

**Special Section: 10th International Conference on Inverse Problems in Engineering ICIPE 22,  
May 15–19, 2022, Francavilla al Mare (Chieti), Italy**

## Introduction

This Special Section of the ASME Journal VVUQ contains two papers presented at the 10th International Conference on Inverse Problems in Engineering (ICIPE), hosted by the Department of Industrial and Information Engineering and Economics, University of L'Aquila, Italy, and held in Francavilla al Mare (Chieti), May 15–19, 2022.

Since the first ICIPE in 1993, this conference has served as the main international venue for collaboration and interaction between applied mathematicians who develop inverse analysis tools, and engineers who use these tools in many different disciplines of science such as manufacturing and machining processes, medical imaging, oil exploration, radar, sonar and seismology, space applications, nondestructive testing and so on. The 2022 meeting continued this tradition, with more than 50 delegates from many subdisciplines of engineering, science, and applied mathematics. The number of participants was lower than the standard number of 80–120 due to both covid travel restrictions in some Asian and American countries and conflict in Ukraine.

The 10th ICIPE was dedicated to Professor James V. Beck for his contribution to parameter estimation and inverse heat transfer problems. Also, he played a key role in establishing this conference series. We honored his 92nd birthday on May 18, 2022. Sadly, Professor Beck passed away on July 28th, 2022, just two months after our conference.

The conference featured a keynote address from Professor Denis Maillet, University of Lorraine & CNRS, ENSEM, Vandœuvre-lès-Nancy, France, on “*Modelling and Identification of Impulse Responses*,” a keynote lecture from Professor Kyle Daun, University of Waterloo, Canada, on “*Probabilistic Data Analysis for Laser-based Nanoparticle Diagnostics*,” and a tribute to Professor James V. Beck on his 92nd birthday, chaired by Professor Neil T. Wright, Michigan State University. Several of Jim’s

friends, colleagues and former students spoke about Jim throughout the tribute, including Robert L. McMasters, Kevin Cole, Kevin Dowding, Keith Woodbury, Dharmendra Mishra, Helcio Orlande, Denis Maillet, and Filippo de-Monte. During the tribute, Professor Beck was connected remotely from Colorado along with his son Doug.

I am grateful for the financial support of the Department of Industrial and Information Engineering and Economics of the University of L'Aquila, as well as company sponsorship from CORDIVARI, DESIT, ENESCO, ENN.CO, EXACT, FLAMET, TECNOMATIC. I also thank University of L'Aquila and Regione Abruzzo for their auspices, all Members of the Scientific Committee and Local Organizing Committee as well as the Sessions Chairs, Speakers and all the participants which led to a successful and fruitful meeting.

Lastly, I would like to thank all the reviewers for their time and effort in reviewing the two papers for this special section and, above all, the Editor-in-Chief of ASME *Journal of Verification, Validation and Uncertainty Quantification*, Dr. Christopher J. Freitas, for the opportunity to publish this special section and his dedicated support for the entire process. The 11th International Conference on Inverse Problems in Engineering (ICIPE) will be held in Brazil in 2024.

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**December 19, 2022**