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Short Biographical Information and Activities

Lyudmila Mihaylova is Professor in Signal Processing and Control) with the University of Sheffield, United Kingdom. Her interests are in the area of autonomous systems, sensor data fusion, nonlinear filtering and machine learning. Her work involves the development of novel scalable methods for high dimensional problems (including mage and video processing, intelligent transport systems, localisation and positioning in sensor networks. On these topics she published one book, two edited books, and numerous journal and conference papers. Prof. Mihaylova is an Associate Editor-in-Chief for the IEEE Transactions on Aerospace and Electronic Systems since January 2020 and she is an Associate Editor of Elsevier Signal Processing Journal.

Mission Statement for the Fusion Community

Creating leading technologies and methods for autonomous systems, machine learning and AI will change the way we live. The development of trustworthy autonomous solutions, able to process multiple heterogeneous sensor data, of scalable, resilient and modular approaches able to work in changeable conditions and facilitate decision making with different levels of autonomy is one of the main tasks. There are many methodological questions to answer and the applications are numerous – smart cities, assisted living, surveillance, to name a few. In these particularly challenging times, making use of this high information potential, the sensor and contextual data need to be "fused" in a way that high quality information results serve for decision support. As an ISIF board member, I will enhance international collaborations at all levels, including:

- Broadening the fusion community with the members from the AI, explainable AI, Machine Learning, autonomous systems, data science and other domains.
- Making bridges between multi-dimensional areas of engineering (robotics, aerospace, applied mathematics and others)
- Organising symposia and lecture series, e.g., NATO funded training schools and UK Data Fusion workshops. Launching of joint project proposals, especially in the areas of global research engineering challenges;
- Knowledge exchange between academia and industry;
- Promoting open source software platforms such as Stone Soup and open public data repositories for benchmark case studies;
- Will continue promoting the sensor data fusion activities in all aspects and contribute to strategic and management decisions.

My experience and insights will be at your service to further growth of the fusion community, to respond to challenges both from technological and social point of view. Understanding the ISIF member's needs, in this important time of changes, we can make things happen with collegial spirit and good communications.