WECANet Assembly

Online, 26-27 November 2020

The 3rd WECANet Annual Assembly will take place online on 26-27 November 2020.

Local organizer: Prof. Lorenzo Cappietti of the University of Florence and prof. Eva Loukogeorgaki from the University of Thessaloniki will be the "online local" organizers.

For detailed information the event program please check regularly the WECANet website: **www.wecanet.eu**

Deadline of 1-page abstract submission for participation in the Assembly on 26-27 November:

31 October 2020, by also mentioning Working Group and Working Group Topic (see list and template below) for the Assembly. Abstract submission to: contact@wecanet.eu

The abstract should present and explain your perspective on the Working Group Topic that you have selected. This perspective should be focused towards identifying future activities that you and others may develop within and outside of the WECANet program.

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TOPICS FOR ABSTRACT SUBMISSION PER WORKING GROUP:

Working Group 1: Numerical hydrodynamic modelling for WECs, WEC arrays/farms and wave energy resources

- Array modelling of wave energy converters

- Spectral domain modelling of WECs

- Design of benchmarks (combined with activities related to WG2)

- Multiscale modelling (coupling between codes for WEC simulation)

- Multiphysics focusing on fluid-structure(WEC) interaction (Coupling between codes for WEC simulation)

Working Group 2: Experimental hydrodynamic modelling and testing of WECs, WEC arrays/farms, PTO systems, and field data

- experimental databases: review of the state-of-the-art

- validation and assessment of the numerical modelling uncertainties: benchmark methodologies (also linked to topic in WG1)

- experimental model set-up and field device instrumentation: problem identification and guidelines collection and assessment of their effectiveness

- wave emulators to perform dry tests for PTO systems: existing installations, integrated modelling approaches comprising wave emulator for PTO and hydrodynamic modelling

- integrated optimization approach: the role of experimental hydrodynamic modelling in a the wider optimization context (aspects as: economical, non-technical barriers, environmental, social) - this is a crosscutting theme that should be discussed with the other WGs.

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Working Group 3: Technology of WECs and WEC arrays

- WEC survivability

- WEC design optimization

- electrical aspects

Working Group 4: Impacts and economics of wave energy and how they affect decision- and policy-making

- identification of resource, environmental and legal frameworks that support and/or hinder wave energy in MS and the EU, uncertainties-influence of resource, device and legal frameworks in the evaluation of WEC(s).

- investigate the awareness and acceptance of WECs, at various levels stakeholder, local communities, identify perception barriers.

- identification of innovation and financing potential, Life Cycle Analysis (LCA), to devise a helpful metric for WECs convergence.

- explore market potential of wave energy in current (and future) mix of renewables, suggesting niche markets/applications where WECs can contribute.

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A pan-European Network for Marine Renewable Energy with a focus on Wave Energy

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Style: please use Calibri font, 11pt, with multiple 1.15 spacing. The abstract should not exceed one page. The pressure of climate change and the growing energy demand has increased interest in marine renewable energy resources, such as wave energy which can be harvested through Wave Energy Converter (WECs) Arrays.

However, the wave energy industry is currently at a significant juncture in its development, facing a number of challenges which require that research re-focusses onto a techno-economic perspective, where the economics considers the full life-cycle costs of the technology. It also requires development of WECs suitable for niche markets, because in Europe there are inequalities regarding wave energy resources, wave energy companies, national programmes and investments. As a result, in Europe there are leading and non-leading countries in wave energy technology. The sector also needs to increase confidence of potential investors by reducing (non-)technological risks. This can be achieved through an interdisciplinary approach by involving engineers, economists, environmental scientists, legislation and policy experts etc. Consequently, the wave energy sector needs to receive the necessary attention compared to other more advanced and commercial ocean energy technologies (e.g. tidal and offshore wind).

The formation of the first pan-European Network on an interdisciplinary marine wave energy approach will contribute to large-scale WEC Array deployment by dealing with the current bottlenecks. The WECANet Action aims at a collaborative approach, as it provides a strong networking platform that also creates the space for dialogue between all stakeholders in wave energy. WECANet's main target is the equal research, collaboration and funding opportunities for all researchers and professionals, regardless of age, gender and location.

References

Acknowledgements

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