THE INTERNATIONAL ASSOCIATION FOR PATTERN RECOGNITION

IAPR Newsletter

www.iapr.org

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January 2016

IN THIS Issue

Encouraging gender diversity in nominations for IAPR Awards

A memo from the IAPR Executive Committee

In today's society, many organisations have the matter of gender diversity on their agenda. Studies show that job satisfaction is better in mixed environments – for women as well as for men. Satisfaction at work results in higher quality of the work, and scientific quality is a corner-stone for the IAPR. The IAPR ExCo has written this memo on diversity from an IAPR perspective, and we urge you all to consider it. *~Ingela Nyström, IAPR President*

IAPR Fellowships as well as the King-Sun Fu (KSF), the J. K. Aggarwal (JKA), and the Maria Petrou (MP) Prizes are very prestigious career achievements, since they acknowledge the excellent quality of scholarship and service contributions of the researcher who has received them. Such achievements enable researchers to become visible as role models and to undertake leadership positions.

Women are underrepresented in STEM (Science, Technology, Engineering, and Mathematics) domains, at all levels of education, in academia and in industry. So, it is not surprising that women are likewise underrepresented in the IAPR Fellow population. No female scientist has yet been honoured with the KSF Prize or received the JKA Prize, which may come from the fact these prizes were established when even fewer women were participating in Pattern Recognition and its related fields.

The degree of the imbalance in IAPR Fellowships, however, is surprising: 12 women versus 198 men. The ExCo has also noticed the low attendance of women (about 10%) at ICPR conferences.

Recognition through peer-nominated awards strengthens leadership roles in academic and industrial positions. This, in turn, provides more opportunities to inspire the next generation of researchers. The IAPR should take a leadership role in helping the next generation of female researchers by giving them more role models to follow.

Working towards more gender diversity in leadership would likely result in more young women choosing to go into STEM fields in the future. They would then attend related conferences and create a diversity-friendly environment in which all researchers can thrive.

The recently established MP Prize is to be awarded at ICPRs to a female researcher in the field of Pattern Recognition, which will happen the first time at ICPR 2016. Please submit your nominations.

Hereby, we in the ExCo reach out to the IAPR community and strongly encourage the nomination of women for IAPR Fellowships and for the KSF and JKA Prizes.

Calls for Nominations for Awards to be presented at ICPR 2016

Please see related memo from the IAPR ExCo on Page 1.
Also see expanded CfN for these prizes on Page 17.

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

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

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

IAPR Fellow Awards
to be presented at ICPR 2016
Deadline: February 29, 2016

CALLS for PAPERS

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/*

BIOMETRICS 2016
13th Summer School for Advanced Studies on Biometrics for Secure Authentication—Biometrics, Forensic Science and the Quest for Identity
Alghero, Italy
Dates: Jun. 20-24, 2016
Deadline: Feb. 15, 2016

