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IN THIS Issue

From the Editor's Desk:
What can *you* do to help achieve better gender balance? We want to hear your thoughts.

by Arjan Kuijper
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http://www.gris.tu-darmstadt.de/~akuijper/

In November my daughter (aged 11) received a certificate. She had participated in a "girls do science" workshop, in which they programmed robots (computer science), worked with fuel cells (renewable energies), and created cosmetics (chemistry). The aim of this workshop was to show girls that science is fun and to encourage them to continue 'doing' science. Both our children participate in girls and boys days, in which they can see 'typical male / female' professions from 'the other side'. They had fun, so I guess these activities were successful.

Still, looking at the male/female balance at a later age, it is striking that males start to dominate STEM (Science, Technology, Engineering, and Mathematics). Whatever you can say about the reasons for this: this unbalance is too big to be good and it doesn't represent our normal world. Unfortunately, also in the IAPR this is the case. But we're working on it!

In the previous *Newsletter* you've seen the memo from the IAPR Executive Committee. Did you also read it? Did you put forward nominees for fellowships? Do you have nominees for the IAPR prizes? Let them know! (see related Calls for Nominations in this issue).

I want to take this one step further. How can we – yes, you and I! – improve the balance? Is that done by workshops and events as described above? Do you have good suggestions for the readers of the newsletter? Let us know!

Let me start with some ideas:

- At our CS department, we organize girls' days for high-school teens, as well as girls-only LAN-parties.

- Another university I know introduced a Master track "Medical imaging" – which attracted students who were not lucky enough to get enrolled in medicine.

- Studies show that girls spend more time on social media (boys with gaming) – so would it make sense to give talks at high schools to explain the (scientific) world behind WhatsApp, Instagram, etc. etc.? They do more with imaging and pattern recognition than they realize!

I'm looking forward to your ideas and comments!

Happy Reading,

~Arjan

C A L L S f o r P A P E R S

For the most up-to-date information on IAPR-supported conferences, workshops and summer schools, please visit the IAPR web site: *www.iapr.org/conferences/*

ICPR 2016
23rd International Conference on Pattern Recognition
Cancun, Mexico
Paper deadline: Apr. 20, 2016
Contest proposal deadline: Mar. 1 - May 31
Workshop proposal deadline: Mar. 1 - May 31
Tutorial proposal deadline: Jul. 1, 2016
Dates: Dec. 4-8, 2016

ICFHR 2016
15th International Conference on Frontiers in Handwriting Recognition
Shenzhen, China
Deadline: Apr. 30, 2016
Dates: Oct. 23-26, 2016

ANNPR 2016
7th Workshop on Arificial Neural Networks in Pattern Recognition
Ulm, Germany
Deadline: May 4, 2016
Dates: Sep. 28-30, 2016

CIARP 2016
21st Iberoamerican Congress on Pattern Recognition
Lima, Peru
Deadline: May 15, 2016
Dates: Nov. 8-11, 2016

MedPRAI 2016
The Mediterranean Conference on Pattern Recognition and Artificial Intelligence
Tebessa, Algeria
Deadline: May 27, 2016
Dates: Nov. 22-23, 2016

S+SSPR 2016
IAPR Joint International Workshops on Statistical Techniques in Pattern Recognition (SPR 2016) and Structural and Syntactic Pattern Recognition (SSPR 2016)
Merida, Mexico
Deadline: May 31, 2016
Dates: Nov. 30 - Dec. 2, 2016

DICTA 2016
2016 Digital Image Computing:
Techniques and Applications
Gold Coast, Australia
Deadline: Jul. 15, 2016
Dates: Nov. 30 - Dec. 2, 2016

PRRS 2016
9th International Workshop on Pattern Recognition in Remote Sensing
(held in conjunction with ICPR 2016)
Cancun, Mexico
Deadline: Jul. 30, 2016
Dates: Dec. 4, 2016

MVA 2017
15th IAPR Intl. Conf. on Machine Vision Applications
Nagoya, Japan
Deadline: Dec. 5, 2016
Dates: May 8-12, 2017

