Special Issue on Advanced Abrasive Processing Technologies

Guest Editors:

Prof. Emeritus Dr. Minoru Ota, Kyoto Institute of Technology, Japan Prof. Dr. Hirofumi Suzuki, Chubu University, Japan Prof. Dr. Kazuhito Ohashi, Okayama University, Japan Prof. Dr. Takazo Yamada, Nihon University, Japan

brasive processing technologies support production processes in various industrial fields, Asuch as the automotive, telecommunications, semiconductor, health care, energy, and aerospace industries. In this era of major changes, known as the Fourth Industrial Revolution, advanced abrasive processing technologies that produce cutting-edge devices, machinery, and equipment are needed. Subjects related to abrasive processing are extremely diverse, including environmentally-friendly processing, function generation processing, and ICT fusion processing, in addition to continuing basic subjects such as high-efficiency processing, difficultto-cut material processing, and ultra/high-precision processing. In order to meet these diversified needs, it is important that advanced abrasive processing technologies that capture the changes of the times be developed. Recently, basic grinding technologies, such as advanced measurement methods of analyzing grinding phenomena, the development of high-performance grinding wheels, and truing and dressing technologies, have progressed. Furthermore, advanced abrasive processing technologies have been developed, including the high-efficiency grinding of next-generation semiconductor materials and high-performance, difficult-to-cut materials, the automation/intelligence of grinding machines, the combining of mechanical energy and physical/chemical energy for grinding, and high-performance surface processing.

This special issue covers the advanced abrasive processing technologies, including grinding, lapping, polishing, abrasive-jet machining, vibration-assisted abrasive machining, magnetic machining, and energy-assisted abrasive machining, etc.

