

Circular Economy and Sustainability

Call for Papers for a Special Issue: **Convergence research: Catalyzing sustainable energy solutions for circular economies of the future**



Scope:

What is happening in our world at this very moment, as we face a historic global pandemic, is a bold example of the complex and interconnected challenges we must expect to address as we move forward into the future. The energy system, tightly interconnected with environmental, social, agricultural, economic and health systems, is under growing pressure to deliver its services both reliably and sustainably to growing demands across multiple sectors, including transportation, buildings, and industry. Addressing these challenges requires the development of research that cuts across disciplines and innovates at their interfaces to develop multifaceted solutions that respond to their social, economic, technological, and policy dimensions. Producing such solutions requires the active participation and co-creation of multiple stakeholders from government, industry, and the private and public sectors. For this to happen, innovative research infrastructure and mechanisms that enable rapid research and engagement responses to current and future anticipated grand challenges must be in place.

Convergence research integrates knowledge, tools and methodologies from the physical and social science disciplines to create a network of partnerships that stimulate innovation, discovery and translational application. The [Texas A&M Energy Institute Convergence Research Incubator](#) aims to provide an enabling platform that catalyzes research convergence around complex grand challenges, particularly those related to the future of energy systems. The Incubator particularly focuses on thematic areas related to the:

- *water-energy-food health nexus*
- *energy digitization*, and the
- *future of manufacturing in circular economies*.

The proposed Special Issue reflects the efforts of the *Convergence Research Incubator* in creating this platform for convergence research by fostering cross-disciplinary collaborations and stakeholder engagement that addresses the complex energy system challenge of our century. The Special Issue will include a series of white papers addressing this goal from intellectually diverse researchers and stakeholders.

The objectives of the Special Issue are to:

1. **Outline** emerging scientific questions and societal needs that require deep integration of disciplines and innovative mechanisms for stakeholder engagement
2. **Develop** integrative frameworks for transformative convergence research that addresses the identified questions.
3. **Identify** key challenges, knowledge gaps, and the potential societal impact of the proposed research.

Suggested White Paper outline:

- Abstract
- Introduction
- Deep scientific question / pressing societal need
- Need for deep integration of disciplines/ Potential of transformative convergence research
- State of the science - key challenges
- Data and knowledge gaps
- Proposed innovative framework
- Mechanisms for bringing together intellectually diverse researchers & stakeholders
- Potential impact on society

Guest Editor:

Dr. Bassel Daher

Convergence Research Incubator

Assistant Research Scientist | Texas A&M Energy Institute

Adjunct Assistant Professor | Department of Biological and Agricultural Engineering

Research Fellow | Institute for Science, Technology, and Public Policy

bdaher@tamu.edu

Timeline:

October 9, 2020: Invitation to Contributors

November 15, 2020: Abstract Submission Deadline

January 10, 2021: Final White Paper Submission Deadline

How to submit:

Manuscripts should be original and written in English. The suggested length per article is between 4000-5000 words, excluding references. Submission requires that the manuscript has not been submitted for review or publication elsewhere and that it will not be submitted elsewhere while the review process is underway. All papers go through peer-review by at least two experts: with regard to this point, at the time of submission, authors will be asked to suggest a number of reviewers' names.

Papers should be submitted electronically via <https://www.editorialmanager.com/cies/>. Please indicate that this is a submission for the “ **TAMU Convergence Research**” issue on the author checklist during the submission process. Details about the preparation of the manuscript can be obtained from the journal's webpage at <https://www.springer.com/journal/43615/submission-guidelines>.

The Journal:

The [Circular Economy and Sustainability](https://www.springer.com/journal/43615) (CIES) journal aims to bring a new approach of the key concepts of circular economy and sustainability, by combining the scientific disciplines of economy, management, engineering, technology, environment, and society. As circular economy is necessary today to promote the goals of sustainable development; these scientific areas are not independent to each other, but their relations, interactions and synergies exist and should be further developed and studied. Interdisciplinary approaches and multiple connections between these scientific areas are required not only to reach the sustainability goals but also to solve diverse environmental problems, expand technological limits and overcome potential economic disturbances. This approach is expressed with new policies (command and control, market-based instruments, and circular public procurement), technological suggestions (e.g. technical cycle solutions), environmental engineering technologies (e.g., waste management, 3r strategies, water recycle, wastewater treatment and reuse, renewable energy), circular business models, circular

innovations, circular management solutions, consumers' behavior in circular economy, new circular economy products labels and social acceptance in circular economy.

These topics could be classified in three levels; the micro-level (firm-level engineering and managerial level), meso-level (industrial ecology, industrial symbiosis, eco-clusters, eco-industrial parks), and macro-level (general policies, plans, green and sustainable entrepreneurship).