Calls for Nominations for Awards to be presented at ICPR 2016

King-Sun Fu Prize
to be presented at ICPR 2016
Deadline: April 30, 2016

J. K. Aggarwal Prize
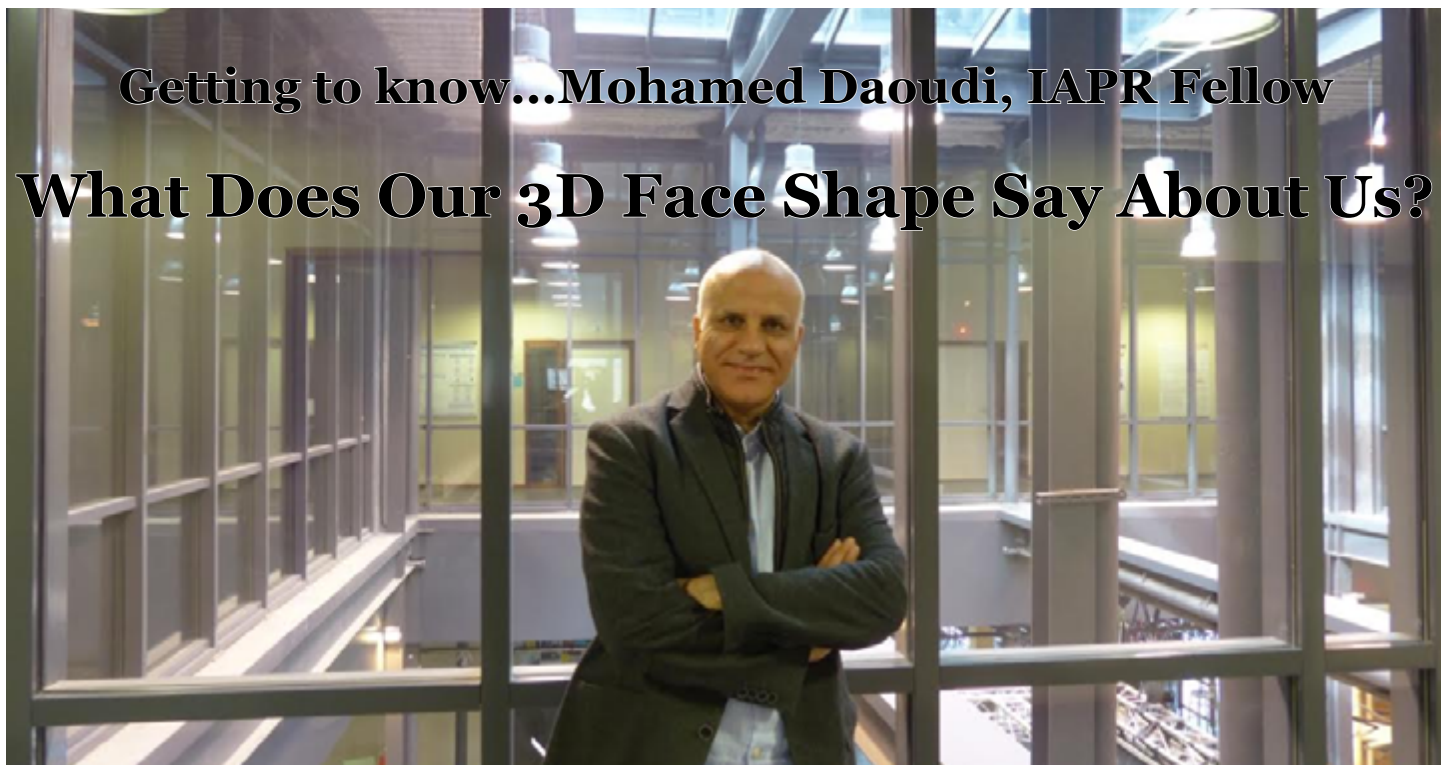to be presented at ICPR 2016
Deadline: April 30, 2016

Maria Petrou Prize
to be presented at ICPR 2016
Deadline: April 30, 2016

Getting to know...Mohamed Daoudi, IAPR Fellow

What Does Our 3D Face Shape Say About Us?

Mohamed Daoudi, IAPR Fellow
ICPR 2014, Stockholm

For contributions to 3D shape analysis and retrieval and related applications.

Mohamed Daoudi is a Professor of Computer Science at the Institut Mines-Télécom/Télécom Lille, and the head of the Image group at CRIStAL Laboratory (UMR CNRS 9189), France.

He received his Ph.D. degree in Computer Engineering from the University of Lille 1 (France) in 1993 and Habilitation à Diriger des Recherches from the University of Littoral (France) in 2000. His research interests include pattern recognition, shape analysis, computer vision and 3D object processing.

He has published over 150 research papers dealing with these subjects that have appeared in the most distinguished peer-reviewed journal and conference proceedings. He has supervised 20 PhD students who are currently pursuing research in academic institutions and industry. He is the co-author of several books including 3D Face Modelling, Analysis and Recognition (Wiley 2013) and 3D Object Processing: Compression, Indexing and Watermarking (Wiley 2008). He has been Conference Chair of the Shape Modelling International Conference (2015) and several other national conferences and international workshops.

He is a Fellow of IAPR, a Senior Member of IEEE and a member of Association of Computing Machinery (ACM).

by [Mohamed Daoudi](#), Professor of Computer Science, Institut Mines-Télécom/Télécom Lille, France

I spent my childhood in Morocco, a country that has an excellent tradition of teaching mathematics. I loved mathematics, because they only required a pencil and a paper! However, only a few people could follow mathematics studies in high school in Morocco. When I came to France to study at University, I chose mathematics during the first years. Then, when I had to choose between mathematics and computer science, I opted for computer science because computers were a thing of the future. I was fascinated by how the brain works, and I decided to follow the Artificial Intelligence course during the BS in Computer Science.

I discovered pattern recognition and decision theory during the Master of Science in Computer Engineering. I realized how probability and algebra could help us to understand the underlying structure of data. It was my first contact with pattern recognition.

I completed my PhD on interactive pattern recognition through multilayer neural networks and mathematical morphology and continued my career in shape analysis, pattern recognition, machine learning and computer vision, with numerous applications. Some of them are video coding by using invariant descriptors, internet image classification for the protection of kids, 3D shape retrieval, 3D face recognition, biometrics, health and well-being, retail, and more recently human behaviour understanding by

using 3D sensors. In particular, with partial funding from the European Commission, under the Safer Internet Action Plan, the Public Opensource Environment for a Safer Internet Access (POESIA), I proposed an innovative and practical approach based on Maximum Entropy Modeling for skin detection and neural networks for adult image classification (reference at http://sourceforge.net/projects/poesia/?source=directory). During this project, I realized the importance of collecting data for machine learning algorithms, which is indeed a very time consuming and expensive procedure. I try to draw the attention of my students to the importance of the task of collecting data in a machine-learning projects.

In 1999, the foundation for my research shifted from 2D to 3D. Indeed, 3D scanning technology, hardware-accelerated 3D graphics, and the proliferation of large 3D data sets (3D Big Data) improved access to 3D data. As technologies continued to improve, the need for automated methods for analysing shapes of 3D objects will also grow. To facilitate the access to large 3D datasets, I developed one of the first 3D search engines (reference at http://www-rech.telecom-lille.fr/3dretrieval).

In 2004, I started research on one of the most beautiful, non-rigid objects in nature, the human face! It is the most important non-verbal channel that enables human beings to communicate with their peers. My work consists of extracting relevant features (patterns) from the 3D human face for recognition, expressions, gender classification and age estimation. I was a pioneer in the use of 3D in human face

recognition. I published several papers on this topic, which have been followed by the community. The TPAMI paper with my collaborators on 3D face recognition, was one of the first papers on this topic, inspiring the works of many researchers. I initiated research on facial expressions recognition and gender classification by using the geometry of the face, and machine learning algorithms for feature selection. I am still fascinated by the patterns that we could extract from the shape of face. My current research continues to push the frontiers of using 3D in face and expressions recognition, activities recognition and scene understanding.

I had the pleasure and the privilege to learn from some leading researchers in computer vision and multimedia, among them Alberto Del Bimbo (University of Florence). I have also had a chance to collaborate with mathematicians, statisticians, health clinicians, and specialists of cognitive and affective sciences. This is one of the privileges of our research work on pattern recognition, the possibility to meet many colleagues from different disciplines. Currently, I collaborate with neuroscientists in the topic of human behaviour understanding (face and gestures).

We are in the most exciting age of 3D technologies, aided by the power of computing, the availability of very large 3D models datasets and 3D depth cameras that are just now becoming available for tablets and soon will be available for cell phones. The challenge is to extract hidden patterns from the large mass of data (3D objects, depth, video, 3D video, etc.). The tools from differential geometry, statistics and machine learning will provide some answers to this challenging

task, and I am still working on finding answers to these research questions in order to contribute to positive changes in the world.

IAPR Fellow Q & A

With their years of experience, IAPR Fellows have a lot to offer to younger researchers just getting started in their careers. With that in mind and following on my recent series of From the Editor's Desk columns of advice for young researchers on getting papers published (January 2015, April 2015, July 2015), I asked Prof. Daoudi some additional questions.
~ Arjan Kuijper, EiC

EiC: What do you think the most positive use of your research will be?

MD: My current research aims at developing computational methods for modelling, analysing and measuring human behaviour (face and body). The most positive use of my research should be health and well-being such as pain detection, autism, facial paralysis, health behavior change and human-computer interaction.

EiC: Is pencil and paper the best way to start a scientific career?

MD: Pencil and paper remain a good way to clarify ideas. However, pattern recognition and computer vision research require experimentation and equipment.

Let me give you one example, in my current research, you need a 3D scanner and a thermal camera in order to study human face behaviour.