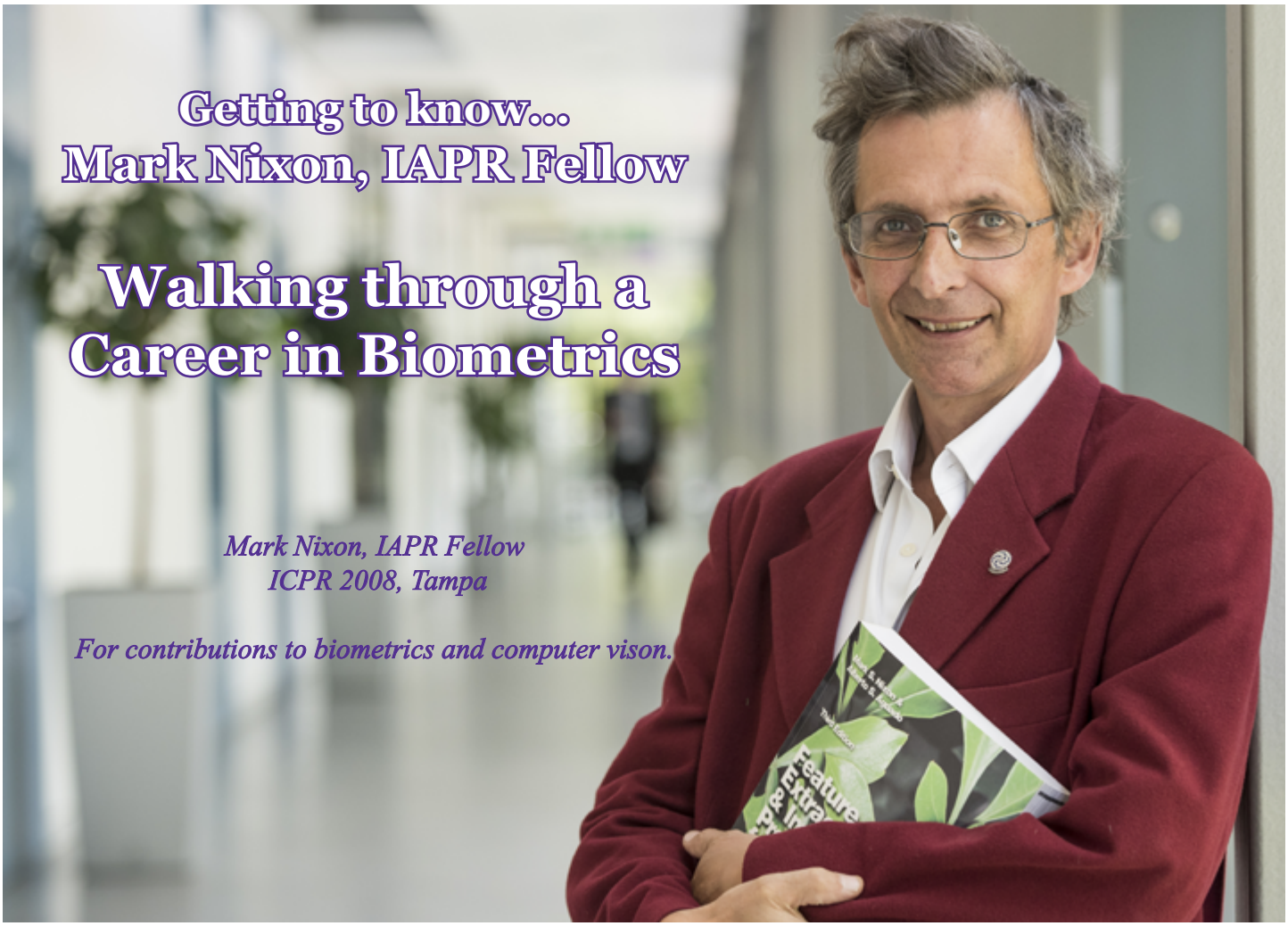
ICPR 2016
23rd International Conference on Pattern Recognition
Cancun, Mexico
Dates: Dec. 4-8, 2016
Workshop/contest proposal deadline: Mar. 7
Paper submission deadline: Apr. 4, 2016
Tutorial proposal deadline: Jul. 1, 2016

PRIP 2016
13th International Conference on Pattern Recognition and Information Processing
Minsk, Belarus
Dates: Oct. 3–5, 2016
Deadline: Apr. 15, 2016

ICFHR 2016
15th International Conference on Frontiers in Handwriting Recognition
Shenzhen, China
Dates: Oct. 23-26, 2016
Deadline: Apr. 30, 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
Dates: Nov. 30 - Dec. 2, 2016
Deadline: May 31, 2016

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



Getting to know... Mark Nixon, IAPR Fellow

Walking through a Career in Biometrics

Mark Nixon, IAPR Fellow
ICPR 2008, Tampa

For contributions to biometrics and computer vison.

by Mark Nixon, Professor in Computer Vision, School of Electronics and Computer Science, University of Southampton, UK

Some people have career ambitions and a life plan, I didn't: my one plan was to get the hell out of high school and stay out. I never went back. I went away about as far as I reasonably could, to the University of Reading to study Cybernetics. Cybernetics is all about feedback and with its basis in maths and electronics it is excellent training for a life in technology. I completed my PhD amongst piles of kilobyte memory chips and megabyte computer disks, using the waste from the paper tape machine to sprinkle on newly married friends. I enjoyed the application of maths: the distillation of reason to the reality of control. I enjoyed those early computer days too, even if they were slow with limited memory. It didn't seem like that at the time, and the emergence of

Mark Nixon graduated with a BSc in Cybernetics Science with Mathematics and a PhD in Control Theory. After that, he moved to the top UK Department of Electronics in 1983 and has remained there ever since (and it remains top). He switched to computer vision and pattern recognition on appointment and his long unwinding road to Professor was reached in 2000. He has supervised around 70 PhD students.

He is a Fellow of the IAPR and the British Machine Vision Association's Distinguished Fellow for 2015. He has had various roles with the IAPR TC4 Biometrics and the IEEE Biometrics Council. He has also served as Chair of the IAPR Fellow Committee and on its Nominating and Advisory Committees.

He has chaired many conferences. Next up it's the IEEE Biometrics Council's Identity, Security and Behavior Analysis (ISBA) in Japan and then Track 4 Co-chair at ICPR 2016.

He has written many books, often reviewed in this Newsletter. His book on Feature Extraction & Image Processing for Computer Vision, co-authored with his ex-student Alberto Aguado, is now in its Third Edition. It has sold around 20,000 copies and received 2000 citations though in our metric climate Mark might prefer those records reversed. He also co-authored the first book on gait biometrics Human Identification Based on Gait with Tieniu Tan and Rama Chellappa in 2006; he co-edited the first Handbook of Biometric Anti-Spoofing in 2014 with Sébastien Marcel and Stan Li.

microprocessors clearly presaged their widespread use. Then came the reality check: I graduated.

