

# ISIF WORKING GROUPS REPORT

## UPDATES ON WORKING GROUPS

International Society of Information Fusion (ISIF) sponsors working groups by providing recognition, status, and support. The support includes a meeting place during the FUSION Conference and related website links. It can also include support for virtual meetings. The working groups bring together researchers who share a common interest. For more information on working groups, or for submitting a proposal for a new working group, please see the ISIF website: <https://isif.org/working-groups/isif-working-groups>, or contact Darin Dunham, Vice President Working Groups ([dunhamdt@gmail.com](mailto:dunhamdt@gmail.com)).

Currently, there are two active working groups sponsored by ISIF. Here is a quick summary of their focus and activities.

## STONE SOUP

Stone Soup is supported via ISIF's Open-Source Tracking and Estimation Working Group (OSTEWG) as well as a NATO Exploratory Team activity (SET-ET-124) and now has a digital object identifier (DOI):10.5281/zenodo.4663993. The group has continued to grow and develop over the last year or two and has a repository (<https://github.com/dstl/Stone-Soup>) that includes, for example, a vectorised implementation of a particle filter; multi-frame assignment; square-root and iterated Kalman Filters; particle flow implementations, and tree-based data structures for very efficient gating. Current developments include a focus on development of user interfaces, further enhancing the set of state-of-the-art algorithms that Stone Soup implements, and on configuring Stone Soup to operate effectively in sensor management contexts. New contributors wanting to integrate their algorithmic advances into an increasingly mature open-

source library and/or compare their new algorithms with ever-more sophisticated pre-existing baselines are very welcome. Similarly, users wanting a taste of Stone Soup's algorithmic gastronomy should get in touch (via <https://isif-ostewg.org/>); highlight barriers to use as "issues" (via <https://github.com/dstl/Stone-Soup/issues>); or initiate or engage in discussions (via <https://github.com/dstl/Stone-Soup/discussions>). Help us to enable Stone Soup to help you!

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## ETUR WORKING GROUP ACTIVITIES

The Evaluation of Techniques for Uncertainty Representation Working Group (ETURWG) is an official activity of the ISIF with the products posted at <https://eturwg.c4i.gmu.edu/>. The ETURWG is going on 10 years of collaboration, continuing to refine, update, clarify, and implement the Uncertainty Representation and Reasoning Evaluation Framework (URREF) ontology. On average, 15 people participate at the bi-weekly meetings. The ETURWG activities include developing a URREF tutorial, incorporating Artificial Intelligence and Machine Learning (AI/ML), and defining metrics.

The ETURWG continues to explore new topics in data and information fusion processing, reasoning, and decision making with the focus on uncertainty analysis. The URREF ontology semantically captures the many elements for deploying information fusion systems, while at the same time, explores metrics of analysis, use cases, and philosophical elements of the community. All ISIF members are welcome to join the discussions and to propose future topics aligned with the ETURWG interests.

## 2022 IEEE INTERNATIONAL CONFERENCE ON MULTISENSOR FUSION AND INTEGRATION

We are happy to announce that the 2022 IEEE International Conference on Multisensor Fusion and Integration will be held at the Cranfield University in the United Kingdom on the 20-22 September 2022. Cranfield University is a British postgraduate public research university specialising in science, engineering, design, technology and management. It is one of the UK's leading engineering universities and has a range of facilities including the Multi-user environment for autonomous vehicles, the aerospace autonomy laboratory, the intelligent mobility engineering centre, and many more.

The main theme for this conference is 'Taking Multi-Sensor Fusion to the Next Level: From Theory to Applications'. We are looking forward to a full program covering the key topics of sensors, theory, algorithms, applications and performance assessment. Full details and up to date information can be found on the conference website [www.mfi2022.com](http://www.mfi2022.com).

