

Obituary for Daniel Balageas (0)



QIRT Padova (Italy), 2006, source www.qirt.org

Prof. Dr. Daniel Balageas passed away last February (1), and this terribly sad news took the QIRT community by storm. He was one of the founders of our community in the mid-1990s, along with his colleagues Prof. Dr. Gerhard Busse and Giovanni Maria Carlomagno.

He married Michelle in 1968, and together they had two children, Lucile and Julien. He earned his degree in Aerothermal Engineering from ENSMA (École Nationale Supérieure de Mécanique et Aérotechnique de Poitiers), 1964), which he completed with a License in Science.

He began his professional career at ONERA (Paris, France) in 1966 as a researcher focusing on physics and materials. Over the years, he rose through the ranks to be appointed Research Director in 1994.

Throughout his career, his research interests spanned numerous fields, from rocket science to medical applications. For instance, he developed a method to measure the thermal properties of returning rocket nose cones in the atmosphere. He also participated in the thermal shield project for the Huygens space probe, which landed on Saturn's moon, Titan, in 2005. In the biomedical field, he developed an instrument to characterize human skin (whether burned or irradiated) using infrared technology. Indeed, he was particularly interested in infrared applications and pioneered activities in Nondestructive Testing (NDT). A notable example of his early contributions was his involvement in the so-called "touchau" ("all-hot") method (2). This method enabled the determination of a sample's thermal properties using a heated cavity, which necessitated heavy computations performed on an Apple Macintosh computer—one of the first available at ONERA at that time. Another important development to which he contributed was the EMIR method, which allowed for the characterization of electromagnetic fields using an infrared camera.

Staying attached to ONERA's DNA, he has always envisioned his research with a focus on end-use applications. Among his latest contributions, the introduction of pulsed thermography for the inspection processes of composite panels used in nacelle structures is particularly noticeable.

His brilliant career was acknowledged by several prestigious awards. These included the Academy of Sciences Award (1985)—specifically the Charles Frémont Prize for determining the thermal characteristics of composite materials and organic tissues—and a second Academy of Sciences Award (1993), receiving the Gustave Ribaud Prize for the totality of his research in thermal engineering.

Following his retirement from ONERA in 2005, he continued his academic pursuits at the Université de Bordeaux, Institute of Mechanics and Engineering, within the TREFLE Laboratory. His pedagogical skills and his constant desire to pass on knowledge have regularly led him to train and guide the first steps of his younger colleagues, interns, PhD students, and researchers in the field of infrared thermography. In fact, during his long career, following his Habilitation at ISITEM (Nantes) in 1991, he contributed to the supervision of over 20 doctoral theses. Dr. Balageas published over 330 papers during a long and rich scientific career that extended up to 2020.

Another facet of his multi-dimensional career was the organization of conferences on infrared, NDT, and Structural Health Monitoring (SHM). In the late 1990s, alongside his colleagues Busse and Carlomagno, he launched the Quantitative Infrared Thermography (QIRT) conference series. The goal of these conferences was, as he later wrote, to *"help researchers and end-users to improve the use of their thermographic tools and expand their application field... [it was] proposed to establish a new conference focused on the way to make thermography a more mature technique. So, it was important to introduce the adjective 'quantitative' in the title of the conference (3)."* The inaugural conference took place in Paris, France, in 1992. Since then, seventeen conferences have been held, with the most recent taking place in Naples, Italy, in the summer of 2026. Prof. Dr. Balageas served as the chair of the QIRT Steering Committee from its inception until 2014.

With the expansion of the QIRT conferences, it became clear to him that there was a distinct need for an archival journal. As he later reflected: *"the first issue of the QIRT Journal has been presented to the community during the Conference on Quantitative Infrared Thermography held in Brussels last July [2004]. [...] The general appreciation was good and many participants plan to submit manuscripts to our young journal (4)."* The inaugural issue was subsequently published in 2004. Prof. Dr. Balageas was Editor-in-Chief of the QIRT Journal from 2004 to 2016. In recognition of his pivotal dedication to QIRT activities and the wider community, early in 2026, the QIRT Steering Committee established the Balageas QIRT Award. Starting in 2026, this award will be presented every two years to the most cited paper published in the journal over the preceding two years (5).

Though Prof. Dr. Balageas has unfortunately left us, his profound influence on QIRT activities and our community will permanently endure.

References

- (0) The precious help of Mr. Julien Balageas and the text of J.-P. Marec (2005) are gratefully acknowledged. . J.-Ch. Batsale and J.-M. Roche contributed to checking and improving the text.
- (1) Born in Orléans, France in 1940 and deceased in Paris, France on February 15, 2026, at the age of 85.
- (2) Balagas Daniel, Jamet Jean, Mesure de l'Effusivité par un appareil de type TOUCHAU, Int. J. Mass Transfer, vol. 18, pp. 933-940, 1975.
- (3) D. Balageas in *J. QIRT*, 2016, p. 109-125.
- (4) D. Balageas in *J. QIRT*, 2004, p. 1.
- (5) Collected over the previous 2 years.