

# CERTIFICATE



# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Alfredo Iusem**, Instituto Nacional de Matemática Pura e Aplicada, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Concepts and techniques of optimization on the sphere**”.

Rio de Janeiro, August 29, 2014.

Alfredo Iusem  
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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Attila Gilanyi, University of Debrecen**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**On strongly Wright-convex functions of higher order**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Boris Mordukhovich, University of Michigan**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Tilt stability in optimization and applications**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Burai, Pál, University of Debrecen**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Optimality conditions involving generalized convexity and convex analysis**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Daniel Reem**, **Inst. de Ciências Matemáticas e de Computação**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: **“Zero-convex functions, perturbation resilience, and subgradient projections for feasibility seeking methods”**.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, ***Dinh The Luc***, **Univ. de Avignon**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: **“A fixed point method for solving linear variational relation problems”**.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, ***Dmitry Karamzin***, **Universidade Estadual Paulista - São José do Rio Preto**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Generalized impulsive control as a result of impulsive convexification of the classical optimal control problem**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Fabian Flores-Bazan**, **Universidad de Concepción**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work:  
**“Hidden convexity in nonconvex optimization”**.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Felipe Opazo Lagos**, **Universidad de Concepción**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**On the joint range of a pair of inhomogeneous quadratic functions with applications**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Flemming Topsoe**, **Copenhagen University**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Elements of a quantitative theory of cognition**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Francisco Javier Aragón Artacho**, **Université du Luxembourg**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work:  
**“Globally convergent algorithms for finding zeroes of duplomonotone mappings”**.

Rio de Janeiro, August 29, 2014.

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## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Genaro Lopez Acedo**, **Universidad de Sevilla**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Some tools of convex optimization in geodesic spaces**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, ***Geraldo Nunes Silva***, **Universidade Estadual Paulista - São José do Rio Preto**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**On the Sufficiency of the Maximum Principle for State Constrained Optimal Control Problems**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Hachem Slimani**, **University of Bejaia**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Nonsmooth multiobjective fractional bilevel programming under generalized  $d_I$ -invexity**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Joaquim João Júdice**, Univ. de Coimbra, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Optimization with Linear Complementary Constraints**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Jose Alberto Ramos Flor**, Instituto de Matemática e Estatística, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**An inexact proximal point method for cohypomonotone operators with a practical relative error criterion**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Justyna Jarczyk**, **University of Zielona Góra**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Uniform convexity of paranormed generalizations of  $L^p$  spaces**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Kazimierz Nikodem**, **University of Bielsko-Biala**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Jensen and Hermite-Hadamard inequalities for strongly convex set-values maps**”.

Rio de Janeiro, August 29, 2014.

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## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Lidia Huerga**, **Universidad de Valladolid**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**On a new Benson proper  $\epsilon$ -subdifferential for vector-valued mappings**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Marco A. López, Universidad de Alicante**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Some glimpses of convex subdifferential calculus**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Marek Cezary Zdun**, **Pedagogical University of Kraków**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**On iteratively convex functions**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **María Soledad Aronna**, **IMPA - Pós-Doutorado de Excelência**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Impulse controls and proper extensions of optimal control problems**”.

Rio de Janeiro, August 29, 2014.

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## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Matthieu Maréchal**, **Universidad de Chile**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Bregman metrics: new characterizations in terms of induced proximal distances**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Michel Thera, Universite Limoges**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Old and new results on enlargements of maximally monotone operators**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Miguel Sama**, **Universidad Nacional Educación a Distancia**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work:  
**“Optimality conditions for approximate solutions of unconstrained vector optimization problems”**.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Miroslav Bacak**, **Max-Planck-Institute for Mathematics In The Sciences**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Convex analysis and optimization in Hadamard spaces**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Nicolas Hadjisavvas**, **University of The Aegean**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Second order asymptotic analysis**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, ***Paulo Sérgio Marques dos Santos***, **Universidade Federal do Piauí**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**A modified projection method for constrained equilibrium problems**”.

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## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, ***Rachana Gupta***, **Indian Institute of Technology Delhi, India**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: **“Evolutionary variational inequality formulation of time dependent generalized Nash equilibrium problems”**.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Ralph E. Steuer**, **University of Georgia**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**On exactly expanding Markowitz mean-variance portfolio to a third criterion**”.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Regina Burachik**, **University of South Australia**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Conditions for zero duality gap in convex programming**”.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, ***Riccardo Cambini***, **Università di Pisa**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: **“A unifying approach to solve a class of rank-three programs involving linear and quadratic functions”**.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Rolando Gárciga Otero**, **Universidade Federal do Rio de Janeiro**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Fixed point methods for a certain class of operators**”.

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## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Roman, Ger, University of Silesia**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Convexity and difference property**”.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Susana Scheimberg de Makler**, Programa de Engenharia de Sistemas e Computação, Coppe/UFRJ, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**A modified projection method for constrained equilibrium problems**”.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, ***Valeriano Antunes de Oliveira***, **Universidade Estadual Paulista - São José do Rio Preto**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**On Sufficient Optimality Conditions for Multiobjective Control Problems**”.

Rio de Janeiro, August 29, 2014.

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## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, ***Vyacheslav Kalashnikov***, Instituto Tecnológico y de Estudios Superiores de **Monterrey**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Solution of parametric complementarity problems being monotone with respect to parameters**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Wilfredo Sosa Sandoval**, **Universidade Catolica de Brasilia**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work:  
**“Arrow-Debreu condition in the set of generalized concavity”**.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Witold Jarczyk**, **University of Zielona Góra**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**Convexity and a Stone-type theorem for convex sets in Abelian semogroups setting**”.

Rio de Janeiro, August 29, 2014.

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# XI

## International Symposium on Generalized Convexity and Monotonicity

IMPA, Rio de Janeiro, Brazil  
August 25-30, 2014

We hereby certify that, **Zsolt Páles**, **University of Debrecen**, participated in the XI International Symposium on Generalized Convexity and Monotonicity, held at Instituto Nacional de Matemática Pura e Aplicada – IMPA, Rio de Janeiro, from August 25 to 30, 2014 and presented the following work: “**On an extremal property of Wright convex functions**”.

Rio de Janeiro, August 29, 2014.

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