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Research Interests/Areas

- Advanced electronic packaging materials
- Flexible & wearable electronic materials and devices
- Multi-functional Micro/Nano- Materials
- Electromagnetic interference (EMI) shielding and microwave absorbing materials

Education

- 2013/09-2017/07: Ph.D., Pattern Recognition and Intelligent System, University of Chinese Academy of Sciences
- 2007/09-2010/01: M.S., Materials Science, Jiangsu University
- 2003/09-2007/07: B.S., Polymer Materials and Engineering, Jiangsu University

Work Experience

- 2018/01-Present: Associate Professor, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences
- 2017/09-2018/09: Visiting Scholar, The Chinese University of Hong Kong
- 2013/01-2017/12: Assistant Professor, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences
- 2010/04-2012/12: Research Assistant, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences

Selected Journal Publications

1. D. K. Tian, Y. D. Xu, Y. Wang, Z. M. Lei, Z. Q. Lin, T. Zhao, **Y. G. Hu***, R. Sun*, C.-P. Wong. In-situ metallized carbon nanotubes/poly(styrene-butadiene-styrene) (CNTs/SBS) foam for electromagnetic interference shielding. *Chemical Engineering Journal*, **2021**, 420, 130482.

2. Z. M. Lei, D. K. Tian, X. B. Liu, J. H. Wei, K. Rajavel, T. Zhao, **Y. G. Hu***, P. L. Zhu*, R. Sun, C.-P. Wong. Electrically conductive gradient structure design of thermoplastic polyurethane composite foams for efficient electromagnetic interference shielding and ultra-low microwave reflectivity. *Chemical Engineering Journal*, **2021**, 424, 130365.
3. H. Gu#, Y. D. Xu#, Y. K. Shen, P. L. Zhu, T. Zhao, **Y. G. Hu***, R. Sun,* and C.-P. Wong. Versatile Biomass Carbon Foams for Fast Oil–Water Separation, Flexible Pressure–Strain Sensors and Electromagnetic Interference Shielding. *Industrial & Engineering Chemistry Research*, **2020**, 59, 20740-20748 (#: co-first author)
4. Y. J. Wan,* X. Y. Wang, X. M. Li, S. Y. Liao, Z. Q. Lin, **Y. G. Hu**, T. Zhao, X. L. Zeng, C. H. Li, S. H. Yu, P. L. Zhu,* R. Sun, and C.-P. Wong. Ultrathin Densified Carbon Nanotube Film with “Metal-like” Conductivity, Superior Mechanical Strength, and Ultrahigh Electromagnetic Interference Shielding Effectiveness. *ACS Nano*, **2020**, 14, 14134-14145.
5. X. Y. Zhang, F. Chen, L. W. Han, G. Zhang, **Y. G. Hu***, W. L. Jiang*, P. L. Zhu*, R. Sun, C.-P. Wong. Flexible, Highly Sensitive and Ultrafast Responsive Pressure Sensor with Stochastic Microstructures for Human Health Monitoring. *Advanced Engineering Materials*, **2020**, 2000902.
6. X. B. Liu, X. W. Liang, Z. Q. Lin, Z. M. Lei, Y. X. Xiong, **Y. G. Hu***, P. L. Zhu*, R. Sun, and C.-P. Wong. Highly Sensitive and Stretchable Strain Sensor Based on a Synergistic Hybrid Conductive Network. *ACS Applied Materials & Interfaces*, **2020**, 12, 42420-42429.
7. Y. Zhang, F. Han, **Y. G. Hu***, Y. X. Xiong, H. Gu, G. Q. Zhang, P. L. Zhu*, R. Sun, C.-P. Wong. Flexible and Highly Sensitive Pressure Sensors with Surface Discrete Microdomes Made from Self-Assembled Polymer Microspheres Array. *Macromolecular Chemistry and Physics*, **2020**, 22(11), 200073.
8. Y. X. Xiong, Y. Zhu, X. B. Liu, P. L. Zhu, **Y. G. Hu***, R. Sun, C.-P. Wong. A flexible pressure sensor based on melamine foam capped by copper nanowires and reduced graphene oxide. *Materials Today Communications*, **2020**, 24, 100970.
9. Y. X. Xiong, Y. K. Shen, L. Tian, **Y. G. Hu***, P. L. Zhu*, R. Sun, and C.-P. Wong. A Flexible, Ultra-Highly Sensitive and Stable Capacitive Pressure Sensor with Convex Microarrays for Motion and Health Monitoring. *Nano Energy*, **2020**, 70, 104436.
10. X. Y. Zhang, **Y. G. Hu***, H. Gu, P. L. Zhu*, W. L. Jiang*, G. Zhang, R. Sun, C.-P. Wong. A Highly Sensitive and Cost-Effective Flexible Pressure Sensor with Micropillar Arrays Fabricated by Novel Metal-Assisted Chemical Etching for Wearable Electronics. *Advanced Materials Technologies*, **2019**, 4(9), 1900367.
11. **Y. G. Hu**, X. B. Liu, L. Tian, T. Zhao, H. Wang, X. W. Liang, F. R. Zhou, P. L. Zhu*, G. L. Li, R. Sun, C.-P. Wong. Multidimensional ternary hybrids with synergistically enhanced electrical performance for conductive nanocomposites and prosthetic electronic skin. *ACS Applied Materials & Interfaces*, **2018**, 10(44), 38493-38505.
12. **Y. G. Hu**, T. Zhao, P. L. Zhu*, Y. Zhang, X. W. Liang, R. Sun*, C.-P. Wong. A low-cost, printable, and stretchable strain sensor based on highly conductive elastic composites with tunable sensitivity for human motion monitoring. *Nano Research*, **2018**, 11(4), 1938-1955.