IAPR...The Next Generation

In this series of Feature Articles, the IAPR Newsletter asks young researchers to respond to three questions:

- Briefly: How did you get involved in pattern recognition and what technical work have you done?
- In more detail: What is/are your current research interest(s)?
- How can the IAPR help young researchers?

~Arjan Kuijper, Editor -in-Chief

Ilja Kuzborskij

by Ilja Kuzborskij, Idiap Research Institute, Switzerland

Briefly: How did you get involved in pattern recognition and what technical work have you done?

My first acquaintance with machine learning happened around 2009 when I was a summer intern at CERN.

Back then I was a part of a software development team, where they used to get a lot of emails on bugs and issues, but most of those could have been split into just a few groups.

"Can we put 'AI' to this IT?" -- my colleague once threw out over a lunch.

I was keen on everything going around there, so I jumped in. Reading from here and there, trying out everything that could be tried out, I realized that I wasn't red-hot anymore about classifying kinds of "spam"; I really wanted to understand.

This desire led me to Edinburgh, where I spent the following year pursuing a master's in learning from data. The next year I was lucky to end up at the Idiap Research Institute and EPFL in Switzerland, commencing my ever-continuing work with Prof. Barbara Caputo.

From there on, I became involved in exciting work on learning algorithms that leverage past experience, transfer learning. In a nutshell, transfer learning is a form of statistical learning from fewer examples by exploiting what has been learned before, in the hope that some relevant information is shared between previous tasks and the task at hand. For example, if one tries to learn to recognize a car in a picture, perhaps much of the effort can be spared if one already knows how to recognize bikes, for those share similar features, parts, and contexts. The goal of a learner is to identify and exploit these similarities. In practice this problem is instrumental to any autonomous system, for instance, a household robot seeing something it has never encountered before, or a smartphone picking up a new spoken word. For such a tool, it is essential to fill gaps in its knowledge.

My research is exactly about these kinds of algorithms: understanding

I am a PhD student at the École polytechnique fédérale de Lausanne (EPFL) and a research assistant at the Idiap Research Institute, advised by Prof. Barbara Caputo and Dr. Francesco Orabona. My current research interests are Transfer Learning and Domain Adaptation, in theory and efficient practice.

Editor's note:
Ilja Kuzborskij was the recipient of the ICIAP 2015 Best Paper Award (an award dedicated to the memory of Stefano Levialdi, IAPR Fellow) for the paper entitled "Transfer Leaning through Greedy Subset Selection", authors: Ilja Kuzborskij, Francesco Orabona, and Barbara Caputo.

~ Arjan Kuijper, Editor-in-Chief

when transfer learning is possible theoretically and implementing it efficiently. Take, for instance, categorization -- one of my projects focuses on learning a new category by transferring from a number of already well-known ones. Can we learn the new category faster? In other words, we want to come up with a learner that can pick up new categories quickly without re-training from scratch. The problem of learning quickly, from few examples, is obviously related to the amount of prior knowledge supplied by the teacher, yet, much of that might be simply irrelevant. Part of my work focuses precisely on how to discard the such and to keep, perhaps, only a few relevant pieces of prior knowledge out of thousands.

In more detail: What is/are your current research interest(s)?

At the moment, I'm mostly interested in various degrees of supervision in transfer learning. Even though transfer learning aims at reducing annotation effort, there are various interesting learning scenarios where even a few is still a lot.

For example, instead of having a few disparate annotations, the learner can issue budgeted queries targeted at relevant unknown examples, perhaps at the ones which are not well covered by its prior knowledge. Turning back to the practical case, a household robot can ask to fill gaps in its knowledge sparingly by asking only about objects or concepts that have the highest value for learning.

In a more extreme setting, assume that no annotations are given at all. Nonetheless, the learner can try to adapt its vast prior knowledge by accessing plenty of unannotated examples drawn from its operating environment. Again, thinking about our robot, it might figure out how to apply prior knowledge just by looking around.

The story would be only half-complete if we were to stop at proposing an algorithm without explaining why it works. So, my work also aims at establishing a theoretical rationale for transfer learning algorithms. What are the statistical conditions when we expect them to work accurately? How can we control those? How can it guide us when designing new algorithms?

How can the IAPR help young researchers?

I believe that whenever one embarks on her or his doctoral studies, it is their responsibility to learn, to look out for opportunities, and to strive to come up with new ideas.

A good advisor can greatly speed up learning by steering them in the right directions, driving them away from chasms when obvious, and promoting research values.

In spite of this, your experience, your network, and your research can be greatly enriched by moving around. A good deal of important skills can be learned by visiting other labs and by doing internships.

Young researchers willing and actively looking out for this would strongly benefit from full-coverage mobility scholarships offered by organizations such as the IAPR.

UNSUPERVISED MACHINE LEARNING   SUPERVISED MACHINE LEARNING

1+1=10   1+1=10
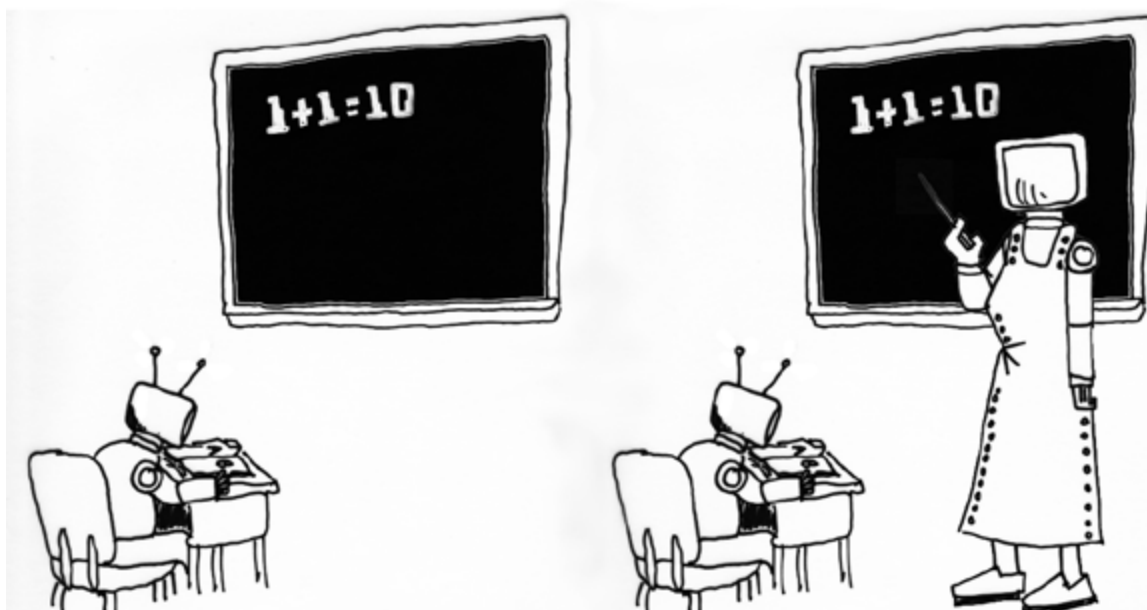
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From the ExCo

News from the Executive Committee of the IAPR

by [Alexandra Branzan-Albu](#)
IAPR Secretary

IAPR Prizes Calls for Nominations:

[K. S. Fu](#)

[J. K. Aggarwal](#)

[Maria Petrou](#)

Call for Bids to Host ICPR 2020

Springtime in New Jersey
(photo by Linda O'Gorman)

Victoria, April 2016

The last few months have marked the start of an intense period of preparation for ICPR2016, which will take place in Cancun on 4-8 December 2016. [Calls for nominations for IAPR prizes](#) (K. S. Fu, J. K. Aggarwal, and Maria Petrou) were posted on the IAPR website on March 2nd. We encourage all members of the IAPR community to get involved with the nomination process. There is still time to send your nomination, as the deadline for all prizes is April 30 2016.

