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Editorial

Updates to Sections in the *Applied Sciences* Journal

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The journal *Applied Sciences* was established in 2011, covering five broad subjects and thirty-two narrow sections. Since its establishment, we have been dedicated to maintaining an open and strict peer-review process in order to guarantee the highest quality of the papers we publish. Nonetheless, we found it fitting to retrospectively assess these publications and re-evaluate the topics outlined in our scope to ensure their ongoing relevance and currency. Taking into account the published papers, the advancements in suitable research domains that have transpired in recent years, and suggestions from Section Editor-in-Chiefs, we have updated the scope of the journal as described below.

Section information has been slightly changed in the Section "Nanotechnology and Applied Nanosciences", and there are a few new subject areas. The new section information includes the following:

- This Section is intended for accounts of experimental and theoretical works pertaining to nanotechnology or nanosciences oriented toward applications. More specifically, papers dealing with nanostructure production, manipulation, or assembly, the construction or characterization of nano-architectures, the design of nanoscale devices, and the use of nanoparticles or nanostructures to improve the macroscopic properties of materials and systems are welcome. This Section is particularly suited to applications of nanomaterials in all domains, ranging from sustainable materials science to medical treatments. In contrast, works focusing on the toxicity of nanomaterials, nanobiological research involving living cells, bacteria and viruses, and works involving bio-ethical issues should be addressed in more specialized journals.

Newly added subject areas are as follows:

- Nanosheets in nanostructures;
- Topological states in nanosciences;
- Nanoscale integration and nanoscale imaging in nanotechnology;
- Nanofluids, functionalized nanomaterials, and smart nanomaterials in materials sciences;
- The application of nanomaterials for electrodes and electrochemistry, energy saving, energy storage, electromagnetism, geometrical and physical optics, and medicine and pharmaceuticals;
- Upcycling and recycling in regulation and normalization.

The "Earth Sciences and Geography" Section has been updated. The new section name is "Earth Sciences", and the information is as follows:

The "Earth Sciences" Section of *Applied Sciences* welcomes the submission of high-quality, interdisciplinary, original, and ground-breaking research as well as review articles related to all aspects of the Earth Sciences community. It also publishes concise, cutting-edge, intriguing communications and articles of broad interest. The new section focuses on various aspects that involve the Earth's structure, interior, composition, and evolution and also looks at modeling, observation, and experimentation in a wide spectrum of geosciences at all spatial and temporal scales. All manuscripts submitted for publication in this Section will undergo a rigorous peer-review process and will be published rapidly online upon acceptance.

The new subject areas are as follows:

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- Geochemistry;
- Geomorphology;
- The Earth's Geophysics;
- Mineralogy and Petrology;
- Oceanography;
- Structural and Stratigraphic Geology;
- Volcanology.

The "Energy Science and Technology" Section is now broader, with the following topics:

- Concentrating solar power in renewable and green energy subject areas;
- Energy islands in wind energy;
- Concentrated solar energy technology and systems and hybrid solar energy systems in solar energy;
- Micronuclear power plants in nuclear energy;
- Electrical ships and data centers in energy and transportation;
- The protection of power systems, microgrids (both AC and DC), power distribution, and AI in energy and power in smart grids;
- A power converter for electrolyzers; STATCOM in power electronic converters.

The Section "Applied Physics" has been renamed to "Applied Physics General", and the subject area Security has been removed from this Section. No other changes have been made.

Additionally, new subject areas have been added in the Section "Applied Thermal Engineering":

- Hydrogen energy has been added to the energy conversion subject area;
- Fire research, combustion pollutant control, detonation, explosion and supersonic combustion, and novel combustion technologies are new topics in the combustion subject area;
- Photovoltaic thermal energy, renewable energy, and energy storage were added to the zero-emission technologies subject area.

In the Section "Computing and Artificial Intelligence", two hot topics have been added to the Computer Vision, Machine Learning, and Pattern Recognition subject area:

- Generative Artificial Intelligence;
- Explainable Artificial Intelligence.

The Section Information on "Civil Engineering" has been slightly changed:

- Civil engineering once encompassed all non-military engineering and, as such, is a very wide-ranging subject area. Today, it covers all things big bridges, buildings, foundations, dams, rivers, water distribution networks, roads, transportation networks, and a significant element of general technical management. This Section welcomes original contributions to all relevant subject areas of *Applied Sciences*. As there are already specialist journals in many of these areas, we particularly welcome contributions that do not easily fall into any one sub-discipline or emerging areas that do not yet have their own journals.

In recent decades, there has been a surge in computing power while the cost of electronics and sensing technologies has fallen. We particularly welcome contributions that exploit the opportunities that these developments have made possible.

There are a few newly added subject areas:

- Reducing the carbon footprint and improving the circularity of structures have been added to the subject area of structural engineering;
- Nature-based solutions to flooding were added to hydrology and hydraulic engineering;
- Floating offshore platforms were added to construction engineering.

Furthermore, the "Electrical, Electronics, and Communications Engineering" Section has two new subject areas:

- Image processing;
- Electric machines and drives.

In the "Transportation and Future Mobility" Section, the new subject areas are as follows:

- Intelligent transportation systems;
- Traffic monitoring, modeling, and control;
- Urban and public transportation;
- Air transportation;
- Water transportation;
- Rail transportation;
- Freight and logistics.

- Advanced driver assistance systems;
- Automated and autonomous driving;
- Vehicle safety and engineering systems;
- Cooperative driving systems;
- Human factors and human–machine interactions.

- Sustainable transportation;
- Transport and environment;
- Electrified transportation systems;
- Electric and hybrid vehicles;
- Energy system for vehicles;
- The privacy and security of transportation.

- Artificial intelligence;
- Decision and control systems;
- Simulation and digital twins;
- Internet of Things;
- Intelligent mobility;
- Big Data in future mobility;
- Industry 4.0 in future mobility.

Another section with new updates is the "Additive Manufacturing Technologies" Section. The scope has been changed, and there are three newly added subject areas.

- Over the past 40 years, additive manufacturing has grown to be used in an ever-growing number of application areas. Research on the 3D theme meets the scientific criteria of each discipline chosen to contribute to its development. In principle, two forms of research could exist, depending on their purpose: fundamental research for broadening and deepening our understanding and applied research to find a solution to a practical problem and propose a robust epistemological framework for the research. The "Additive Manufacturing Technologies" Section is open to receive high-quality papers on new technologies, processes, methods, materials, systems, and applications in the field of additive manufacturing.

The newly added subject areas are as follows:

- Epistemological research efforts in creating a 3D "interdisciplinary discipline";
- Mastering complex interdependences between process, material, and design;
- AI and 3D printing design.

The "Applied Dentistry and Oral Sciences" Section was revised and includes the following subject areas:

- Operative dentistry;
- Implantology;
- Imaging in dentistry;
- Digital dentistry;
- Orthodontics;
- Oral surgery;

- Pedodontics
- Endodontics;
- Prosthetics dentistry;
- Applied dentistry;
- Dental materials;
- Novel biomaterials;
- Nanodentistry;
- Tissue engineering and regenerative dentistry;
- Wearable devices in dentistry;
- Early diagnosis in dentistry;
- Artificial Intelligence (AI) in dentistry;
- Robotics in dentistry;
- Big Data and data mining in dentistry;
- Omics sciences in dentistry;
- e-Health in dentistry;
- Translational research in dentistry;
- Oral imaging.

We hope that you will find the newly updated sections and subject areas interesting. We encourage you to reconsider our journal for your future submissions and help us develop the journal further.