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UNIVERSITÄT LINZ

Netzwerk für Forschung, Lehre und Praxis



Graz University of Technology

# Conference on Geometry Theorie and Application

Vorau, June 3 - 8, 2007

## Programme

**Monday, June 4, 2007**

<b>10:15-10:30</b>		<b>Opening Ceremony</b>	
<b>Chair:</b>	<b>Röschel Otto</b>		
10:30-10:50	<b>Vörös László</b>	University of Pécs	Two- and Three-dimensional Tiling on the Base of Higher-dimensional Cube Mosaics
10:55 -11:15	<b>Blunck Andrea</b>	University of Hamburg	Clifford Parallelisms (joint work with Stefano PASOTTI and Silvia PIANTA)
11:20 -11:40	<b>Ostroški Mirela</b>	University of Zagreb	Technology Enhanced Learning of Mathematics (joint work with Blaženka DIVJAK)
11:45-12:05	<b>Szirmai Jenő</b>	Budapest University of Technology and Economics	On Ball Coverings in Nil Space
<b>LUNCH</b>			
<b>Chair:</b>	<b>Divjak Blaženka</b>		
14:30-14:50	<b>Horváth Ákos G.</b>	Budapest University of Technology and Economics	Topological Properties of the Shadow Boundary of a Centrally Symmetric Convex Body
14:55-15:15	<b>Martini Horst</b>	Chemitz University of Technology	On Jung's Theorem in Minkowski Spaces
15:20-15:40	<b>Talata István</b>	Szent István University Budapest	An Algorithm for Determining the Maximal Triangle of Given Shape Contained in a Convex Polytope
15:45 -16:15		<b>COFFEE BREAK</b>	
<b>Chair:</b>	<b>Žagar Emil</b>		
16:15-17:00	<b>Šír Zbyněk</b>	Charles University Praha	Pythagorean Hodograph Curves for Fast Manufacturing
17:05-17:15		<b>SHORT BREAK</b>	
17:15-17:35	<b>Béla Szilvia</b>	Budapest University of Technology and Economics	About the Geometry of Milling Paths
17:40-18:00	<b>Lávička Miroslav</b>	University of West Bohemia, Plzeň	RC Properties of PN Parametrizations
<b>Chair:</b>	<b>Temesvári Ágota</b>		
20:00-20:45	<b>Bär Gert</b>	TU Dresden	Abstrakte Kunst und Mathematik

**Tuesday, June 5, 2007**

<b>Chair:</b>	<b>Stachel</b> Hellmuth		
08:30-09:15	<b>Sauer</b> Tomas	Justus Liebig Universität Gießen	Geometric Quantities in Ophthalmology
09:20-09:30		<b>SHORT BREAK</b>	
09:30-09:50	<b>Della Vecchia</b> Giovanni	Johannes Kepler University Linz	A Construction of Manifold Spline Surfaces
09:55-10:15	<b>Bastl</b> Bohumír	University of West Bohemia, Plzeň	Computing Exact Offset Surfaces of Quadratic Triangular Bézier Patches
10:20-10:50		<b>COFFEE BREAK</b>	
<b>Chair:</b>	<b>Lávička</b> Miroslav		
10:50 -11:10	<b>Tomiczková</b> Světlana	University of West Bohemia, Plzeň	Area and Volume of the Minkowski Sum
11:15 -11:35	<b>Výrut</b> Radek	University of West Bohemia, Plzeň	Minkowski Sum and its Computation
11:40 -12:00	<b>Nava Yazdani</b> Esfandiar	Graz University of Technology	Smoothness Properties of Lie Group Subdivision Schemes
<b>LUNCH</b>			
<b>Chair:</b>	<b>Sauer</b> Tomas		
14:30 -14:50	<b>Kosinka</b> Jiří	Johannes Kepler University Linz	MOS Surfaces: A 2D Analogy to MPH Curves
14:55 -15:15	<b>Oberneder</b> Margot	Johannes Kepler University Linz	A Geometric Iteration Method for Solving Nonlinear Equations
15:20 -15:30		<b>SHORT BREAK</b>	
15:30-15:50	<b>Brakhage</b> Karl-Heinz	RWTH Aachen	Spline Techniques for Generating Airplane Wings with Practical Applications
15:55 -16:15	<b>Moore</b> Brian	Johann Radon Institute for Computational and Applied Mathematics (RICAM), Linz	Computing Intersections of Planar Algebraic Curves Using Bivariate Quadratic Clipping
16:15 -16:45		<b>COFFEE BREAK</b>	
<b>Chair:</b>	<b>Gorjanc</b> Sonja		
16:45 -17:05	<b>Molnár</b> Emil	Budapest University of Technology and Economics	Visibility of the Higher-dimensional Central Projection onto the Projective Sphere (joint work with János KATONA)
17:10-17:30	<b>Spirova</b> Margarita	University of Sofia	Amusing Properties of Circles in Strictly Convex Minkowski Planes
17:35-17:55	<b>Stachel</b> Hellmuth	Vienna University of Technology	From Rytz to the Covariance Ellipsoid
19:30		<b>Conference Dinner</b>	