The deadline for submitting papers to [ICPR 2016](#) has been recently extended to April 20, 2016. So, if you have not already submitted a research contribution, please consider doing so. Calls for tutorials, workshops and challenges are open until May 31st, 2016.

ICPR is one of the most prestigious international conferences in Computer Vision and Pattern Recognition disciplines. It also represents the main opportunity for members of IAPR associations across the world to get together in a physical space, to interact, exchange ideas, and enjoy each other's company.

The Governing Board members will also get together for their biennial meeting during ICPR2016. Between now and then, the GB will be asked to vote on several ballots distributed by the IAPR Secretary via email. These ballots will be related to the number of members and the membership of the three prize committees.

In January, IAPR Secretariat Ms. Linda O'Gorman distributed dues invoices to and requested membership lists from all IAPR member societies. Please note that dues must be paid and membership lists submitted in order to ensure voting rights at the GB meeting in December.

Even as preparations are underway for ICPR 2016, the Conferences & Meetings Committee, Chaired by Dan Lopresti, is looking ahead and has issued a [Call for Bids to Host ICPR 2020](#).

IAPR ⊙ Technical Committee News

This section of the IAPR Newsletter will publish short, timely items by and about the IAPR's Technical Committees.

There are three main aims:

1. *to give the IAPR's TCs regular access to the broader IAPR community*
2. *to introduce the various TCs to those who are new to the IAPR and*
3. *to keep the rest of the IAPR community interested and informed about TC happenings.*

~Arjan Kuijper, IAPR Newsletter EiC

IAPR TC6 - Computational Forensics
https://sites.google.com/site/compforgroup/

Uptal Garain, Chair
Marcus Eichenberger-Liwicki, Vice Chair

IAPR-TC6 on Computational Forensics, in the recent past, has engaged itself for working on three distinct activities: (i) A proposal for organizing the 7th International Workshop on Computational Forensics (IWCF) has been prepared and sent to ICPR 2016 workshop committee. Please note that IWCF is the flagship workshop of this TC. TC members in its last meeting during ICDAR 2015 decided to organize the 7th version of IWCF as one of the ICPR 2016 workshops. (ii) A plan is almost complete for organizing a summer school on Computational Forensics in Gjøvik (Norwegian University of Science and Technology (NTNU) campus Gjøvik), Norway, September 5-9, 2016. Very soon a proposal will be sent to IAPR for its sponsorship and call for participation is also being prepared. (iii) An ICPR competition on document authentication has been planned jointly with two other IAPR TCs namely, TC-10 and TC-11. A joint proposal for organizing such an ICPR competition has been sent to ICPR 2016 Competition Committee.

IAPR TC7 - Remote Sensing and Mapping
http://www.iapr-tc7.de/

Eckart Michaelsen, Chair
Jie Shan, Vice Chair

The IAPR-TC7 is concentrating on a particular application: automatic recognition from remotely sensed data. IAPR TC7 was founded as Applications in Remote Sensing in 1982 and was renamed in 1998 when it was chaired by Maria Petrou. Throughout it's history, TC7 has organized remote sensing workshos in conjunction with ICPRs. The first workshop called Pattern Recognition in Remote Sensing (PRRS) was held in Niagara Falls in 2002 in conjucntion with the 16th ICPR in Quebec City, Canada. Accordingly, the TC is planning PRRS-9-2016 (see Calls for Papers, this issue) to be held in Cancun, Mexico, as side-event of the ICPR2016.

PRRS-9-2016 is an IAPR-sponsored workshop, but, since this it is an interdisciplinary field also attracting scientists from photogrammetry and satellite sciences, the TC emphasizes contacts with ISPRS, ASPRS and IEEE-GRS. For instance, the PRRS workshops are also advertised in the ISPRS, and there was a special issue on pattern recognition in remote sensing in the IEEE-JSTARS journal in 2014. The TC regularly publishes such special issues in top-level journals encouraging the authors of PRRS workshops to contribute.

Currently there is another special issue in progress with Pattern Recognition Letters which is due to appear in late 2016. Details on the TC's activities can be found on http://www.iapr-tc7.de/.

IAPR Then and Now...
Advertisement to Join TC7
IAPR Newsletter
Vol. 21 No. 1, Winter 1999

Angel #1: I can't quite make it out...Is it a research grant or a chewing gum?

Angel #2: We could sure do with some Pattern Recognition experience up here!

More IAPR ⬤ Technical Committee News

Rafael Duiere Lins, Chair
Bart Lamiroy, Vice Chair

2015:
- ICDAR 2015, Nancy, France, August 23-26, 2015
- ICDAR 2015 Doctoral Consortium
- ICDAR 2015 Satellite Workshop: GREC 2015—Graphics Recognition (see workshop report this issue)
- ICDAR 2015 Contests:
    - Engineering Drawing Challenge (*http://iapr-tc10.univ-lr.fr/index.php/conferences/contest?id=297*)
    - Arc segmentation contest
    - Dashed Line detection contest
    - Music score contest

2016:
- First TC10/TC11 Summer School on Document Analysis: Large Scale Document Understanding IIT Delhi, New Delhi, India, 12th to 16th December 2016.

2017:
- ICDAR 2017 - Kyoto Terrsa, Kyoto, Japan, November 10 to 15, 2017. http://u-pat.org/ICDAR2017/

2019:
- ICDAR 2019 - Brisbane, Queensland, Australia, September 22nd–25th, 2019

Newsletter: The TC10 Newsletter is sent monthy to all listed members and attendees of ICDAR and related workshops.

Dataset Repository: TC10 keeps a dataset and benchmarks repository hosted by La Université de La Rochelle (France), for contests and research. Since ICDAR 2015 the new Dataset Curator is Saquib Buckhary who is promoting efforts to to widen the scope and enlarge this repository.

Education Officers: TC10 Education Officer is Alicia Fornés from Barcelona who has been working together with Gernot Fink, the TC11 Education Officer to foster educational activities. Both have been closely associated with the promotion of the: First IAPR Summer School on Document Analysis: Large Scale Document Understanding IIT Delhi, New Delhi, India, 12th to 16th December 2016.