I was offered many jobs, and the one which took my fancy most was at the University of Southampton. My PhD supervisor had advised "if they offer it, take it" which I duly did. The proviso was that I had to work in computer vision and pattern recognition as they sought to build it up and I was happy to have a go. There was some legacy equipment, but there was no legacy achievement and I had to start from scratch. I'm not sure when I first had the idea that people could be recognised using computers, processing stored images of their faces. It must have been around 1984 since a year later I had written my first paper on what would eventually be called biometrics. The paper was entitled "Eye spacing measurement for facial recognition" since I foresaw the use of spacing between the eyes for normalising the face with respect to the distance from the camera. The paper does not mention the term biometrics, as that was to come later. It does mention the few other researchers at that time, several of whom I was to meet later, such as Takeo Kanade who has kindly given keynote speeches at some of the conferences I have chaired.

So what did the Professors of the UK's top Department of Electronics think of this, an idea, as a topic of research? Well, one of them loved it and I was within his purview. Many of the others disliked it: "no commercial future there" was a common response. In reflection I can understand their reluctance. To me it just seemed like a great idea; to them it was a far leap from the automated inspection machines they had imagined I would be designing. There was certainly interest beyond my own Professoriate and we—my colleague John Carter had joined the University by then—gave a series of papers on face recognition and had a small laboratory in which to build our first database. We did not make it our mainstream activity for one could not ignore one's Professors entirely.

I had the idea that people could be recognised by their walking style in 1994. I duly gave the idea to an undergraduate project student and she enjoyed working on it the following year. Clearly, the ideas worked and, as I had two PhD students starting in 1995, I suggested model based gait recognition to David Cunado and holistic/ statistical (silhouette-based) recognition to Ping Sheng Huang. Thus started a series of work on gait biometrics and about 30 of the PhDs I have supervised, and there have been many more PhDs world-wide. I have enjoyed gait as a topic, since it was new, and as a technology, since it involved sequences of images of moving subjects. We also enjoyed working on Jonathon Phillip's DARPA-led program on Human ID at a Distance where I was to meet (again) Rama Chellappa who I had known since we swapped jokes some years previously.

One of the best aspects of invention is that the avenues for research are wide and it has been a privilege to watch as researchers explored in their different directions. We also enjoyed a lot of media coverage, and gait biometrics even enjoyed a leading article in The Times and ABC's Good Morning America, which is perhaps the first time that Southampton has ever been mentioned on US national news, well since the Titanic met its untimely end at least.

We also joined the pioneers of ear biometrics, and more recently soft biometrics. For consideration as a biometric, a human attribute should be unique, permanent and available: ears appear to change little with advancing age; soft biometrics can be used at a distance, as can gait, when no other biometric is available or is obscured. With David Hurley we wrote the first journal paper to show that ears could be used as a biometric, and with Banafshe Arbab-Zavar I wrote the first paper on model based ear biometrics (with the model derived from ear embryology).

Our work in soft biometrics is more recent. With Sina Samangooei, we were the first to show how human descriptions could be used for automated recognition, in a manner akin with automated eyewitness statements. Dan Reid formulated the descriptions as comparative (in a manner akin with relative attributes) and we demonstrated these to show greater discriminative ability. More recently we have been working on using clothing to augment the recognition procedure, or the use of crowd sourcing to improve data collection and now we cross the gap, bridging human and computer vision for people recognition.

Clearly I have enjoyed working with my students and especially my PhD students. I have now supervised around 70 PhD students and remain in contact with many. I have mentioned by name some of those who pioneered new areas of research, but by definition a PhD is unique and I have enjoyed supervising the many contributions my students have made to feature extraction in computer vision and to biometrics, far more than I can mention here.

So why did we do it at all? Well, I might be a dreamer but for me technology is there to make life

better and easier. When I approach my front door on a cold, wet and blustery (English) evening I don't want to have to retrieve my keys, perhaps from a puddle, before I can open the door. I want for the door to open to me automatically (and a glass of wine, perhaps mulled, to be foisted on me immediately), and for the door not to open to others. Biometrics can be used to achieve that now (though the automated imbibing apparatus might have to wait a while). Gait can also be used in surveillance video or when people hide their identity and as such are useful when other biometrics are obscured or are at too low a resolution to be perceived. We have deployed gait recognition in two criminal cases one of which was for murder, a successful conviction was made in both cases. When those studies were made, no other biometric had that capability (to recognise people when only sequences of images of their body were available).

Events since have continued to reinforce this conclusion: we clearly need the capability to determine identity from surveillance video, of any form. We also need to be able to determine associations from that data to form and understanding of identity and its context. It can certainly make our life easier, and of higher quality since we could waste less time than we do with conventional mechanisms for identification. As such, I didn't understand my professors' responses back then and I do not understand now why people still question commercial future.

