EDITORIAL

Renato Machado Cotta receives the 2022 Luikov medal

Renato M. Cotta has been awarded the prestigious Luikov medal of the International Centre for Heat and Mass Transfer (ICHMT). Cotta, who is a member of the Advisory Editorial Board of *High Temperatures – High Pressures*, receives the Luikov Medal in a ceremony during the 17th International Heat Transfer Conference in Cape Town, South Africa, 14–18 August 2023.

During his career, Cotta has become known worldwide for his hybrid approach, mixing analytical, computational and experimental methods in handling direct and inverse problems. He developed a problem reformulation strategy known as the coupled integral equations approach to yield simple yet accurate lumped-differential formulations and a hybrid numerical-analytical solution methodology known as the generalized integral transform technique (GITT), to provide more cost-effective, accurate and robust solutions for partial differential equations, and employed these ideas combined with intrusive or non-intrusive measurements and inverse problem analysis for both function and parametric identifications.

His hybrid approach known as GITT follows the terminology previously proposed by his mentors, M.D. Mikhailov and M.N. Ozisik. Cotta gradually

extended the GITT to handle different classes of problems, including irregular geometries and nonlinear formulations, followed by the solution of the boundary layer and Navier–Stokes formulations of heat and fluid flow problems. The various applications and extensions that were then pursued through the GITT led to the first compilation of such developments as his first book [1] and to a couple of seminal invited review articles (see reference [2], for example). The GITT approach not only worked together with the development of the broad area of computational fluid dynamics and heat transfer, offering reliable and independent benchmark reference results for testing of different numerical schemes, but also provided alternative solution paths for more robust, faster and error-controlled simulations in different classes of problems in transport phenomena.

The Luikov Medal is presented by ICHMT every 2 years. It is dedicated to Aleksey Vasilievich Luikov and it is awarded to researchers with outstanding contributions to the science and art of heat and mass transfer and for activities in international scientific cooperation in conjunction with ICHMT programmes.

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Jean-François Sacadura
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REFERENCES

[1] Cotta, R.M. *Integral transforms in computational heat and fluid flow*. Boca Raton, FL: CRC Press, 1993, 352 pp.
[2] Cotta, R.M. Benchmark results in computational heat and fluid flow: The integral transform method, *Int. J. Heat Mass Transfer*, **37**(Suppl. 1) (1994), pp. 381–393, https://doi.org/10.1016/0017-9310(94)90038-8