Koichi Kise, Chair
Dimosthenis Karatzas, Vice Chair

We would like to let you know our recent activities:
- 1st TC10/11 summer school on document analysis will be held in India in winter 2016. Details will soon be available on TC10/11 web sites (e.g., www.iapr-tc11.org).
- 15th ICFHR in Shenzhen, China will be held in October, 2016. Paper submission is now open. (see Calls for Papers, this issue)

In order not to miss the up-to-date information about conferences, tools and datasets on character recognition and document understanding, please join us by making registration at the above website (visit the **Newsletter** tab and follow the instructions on "**How to receive the IAPR TC-11 newsletters?**").

# Even ^ More IAPR ⊛ Technical Committee News

Henning Müller, Chair
Martha Larson and Sergio Escalera, Vice Chairs

IAPR TC12 focuses on multimedia and visual information systems. The group focuses its activities and announcements around a LinkedIn group (https://www.linkedin.com/groups/8109409) that allows members to keep updated and post interesting events. In general, the TC tries to give value to scientific challenges, for example those that the TC chair and vice chairs organize, notably: MediaEval (http://www.multimediaeval.org/), ImageCLEF (http://www.imageclef.org/) and Chalearn (http://gesture.chalearn.org/) that all make available fantastic multimedia resources for scientists to work on.
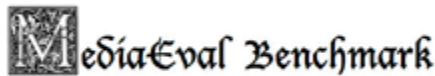
IAPR Then and Now...the Resolution to form TCs
IAPR Newsletter Vol. 4 No. 2, August 1981

EXCERPTS from the MINUTES of the GOVERNING BOARD OF THE IAPR and EXECUTIVE COMMITTEE OF IAPR, which took place at the International Pattern Recognition Conference in Miami Beach in December 1980

*THE PAST PRESIDENT'S REPORT. Prof. Freeman surveyed the activities of IAPR during recent years. He stated that:
　a) The growth of IAPR and the growing importance of pattern recognition in science and engineering make a larger body of officers desirable.
　b) It will be necessary to expand the activities, especially to form Working Groups on special applications of pattern recognition. [...] This will create additional work, for which more officers, such as an additional vice president, would be useful.
　f) It might be useful to have a flyer What is IAPR? [...] in order to promote new members to join IAPR.

* IFIP AFFILIATION. Freeman visited as affiliation officer the General Assemblies of IFIP in London and Melbourne, where he reported about IAPR. The desirability to form Working Groups in the field of pattern recognition has been stressed by IFIP. For
this reason, Freeman raised the following resolution: "Resolved that IAPR create a set of Technical Committees to look after designated technical specialities within the field of pattern recognition and that the President prepare a plan for setting up such a committee structure and submit it for approval to the Governing Board no later than 1 January 1982."
A mail ballot of the Governing Board will be necessary in order not to wait till
the Munich conference to start activities in this field. Leberl advocated a flexible organization in order to avoid great inertia. A periodic review of the functioning of the groups will be necessary. The "Technical Committees" mentioned in the resolution are in fact "Working Groups" with only a single level of organization. They have to be really International in scope and activities. The resolution was adopted.

Meeting Reports
Conferences, Workshops & Summer Schools

Eleventh International Workshop on Graphics Recognition
Nancy, France
August 22-23, 2015
http://grec2015.loria.fr/

General Chairs:

Najoua Essoukri Ben Amara, ENISO, SAGE Unit, Tunisia
Jean-Marc Ogier, Université de la Rochelle, L3i, France

Program Committee Chairs:

Bart Lamiroy, Université de Lorraine, Loria (UMR 7503), France
Rafael Lins, Federal University of Pernambuco, Brazil
Prasenjit Mitra, Penn State University, USA

by Bart Lamiroy, GREC 2015 Program Co-Chair and Local Arrangements Chair

GREC 2015 was organized by the IAPR TC-10 on Graphics Recognition (see report on TC10 activities in this issue) and eventually took place in Nancy, France, after having been preventively relocated twice following the Bardo and Sousse terrorist strikes at the orginically planned locations in Tunisia. It is extremely regretful that the initial chosen locations for GREC 2015 had to be cancelled for safety reasons, following the tragic terrorist attacks there. We warmly extend our sympathy and support to the Tunisian people and especially to our Tunisian colleagues who actively supported and contributed to the relocation in Nancy, France, notwithstanding all efforts made for a successful event in Tunis. We sincerely hope GREC will be held in Tunisia in a near future.

GREC is organized every two years, in close conjunction with ICDAR, and aims at providing a unique atmosphere, fostering a very high level of interaction, discussion and exchange of ideas (distinctly different from classical conference-like presentations) while providing high quality and good impact post-proceedings.

GREC 2015 Proceedings will be published by Springer in their LNCS series.

http://www.springer.com/computer/lncs?SGWID=0-164-0-0-0

It therefore forms an excellent opportunity for researchers and practitioners at all levels of experience to meet colleagues and to share new ideas and knowledge about graphics recognition methods. Graphics Recognition is a subfield of document image analysis that deals with graphical entities in written documents, engineering drawings, maps, architectural plans, musical scores, mathematical notation, tables, diagrams, etc.

GREC 2013 has continued the tradition of past workshops held at Penn State University (USA, 1995), Nancy (France, 1997), Jaipur (India, 1999), Kingston (Canada, 2001), Barcelona (Spain, 2003), Hong Kong (China, 2005), Curitiba (Brazil, 2007), La Rochelle (France, 2009), Seoul (South Korea, 2011) and Lehigh University (USA, 2013).

This edition, once again, the GREC workshops have proven to live up to the expectations: the level of interaction was intense and rich, dispite the sad context of the relocation.

The program was, as usual, organized in a single-track 2-day workshop. It comprised several sessions dedicated to specific topics related to graphics in document analysis and graphic recognition. Each session began with an introductory talk by the session chairs, describing the state-of-the-art, putting the presented talks in a more global perspective and stating the current open challenges of session topics. This introduction was then followed by a number of short talks presenting solutions to some of these questions or presenting results of the speaker's work. Each session was concluded by a panel discussion.

The program consisted of 19 scientific presentations and 1 contest report. It contained both classical and emerging topics of Graphics Recognition. Session topics included Symbol Spotting, Recognition in Context, Perceptual Based Approaches and Grouping, Low Level Processing, Off-line to On-line and Interactive Systems, Structure Based Approaches, Performance Evaluation and Ground Truthing and Content Based Retrieval.

Full access to the program and list of presented papers is available from the GREC 2015 website (*http://grec2015.loria.fr*). Access to the papers is restricted to attendees only.

Springer will publish a selection of fully reviewed extended papers in 2016 as an LNCS volume.

DICTA 2015

23-25 November
Adelaide, Australia

General Chair:
Jamie Sherrah, Defence Science & Technology Group, Australia

by Jamie Sherrah

The International Conference on Digital Image Computing: Techniques and Applications (DICTA) is the main Australasian Conference on computer vision, image processing, pattern recognition, and related areas. DICTA was established in 1991 as the premier conference of the Australian Pattern Recognition Society (APRS). The conferences have been endorsed by the IAPR.

