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Report by David Coeurjolly, LIRIS, France.

The 20th IAPR International Conference on Discrete Geometry for Computer Imagery, DGCI 2017, was held in Vienna, Austria, from 19 to 21 September 2017. This conference was organized by Walter G. Kropatsch, Nicole M. Artner and Ines Janusch from the Pattern Recognition and Image Processing Group at TU Wien, Austria.

The DGCI conference is the main event of the Technical Committee 18 “Discrete Geometry and Mathematical Morphology” of the IAPR. Its aim is to gather researchers in discrete geometry and topology, and discrete models, with applications in image analysis and image synthesis. Discrete geometry plays an expanding role in the fields of shape modeling, image synthesis, and image analysis. It deals with topological and geometrical definitions of digitized objects or digitized images and provides both a theoretical and computational framework for computer imaging.



The DGCI 2017 conference attracted 48 researchers. The scientific program consisted in 3 invited talks, 18 oral and 10 poster presentations during 3 days. Presentations were organized in the several sessions following the conference topics:

- Geometric transform
- Discrete tomography
- Discrete modeling and visualization
- Morphological analysis
- Discrete shape representation, recognition and analysis
- Discrete and combinatorial topology
- Discrete and combinatorial tools for image segmentation and analysis
- Models for discrete geometry

The event took place in the very nice facility of TU Wien.

During the first day, the event started with a very inspiring invited presentation by Helmut Pottmann (TU Wien, Austria) entitled “Freeform Architecture and Discrete Differential Geometry”. His presentation covers very interesting geometry processing problems with direct application to architecture and design. After several paper sessions, the first day ended with an interesting poster session followed by a friendly Ice Breaker Party at TU Wien.



The second day of the conference started by a presentation of the second invited, IAPR distinguished speaker, Michael Wilkinson (University of Groningen, The Netherlands) entitled “A guided tour of connective morphology”. Such highly recognized keynote speaker highlights the fact that both digital geometry and mathematical morphology are getting closer, following the recent change of the IAPR TC-18 title from “Discrete Geometry” to “Digital Geometry and Mathematical Morphology”. After several paper sessions, the second



half of the second day afternoon was dedicated to community discussion (IAPR TC18 “brainstorming session and open problems”, Steering Committee meetings). This day ended with a very interesting guided tour through the first district of Vienna and the wonderful gala dinner in a typical Wiener place.

During the gala dinner, we announced the location of the next DGCI event (spring 2019). Call for proposals had been collected before the conference and the Steering Committee finally decided to locate the next event in Paris/Marne-la-Vallée, France, organized by Yukiko Kenmochi, Michel Couprie, Jean Cousty and Nabil Mustafa (ESIEE). During the dinner, the Award Committee announced the winner of the “Best student paper award” sponsored by Springer. This year, the price has been given to Thomas Caissard, PhD student in Lyon, France for his work on Laplace-Beltrami operators on digital surfaces. The committee acknowledged the quality of the work and the importance of the results.





The last day of the DGCI 2017 started with a very refreshing invited talk by Eric Andres (Université de Poitiers, France). His presentation was entitled “Collaborating with an Artist in Digital Geometry”. He covered his collaborations with an artist using digital geometry tools to create art pieces. Several technical paper sessions followed with very interesting paper presentations.

The overall event was perfectly organized by and very enthusiastic local team driven by Walter. Everyone agreed on the fact that this event has been very successful. Many very stimulating scientific discussions took place and many interesting projects started during the conference. The proceedings appeared in Springer’s series on Lecture Notes in Computer Science, Volume 10502.

Now, we are working on a special issue of the event that will be published in the Journal of Mathematical Imaging and Vision (JMIV). 10 papers have been invited to submit an extended version and we expect a very valuable and insightful special issue on our research topics.

See you in Paris - Marne-La-Vallée for DGCI 2019 !