13. Y. Zhang[#], **Y. G. Hu[#]**, P. L. Zhu, F. Han, Y. Zhu, R. Sun, and C.-P. Wong. Flexible and Highly Sensitive Pressure Sensor Based on Microdome-Patterned PDMS Forming with Assistance of Colloid Self-Assembly and Replica Technique for Wearable Electronics. *ACS Applied Materials & Interfaces*, **2017**, 9, 35968-35976. (#: co-first author)
14. Y. Zhu[#], **Y. G. Hu[#]**, P. L. Zhu^{*}, T. Zhao, X. W. Liang, R. Sun^{*} and C.-P. Wong. Enhanced oxidation resistance and electrical conductivity copper nanowires-graphene hybrid films for flexible strain sensors. *New Journal of Chemistry*, **2017**, 41, 4950-4958. (#: co-first author)
15. **Y. G. Hu**, T. Zhao, P. L. Zhu^{*}, Y. Zhu, X. T. Shuai, Xi. W. Liang, R. Sun^{*}, D. Q. Daniel Lu^{*} and C.-P. Wong. Low cost and highly conductive elastic composites for flexible and printable electronics. *Journal of Materials Chemistry C*, **2016**, 4, 5839-5848.
16. **Y. G. Hu**, T. Zhao, P. L. Zhu^{*}, Y. Zhu, X. W. Liang, R. Sun and C.-P. Wong. Tailoring size and coverage density of silver nanoparticles on monodispersed polymer spheres as highly sensitive SERS substrates. *Chemistry-An Asian Journal*, **2016**, 11, 2428-2435.

Selected International Conference Publications (Oral Presentation)

1. X. B. Liu, Z. M. Lei, Z. Q. Lin, **Y. G. Hu^{*}**, P. L. Zhu^{*}, R. Sun. Stretchable and Printable Conductive Polymer Composites for Electromagnetic Interference (EMI) Shielding Meshes. The 21th International Conference on Electronic Packaging Technology (ICEPT), Guangzhou, China, 11th-15th August, **2020**.
2. Y. K. Shen, F. Chen, L. H. Zhang, H. R. Zhang, Y. D. Xu, X. R. Zeng, **Y. G. Hu^{*}**, R. Sun. Fabrication of lightweight CMF/RGO/Ag nanocomposite foam via a simple pyrolysis method for highly effective electromagnetic interference (EMI) shielding. The 21th International Conference on Electronic Packaging Technology (ICEPT), Guangzhou, China, 11th-15th August, **2020**.
3. D. K. Tian, Y. Wang, Y. D. Xu, L. Zhang, **Y. G. Hu^{*}**, F. Deng^{*}, R. Sun. A Conductive Composite Foam Based on Poly(Styrene-Butadiene- Styrene)/Carbon Nanotube (SBS/CNT) for Electromagnetic Interference Shielding. The 21th International Conference on Electronic Packaging Technology (ICEPT), Guangzhou, China, 11th-15th August, **2020**.
4. H. Gu, Y. K. Shen, Y. X. Xiong, X. M. Li, **Y. G. Hu^{*}**, Rong Sun, Ching-Ping Wong. Lightweight carbon-based foams made from bacterial cellulose for electromagnetic interference (EMI) shielding. The 20th International Conference on Electronic Packaging Technology (ICEPT), Hong Kong, China, 11th-15th August, **2019**.
5. **Y. G. Hu**, H. Wang, O. Sheiknejad, Y. X. Xiong, H. Gu, P. L. Zhu, G. L. Li, R. Sun^{*}, and C.-P. Wong^{*}. Stretchable and Printable Medical Dry Electrode Arrays on Textile for Electrophysiological Monitoring. 2019 IEEE 69th Electronic Components and Technology Conference (ECTC), Las Vegas, USA, May 28-31, **2019**.
6. T. Lu, H. Gu, T. Zhao, **Y. G. Hu^{*}**, P. L. Zhu, R. Sun^{*}, C.-P. Wong. Three Dimensional Copper Foam-Filled Elastic Conductive Composites with Simultaneously Enhanced Mechanical, Electrical, Thermal and Electromagnetic Interference (EMI) Shielding Properties. 2019 IEEE 69th Electronic Components and Technology Conference (ECTC), Las Vegas, USA, May 28-31, **2019**.

