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2nd Geometry Day
Heidelberg – Karlsruhe – Strasbourg

Friday, May 24th, 2013, 10:30 am – 04:30 pm
KIT, University Sector, Maschinenbau, Oberer Hörsaal (10.91, R222)
Engelbert-Arnold-Str. 4, 76131 Karlsruhe

11:00 am - 12:00 pm | Linus Kramer, WWU Münster
Compact homogeneous geometries

We classify compact homogeneous geometries which look locally like buildings. The classification has applications in submanifold geometry of symmetric spaces. This is joint work with A. Lytchak.

02:00 - 03:00 pm | Gye-Seon Lee, Heidelberg University
Deforming hyperbolic reflection orbifolds in projective structures

Let Q be a compact reflection orbifold of dimension at least three. By using Klein's model for hyperbolic geometry, hyperbolic structures on orbifolds provide examples of real projective structures. If Q admits a hyperbolic structure, then such a hyperbolic structure is unique. However, the induced real projective structure on some such orbifolds deforms into a family of real projective structures that are not induced from hyperbolic structures. We will describe a large class of compact hyperbolic reflection orbifolds with such deformations.

03:30 - 04:30 pm | Emmanuel Opshtein, Université de Strasbourg
Symplectic embeddings and plane curves singularities

The problem of symplectic embeddings can be described in the following way : fix a reference domain D, equiped with a symplectic structure, and try to probe symplectic manifolds by asking whether and how D can embed into them. The theory is well-developped when the source domain is an ellipsoid in C^2, and the symplectic manifolds are 4-dimensional, of so-called non-simple SW type. Although these manifolds are rather special, there are intersting examples, such as the projective space and all its blow-ups ...

The aim of the talk will be to explain a very strong relation between the problem of symplectic embeddings of some special domains (like ellipsoids), and the realization of plane singularities by low degree curves. The main point will be to explain that symplectic geometry can give some hints on a purely algebraic-geometry problem.