There was a strong interest in DICTA 2015, with over 175 paper submissions from Australia and overseas. The papers went through a high-quality review process undertaken by the technical programme committee of 127 volunteers from Australia and abroad, and overseen by the DICTA committee and Technical Chair Prof. David Suter. The peer review process was double-blind and dictated that each paper receive three reviews, with reviewers matched to papers according to their subject areas of expertise. Consequently 110 papers were accepted for publication (62% of submissions), of which 37 were presented orally at the conference, and

the remaining 73 presented as posters. The conference proceedings are available online via IEEEXplore (*http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=7371187*). Delegates also received the proceedings on USB stick.

DICTA 2015 was held at the beautiful and historic Adelaide Town Hall, situated in the heart of the city. The format of the 3-day conference was single-track with one poster session each day. The 152 delegates saw presentations on topics including image-based modelling, feature extraction, medical image analysis, hyperspectral processing, image recognition and video surveillance. Papers were presented to the backdrop of an enormous pipe organ at the rear of the stage. Thanks to Dr. Ray Booth, a retired mathematician from Flinders University, conference delegates were treated to a surprise organ recital as well as a Q&A session about the instrument's workings. Delegates were also treated to some technical demonstrations in the morning tea breaks, including Kinect Fusion and question answering using Deep Learning.

As at previous DICTAs several international keynote speakers presented their world-leading research. This year we were honoured by four speakers:

- Prof. Vincent Lepetit (TU Graz): Soft Computer Vision Methods for Hard Computer Vision Problems
- Prof. Bjarne K. Ersbøll (DTU): Imaging Techniques and Image Analysis for Food Quality and Safety
- Prof. Manik Varma (Microsoft Research India): Extreme Classification: A New Paradigm for Ranking and Recommendation
- Dr. Francois Chaumette (INRIA): Visual Servoing With and Without Image Processing

**Proceedings are available through IEEEXplore**
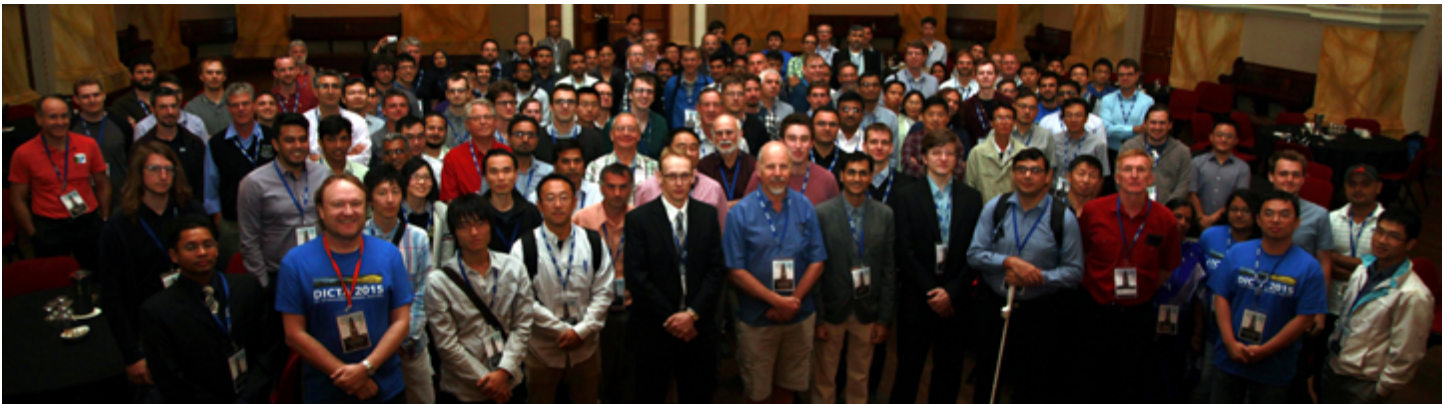
The committee thanks the speakers for making the long journey down under. DICTA 2015 was sponsored by the Defence Science and Technology (DST) Group, Canon Information Systems Research Australia (CiSRA), Flinders University, BAE Systems and the University of Adelaide. Thank you to the sponsors for your generous financial support that helped us to host the international speakers.

The conference dinner took place in the Mortlock wing of the State Library, a stunningly beautiful and intimate setting for presentation of the best paper awards. Best paper prizes were awarded to:

- Defence Science and Technology Organization (DSTO) Best Fundamental Contribution to Image Processing Paper Prize: William X. Liu, Tat-Jun Chin - Smooth Globally Warp Locally: Video stabilisation using Homography fields
- APRS Best paper (co-sponsored by the IAPR): Song Liu, Wanqing Li and Philip Ogumbona - Creating Simplified 3D Models with High Quality Textures
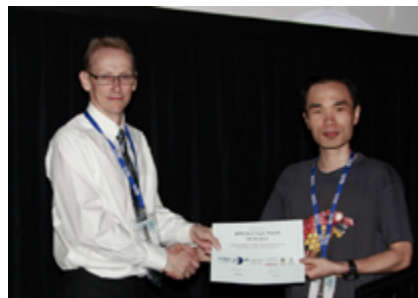
- APRS Best Student paper: Peter Zhang and YS Hung - Non-Rigid Structure from Motion through Estimation of Blend Shapes.

For the first time DICTA 2015 hosted the Canon Information Systems Research Australia (CiSRA) Extreme Imaging Awards (*http://www.extremeimaging.cisra. canon.com.au/*). The recipients of the DICTA category prize were:

- Samuel C. Hames, Marco Ardigò, H. Peter Soyer, Andrew P. Bradley and Tarl W. Prow: Anatomical Skin Segmentation in Reflectance Confocal Microscopy with Weak Labels
- Alex Olsen, Sunghyu Han, Brendan Calvert, Peter Ridd, Owen Kenny: In situ leaf classification using histograms of oriented gradients

As a DICTA tradition, Tony Adriaansen presented the fun-filled "Tony Awards". Among this year's dubious honours were "Longest Paper Title", "Most Number of Authors" and "Most Horrible Subject Matter".

DICTA 2016 will be held at Mantra on View located in the Gold Coast, Queensland, Australia from 31 November to 2 December 2016.

Acknowledgements:

- Technical Chair: David Suter
- DICTA 2015 Committee: Carmine Pontecorvo, Pranam Janney, Anders Eriksson, Murk J. Bottema, Simon Williams, Anthony Dick, Tony Adriaansen

General Chairs:

Richard Green, University of Canterbury, New Zealand

Martin Strommel, Aukland University of Technology (AUT), New Zealand

by the General Chairs

The 30th International Conference on Image and Vision Computing New Zealand (IVCNZ 2015) was organised by the Auckland University of Technology (AUT) and the University of Canterbury. It was held at the University of Auckland, with local support from Event Services of the University of Auckland. The conference was endorsed by the IAPR and IEEE. The IEEE will also publish the proceedings. The conference was held together with the Pacific Rim Symposium on Image and Video Technology PSIVT 2015 (see report on PSIVT 2015 in the January 2016 issue of the *IAPR Newsletter*).

