

# 15th Colloquium Lecture, School of Mathematics Faculty of Mathematics and Physics

## Konrad Polthier

(Freie Universität Berlin)

Thursday, March 19, 2015, 15:45, Lecture hall K2  
Sokolovská 83, Praha 8 - Karlín

### Discrete differential geometry with applications in computer aided design and computer graphics

The talk will give an overview of novel discretization schemes in differential geometry and demonstrate their effectiveness in various real-world applications ranging from computer aided design, computer graphics architecture to even differential geometry itself. The topics include discrete notions of curvature operators, minimal surfaces, conformal maps, Hodge theory, branched covering spaces as well as their effective interplay to the development of industrial algorithms. The talk spans bridges from differential geometry and its discretization to finite element numerics, algebraic topology and image processing.

#### About the speaker

Prof. Dr. Konrad Polthier is MATHEON-Professor and head of the Mathematical Geometry Processing group at the Institute of Mathematics at FU Berlin. His research interests cover the areas of mathematical geometry processing, discrete differential geometry and mathematical visualization. See <http://www.polthier.info/> for more information.

#### Colloquium Lecture

The 15th Colloquium Lecture of the School of Mathematics is organized in cooperation with *Mathematical Institute of Charles University, MFF UK*.

#### Further information

<http://msefce.karlin.mff.cuni.cz/colloquia>