



**2nd Croatian Conference on Geometry and  
Graphics  
ŠIBENIK, September 5–9, 2010**

**ORGANIZER:**

Croatian Society for Geometry and Graphics

# PROGRAM

**COMMITTEE:**

Maja Andrić, Ivanka Babić, Jelena Beban-Brkić,  
Sonja Gorjanc (vice-president), Ema Jurkin (president),  
Katica Jurasić, Mirela Katić-Žlepalo, Nikolina Kovačević,  
Vlasta Szirovicza, Nikoleta Sudeta, Marija Šimić

**CO-ORGANIZERS::**

Faculty of Civil Engineering, University of Rijeka  
Faculty of Civil Engineering, University of Zagreb  
Faculty of Geodesy, University of Zagreb  
Foundation of the University of Rijeka  
Ministry of Science, Education and Sports of the Republic of Croatia  
Polytechnic of Zagreb  
State Geodetic Directorate of the Republic of Croatia

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## SUNDAY, SEPTEMBER 5

17.00–20.00 Registration

19.00–21.00 DINNER

## MONDAY, SEPTEMBER 6

7.00– 9.00 BREAKFAST

### Morning session (Chairperson: E. Jurkin)

9.00– 9.10 OPENING

9.10– 9.50 Plenary lecture

M. Hoffmann: *Skinning of circles by Hermite interpolation and biarcs*

9.55–10.15 COFFEE BREAK

10.15–10.30 R. Kunkli: *Skinning of spheres*

10.35–10.50 E. M. Troll: *Geometric properties and constrained modification of trigonometric spline curves of Han*

10.55–11.10 G. Wallner: *A data structure to efficiently map points to their closest point on a polyhedra*

11.15–11.25 PAUSE

11.25–11.40 M. Szilvási-Nagy: *Surface patches constructed from curvature data*

11.45–12.00 T. Schwarcz: *Hermite curves with given curvature and generalization for surfaces*

12.05–12.20 B. Odehnal: *Equioptic curves (of conic sections)*

12.25–12.40 M. J. Weber: *Uniqueness results for extremal quadrics*

13.00–14.30 LUNCH BREAK



**Afternoon session** (Chairperson: S. Gorjanc)

14.30– 15.10 Plenary lecture

A. Sliepčević: *Geometry - science, art or game*

15.15–15.25 PAUSE

15.25–15.40 I. Božić: *Osculating circles of conics*

15.45–16.00 H. Halas: *Conics and osculating circles in hyperbolic plane*

16.05–16.20 M. Katić-Žlepalo, A. Sliepčević: *Pedal curves of conics in pseudo-Euclidean plane*

16.25–16.35 PAUSE

16.35–16.50 A. Bölcskei: *Six-point perspectives of different kinds*

16.55–17.10 L. Vörös: *A tool for designing central projections of cubes*

17.15–17.30 T. F. Farkas: *From pyramids to hyperspace*

18.00–19.30 CITY TOUR

19.00–21.00 DINNER



## TUESDAY, SEPTEMBER 7

7.00– 9.00 BREAKFAST

### Morning session (Chairperson: A. Sliepčević)

9.00– 9.40 J. Beban-Brkić, M. Šimić: *Towards classification of conic pencils in pseudo-Euclidean plane*

9.45–10.05 COFFEE BREAK

10.05–10.20 Z. Kolar-Begović, R. Kolar-Šuper: *Thebault circles of the triangle in an isotropic plane*

10.25–10.40 E. Jurkin: *Clifford's chain of theorems in affine CK-planes*

10.45–11.00 S. Mick: *Kiepert conics in Cayley-Klein geometries*

11.05–11.15 PAUSE

11.15–11.30 D. Kušar: *Ten years of monitoring student's spatial ability at the Faculty of Architecture in Ljubljana*

11.35–11.50 C. Sörös: *Measurement of the development of spatial ability of Hungarian engineering students – questions and results*

11.55–12.10 A. Čučaković, B. Jović: *Contemporary principles of geometrical modeling in education*

12.15–12.30 I. Đurđević, A. Perić: *Examples of good practice in primary school education with respect to discovering geometric shapes*

12.30–13.15 LUNCH BREAK

13.30–21.00 EXCURSION - Krka National Park, dinner



## WEDNESDAY, SEPTEMBER 8

7.00– 9.00 BREAKFAST

### Morning session (Chairperson: J. Beban-Brkić)

9.00– 9.40 Plenary lecture

N. J. Wildberger: *Rotor coordinates, vector trigonometry and Kepler-Newton orbits*

9.45–10.05 COFFEE BREAK

10.05–10.20 O. Röschel: *A remarkable overconstrained chain of 16 tetrahedra*

10.25–10.40 H.-P. Schröcker: *A kinematic approach to Bäcklund transforms of pseudospherical principal contact element nets*

10.45–11.00 Gyula Nagy: *Cubic grid frameworks*

11.05–11.15 PAUSE

11.15–11.30 T. Došlić: *A Voronoi game in the unit disk*

11.35–11.50 L. Pletenac: *Natural fractals at the middle Adriatic coast*

11.55–12.10 G. Glaeser: *How a number turns into a zebra – a mathematical photo-shooting*

13.00–14.30 LUNCH BREAK



**Afternoon session** (Chairperson: M. Šimić)

- 14.30– 15.10 Plenary lecture  
S. Gorjanc: *Circular surfaces  $\mathcal{CS}(\alpha, p)$*
- 15.15–15.25 PAUSE
- 15.25–15.40 D. Velichová: *Minkowski operations in surface modelling*
- 15.45–16.00 Ž. Milin-Šipuš: *Translation surfaces in a simply isotropic space*
- 16.05–16.20 G. Weiss: *Line-geometry in Minkowski-spaces*
- 16.25–16.35 PAUSE
- 16.35–16.50 A. Joós: *On the number of horospheres determined by  $n$  points in the hyperbolic space*
- 16.55–17.10 Z. Erjavec: *Geodesics and geodesic spheres in  $\widetilde{\mathbf{SL}}(\mathbf{2}, \mathbb{R})$  geometry*
- 17.15–17.30 J. Szirmai: *Ball packings in  $\mathbf{S}^2 \times \mathbf{R}$  space*
- 17.35–17.50 I. Talata: *Covering a  $d$ -dimensional rectangular box by  $n$  rectangular boxes of minimum diameter*
- 19.00–..... CONFERENCE DINNER

**THURSDAY, SEPTEMBER 9**

7.00– 9.00 BREAKFAST

9.00– ..... Departure

or

8.00–20.00 EXCURSION - Kornati National Park