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Software for Approximation 2022 (SA2022)

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Abstract

The guest editors provide a summary of the main facts about the Workshop “Software for Approximation 2022” (SA2022) held at the Department of Mathematics “Giuseppe Peano” of the University of Torino (Italy), on February 3-4, 2022. This workshop was organized in collaboration with MathWorks, with the goal to bring together researchers working in different fields of approximation and implementing algorithms in MATLAB or other programming languages.

This Special Issue contains peer-reviewed original articles appearing on volume 15 (2022) of the journal “*Dolomites Research Notes on Approximation*”. The volume collects software-oriented papers dealing with new research results presented at the Workshop “Software for Approximation 2022” (SA2022) held – in hybrid form – at the Department of Mathematics “Giuseppe Peano” of the University of Torino (Italy), on February 3-4, 2022.

The entire details of the workshop are available on the webpage

<https://sites.google.com/view/sa2022torino>.

Throughout this two-day event, out of 72 participants we had a total of 20 scientific communications, consisting of 1 plenary talk and 19 contributed talks, in the field of Approximation Theory and its Applications. All talks were focused on emphasizing the main features of the developed software, also highlighting the main implementation details.

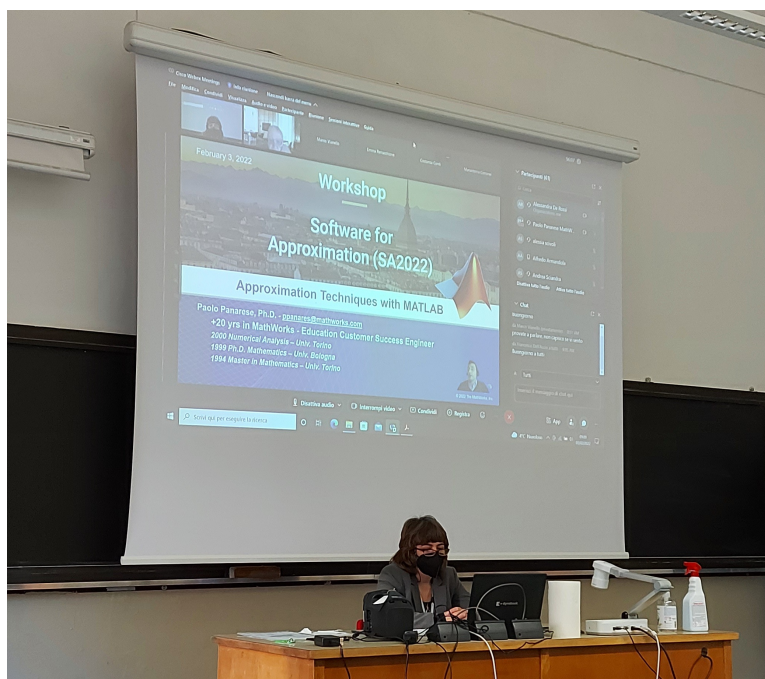


Figure 1: Professor Alessandra De Rossi during Paolo Panarese’s plenary talk.

The approximation software discussed in this volume refers to several research topics like quasi-MonteCarlo cubature [8], differentiation by interpolating polynomials [7], kernel-based approximation [9], partition of unity methods [3, 4], numerical solution of integral equations [2], numerical methods for stiff problems [6] and phase field models [5], algorithms for computation of Lebesgue constants [1], and an overview of some approximation techniques [10].

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