7. X. Y. Zhang, **Y. G. Hu***, W. L. Jiang*, P. L. Zhu, R. Sun*, C.-P. Wong. A stretchable translucent conductive film based on polymer microspheres lithography technology. The 19th International Conference on Electronic Packaging Technology (ICEPT), Shanghai, China, August 8-11, **2018**, 275-279.
8. **Y. G. Hu**, X. Y. Zhang, P. L. Zhu, T. Zhao, Y. Zhang, R. Sun, C.-P. Wong. Cost-Efficient Formation of Flexible Pressure Sensor with Micropillar Arrays by Metal-Assisted Chemical Etching for Wearable Electronic Skin. 2018 IEEE 68th Electronic Components and Technology Conference (ECTC), San Diego, USA, May 29-June 1, **2018**, 790-795.
9. **Y. G. Hu**, T. Zhao, P. L. Zhu, Y. Zhang, X. W. Liang, R. Sun and C.-P. Wong. A Printable and Flexible Conductive Polymer Composite with Sandwich Structure for Stretchable Conductor and Strain Sensor Applications. The 18th International Conference on Electronic Packaging Technology (ICEPT), Harbin, China, August 16-19, **2017**, 1361-1365.
10. **Y. G. Hu**, T. Zhao, P. L. Zhu*, X. W. Liang, Y. Zhu, H. B. Su, R. Sun* and C.-P. Wong. Water-dispersible graphene paste for flexible conductive patterns and films. The 17th International Conference on Electronic Packaging Technology (ICEPT), Wuhan, China, August 16-19, **2016**, 200-205.

Inventions

1. **Y. G. Hu**, T. Zhao, X. Y. Zhang, X. W. Liang, P. L. Zhu, and R. Sun. Transparent, Flexible and Stretchable Electromagnetic Shielding Thin Film and Method for Preparing Same. PCT International Patent, WO2020/000942A1
2. **Y. G. Hu**, T. Zhao, P. L. Zhu, Y. Zhang, Y. Zhu, X. W. Liang, and R. Sun. Pressure Sensor and Preparation Method Therefor. PCT International Patent, WO2018/120384A1.
3. X. T. Shuai, P. L. Zhu, **Y. G. Hu**, and R. Sun. Capacitive-type Pressure Sensor and Preparation Method Therefor. PCT International Patent, WO2017/211095A1.

Selected External Professional Service

- Guested Editor, Special Issue of "Flexible Electronic Materials and Devices" for *Crystal*
- Reviewer, *Nano Energy*
- Reviewer, *ACS Applied Materials & Interfaces*
- Reviewer, *IEEE Transactions on Industrial Electronics*
- Reviewer, *IEEE Transactions on Components, Packaging and Manufacturing Technology*
- Reviewer, *Microelectronics Reliability*
- Reviewer, *Current Applied Physics*

Professional Memberships

- Senior Member of Chinese Society of Micro-Nano Technology
- Member of Chinese Chemical Society
- Member of Shenzhen Association for Artificial Intelligence

Awards & Honors

- Excellent Staff Award from SIAT, CAS (2011, 2014, 2015, 2016, 2020)
- Excellent Supervisor Award from SIAT, CAS (2019)
- Shenzhen Overseas High-Caliber Personnel (2018)
- Best Poster Award of the 3rd International Symposium of Flexible and Stretchable Electronics (2017)