**Wednesday, June 6, 2007**

<b>Wednesday, June 6, 2007</b>			
<b>Chair:</b>	<b>Blunck</b> Andrea		
08:30-09:15	<b>Tarnai</b> Tibor	Budapest University of Technology and Economics	Mathematics of Baskets
09:20-09:30		<b>SHORT BREAK</b>	
09:30-09:50	<b>Caravantes</b> Jorge	University of Cantabria	Computation of the Topology of Arrangements of Curves of Low Degree
09:55-10:15	<b>Havlicek</b> Hans	Vienna University of Technology	From Geometry to Invertibility Preservers (joint work with Peter ŠEMRL)
10:20-10:50		<b>COFFEE BREAK</b>	
<b>Chair:</b>	<b>Martini</b> Horst		
10:50 -11:10	<b>Divjak</b> Blaženka	University of Zagreb	The General Solutions of Frenet Systems of Equations (joint work with Damir HORVAT and Zlatko ERJAVEC)
11:15-11:35	<b>Gorjanc</b> Sonja	University of Zagreb	$n$ th Degree Inversion and Some of its Products (joint work with Vladimir BENIĆ)
11:40-12:00	<b>Temesvári</b> Ágota	University of West Hungary, Sopron	Proofs of Elementar Theorems Using Models of Hyperbolic Geometry (joint work with Jenő HORVÁTH)
<b>LUNCH</b>			
Afternoon		<b>EXCURSION</b>	

**Thursday, June 7, 2007**

<b>Chair:</b>	<b>Tarnai Tibor</b>		
08:30-08:50	<b>Zsombor-Murray Paul</b>	McGill University, Montréal	Singularity of Redundant 4R Translational Manipulators
08:55-09:15	<b>Karger Adolf</b>	Charles University Praha	Self-Motions of Steward-Gough Type Platforms
09:20-09:30		<b>SHORT BREAK</b>	
09:30-09:50	<b>Gferrer Anton</b>	Graz University of Technology	Some Geometric and Kinematic Aspects of Wheeled Mobile Robots
09:55-10:15	<b>Hašek Roman</b>	University of South Bohemia, České Budějovice	Classification of Singular Robot-Manipulators
10:20-10:50		<b>COFFEE BREAK</b>	
<b>Chair:</b>	<b>Schröcker Hans-Peter</b>		
10:50 -11:10	<b>Erjavec Zlatko</b>	University of Zagreb	The Equiform Differential Equation of Curves in Pseudo-Galilean Space (joint work with Blaženka DIVJAK)
11:15 -11:35	<b>Lubaś Ewa</b>	Pedagogical Academia Krakow	Some Geometry Construction Problems and Solving by Applying Projective Geometry Theorems
11:40 -12:00	<b>Manhart Friedrich</b>	Vienna University of Technology	Affine Geometry of Maximal Surfaces in Minkowski 3-Space
<b>LUNCH</b>			
<b>Chair:</b>	<b>Zsombor-Murray Paul</b>		
14:30-14:50	<b>Helmberg Gilbert</b>	University of Innsbruck	A Space-Filling Fractal Curve
14:55 -15:15	<b>Šimić Marija</b>	University of Zagreb	Curvature of the Focal Conic in Isotropic Plane (joint work with Jelena BEBAN-BRKIĆ)
15:20-15:40	<b>Milin Šipuš Željka</b>	University of Zagreb	Transformation of Surfaces in the Pseudo-Galilean Space (joint work with Blaženka DIVJAK)
15:45 -16:15		<b>COFFEE BREAK</b>	
<b>Chair:</b>	<b>Molnár Emil</b>		
16:15-17:00	<b>Schröcker Hans-Peter</b>	University of Innsbruck	Uniqueness Results for Minimal Enclosing Quadrics
17:05 -17:15		<b>SHORT BREAK</b>	
17:15 -17:35	<b>Yang Huaiping</b>	Johannes Kepler University Linz	3D Shape Reconstruction and Modeling with T-Spline Level Sets
17:40-18:00	<b>Kudličková Soňa</b>	Comenius University Bratislava	Hermite Splines with Desired Shape

**Friday, June 8, 2007**

<b>Friday, June 8, 2007</b>			
<b>Chair:</b>	<b>Šír</b> Zbyněk		
08:30-09:15	<b>Žagar</b> Emil	University of Ljubljana	On the Deviation of a Parametric Polynomial Interpolant from its Data Polygon
09:20-09:30		<b>SHORT BREAK</b>	
09:30-09:50	<b>Palaj</b> Vladimir	Comenius University Bratislava	Algorithms for Curves Intersection
09:55-10:15	<b>Feichtinger</b> Robert	Johannes Kepler University Linz	Range Constraints for T-Spline Level-set Evolution
10:20-10:50		<b>COFFEE BREAK</b>	
<b>Chair:</b>	<b>Jüttler</b> Bert		
10:50-11:10	<b>Jurkin</b> Ema	University of Zagreb	Entirely Circular Curves of Order Four in the Hyperbolic Plane Produced by Projective Mapping between two Pencils of Conics
11:15-11:35	<b>Lebmeir</b> Peter	TU München	Invariants of Plain Algebraic Curves (joint work with Jürgen RICHTER-GEBERT)
<b>11:40</b>		<b>Closing Ceremony</b>	
<b>LUNCH</b>			