Timetable '*New Methods in Differential Geometry*'

Wednesday, Dec 18 **Venue: Room 309, Carl-Zeiss-Straße 3, Jena**

9:30 - 10:00	Meeting & Registration
10:00-10:50	**Vitali Balaschenko** (Minsk) *Canonical structures on generalized symmetric spaces and their applications*
	Coffee break
11:10-12:00	**Erhard Scholz** (Wuppertal) *Weyl geometry 1918 - 2018, history and some reflections on the actual use*
	Coffee break
12:20-12:50	**Aleksandr Gagonov** (Moscow) *Geometry of compatible metrics*
	Lunch break
15:00-15:50	**Zoltan Muzsnay** (Debrecen) *Some results on the Finsler metrizability*
	Coffee break
16:20-16:50	**Tianyu Ma** (Jena) *Brownian motion on Finsler manifolds*
Evening	Christmas market Jena

Thursday, Dec 19

9:00-09:50	**Victoria Vedyushkina** (Moscow) *Modeling of integrable systems of physics and geometry using integrable billiards on CW complexes*
	Administrative break
11:20-12:10	**Sergey Agafonov** (São José do Rio Preto/Jena) *Hexagonal Geodesic 3-Webs*
	Coffee break
12:30-13:00	**Jan Schumm** (Jena) *Quantum-Integrability of the geodesic flow for C-projectively equivalent metrics*
	Lunch break and excursion

Friday, Dec 20

10:00-10:50	**Fedor Popelensky** (Moscow) *Combinatorial Ricci flow for circle packing metrics with degenerations*
	Coffee break
11:20-12:10	**Nina Lebedeva** (Köln) *Spaces with weak lower curvature bound*
	Coffee break
12:30-13:00	**Markus Dafinger** (Jena) *Existence of a variational principle for PDEs with symmetries and current conservation*
	Closing and lunch

Abstracts

Jan Schumm (Jena): Quantum-Integrability of the geodesic flow for C-projectively equivalent metrics

Two n-dimensional (pseudo)riemannian metrics are said to be projectively equivalent if they have the same geodesics considered as unparametrised curves. It has been shown that the geodesic flow on such manifolds is integrable in the liouville sense (Matveev,Topalov, 1999). This means there exist n independent (their differentials are linearly independent almost everywhere) functions from the cotangent bundle to the real numbers with the property that their poisson brackets vanish among each other and their poisson bracket with the Hamiltonian derived from the metric vanishes.
The framework can be generalized to Kählermanifolds and liouville-integrability in this case is due to Topalov(2001). From such Integrals differential operators can be constructed and the system is said to be quantum-integrable if these operators commute.We prove that the differential operators formed according to Carter's rule do commute in the c-projective case.