

U.S. NSF – China NSF Workshop on Sustainable Manufacturing Held in China

Initiated by the U.S. NSF and China NSF, the U.S. NSF – China NSF Workshop on Sustainable Manufacturing was successfully held in Wuhan, China, March 13-15, 2014. Drs. Bruce Hamilton, JoAnn Lighty, and William Chang of the U.S. NSF as well as a number of China NSF officers attended the workshop. The workshop was co-chaired by Prof. Yinlun Huang of Wayne State University and Prof. Xinyu Shao of Huazhong University of Science and Technology of China.

The workshop was targeted to identify high-priority specific research objectives that could be pursued significantly better by collaborative U.S. - China research teams than by U.S. researchers and China researchers working separately without U.S. - China collaboration. In the workshop, U.S. and China researchers defined high-priority sustainable manufacturing research objectives and discussed related collaborative research project areas that were potentially fundable jointly by the U.S. NSF and China NSF. The workshop was designed for broad and in-depth discussions of challenges, opportunities, and collaborations in critical areas of mechanical/chemical sustainable manufacturing. Participants from each country are leading/active scholars in mechanical, chemical, industrial, material, civil and environmental engineering. Thematic areas included (i) sustainable products and processes and (ii) sustainable manufacturing systems. These thematic areas covered most frontier research topics, such as product design innovations for resource efficiency and effectiveness, manufacturing process and equipment design with minimum ecological footprints, smart manufacturing, fast and in-time green production, and sustainable supply chain and industrial ecology. The workshop greatly helped U.S. delegates to gain a clear understanding of research on sustainable manufacturing in China, and identify high-level collaboration opportunities with Chinese colleagues. As the workshop was designed for multidisciplinary discussions, it was targeted to lead to identification of cutting-edge areas in sustainable manufacturing and a plan for effective interdisciplinary collaboration.

The U.S. delegation was formed of 14 academic scholars of all ranks, including scholars from underrepresented groups. In specific, the workshop was co-funded by the Global Venture Fund (GVF) of NSF's International Science and Engineering section (ISE), as well as the CMMI and CBET divisions of NSF's Engineering Directorate.