

Report on *CIMPA School on Optimization, Convex Analysis, and Geometric Structures*
January 29 – February 11, 2026
CUI Lahore & UMT, Lahore, Pakistan

I had the privilege of attending the *CIMPA School on Optimization, Convex Analysis, and Geometric Structures*, held from January 29 to February 11, 2026, at COMSATS University Islamabad (Lahore Campus) and the University of Management and Technology (UMT), Lahore. The school brought together researchers, faculty members, and graduate students from various institutions, creating a stimulating academic environment focused on advanced topics in optimization and mathematical analysis.

The objective of the school was to provide a comprehensive foundation in optimization theory, convex analysis, and geometric structures. The program began with fundamental concepts of metric spaces and convex analysis, establishing the theoretical groundwork necessary for understanding advanced material. It then progressed to topics such as separation theorems and their role in optimization, theoretical foundations of linear optimization, integral linear programming, optimal control theory and Pontryagin's principle, numerical non-smooth optimization, and monotone operator theory. The well-structured sequence of lectures enabled a smooth transition from foundational theory to modern research-oriented concepts.

The lectures were delivered by distinguished international and national experts, who presented the material with clarity, rigor, and depth. Their explanations strengthened my understanding of abstract mathematical tools and their applications in optimization problems. The sessions on numerical optimization and monotone operator theory were particularly beneficial in broadening my knowledge of current research directions in the field.

I actively participated in the question-and-answer sessions and engaged in meaningful discussions with the instructors and participants. Asking questions during lectures and interacting with international faculty members significantly enhanced my conceptual understanding and allowed me to gain diverse academic perspectives. The collaborative environment encouraged intellectual exchange and helped me build valuable academic connections.

Overall, attending this CIMPA School was an intellectually enriching and professionally rewarding experience. It strengthened my theoretical background, enhanced my analytical skills, and expanded my academic network. The exposure to leading researchers and active participation in discussions has motivated me to further pursue advanced research in optimization and convex analysis.

I would also like to sincerely thank the Talent Support Council for partially funding my participation in this school. Their financial support made it possible for me to attend this valuable

academic program. I am also grateful to the organizers and instructors for arranging such a well-organized and impactful event.





DAY 1

DAY 1

CIMPA SCHOOL ON



Day 8 Group photo

CIMPA School on Optimization, Convex Analysis and Geometric structures