The number of people who contributed to the IVCNZ, either by submitting a paper or by helping to organise the conference, shows that we have a very strong and active computer vision community in New Zealand. We had a program committee of 75 people, which is one more than last year. Most of the reviewers came from New Zealand. Out of the 141 reviewed submissions, 66 were presented at the conference. The acceptance rate for oral presentations was 14%. Most papers received at least three reviews. About 65% of the submissions were international,

only 35% came from New Zealand. This shows that, even though the IVCNZ is based in New Zealand, it is truly an international conference. The conference was well attended. More than 160 participants registered either for the IVCNZ alone or the IVCNZ in combination with the PSIVT.

The conference started with the keynotes by Barbara Breen (AUT) and Paul Rosin (Cardiff University). Barbara talked about the use of camera equipped, unmanned aerial vehicles (UAV) in spatial ecology. She described opportunities for the use of computer vision techniques for the analysis of high resolution video imagery in a variety of environments and ecological studies. Paul gave an overview of non-photorealistic rendering techniques. He presented methods that generate an abstracted rendering in terms of refined lines, regions and colours, but retain sufficient elements from the original image so that it can be used to generate recognisable portraits and images. Paul was also co-organiser of the PSIVT-Workshop "Vision meets Graphics".

The paper presentations were held in a single track. The quality of the oral presentations was high and the sessions were very well attended. The audience was

interested, and we had many good discussions. The presented papers covered a wide range of algorithms and applications. A special focus this year was 'modelling', which was the second most frequently mentioned technical term in the paper titles (after 'images', and before 'detection', 'features', 'segmentation', 'tracking'). The most frequently mentioned objects to be recognised were 'faces' and 'roads'.

The social program consisted of a banquet at the Five Knots restaurant at the Tamaki Yacht Club, where a small award ceremony was held. The Best Paper Award was won by Tian Xu and Paul Cockshot for their paper "Guided Filtering based Pyramidical Stereo Matching for Unrectified Images". The Best Student Paper Award went to Daniel Biedermann, Matthias Ochs and Rudolf Mester for their paper "COnGRATS: Realistic Simulation of Traffic Sequences for Autonomous Driving". The Best Poster Award was won by Rafael Guillermo Gonzalez Acuña, Junli Tao and Reinhard Klette for the "Generalization of Otsu's Binarization into Recursive Colour Image Segmentation".

The next IVCNZ will be held on November 21-22, 2016, at Massey University, Palmerston North. The organiser is Donald Bailey.

CALL FOR PAPERS

http://www.icpr2016.org

23rd International Conference on Pattern Recognition, Cancún, México, December 4 - 8, 2016

GENERAL CHAIR
Eduardo Bayro-Corrochano - (CINVESTAV, México)
C0-CHAIRS
Gerard Medioni (USC, USA)
Gabriella Sanniti di Baja (CNR, Italy)

TRACKS and TRACK CHAIRS
Track 1: Pattern Recognition and Machine Learning
- Edwin Hancock (University of York, UK)
- Enrique Sucar (INAOE, Puebla, México)
- Lian Wang (Nat Lab of Pattern Recognition, China)

Track 2: Computer Vision and Robot Vision
- Richard Hartley (Australian National University, Australia)
- Anders Heyden (University, Lund, Sweden)
- Ales Leonardis (University of Birmingham, UK)
- Sudeep Sarkar (University of South Florida, USA)

Track 3: Image, Speech, Signal and Video Processing
- Prof. Michael Felsberg (University of Linköping, Sweden)
- Prof. Vaclav Hlavac (Czech Tech University, Czech Rep)
- Prof. Dong Xu (Nanyang Tech University, Singapore)

Track 4: Document Analysis, Biometrics and Pattern Recognition Applications
- Prof. Anil Jain (Michigan State University, USA)
- Prof. Mark Nixon (University of Southampton, UK)
- Prof. Tieniu Tan (Chinese Academy of Sciences, China)
- Dr. Luc Vincent (Google, USA)

Track 5: Biomedical Image Analysis and Applications
Prof. Xiaoyi Jiang (University of Münster, Germany)
Prof. Ioannis Kakadiaris (University of Houston, USA)
Prof. Reinhard Klette (Auckland University of Technology, NZ)

IMPORTANT DATES
Apr. 20, 2016 – Deadline for paper submission
May 31, 2016 – Deadline for workshop & contest proposals
Jul. 1, 2016 – Deadline for tutorial proposals
Jul. 11, 2016 – Early bird registration opens
Dec. 4 – 8, 2016 – Conference Dates

CALLS FOR NOMINATIONS
FOR AWARDS TO BE PRESENTED @ ICPR 2016

Call for Nominations

King-Sun Fu Prize, the highest honor given by the IAPR
Deadline: April 30, 2016
http://www.iapr.org/fellowsandawards/awards_kingsunfu.php.

The IAPR established this prize in honor of the memory of Professor King-Sun Fu, who was instrumental in the founding of the IAPR, served as its first President, and is widely recognized for his extensive contributions to the field of pattern recognition.

This biennial prize is given to a living person in recognition of an outstanding technical contribution to the field of pattern recognition.

The nomination must be made by a member of a national member society of the IAPR and by endorsement of at least five members, representing at least two member societies different from that of the nominator. The prize recipient shall be selected by the Prize Committee, subject to approval by the IAPR Governing Board. Members of the IAPR Executive Committee, as well as of the Prize Committee, shall be ineligible for the prize and may not serve as nominators or endorsers.

Call for Nominations

J.K. Aggarwal Prize
Deadline: April 30, 2016
http://www.iapr.org/fellowsandawards/awards_aggarwal.php

Professor Aggarwal is widely recognized for his extensive contributions to the field of pattern recognition and for his participation in the IAPR's activities.

The recipient is a young scientist, under the age of 40 at the date of the deadline for nominations, who has brought a substantial contribution to a field that is relevant to the IAPR community and whose research work has had a major impact on the field.

The prize recipient shall be selected by the J. K. Aggarwal Prize Committee, subject to approval by the IAPR Governing Board, upon nomination by a member of a national member society of IAPR and by endorsement of four members, representing at least two member societies different from that of the nominators and nominee.

Members of the IAPR Executive Committee, as well as of the J.K. Aggarwal Prize Committee, shall be ineligible for the prize and may not serve as nominators or endorsers.

Call for Nominations

Maria Petrou Prize
Deadline: April 30, 2016
http://www.iapr.org/fellowsandawards/awards_petrou.php

The Maria Petrou Prize is to be awarded biennially at ICPRs to a living female scientist/engineer who has made substantial contributions to the field of Pattern Recognition, and whose past contributions, current research activity and future potential may be regarded as a model to both aspiring and established researchers. This Prize honors the memory of Professor Maria Petrou as a scientist and engineer of the first rank, and particularly in her role as a pioneer for women researchers and highly successful role model. She is widely recognized for her extensive contributions to the field of image processing and pattern recognition. She also made significant contributions to the growth of IAPR, covering significant leadership roles.

