Determining what technologies will shape the world over the next ten years is not an easy task. To be successful, innovative technologies must be beneficial on a large scale, help solve outstanding problems, be financially attractive, but also pose minimal ethical issues. In the current landscape, it seems certain that Intelligent Systems will play a central role.

“Artificial intelligence”, “autonomous vehicles”, “quantum computing”, and “neuromorphic engineering” have abandoned the niche of the research laboratory, only to increasingly become the subject of wider public discussions. Both public and private research funding on these topics has seen a considerable surge over the last decade. Artificial intelligence and machine learning have already affected our daily lives, as they enable our smartphones to find that song we were really missing out on or empower commercial websites with the ability to offer us goods we did not know we needed. Industry giants have not been indifferent, actually playing the main role in this technological revolution. Ford and Tesla have focused their efforts towards the development of autonomous vehicles, Intel has recently reported the first brain-inspired computing chip, while only a few months ago, Google controversially announced they have achieved the holy grail of “quantum supremacy”. In the meantime, many other companies worldwide are channeling their efforts towards robotics and automation with the aim to improve the efficiency of their production lines.

The impact on our daily lives is and will be massive, going far beyond commercial applications. Assistive social robots show great potential in elderly care or post-traumatic rehabilitation. Facial recognition technology can be used to fight criminal activity. At this particular time, we all hope that the recent progress in bioinformatics will be able to accelerate the development of a vaccine against COVID-19.

However, technological breakthroughs come with a price. More specifically, several ethical issues have been identified, generating serious controversy. In a resurgence of the fears that accompanied the previous industrial revolutions, concerns have been raised regarding the automation of jobs, which might cause substantial loss of jobs as human workers are progressively replaced by robots and AI assistants. Autonomous driving presents ethical issues that are being investigated by several research groups worldwide and there are increasing concerns about the misuse of AI-powered mass-surveillance.

These technical and ethical issues have arisen in just a short time and addressing them adequately will require massive research efforts. Many research institutes around the globe are now focusing on Intelligent Systems and related topics. National and international funds have been established. Countries like China and the United States have presented R&D strategic plans, planning to invest billions of euro/dollars in those research areas. As a result, the scientific world has observed a burst in the number of relevant published papers.

Figure 1 shows the number of articles on Machine Learning and Robotics published since 2000.

The Advanced family of journals has been publishing top quality research for more than 30 years, since the launch of Advanced Materials, a leading journal in the field of material science. To catch up with this trend, we launched Advanced Intelligent Systems one year ago with the aim of publishing cutting-edge multi-disciplinary research on all topics relevant to intelligent systems. We aim to address the pressing needs of a rapidly evolving scientific community, while maintaining the same high standards as our sister journal. We accomplish this thanks to the same team of dedicated in-house editors who select articles by relying on a rigorous peer-review process. In addition, the journal benefits from having a top-notch editorial advisory board composed of carefully selected renowned experts providing a balanced diversity in terms of expertise, origin, and gender.

Although only one year has elapsed since its launch, Advanced Intelligent Systems has been well-received by the relevant communities around the globe. In the previous twelve issues, we have published papers from many top scientists working on intelligent systems-related topics, including robotics, artificial intelligence, and neuromorphic computing. The best papers are regularly handpicked and highlighted in our Editors’ Choice virtual issue (see Table 1). Please keep an eye on the Editors’ Choice virtual issue for future entries.

The first special issue of Advanced Intelligent Systems, which will focus on Soft Robotics, will be published next month (guest editors: Hamid Marvi, Guo Zhan Lum, and Ian Walker). Two additional special issues, focusing on Soft Bionic Sensors and Space Robotics, are planned for the current year.

We wish to thank our readers, authors, reviewers, and board members, whose support and interest enable us to guarantee a constant enhancement to the quality of the journal. We hope you continue to enjoy reading Advanced Intelligent Systems!

Dr. Floriano Cuccureddu Dr. Hwan Wang
Editor Editor
Dr. Babak Mostaghaci Dr. Hakim Meskine
Editor Editor-in-Chief

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Figure 1. The number of papers published on “Machine Learning” and “Robotics” in the period of 2000–2019 (Source: Web of Science).
Table 1. List of papers highlighted in the Editors’ Choice virtual issue.

| Title                                                                 | Corresponding Authors              | DOI                                      |
|----------------------------------------------------------------------|-----------------------------------|------------------------------------------|
| Control of the Folding Dynamics of Self-Reconfiguring Magnetic Microbots Using Liquid Crystallinity | Nicholas L. Abbott & Orlin D. Velev | https://doi.org/10.1002/aisy.201900114   |
| A Braitenberg Vehicle Based on Memristive Neuromorphic Circuits     | Feng Miao & Jun Liang              | https://doi.org/10.1002/aisy.201900103   |
| Magnetic Continuum Device with Variable Stiffness for Minimally Invasive Surgery | Bradley J. Nelson                 | https://doi.org/10.1002/aisy.201900086   |
| Reservoir Computing Using Diffusive Memristors                      | Qiangfei Xia & J. Joshua Yang     | https://doi.org/10.1002/aisy.201900084   |
| Onboard Evolution of Understandable Swarm Behaviors                | Sabine Hauert & Matthew Studley   | https://doi.org/10.1002/aisy.201900031   |
| Octopus-Inspired Soft Arm with Suction Cups for Enhanced Grasping Tasks in Confined Environments | Barbara Mazzolai                   | https://doi.org/10.1002/aisy.201900041   |
| Soft Magnetic Skin for Continuous Deformation Sensing              | Carmel Majidi                     | https://doi.org/10.1002/aisy.201900025   |
| Soft Pneumatic Sensing Chambers for Generic and Interactive Human–Machine Interfaces | Gursel Alici                     | https://doi.org/10.1002/aisy.201900002   |
| Electronic Contact Lens: A Platform for Wireless Health Monitoring Applications | Hadi Heidari                     | https://doi.org/10.1002/aisy.201900190   |
| Memristor-Based Biologically Plausible Memory Based on Discrete and Continuous Attractor Networks for Neuromorphic Systems | Ru Huang & Yuchao Yang             | https://doi.org/10.1002/aisy.202000001   |