



**24th Scientific-Professional Colloquium on
Geometry and Graphics
SENJ
1–5 September 2024**

ORGANIZER:
Croatian Society for Geometry and Graphics

PROGRAM

PROGRAM COMMITTEE:
Ema Jurkin, Domen Kušar, Boris Odehnal, Jenő Szirmai

DONOR:
SAND d.o.o.

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SUNDAY, SEPTEMBER 1

17.00–19.00 Registration

19.00–21.00 DINNER

MONDAY, SEPTEMBER 2

7.00– 9.00 BREAKFAST

Morning session (Chair: H. Koncul)

9.00– 9.30 OPENING

9.30–10.10 Plenary lecture
Vera Viana: *Archimedean solids known in the 15th and 16th centuries*

10.15–10.40 COFFEE BREAK

10.40–10.55 Gunter Weiss, Hellmuth Stachel: *Stellae octangulae in motion*

11.00–11.15 Hellmuth Stachel: *Canal surfaces containing four straight lines*

11.20–11.35 Georg Glaeser: *Fakes, illusions, and extraterrestrials*

11.40–11.50 PAUSE

11.50–11.55 Luigi Cocchiarella: *O.P. before O.P. in Philibert de l'Orme: the early bases of a new language*

12.00–12.15 Daniela Velichová: *Symmetry – the second service*

12.30–14.00 LUNCH



Afternoon session (Chair: M. Šimić Horvath)

- 15.00–15.15 Iva Kodrnja, Helena Koncul: *Homogeneous ideal of embedded modular curves $X_0(N)$*
- 15.20–15.35 Helena Koncul, Iva Kodrnja: *Polynomials on cusp forms for $\Gamma_0(N)$ and triangle of numbers*
- 15.40–15.55 Damir Mikoč: *On modular forms constructed from Wronskians*
- 16.00–16.30 COFFEE BREAK
- 16.30–16.45 Ivica Martinjak: *Leapfrogs recurrence relations for continuant polynomials*
- 16.50–17.05 Petra Marija De Micheli Vitturi: *Worpitzky numbers and acyclic graph*
- 17.10–17.25 Tomislav Došlić: *Geometric graphs on fullerene spectra*
- 17.30–17.45 Karlo Filipan, Hrvoje Štefančić: *On geometrical choices in programmatic implementation of Robin Hood numerical method*
- 19.00–21.00 DINNER

TUESDAY, SEPTEMBER 3

- 7.00– 8.00 BREAKFAST
- 8.00–19.00 EXCURSION - Senj, Krasno, Kuterevo
- 19.00–21.00 DINNER



WEDNESDAY, SEPTEMBER 4

7.00– 9.00 BREAKFAST

Morning session (Chair: E. Jurkin)

9.00– 9.40 Plenary lecture
Domen Kušar: *The role of Geometry in Architecture - What make architecture beautiful?*

9.45–10.10 COFFEE BREAK

10.10–10.25 Rita Nagy-Kondor: *Spatial ability in vocational training*

10.30–10.45 Darija Marković: *Could a wizard make geometry easier to learn?*

10.50–11.05 Anton Gfrerrer, Albert Wiltsche: *Some examples for a contemporary geometry education of engineers & architects*

11.10–11.25 Milena Stavrić, Urs Hirschberg, Albert Wiltsche: *Modular timber architecture*

11.30–11.40 PAUSE

11.40–11.55 Željka Milin Šipuš: *Exploring students' graph interpretation in the context of mathematics and physics education by eye-tracking*

12.00–12.15 Blaženka Divjak: *Assessment in mathematics in the age of AI: Shifting the focus from problem solving to problem posing*

12.20–12.35 Ivana Božić Dragun: *Application Mathviz*

12.40–14.00 LUNCH



Afternoon session (Chair: Ž. Milin Šipuš)

- 15.00–15.15 Miklós Hoffmann, Kinga Kruppa, Roland Kunkli: *Artistic disk B-spline shapes by skinning*
- 15.20–15.35 Leonard Weydemann: *Optimal transport for mesh repair*
- 15.40–15.55 Ede Troll, Benedek Nagy: *Bijective digital rotation on hexagonal grid*
- 16.00–16.30 COFFEE BREAK
- 16.30–16.45 Tamás Balla, Krisztina Fülei, Ede Troll, Tibor Tómacs, Miklós Hoffmann: *Generative geometric arts revisited*
- 16.50–17.05 Lukas Rose: *AI guided auxiliary constructions*
- 17.10–17.25 Christian Clemenz: *Experiments in direction field synthesis using Wave Function Collapse*
- 17.30–17.40 PAUSE
- 17.40–18.00 POSTER SESSION
- Ivana Božić Dragun, Ana Sliepčević: *Generalization of Steiner's theorem*
- Ivana Filipan, Željka Milin Šipuš, Ljiljana Primorac Gajčić: *Generalized spherical helices in 3-dimensional Minkowski space*
- Ema Jurkin, Marija Šimić Horvath: *On isogonality in a complete quadrangle*
- Helena Koncul, Nino Koncul, Dora Pokaz: *The application of parametric modelling*
- Maja Petrović, Radovan Štulić, Marko Vučić, Marko Jovanović: *Weberian surfaces with four foci and four directorial planes*
- 19.30–24.00 COLLOQUIUM DINNER



THURSDAY, SEPTEMBER 5

7.00– 9.00 BREAKFAST

Morning session (Chair: I. Kodrnja)

9.00– 9.40 Plenary lecture
Ema Jurkin: *Loci of centers in pencils of triangles in the isotropic plane*

9.45–10.10 COFFEE BREAK

10.10–10.25 Marija Šimić Horvath, Ema Jurkin: *On the isoptic point of the non-cyclic quadrangle in the isotropic plane*

10.30–10.45 Boris Odehnal: *Universal porisms and Yff conics*

10.50–11.05 László Németh: *Side-side-Angle triangle congruence axiom and the complete quadrilaterals*

11.10–11.20 PAUSE

11.20–11.35 Emil Molnár: *Twice punctured Euclidean and hyperbolic 3-manifolds and “quantum dots”*

11.40–11.55 Zlatko Erjavec: *Minimal invariant and minimal totally real submanifolds in Sol_1^4*

12.00–12.10 CLOSING

12.30–14.00 LUNCH

Departure