Biometrics certainly impose problems that are more difficult than they were first considered to be, but people are unique and by many factors. We shall be using that to improve the quality of our lives and to make life easier. I'll drink to that.

IAPR Then and Now...First mention of Face Recognition

IAPR Newsletter Vol. 7 No. 4, November 1984

Minutes of the Executive Committee Meeting
Queen Elizabeth Hotel, Montreal, Canada
2 August 1984 at 12:30 pm

Present: Prof. T. Sakai (Pres. IAPR and Chmn.),
Dr. P.A. Devijver (First V.P.),
Dr. T. Pavlidis (Second V.P.),
Prof. H. Freeman, Prof. M.D. Levine (Chmn. 7th ICPR),
Prof. J-C Simon (Chmn. 8th ICPR),
Prof. R. Bajcsy (Newsletter Ed.),
Dr. M.J.B. Duff (Secty.)

President's Remarks
Prof. Sakai discussed his introduction to speech recognition (through difficulties in singing), to machine translation (through difficulties in speaking English) and to human face recognition (through difficulties in recognizing and remembering people)!

He went on to stress the importance of the emergent technologies of expert systems, knowledge-based processing and VLSI, and looked forward to the rapid introduction of theoretical pattern recognition methods in industry and other practical fields. He also stressed the importance of IAPR in encouraging this process,

The President thanked the Committee and closed the meeting at approximately 2:30 pm.

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

Grace Lindsay

Editor's note:
Grace Lindsay was recipient of a prize in the Essay Competition (The Social Impact of Computer Vision) at the 2015 International Computer Vision Summer School: Learning to See (ICVSS 2015).

~ Arjan Kuijper, Editor-in-Chief

Grace Lindsay is a PhD candidate at Columbia University in the Neurobiology and Behavior program. She is advised by Ken Miller in the Center for Theoretical Neuroscience.

Grace earned her BS in Neuroscience from University of Pittsburgh, where her main work was a project on tuning curve quality and its relation to population coding accuracy (co-advised by Brent Doiron and Tai Sing Lee).

Before starting graduate school, she spent a year as a research fellow at the Bernstein Center for Computational Neuroscience in Freiburg, Germany where she worked on how network structure affects correlations (advised by Arvind Kumar).

Grace grew up around Chicago, Illinois.

Grace blogs at https://neurdiness.wordpress.com

by Grace Lindsay, Center for Theoretical Neuroscience, Columbia University, New York, USA

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

I am fairly new to the field of pattern recognition, and I came to it through what is likely a non-standard route. As an undergraduate student pursuing a degree in neuroscience, I started out firmly rooted in biology, and did research in two rodent labs studying depression and obsessive compulsive disorder. During my second year however, I began to explore computational neuroscience and decided I wanted to pursue more quantitative approaches. As part of my migration to this side of neuroscience, I did my undergraduate thesis on

population coding in primary visual cortex with Tai Sing Lee (Carnegie Mellon University) and Brent Doiron (University of Pittsburgh). As a PhD student in the Center for Theoretical Neuroscience at Columbia University, I am still following my interest in vision, by building and understanding models of visual cortex.

This interest in vision is what has led me to the pattern recognition and machine learning communities. With the recent advances in artificial vision, particularly through deep convolutional neural networks, I felt compelled to learn more about these approaches. My hope was that concepts from artificial vision could be applied in the study of biological vision. I've indeed found that learning about these systems has been influential in my understanding of how biological vision may function.

Having many basic architectural details in common with the ventral visual stream of primates, convolutional neural networks are reasonable models for exploring concepts in vision. Particularly, the ability of these networks to perform complicated visual tasks gives them an advantage over other models of the visual cortex in computational neuroscience. For that reason, my work has focused on manipulations to CNNs that can alter their performance. These manipulations are inspired by what is known about visual attention in primates.

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

I am interested in exploring how visual attention enhances performance on visual tasks. Biologically, certain neural correlates of attention are known. That is, there are ways in which attending to a certain object or location changes the activity of neurons that represent that object or location (these changes are commonly studied in the context of covert attention, meaning the object or location is not foveated, but processing is still enhanced). I have translated these effects so that they can be applied to a convolutional neural network.

Taking feature-based attention, we can think of a common example: someone looks for their keys amongst a messy desk. During this search, neurons selective for features of the keys (shape, color etc.) have their activity enhanced, while neurons that do not normally respond highly to features of the keys have their activity suppressed. This leads to an enhanced ability to spot the keys.

Such a procedure can be easily extended to deep CNNs by modulating the activity of different feature maps according to how they respond on average to the attended object category. Feature maps that respond highly to a given object category have their responses enhanced when attention is applied to that category, and those that respond poorly have their activity suppressed. Through this approach, I've shown that the ability of a CNN to detect a given object category in a noisy or complicated image can be enhanced.

