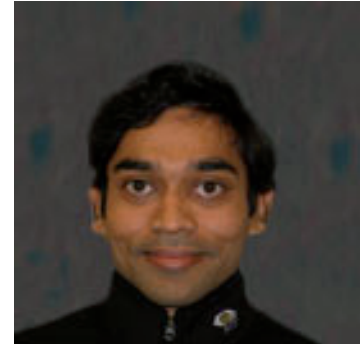**laden gemeinsam zum**

# GASTVORTRAG

## Niloy J. Mitra

KAUST, Kingdom of Saudi Arabia

### "3D Geometry: Analysis and Manipulation"

### Abstract:

In this talk, I will describe shape analysis techniques, specially for detecting object symmetry, i.e., invariance under the action of certain transformations. Such self-similarity is often related to form, function, utility and aesthetics. As we enter the age of easily accessible 3D geometry, analyzing their global properties and invariants becomes important. I will describe how such high-level shape invariants, extracted in the analysis phase, can be readily used in a range of applications including shape completion, smart geometry editing, motion visualization, shape abstraction, which are otherwise challenging to perform.

### Biography:

Dr. Niloy J. Mitra has been appointed Assistant Professor of Computer Science in the Division of Mathematical and Computer Sciences and Engineering at KAUST. He assumed his duties in June 2009.

At present, Dr. Mitra is Assistant Professor in the Department of Computer Science and Engineering at the Indian Institute of Technology, Delhi. He has also been a visiting faculty member at the Vienna University of Technology and ETH Zurich.
His research interests are in geometric modeling, geometry processing, shape analysis, shape preserving deformations, scan alignment, and visualization. He has co-authored 19 refereed articles. Currently, Dr. Mitra works on detection of symmetry and structural regularity in 3-dimensional geometry, and also in application of geometry processing in architectural design and other art forms.

Dr. Mitra was a postdoctoral fellow at the Geometric Modeling and Industrial Geometry Research Unit at the Vienna University of Technology in Austria. Prior to that, he received his master's and doctoral degrees in Electrical Engineering from Stanford University in the United States.

**Datum:** 30. April 2010 10:30 Uhr s.t.
**Ort**: TU Wien, Favoritenstr. 9, Stiege 1, 5. Stock, Seminarraum E186