al–10Si–0.5Mg alloy obtained through selective laser melting with T6 treatment in high-temperature, and high-wear environments”, J. Mater. Res. Tech. 9 (4) (2020) 9242-9252. 4. K. J. Chen, “Novel Application Research on Critical High-Temperature Deformation of Low-Lead Brass Alloy”, Metals 10 (2020) 722. 5. K. J. Chen, F. Y. Hung, C. Y. Chang, “A study of the Sulfidation Behavior on Palladium-Coated Copper Wire with a Flash-Gold Layer (PCA) after Wire Bonding”, Electronics 8 (2019) 792. 6. K. J. Chen, F. Y. Hung, T. S. Lui, Y. R. Shih, “Wear inducing phase transformation of plasma transfer arc coated tools during friction stir welding with Al alloy”, *J. of Eng.* 2019 (2019) 6413608. 7. K. J. Chen, F. Y. Hung, T. S. Lui, W. Y. Lin, “Effects of Static Heat and Dynamic Current on Al/Zn･Cu/Sn Solder/Ag Interfaces of Sn Photovoltaic Al-Ribbon Modules”, *Materials* 11 (2018) 1642. 8. K. J. Chen, F. Y. Hung, T. S. Lui, L. Hsu, “Studies of Interfacial Microstructures and Series Resistance on Electroplated and Hot-Dipped Sn-xCu Photovoltaic Modules”, *J. Electron. Mater.* 47 (10) (2018) 6028-6035. 9. K. J. Chen, F. Y. Hung, T. S. Lui, C. H. Tseng, “Effects of tempered microstructure and hydrogen concentration on hydrogen-induced embrittlement susceptibility of 10B21 screws at low temperature”, *Mater. Trans.* 59 (2018) 1124-1129. 10. K. J. Chen, F. Y. Hung, T. S. Lui, C. H. Tseng, “Decrease in Hydrogen Embrittelemnt susceptibility of 10B21 Screws by Bake Aging.”, Metals 6 (2016) 211. 11. K. J. Chen, F. Y. Hung, T. S. Lui, L. H. Chen, Y. W. Chen, “A study of green Sn-xZn photovoltaic ribbons for solar cell application”, Solar Energ. Mater. Solar Cells 143 (2015) pp. 561-566. 12. K. J. Chen, F. Y. Hung, T. S. Lui, L. H. Chen, Y. W. Chen, “Characterizations of Cu/Sn-Zn Solder/Ag Interfaces on Photovoltaic Ribbon for Silicon Solar Cell”, IEEE J. Photovoltaic 5 (1) (2015) 202-205. 13. K. J. Chen, F. Y. Hung, T. S. Lui, L. H. Chen, D. W. Qiu, T. L. Chou, “Microstructure and electrical mechanism of Sn-xAg-Cu PV-ribbon for solar cells”, Microelectron. Eng. 116 (2014) pp. 33-39. 14. K. J.Chen, F. Y. Hung, T. S. Lui, R. S. Xiao, “Improvement of Charge-Discharge characteristics of the Mg-Ni powder electrode at 55 °C”, J. of Nanomaterial. 2013 (2013) 638953. 15. K. J. Chen, F. Y. Hung, T. S. Lui, L. H. Chen, D. W. Qiu, T. L. Chou, “Effects of Electrical Current on Microstructure and Interface Properties of SnAgCu/Ag Photovoltaic Ribbons”, *Materials Transactions*, Vol. 54, No. 7 (2013), pp.1155-1159. |      |  | | --- | | **Conference Papers** | | 1. K. J. Chen, F. Y. Hung2, T. S. Lui2, and Y. L. Lin2, “A Study of Mechanical Properties and Biomedical characteristics of Degradable Mg-Zn Alloy”, SIMS-22 (October 20-25, 2019, Miyako Messe, Kyoto, Japan) 2. K. J. Chen, F. Y. Hung, T. S. Lui, L. Hsu, “Studies of interfacial microstructures and series resistance on electroplated and hot-dipped Sn-xCu photovoltaic modules”, ICMAP 2018 (July 24-28, 2018, Incheon, Korea) 3. K. J. Chen, F. Y. Hung, T. S. Lui, T. H. Hsiao, S. P. Chang, “The charge-discharge characteristics of Mg-Zn-Al powder with Ag nanoparticles-modified at high temperature environment”, EM-NANO 2017 (June 18-21, 2017, Fukui, Japan) 4. K. J. Chen, F. Y. Hung, T. S. Lui, L. H. Chen, Y. W. Chen, S. P. Chang, Characterizations of Cu/Sn-Zn solder/Ag interfaces on photovoltaic ribbon for Si solar cells, EM-NANO 2015 (June 16-19, 2015, Niigata, Japan) |     **Projects**    **Industry Projects**:    **Professional Certificates**   |  | | --- | |  | |