Interestingly, findings from this work in CNNs match what is known about biological vision. For example, this style of attention can be applied at any level of the CNN. By comparing performance when attention is applied to different layers, the layer that leads to the best performance can be found. I've found that the final convolutional layer in a deep CNN (5 convolutional layers followed by 3 fully-connected layers) is the most effective for the application of attention. Biologically, later areas of the ventral visual stream (such as V4 or Inferior Temporal Cortex) show the strongest effects of attention.

How can the IAPR help young researchers?

I think there are several somewhat disheartening components to being a PhD student. One is the lack of regular feedback. Coming from coursework, students become accustomed to having a clear measure of where they stand compared to their peers. When doing research, few such rankings exist. While I don't advocate explicit rankings of PhD student work, I think more opportunities to have someone knowledgeable in the field discuss their work and its value would be reassuring for PhD students. Some such opportunities exist (submitting papers to conferences etc.), but they usually come with heavy consequences if the work is not good enough (generally, if your paper does not get into a conference, you also can't attend, and miss out on learning and networking opportunities). More casual evaluations would allow students to not fear feedback and to better their work before submitting to conferences. IAPR could provide this through a mentoring system, where students have access to researchers other than solely their own advisor.

Another potential problem—depending on the research group—is isolation from peers. I think this becomes especially prominent in computational fields, where a student could plausibly spend most of their time alone in front of a computer. Perhaps IAPR mixers in select cities with multiple groups would be good for letting different students and postdocs mix.

Meeting Reports

Conferences, Workshops & Summer Schools

Workshop Chairs:

Friedhelm Schwenker (Ulm University, Germany)
Josef Kittler (University of Surrey, United Kingdom)
Fabio Roli (University of Cagliari, Italy)

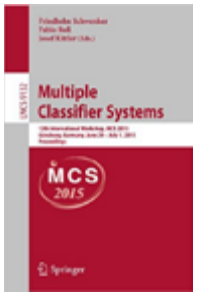
by workshop co-chair Friedhelm Schwenker

The International Workshop on Multiple Classifier Systems (MCS 2015) was the twelfth edition of this well-established series of meetings that provides a leading international forum for the discussion of all issues in multiple classifier systems and ensemble methods. The aim of the workshop is to bring together researchers from diverse communities concerned with this topic, including pattern recognition, machine learning, neural networks, data mining and statistics. This event was organized by the Institute of Neural Information Processing at Ulm University, the Center for Vision, Speech and Signal Processing of the University of Surrey, UK, and the Department of Electrical and Electronic Engineering of the University of Cagliari. MCS 2015 was sponsored by the Universities of Surrey, Cagliari and Ulm, and was endorsed by the IAPR.

MCS 2015 received twenty-five contributions for the technical program, from sixteen countries. The Program Committee, made up of eighteen experts, carefully reviewed the submissions. Based on the reviews, twenty high-quality papers were selected for oral presentation. The workshop was organized in one track of oral presentations, subdivided into five sessions on "Ensembles", "MCS Design & Diversity", "Bagging & Boosting", "ECOC & DAG", and "MCS Applications".

In addition to the regular workshop program, two excellent invited talks were given. Prof. Marcello Pelillo (University of Venice, Italy) presented his recent work on "Similarity-based Pattern Recognition: A Game-theoretic Perspective", where he discussed the concept of similarity-based machine learning methods in the light of mathematical game theory. Prof. George Cybenko (Dartmouth College, US) gave a talk on "Deep learning of behaviors", where he discussed how deep learning in artificial neural networks can be successfully applied in a variety of scenarios for the classification of complex behavioral patterns. The slides of the invited talks are available online on the MCS 2015 web site (*http://mcs.diee.unica.it*/).

Thirty-two participants attended the workshop.



All accepted papers were included in the workshop proceedings, Multiple Classifier Systems Springer LNCS, Vol. 9132

Click on the image to go the publisher's web site for this volume.

General Chair:
Vittorio Murino (PAVIS, Istituto Italiano di Tecnologia and University of Verona, Italy)

by the General Chair

ICIAP 2015 was organized by the Pattern Analysis and Computer Vision (PAVIS) department (*www.iit.it/pavis*) of the Istituto Italiano di Tecnologia (IIT), with the valuable support of the University of Genova and the University of Verona. It was endorsed by the International Association for Pattern Recognition (IAPR), the Italian Member Society of IAPR (GIRPR), the IEEE Computer Society Technical Committee on Pattern Analysis and Machine Intelligence (TCPAMI), and also received some institutional national support (from Regione Liguria and Comune di Genova). Notable sponsorships came from several industrial partners such as Datalogic, Google, Centro Studi Gruppo Orizzonti Holding, Ansaldo Energia, EBIT Esaote, Softeco, eVS embedded Vision Systems, 3DFlow, Camelot Biomedical Systems, as well as Istituto Italiano di Tecnologia, University of Genova and University of Verona.

