INTERNATIONAL JOURNAL OF AUTOMATION TECHNOLOGY

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This journal focuses on advanced automation technologies ranging from basic techniques to a variety of applications meeting industrial requirements. This covers automation technologies on design, manufacturing, assembly, inspection, transportation, logistics, machine tools, robotic system, and control systems and devices. While some journals focus on automation specific to scientific research, no single journal provides such comprehensive coverage as engineering research and development papers and commercial magazines. This journal thus provides many practical examples relating advanced automation and reviews, research and development papers, news, and interview, providing readers with much new, interesting, and informative topics directly applicable to their work.

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*(As of April 1, 2017)*
Celebrating 10th anniversary

Message from Editors-in-Chief

Our journal, the *International Journal of Automation Technology*, will soon be celebrating its 10th anniversary. I would like to express my sincere gratitude to the editorial committee members and, on behalf of the editorial committee, to the researchers for their kind cooperation in submitting their papers.

As I wrote in the preface to the first publication, the Journal focuses on advanced automation technologies, ranging from fundamental technologies to a variety of industrial applications, to meet various industrial and non-industrial needs. The Journal covers all manner of automation technologies in the areas of design, manufacturing, assembly, inspection, transportation, logistics, machine tools, robotic systems, control systems and instruments, etc. There are other journals that focus on automation specific to scientific and fundamental research, but there is no other journal that aims to publish engineering research findings and practical developments.

Thus, the Journal provides a large number of practical examples of advanced automation technologies of interest to its readers. In addition, the Journal distinguishes itself by calling for papers under the specific themes, helping its readers to understand the current state of the art in each field.

I look forward to the further development of the *International Journal of Automation Technology* under the new Editor-in-Chief in the next decade.

Yoshimi Takeuchi
November 6, 2016

Yoshimi Takeuchi
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I would like to extend my sincere congratulation on the tenth anniversary of the *International Journal of Automation Technology*. The journal has been successfully publishing, for the last ten years, original scientific papers, review papers, technical papers, and technical notes as well as special issues on dedicated topics, all related to recent advancements in automation technology. I am most respectful to not only the editors and the publisher but also the contributors of the papers for their continued efforts. It is quite unique that the journal covers a wide spectrum of scientific and technical topics in the field of automation technology, including manufacturing systems, production planning, robotics, machine tools, control, manufacturing processes, metrology, etc. The Journal has been contributing greatly to the engineers in various industries to improve their productivity and also to the scientists and researchers to conceive new ideas and to publish their research results.

If we look back on the developmental history of the machine tool, which is the key to manufacturing automation, it started as a manual machine and then evolved into a mechanized or powered machine tool, a numerically controlled machine tool, and then an intelligent machine tool. It is thus expected that information technology, including IoT, Industry 4.0, the handling of so called big data, and the intelligent control of machine tools and robots as well as advanced processing technologies will play important roles in advanced and automated manufacturing in the future.

I expect that the *International Journal of Automation Technology* will continue to be the major information source for the scientists and engineers who will create new values for manufacturing technologies in the future.

Toshimichi Moriwaki
November 6, 2016
Celebrating 10th anniversary

Congratulatory Message

International Journal of Automation Technology (IJAT) was initiated by Prof. Takeuchi to fill the gap between manufacturing and its application in the presently automated factories ten years ago. The journal has received strong record of submissions which have passed through rigorous review process by highly established academics in the field. As a result, IJAT has become one of the key journals to disseminate research results from traditional manufacturing processes to most advanced nano-micro manufacturing, smart actuators, robots, micro-manipulators, control methods, and a number of key automation applications.

The Editors-in-Chief Prof. Takeuchi, associate editors, and editorial officer Mr. Wakai for the outstanding efforts which brought the journal to a world class level in past ten years. We appreciate all authors who contributed to the journal with their articles which made the journal successful.

Yusuf Altintas
October 31, 2016

Yusuf Altintas
Professor Dr., Manufacturing Automation Laboratory, Department of Mechanical Engineering, The University of British Columbia 2054-6250 Applied Science Lane, Vancouver BC V6T 1Z4, Canada
The manufacturing industry is undergoing profound changes. These are driven by digitalization and networking. Automation of processes are an important part of these changes. Many good solutions exist, many things still have to be researched and tested in practice. The exchange of knowledge and showing best practice applications are of great interest. With this in mind the International Journal of Automation Technology (IJAT) has gained high reputation in serving as a platform for knowledge exchange in the field. I congratulate on the 10th anniversary of the journal. In this spirit I wish the Journal to continue the prosper development also in future.

Fritz Klocke
Professor Dr., Lehrstuhl für Technologie der Fertigungsverfahren, Werkzeugmaschinenlabor WZL der RWTH Aachen Steinbachstr. 19, D-52074 Aachen, Germany

November 25, 2016
1. Objective
This publication is an interdisciplinary journal covering the science and technology of automation.

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All fields of automation. Submission of a paper implies material in that paper has not been published before and is not being considered for publication elsewhere.

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Except for English articles requested by the IJAT editorial board, those already published or to be published are not accepted for submission. By “published” we mean that articles have been released to the general public in academic journals, newspapers, magazines, etc.

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