The prize recipient shall be selected by the Maria Petrou Prize Committee, subject to approval by the IAPR Governing Board, upon nomination by a member of a national member society of IAPR and by the endorsement of at least two more members, at least one of which must be a woman.

Members of the IAPR Executive Committee, as well as of the Maria Petrou Prize Committee, shall be ineligible for the prize and may not serve as nominators or endorsers.

The prize will be awarded for the first time at ICPR 2016 in Cancun.

Call for Bids to Host ICPR 2020
Deadline: July 31, 2016

click here to go the ICPR Proposals page at the IAPR website

The International Conference on Pattern Recognition (ICPR) is the major scientific event organized under the auspices of the International Association for Pattern Recognition (IAPR).

The aim of this conference is to bring together international experts to share their experiences and to promote research and development in Pattern Recognition.

The conference is hosted by an institution under the auspices of an endorsing IAPR member organisation (national association).

Any such organisation interested in making a proposal to host an ICPR must proceed according to the rules outlined in the latest version of the guidelines document.

It is expected that Proposers familiarise themselves with the guidelines for organising ICPR first, to fully plan their bid. The submission of a bid implies full agreement with the guidelines and procedures for organising the conference as well as with the IAPR constitution.

NOTE: the current version of the guidelines includes some changes with respect to previous versions including a new template that must be adopted when submitting bids to host ICPR.

Bids to host ICPR 2020 must be submitted to the IAPR Conferences and Meetings Committee by **July 31st 2016**.

The selection of the conference venue will be made by the IAPR Governing Board (GB) during its meeting at ICPR 2016 in Cancun, Mexico.

Organizations interested in organizing ICPR 2020 should submit the bid to Dan Lopresti (lopresti@cse.lehigh.edu) C&M chair by **July 31st 2016**.

Dan Lopresti
IAPR C&M chair

Guidelines to Organising and Bidding to Host an ICPR (pdf)

BOOKSBOOKSBOOKS

F R E E   B O O K S

The *IAPR Newsletter* is looking for reviewers for the books listed below. If you have interest and some knowledge in the topic, email us with your mailing address. We will send you a copy of the book—which you may keep—and will expect in return a review for the Newsletter. *~Zeeshan Zia,* Associate Editor for Book Reviews

We are offering the following titles for review.

These have been published (or will very soon be available) in the "Advances in Computer Vision and Pattern Recognition" series from Springer.

* ***Knowledge Transfer between Computer Vision and Text Mining*** by Radu Tudor Ionescu: *http://www.springer.com/gb/book/9783319303659* (expected publication date: April 7, 2016)

* ***Context-Enhanced Information Fusion*** by Lauro Snidaro et al.: *http://www.springer.com/gb/book/9783319289694* (expected publication date: April 17, 2016)

*⁎ **Large-Scale Visual Geo-Localization*** by Amit R. Zamir et al.: *http://www.springer.com/gb/book/9783319257792* (expected publication date: May 2016)

* ***Structural Pattern Recognition with Graph Edit Distance*** by Kaspar Riesen: *http://www.springer.com/gb/book/9783319272511* (published in 2015)

* ***Integrated Imaging and Vision Techniques for Industrial Inspection*** by Zheng Liu et al. (Eds.): *http://www.springer.com/us/book/9781447167402* (published in 2015)

* ***Sparse Representation, Modeling and Learning in Visual Recognition*** by Hong Cheng: *http://www.springer.com/us/book/9781447167136* (published in 2015)

Other recently published Springer titles include:

* ***Guide to Signals and Patterns in Image Processing*** by Apurba Das: *http://www.springer.com/gb/book/9783319141718* (published in 2015)

* ***Practical Biometrics (Second edition)*** by Julian Ashbourn: *http://www.springer.com/gb/book/9781447167167* (published in 2015)

*⁎ **Computer Vision for X-Ray Testing*** by Domingo Mery: *http://www.springer.com/gb/book/9783319207469* (published in 2015)

IAPR

This bulletin board contains items of interest to the IAPR Community

Recently added at the IAPR web site:

Call for Bids to Host ICPR 2020

Posted March 02, 2016 at the IAPR web site:

Calls for Nominationsfor the following IAPR Awards:
K. S. Fu
J. K. Aggarwal
Maria Petrou

Do you want to get FREE BOOKS?

Click **here...**

Thoughts on articles you've read in this issue of the IAPR Newsletter?

Send your comments to:

Arjan Kuijper, Editor-in-Chief
arjan.kuijper@igd.fraunhofer.de

Meeting and Education Planner

The IAPR web site has the most up-to-date information on IAPR events. Click here.
NOTE: Highlighting indicates that the paper submission deadline has not yet passed.
* Asterisks denote non-IAPR events *

		Meeting	Report on previous edition	Venue
2016	APR	DGCI 2016: 19th IAPR International Conference on Discrete Geometry for Computer Imagery	DGCI 2014	**France**
	MAY	ICISP 2016: 7th International Conference on Image and Signal Processing	ICISP 2014	**Canada**
		ICB 2016: 9th International Conference on Biometrics	ICB 2015	Sweden
		CTIC 2016: 6th International Workshop on Computational Topology in Image Context		**France**
	JUN	BIOMETRICS 2016: 13th Summer School for Advanced Studies on Biometrics for Secure Authentication Biometrics, Forensic Science and the Quest for Identity	BIOMETRICS 2015	**Italy**
		MCPR 2016: 8th Mexican Conference on Pattern Recognition	MCPR 2014	**Mexico**
	SEP	ANNPR 2016: 7th Workshop on Artificial Neural Networks in Pattern Recognition	ANNPR 2014	**Germany**
		PRIP 2016: 13th International Conference on Pattern Recognition and Information Processing		**Belarus**
	OCT	ICFHR 2016: 15th International Conference on Frontiers in Handwriting Recognition	ICFHR 2014	**China**
		CIARP 2016: 21st Iberoamerican Congress on Pattern Recognition		**Peru**
		MedPRAI 2016: The Meditarranean Conference on Pattern Recognition and Artificial Intelligence		**Algeria**
		S+SSPR 2016: IAPR Joint International Workshops on Statistical Techniques in Pattern Recognition (SPR 2016) and Structural and Syntactic Pattern Recognition (SSPR 2016)	S+SSPR 2014	**Mexico**
	NOV	DICTA 2016: 2016 Digital Image Computing, Techniques and Applications	DICTA 2015	**Australia**
	DEC	PRRS 2016: 9th International Workshop on Pattern Recognition in Remote Sensing (in conjunction with ICPR 2016)	PRRS 2014	**Mexico**
		ICPR 2016: 23rd International Conference on Pattern Recognition	ICPR 2014	**Mexico**
2017	MAY	MVA 1017: 15th IAPR Intl. Conf. on Machine Vision Applications	MVA 2015	**Japan**

The *IAPR Newsletter* is published in association with the IAPR website, *www.iapr.org*

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Deadline for the next issue: June 20, 2016

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