ICIAP 2015 covered both the classic and the most recent trends in computer vision, pattern recognition, machine learning and image processing, addressing both theoretical and applicative aspects, and promoting connections and synergies among senior scholars and students, universities, research institutes and companies. Following this trend, the program was been subdivided into seven main topics, covering a broad range of scientific areas, which were managed by two Area Chairs per topic: Video Analysis & Understanding; Multiview Geometry and 3D Computer Vision; Pattern Recognition and Machine Learning; Image Analysis, Detection and Recognition; Shape Analysis and Modeling; Multimedia; and Biomedical Applications.

ICIAP 2015 received 234 paper submissions coming from all over the world, including Algeria, Brazil, Canada, China, Colombia, Czech Republic, Egypt, Finland, France, Germany, Italy, Japan, Korea, Lebanon, Morocco, New Zealand, Pakistan, Poland, Qatar, Romania, Russia, Saudi Arabia, Spain, Switzerland, Thailand, The Netherlands, Tunisia, Turkey, United Kingdom, USA and Vietnam. The paper review process was managed by the Program Chairs with the invaluable support of the 14 Area Chairs and a number of additional reviewers. The peer-review selection process was carried out by three distinct reviewers in most of the cases. This ultimately led to the selection of 129 high-quality manuscripts, 27 orals and 102 posters, with an overall acceptance rate of about 55% (about 11% for orals). The ICIAP 2015 Proceedings are published by Springer as volumes of the Lecture Notes Computer Science Serise (LNCS) 9279 and 9280.

ICIAP 2015 also hosted seven half- or full-day satellite workshops:

- "Int'l Workshop on Recent Advances in Digital Security: Biometrics and Forensics (BIOFOR 2015)", organized by Modesto Castrillón Santana, Matthias Kirchner, Daniel Riccio and Luisa Verdoliva;
- "Color in Texture and Material Recognition (CTMR 2015)", organized by Claudio Cusano, Paolo Napoletano, Raimondo Schettini, and Joost van de Weijer;
- "Medical Imaging in

Rheumatology: advanced applications for the analysis of inflammation and damage in the rheumatoid joint (RHEUMA 2015)", organized by Silvana Dellepiane, Marco A. Cimmino, Gianni Viano;

- "Image-based Smart City Application (ISCA 2015)", by Giuseppe Pirlo, Donato Impedovo, and Byron Leite Dantas Bezerra;
- "1st International Workshop on Multimedia Assisted Dietary Management (MADiMa 2015), organized by Stavroula Mougiakakou, Giovanni Maria Farinella, and Keiji Yanai;
- "Scene Background Modeling and Initialization (SBMI 2015), organized by Lucia Maddalena and Thierry Bouwmans;
- "Workshop on Image and Video Processing for Quality of Multimedia Experience", organized by Nicu Sebe, Ben Herbst, and Dubravko Culibrk.

The papers from the workshops were published in the Springer Lecture Notes Computer Science series, LNCS 9281.

Click on the image to go the publisher's web site for this volume.

The program of the satellite events was completed by a few tutorials, specifically:

- "Life Long Learning in Computer and Robot Vision" by Barbara Caputo (Italy),
- "Structure from Motion: Historical Overview and Recent Trends" by Andrea Fusiello (Italy),
- "Probing Human Brain Network Architecture and Dynamics Using MRI" by Maria Giulia Preti (Switzerland);
- "Deep Learning in Computer Vision" by Xiaogang Wang (China).

The program also included six invited talks by distinguished scientists in Computer Vision, Pattern Recognition and Image Analysis: Arnold Smeulders, University of Amsterdam (The Netherlands), Michal Irani, Weizmann Institute of Science (Israel), Bernt Schiele, Max Planck Institute for Informatics (Germany), Kristen Grauman, University of Texas at Austin (USA), Xiaogang Wang, The Chinese University of Hong Kong (China), and Samy Bengio, Google Inc. (USA), who addressed very interesting and recent research approaches and paradigms such as deep learning, big data, search and retrieval, semantic scene understanding, visual cognition and image enhancement.

Several awards were conferred during ICIAP 2015. Two student support grants were provided by the International Association for Pattern Recognition (IAPR).

The "Eduardo Caianiello" Award was attributed to the best paper authored or co-authored by at least one young researcher and was attributed to Lu Bai, co-author of a paper title "An Edge-based Matching Kernel through Discrete-time Quantum Walks" by Lu Bai, Zhihong Zhang, Peng Ren, Luca Rossi, and Edwin Hancock.

The Best Paper Award was assigned to the paper titled "Transfer Learning through Greedy Subset Selection" by Ilja Kuzborskij, Francesco Orabona, and Barbara Caputo. In this edition and with the aim of celebrating his pioneering activities in the early stages of Image Analysis and Pattern Recognition in Italy, this award was dedicated to the memory of Stefano Levialdi, an eminent scientist and one of the "founders" of the Italian Chapter of the IAPR, who recently passed away (see "In Memoriam...Stefano Levialdi" in this issue of the IAPR Newsletter, http://www.iapr.org/docs/newsletter-2015-03.pdf).

