Prof. Kaichen Xu

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Title:

Laser Manufacturing of Multifunctional Flexible Sensors & System Integration

Abstract:

Sensors play crucial roles in the Internet of Things, artificial intelligence, and big data etc. In recent years, the development of flexible electronic manufacturing technologies has significantly extended the applications of smart sensors, which can be conformally attached onto the irregular surfaces. High-performance flexible sensors usually rely on judiciously engineering micro/nano-structures and active materials. Advanced laser manufacturing is endowed with versatile functionalities for flexible electronics. Based on the principles of laser-matter interactions, various novel flexible/soft sensors have been developed to dynamically track pressure, temperature, humidity, flow, slanting angles etc. Coupled with hybrid manufacturing technologies, this talk will also present a couple of integrated flexible sensing systems and their multifunctional applications.

Biography:

Kaichen XU is currently a ZJU-100 Professor at the School of Mechanical Engineering, Zhejiang University (ZJU). He received the PhD degree from National University of Singapore (NUS) in 2018 and then moved to Osaka Prefecture University (OPU) as a JSPS Postdoctoral Fellow in Japan. His research mainly includes hybrid laser manufacturing of multifunctional flexible electronics. Over 30 papers have been published in Adv. Mater., Adv. Funct. Mater., Adv. Sci., ACS Nano etc. He was invited to serve as a Corresponding Expert of Engineering, a journal launched by the Chinese Academy of Engineering, Youth Editor of International Journal of Extreme Manufacturing, and Editorial Board of Opto-Electronic Engineering. He is independent reviewers for over 40 journals (over 160 times).