



Editorial Note

3rd International Conference: Constructive Mathematical Analysis (ICCMA'25)

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ABSTRACT. The guest editors provides an overview of the 3rd International Conference: Constructive Mathematical Analysis (ICCMA 2025), held on 2–5 July 2025 at Selçuk University, Konya, Türkiye, summarizing its objectives, scope, scientific aims, and the key highlights of the event. The conference brought together researchers and experts in approximation theory, functional analysis, operator theory, and related fields to exchange ideas, present new results, and foster collaboration within the constructive mathematics community. The note briefly introduces the papers included in this special issue of the *ALTAY Conference Proceedings in Mathematics*, which reflect current advances in constructive mathematics, approximation theory, nonlinear analysis, and their diverse applications.

1. REPORT ON THE CONFERENCE

The *3rd International Conference: Constructive Mathematical Analysis (ICCMA 2025)* was held on 2–5 July 2025 at Selçuk University, Konya, Türkiye. The event provided a global forum for researchers, academicians, and young scientists to exchange ideas, present recent findings, and discuss current challenges in constructive mathematical analysis and its applications. Altogether, the conference hosted approximately 180 participants representing 31 countries and included 170 oral and 8 poster presentations.

The scientific program covered a wide range of topics, including approximation theory, functional analysis, sampling-type operators, fixed-point theory, Fourier analysis, fractal calculus, and mathematical modelling. The plenary lectures were delivered by distinguished speakers who provided deep insights into current trends in analysis and its interdisciplinary applications. The plenary speakers were:

- i. Prof. Francesco Altomare from University of Bari, Italy
- ii. Prof. Erdal Karapınar from Atılım University, Türkiye
- iii. Prof. Harun Karşlı from Bolu Abant İzzet Baysal University, Türkiye
- iv. Prof. Mohammad Sal Moslehian from Ferdowsi University of Mashhad, Iran
- v. Prof. Ioan Raşa from Technical University of Cluj-Napoca, Romania
- vi. Prof. Gianluca Vinti from University of Perugia, Italy
- vii. Prof. Xiaoming Wang from Eastern Institute of Technology and Missouri University of Science and Technology, China and USA
- viii. Prof. Ferenc Weisz from Eötvös University, Hungary

Each lecture addressed contemporary problems in mathematics, emphasizing both theoretical advances and practical applications.

The conference was organized in a presence format and featured special sessions on
S1: Positive Approximation Processes and Applications

- S2: Approximation by Sampling type Operators and Applications
- S3: Nonlinear Analysis, Fixed Point Theory and Applications
- S4: Fourier Analysis and Applications
- S5: Fractal Calculus and its Applications
- S6: All other topics in mathematics and statistics.

The event was chaired by Prof. Tuncer Acar, with the support of the Organizing and Scientific Committees. Further details, including the complete program and abstracts, are available on the official website: <https://iccma.selcuk.edu.tr>.



2. INTRODUCING THE SPECIAL ISSUE

The papers published in this special issue of the *ALTAY Conference Proceedings in Mathematics* originate from the *3rd International Conference: Constructive Mathematical Analysis (ICCMA 2025)*, held at Selçuk University, Konya, Türkiye. The proceedings aim to ensure the scientific continuity between the conference presentations and the peer-reviewed literature, providing an official record of selected contributions reflecting the main themes of the event.

All submissions to this issue were invited from authors who presented their work at ICCMA 2025. Each manuscript underwent a rigorous peer-review process coordinated by the Guest Editors and the Scientific Committee. Every paper was evaluated by at least two independent referees for originality, correctness, and alignment with the conference scope. Only those meeting the journal's editorial standards and the ethical publication guidelines were accepted after revision.

The following papers were accepted for publication in this issue:

- i. Emília Halušková and Małgorzata Jastrzębska, *Mono-unary condition for algebras with easy direct limits*. This paper establishes a structural condition for an algebra \mathcal{A} where every algebra isomorphic to its retract can be obtained as a direct limit, showing that this holds when \mathcal{A} admits a unary term operation acting as an endomorphism, and

highlighting the essential role of bijective mappings and mono-unary algebras in this framework.

- ii. Ferenc Weisz, *Lebesgue points and summability of higher dimensional Fourier transforms*. This paper generalizes Lebesgue's theorem to higher-dimensional settings and diverse summability methods within Wiener amalgam spaces.
- iii. Harun Karsli, *Wavelet-based approximation operators: applications to bivariate functions and digital image processing*. This paper constructs and investigates a bivariate case of these operators, wavelet-based approximation operators, and gives applications in image processing.
- iv. Pathaithep Kumrod and Wutiphol Sintunavarat, *On new ϕ -fixed point results involving discontinuous control functions with the effectively example and its applications*. This paper develops ϕ -fixed point results with discontinuous control functions, offering generalized frameworks and applications to integral equations.
- v. Barkat Ali Bhayo, *Distortion and quasisymmetric functions in quasiconformal mappings*. This paper studies the applications of special functions and quasisymmetry in quasiconformal mappings and estimates the distances between the image points of quasiconformal mappings under various metrics.
- vi. Cristina Maria Păcurar and Mirela Adriana Târnoveanu, *Mappings contracting perimeters of triangles in perturbed metric spaces*. This paper introduces perturbed mappings contracting perimeters of triangles and proves new fixed point theorems extending classical results.
- vii. Muhammad Abubakar Isah and Ahmad Muhammad, *Propagation of solitons and nonlinear behavior in nonlinear power law fibers*. This paper analyzes soliton propagation in nonlinear optical fibers governed by the complex Ginzburg-Landau equation with power-law nonlinearity.
- viii. Michele Piconi and Gianluca Vinti, *Semi-discrete sampling operators acting on function spaces*. This paper provides an overview of semi-discrete Durrmeyer-type sampling operators, including convergence, rates of approximation, and modular results in Orlicz spaces.

All these papers have been reviewed according to the standards of the ALTAY Conference Proceedings in Mathematics, ensuring a high level of scientific rigor and a coherent representation of the topics covered at ICCMA 2025.

3. ACKNOWLEDGEMENTS

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