A small number of best ICIAP 2015 papers were also selected to submit an extended version to a special issue of the Computer Vision and Image Understanding (CVIU) journal. The special issue, titled "Image and Video Understanding in Big Data", will be finalized just after the coming summer, with the expected online publication in December 2016.

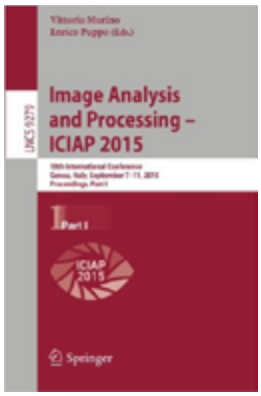
ICIAP 2015 also organized two social events. The Welcome Cocktail was held in Museo Diocesano, an historical museum. Housed in the Cloister of the Canons of San Lorenzo Cathedral and built in the 12th century, it now houses several Ligurian painting of the 14th and 15th centuries, archaeological finds, wooden sculptures and marble, antique silver and precious fabrics.

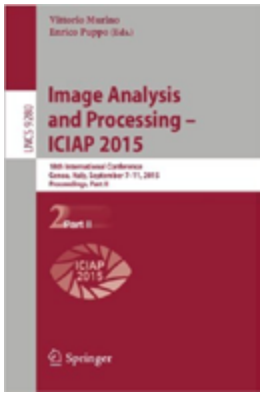
The Gala Dinnerwas held in Villa Lo Zerbino, a typical "villa genovese" of the 16th century, containing many perfectly preserved 17th century frescoes and neoclassic decorations and a private park of nearly 30.000 mq, located at the top of one of the Genoa hills, with a fantastic sight of the sea and the Genova skyline.

The organization and the success of ICIAP 2015 were made possible thanks to the cooperation of many people. Other than the Program Chairs, Enrico Puppo and Gianni Vernazza, whom I thank very much indeed for the support, actual help and encouragement, my special thanks goes to the Area Chairs and the Program Committee, as well as the additional reviewers. Moreover, all the organizing committee deserves special thanks, and specifically Marco Cristani, Carlo Sansone, Alessio Del Bue, Giuseppe Boccignone,

Giorgio Giacinto, Sebastiano Battiato, Luigi Di Stefano, Manuele Bicego Umberto Castellani, Silvio Savarese and Diego Sona.

Last but not least, we are indebted to the students who supported us during the conference and workshop days as well as the Local Committee, mainly colleagues from IIT-PAVIS, who have covered almost every aspects of the conference when necessary and the day-to-day management issues of the organization, notably to mention Sara Curreli, Diego Sona, Matteo Bustreo. Carlos Beltran and Nick Dring.





The proceedings from ICIAP 2015 were published in two volumes by Springer, LNCS 9279 and LNCS 9280.

Click on the images above to go the publisher's web site for these volumes.

ACPR 2015

Third Asian Conference on Pattern Recognition

Kuala Lumpur, Malaysia
November 3-6, 2015
http://acpr2015.org

General Chairs:

Umapada Pal (Indian Statistical Institute, India)
Cheng-Lin Liu (Chinese Academy of Sciences, China)
Rama Chellappa (University of Maryland, USA)

by Cheng-Lin Liu, Chee Seng Chan and Umapada Pal

The ACPR2015 follows the previous editions, ACPR2011 in Beijing, China, and ACPR2013 in Naha, Okinawa, Japan. The ACPR2015 was sponsored by the International Association for Pattern Recognition (IAPR), and was organized by the University of Malaya. The organizing chairs, Chee Seng Chan and Raveendran Parameswaran, made an excellent program and local arrangements. Over 250 participants attended the conference.

The program committee received 422 full submissions from 33 countries. This was a record high for submissions in the history of ACPR! The program chairs invited 107 program committee members and 128 additional reviewers to review the submitted papers. Each paper received at least two reviews, and most papers received three. The program committee accepted 36 papers for oral presentations and 134 papers for poster presentations. The accepted papers cover topics of pattern classification and machine learning, feature extraction and selection, clustering, image processing and segmentation, computer vision, object detection and recognition, video analysis and activity recognition, face recognition, biometrics, document analysis, multimedia, and so on.

The technical program included nine oral sessions, three poster sessions, and four IAPR invited keynote speeches. The keynote speeches were given by four internationally renowned researchers active in pattern recognition and computer vision. They are: Tieniu Tan (China) with a speech titled "Large-Scale Visual Computing: Challenges

Proceedings will be available through IEEE*Xplore*

and Opportunities", Ching Y. Suen (Canada) with a speech titled "Methods of Achieving Perfect Recognition Scores", Maja Pantic (UK) with a speech titled "Automatic Analysis of Facial Expressions", and Yoshua Bengio (Canada) with speech title "Deep Learning".

