Preface

With the past year experienced with hardships, the year 2021 comes with new opportunities and expectations. Similarly, the journal Micro and Nanosystems (MNS) comes with a new volume with a total of 18 articles reporting new technologies and progress, contributed to the first issue of MNS volume 13.

As MNS provides the best forum for fundamental studies and interdisciplinary research (e.g. tissue engineering, medicine, energy, environment, food, and security) on micro and nanoscale materials and devices to push the technology from science to engineering, the articles published in the first issue of volume 13 exactly fit such aims and scope. Among these articles, one review (L. Lin et al.), a letter (C. Zhu et al.) and two research articles (Z. Liu et al.) focused on nanofiber materials for biomedical applications. Two research papers (N. R. Shirsath et al.) focused on formulating the valsartan-mannitol solid dispersions by a bottom-up process; to remove aluminum from drinking water, the electrospun biodegradable bi-layered microfiber membranes were developed (N. Sultana); to alter the properties of GTS alloys, with one research work (A. K. Singh and T.-C. Jen) investigating the effects of inorganic and organic additions on the alloys’ optical properties; by loading propranolol hydrochloride. Another research (X.-D. Li and Q.-Z. Zhai) prepared a sustained-release preparation for the treatment of heart disease.

Theoretical predictions and analysis are effective tools to unveil the fundamental mechanisms and to explain the experimental findings. In this issue, by applying Hertz contact theory, one research paper (S. V. Kontomaris et al.) analyzed the errors provided in spherical indentations for big h/R ratios in AFM experiments, followed by an opinion on the necessity for calculating Young’s modulus in AFM nanoindentation experiments (S. V. Kontomaris et al.). One research work (J. Gong et al.) analyzed flexure hinge based on the concept of transfer matrix; one research paper (Y. Duan) focused on carbon capture for dealing with climate change; through data analysis, and another research (Z. Hu and Y. Hu) explored the material properties on nanoindentation responses. Furthermore, a micro-channel cooling model for a three-dimensional integrated circuit was proposed (K.-J. Wang et al.). For developing nanoscale devices, a nanowire with a tunable THz plasmonic waveguide was proposed (X. Wang et al.). One research work and one technical note (H. Maity et al.) targeted the circuit, and a process to squeeze out silicon from the sand was characterized (M. S. Islam et al.). For details of these published papers, please read this Issue of MNS joyfully.

I express heartfelt thanks to all of the authors, reviewers, and editors for their efforts and time spent on reviewing, commenting, and editing articles to meet our standards. It is your contribution to make the MNS successful, and I am grateful to you for sharing the research published in the MNS with the general readers. I would sincerely welcome suggestions from you for improving the impacts of MNS and ask for your strong support through the submission of your research papers and joining the editorial team.

Yours Sincerely,

Yuhua Duan
Editor-in-Chief