

# IAPR-TC18 - Discrete Geometry

## Interim report

### Period February-July 2013

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August, 2013

## 1 Activities in the last six months

### 1.1 Change of board

The leadership board of TC18 has changed according to the IAPR recommendation. It is now composed of:

- Isabelle Sivignon (CNRS researcher, GIPSA-lab, Grenoble, France): chair
- Partha Bhowmick (associate professor, Indian Institute of Technology, Kharagpur India): vice-chair, in charge of code repository and databases management
- Rocio Gonzalez-Diaz (associate professor, School of Computer Engineering, University of Seville, Spain): vice-chair, in charge of educational material, tutorials, challenges (open problems)

### 1.2 DGCI 2014 - Meeting of the TC18

The 17th IAPR International Conference on Discrete Geometry for Computer Imagery took place in Sevilla, Spain in March 20-22, 2013. Submissions from 26 different countries confirm the international status of the conference. The conference brought together 95 participants.

Proceedings of the conference have been published by Springer-Verlag in Lecture Notes in Computer Science Series (volume number 7749). Moreover, the slides of the talks are available on DGCI 2013 website.

As previously, this edition also hosted a demonstration session. Proceedings of this session were published in Electronic journal IMAGEN-A (<http://imagen-a.us.es>), ISSN: 1885-4508, volume 3, number 5, 2013. A novelty for this edition was to attribute the Best Demo Prize in order to promote demonstrations of Digital Geometry activities. The evaluation committee for this prize was composed by members of the Steering Committee (with a TC18 member) and Program Committee of DGCI.

Three internationally well-known researchers participated as invited speakers: Herbert Edelsbrunner, Professor at the Institute of Science and Technology, Vienna University, Austria, gave a talk on "Stable length estimates of tube-like shapes"; Francisco Escolano, Associate professor at the University of Alicante, Spain, gave a lecture on "The complexity of discrete objects"; Konrad Polthier, MATHEON-Professor and director of the Mathematical Geometry Processing group at Freie Universitat Berlin, Germany, talked about "Differential-Based Geometry Modeling".

A meeting of the TC18 was also scheduled during the conference. It was organized in plenary session so that all the participants could attend it. It consisted of a talk relating the last activities of the TC18, the change of board and call for candidates, and a plan for future activities.

### 1.3 Website modernization

The website style had never been changed since its creation ten years ago. Our first job as new leadership team was to modernize the website to make it more modern and ergonomic. A gallery of images illustrating Discrete Geometry activities has also been added. The content has been updated very slightly, but more changes are planned in the near future (see next section). See <http://www.tc18.org>.

### 1.4 Newsletter

A newsletter announcing the change of board and new website (among other things) has been sent to all TC18 members on July, 25th, 2013. It can be found here <http://www.tc18.org/newsletters/newsletterJul2013.html>.

## 2 Plans

### 2.1 Website updates

#### 2.1.1 Educational information

We already have nice material available in the Educational section of the website. However, some things could be improved, and here is a list of what we plan to do:

- add more recent books
- add a list of state-of-the-art papers
- add alerts of PhDs and papers in major journals

To help us in this task and to be more thorough, in the last newsletter, we invited the TC18 members to contribute to these lists.

It would also be interesting to add demonstrations, but this is a little bit more complicated to set up. However we could investigate the possibility to rely on the Image Processing Online journal, which publishes articles together with source code and online demonstrations. Several articles issued from demonstrations presented in DGCI 2011 are about to be published in this journal, and the TC18 website could host links to these demonstrations.

#### 2.1.2 Reference resources

Some data sets are already available on the TC18 website. However, the organization of these data could be rationalized, so that benchmark datasets could be proposed to the community for classical problems (tomography reconstruction, polygonalisation, etc).

There is also a list of Open problems available on the website. This list is now a bit outdated, and we plan to update it soon. A first step was to launch a call for new problems in the last newsletter. The TC18 meeting of DGCI 2014 could also be a good opportunity for a brainstorming around open problems (maybe not in plenary session however).

### 2.2 Activities

#### 2.2.1 Events

The 18th edition of the IAPR - International Conference on Discrete Geometry for Computer Imagery will take place in Siena, Italy, September, 10-12th, 2014. The decision was taken during the SC meeting of DGCI 2013. The conference will be jointly organized by the Universities of Siena and Florence, Italy. A preliminary website with a first call for papers and dates is already available.

We also plan to investigate the possibility of organizing a summer school with the sponsorship of IAPR. Since our TC has no experience in this matter, a first step could be to participate to another summer school that is planned by other IAPR TCs (TC15, TC2). We could also plan a survey among TC18 members to decide whether it would be good to organize such an event, and, if so, to define its contours (in conjunction with other TCs, connected to DGCJ conference or stand-alone event, etc).

### **2.2.2 Publicity**

In order to promote TC18 activities, we plan to reference projects (European, national, with industrials, connected to other research fields) involving TC18 members. This would enhance the visibility of the applications of our work.

Moreover, the website homepage now includes a gallery of images illustrating activities of Discrete Geometry. This gallery is static for now, but we plan to link the images to the related papers or websites.