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AgriEngineering—An Open Access, Open Source, Open Hardware Journal for the Agricultural Engineering Research Community

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AgriEngineering is the first open access, open source, open hardware journal anywhere in the world. By providing details and access to tools and software that go into creating an article, the journal will provide the resources for any scientist, new to the field, to rapidly come up to speed without having to use precious development time—as is the status quo. This new paradigm is expected to dramatically accelerate research progress, by shortening the time it takes for graduate students and new scientists to immerse themselves in new fields. It also shortens the typical learn/explore/innovate cycle and leads to faster development and adoption of technologies. In technology disciplines with limited research funding—such as agriculture—this new approach will be particularly beneficial. MDPI was selected as the publisher as they were a first mover in open access, having started in 1996, and now publish over 200 diverse peer-reviewed, scientific, open access journals with over 36,000 academic editors. Their publications are indexed by key databases, including EI, Scopus, ESCI, and SCIE. MDPI is once again helping us in leading the charge into peer-reviewed open source and open hardware scientific publishing and breaking new ground and expectations as we strive to streamline the cycle from innovation to adoption.

AgriEngineering covers a discipline with significant multidisciplinary features broadly relating engineering as applied to agricultural sciences. *AgriEngineering* is an international and cross-disciplinary scholarly and scientific open access, open source, open hardware journal on the engineering science of agricultural and horticultural production. Our aim is to encourage engineers and scientists to publish their experimental and theoretical research, along with the full set of schematics, source code and mechanical designs and simulation models. The aim, as mentioned above, is to promote accelerated and rapid dissemination of leading-edge technologies emerging in agricultural, biological, environmental and agronomic engineering.

The journal aims at publishing high-quality scientific papers with the key addition that all papers will also provide support paper(s) and project reports that include details of relevant designs that are to be released using an open source license. Open access journals usually require the author to pay an article processing charge (APC), however, there is no APC for papers published in the first two years of this new journal. There are also no charges for rejected articles, no submission charges, and no surcharges based on the length of an article, figures, or supplementary data. All accepted papers will go through MDPI's in-house layout and English editing process before being returned to the authors for proofreading and final submission.

In today's modern age of research one can no longer ignore open source platforms, as they promote high quality collaboration as well as increasing rapid adoption and accelerating the development of critical new technologies. By encouraging scientists to openly share both their research results and their designs, we hope to promote rapid and widespread adoption of these new technologies. By lowering the barriers to entry that open source projects provide, we strive to promote broader

groups of collaboration, leading to enhanced technologies at significantly decreased development times and wider and more rapid adoption.

There is no restriction on the length of the papers. The full experimental details, schematics, source code and design drawings must all be provided and submitted as support paper/s, so that the results and systems can be reviewed and, upon publication, they can be rapidly reproduced, promoted, and deployed. We also accept standalone support papers covering descriptions of technology, including an abstract, background, and objectives section. It is suggested that each scientific paper be submitted for publication in 2–3 parts where the first part, A, follows the traditional journal paper format, providing experimental design, results, discussion; and the support paper(s) (parts B–n) add electrical schematics, 3D mechanical engineering models, source code and any other pertinent details required to duplicate the apparatus that was used to generate the results presented, or referenced, from part A.

The scope addresses key engineering developments in the agricultural, biological and environmental sciences, including the following topics:

- sensors and instrumentation
- robotics and machine-learning
- machine-vision, image processing and algorithm development
- artificial intelligence and deep neural and convolutional networks
- pneumatic transport and sensing of materials
- computational fluid dynamics, heat transfer and process engineering
- moisture-sensing
- microwave moisture, permittivity and density sensing
- horticultural and greenhouse engineering
- near-infrared (NIR) spectroscopy
- contamination mitigation and prevention
- irrigation
- pre- and post-harvest engineering
- root morphology sensing
- yield monitoring
- food, feed and fiber process engineering
- industrial crops and products engineering
- dryer design and optimization

Other applications not mentioned here will also be accepted as long as they provide engineering solutions supporting the fields of agricultural, biological, environmental, and agronomic sciences.

Therefore, this international journal covers a broad spectrum of important topics, and most importantly provides development key design components that are traditionally missing, permitting readers to fully duplicate the work of the publishing scientist. The papers published in this journal will provide comprehensive and unique information to a global readership, covering diverse and multi-disciplinary fields. A large number of eminent professors and scientists from around the word serve as board members and reviewers for the journal. These include scientists from key universities in the United States and Europe as well as world leading scientific research organizations such as the United States Department of Agriculture's Agricultural Research Services (USDA-ARS), and Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO). As our objective is to get the journal off to a rapid start with adoption by the community, any and all suggestions for guest editors and special issues are welcome. The primary objective of *AgriEngineering* is to publish high quality scientific contributions that include fully enabled specifications and designs, leading to rapid adoption and deployment to the scientific community. All scientific and technical papers that contribute to this goal are welcomed and encouraged.

AgriEngineering is also putting into place targeted help for new scientists to help mentor and guide them as they undertake the difficult task of publishing in scientific journals. I look forward to receiving your contributions to *AgriEngineering*, and welcome your comments and ideas on how to make it an outstanding journal. I can be reached through the Editorial Office (agriengineering@mdpi.com) or through my personal email (Mathew.Pelletier@ars.usda.gov).

Conflicts of Interest: The author declare no conflicts of interest.