The ACPR2015 provided one tutorial on Medical Image Analysis, and organized two workshops, titled Learning Semantics for Multimedia Big Data and Human Behavior Analysis in the Real World, respectively. It also held the first Doctoral Consortium in the history of ACPR.

The social program of ACPR2015 was also impressive. The banquet was held in the sky hall of the KL Tower, which has a wonderful, bird's eye view of the city center. During the banquet, there were many attractive shows of

Malaysian dances and songs.

At the closing ceremony, three paper awards were announced and presented. The awards were selected based on an evaluation of review scores and presentation quality by a committee led by a general chair. The paper awards and the recipients are as follows:

- IET Best Scientific Paper Award: Aniket Singh and Anoop Namboodiri, Laplacian Pyramids for Deep Feature Inversion
- IET Best Student Paper Award: Jin Wang, Changxin Gao, Jing Hu, and Nong Sang, DeNet: An Explicit Distance Ensemble Model for Person Re-identification
- IET Best Poster Award: Alessandro Zamberletti, Ignazio Gallo, and Lucia Noce, Augmented Text Character Proposals and Convolutional Neural Networks for Text Spotting from Scene Images.

General Co-Chairs:

Reinhard Klette (Aukland University of Technology, New Zealand)
In So Kweon (KAIST, Korea)

Report prepared by the General Co-Chairs

PSIVT 2015 was endorsed by the IAPR, and sponsored by AUT, New Zealand (School of Engineering), Chiba University, Japan (IMIT), Nagoya Institute of Technology, Japan, KAIST, Korea (KEPCO Chair), and IEEE North Section, New Zealand.

Previous issues have been in Mexico (2013), Korea (2011), Singapore (2010), Japan (2009), Chile (2007), and Taiwan (2006).

PSIVT 2015 was held together with IVCNZ 2015 (see the separate report for this conference), and both conferences together had about 200 fully registered participants, plus a number of single-day participants.

Auckland, the "city of sails", welcomed conference participants with fine weather, sunny days with blue skies. Still, besides the tempting environment and the good conditions, the sessions of PSIVT 2015 were well attended, possibly also due to the delicious food served at the various conference breaks and poster sessions.

There were three keynotes at PSIVT 2015.

Viktor Erukhimov (above), *itseez*, Nizhny Novgorod, Russia, spoke about Embedded realtime computer vision, with a particular focus on the leadership of the development of OpenCV at itseez.

Hans J. (Joe) Wuensche (above), Universität der Bundeswehr, Munich, Germany, presented an overview on Perception for Off-road Driving, demonstrating autonomous driving under very rough conditions.

Main conference proceedings

Click on the image to go the publisher's web site for this volume.

Richard Green (above) University of Canterbury, Christchurch, New Zealand, discussed Computer vision for precision agriculture, and especially the design of a robot for automated pruning of grape vines; this keynote was co-authored and co-presented by Tom Botterill (above right), also University of Canterbury.

PSIVT 2015 had 26 oral and 35 poster presentations, out of 133 submissions.

The **IAPR Best Paper Award** went to Zexuan Ji, Jinyao Liu, Hengdong Yuan, Yubo Huang and Quansen Sun (Nanjing, China) for their paper "A Spatially Constrained Asymmetric Gaussian Mixture Model for Image Segmentation".

The **IAPR Best Application Paper Award** went to Vijay John, Zheng Liu, Chunzhao Guo, Seiichi Mita and Kiyosumi Kidono (Nagoya, Japan) for their paper "Real-Time Lane Estimation using Convolutional Neural Networks and Extra Trees Regression".

The **IAPR Best Paper Presentation** went to Domingo Mery (Santiago de Chile) for presenting the paper "Object Recognition in Baggage Inspection Using Adaptive Sparse Representations of X-ray Images", co-authored by Domingo Mery, Erick Svec and Marco Arias.

The accepted and presented papers at PSIVT 2015 were published in a volume of Springer's Lecture Notes in Computer Science. Editors are the program

co-chairs of PSIVT 2015, main conference, Thomas Bräunl (UWA, Australia), Brendan McCane (Otago University, New Zealand), Mariano Rivera (CIMAT, Mexico), and Xinguo Yu (Central China Normal University, China).

There were six workshops at PSIVT 2015, prior to the main conference:

- **Robot Vision** (RV 2015), organised by Jacky Baltes, University of Manitoba, Canada, and Loulin Huang, AUT, New Zealand,
- **2D and 3D Geometric Properties from Incomplete Data** (GPID 2015), with Ryszard Kozera, Warsaw University of Life Sciences, Poland, as the general chair,
- **Vision meets Graphics** (VG 2015), organised by Paul Rosin, Cardiff University, UK, and Taehyun Rhee, Victoria University, New Zealand, with two invited lectures by Mark Sagar, University of Auckland, New Zealand, and David Mould, Carleton University, Canada,
- **Mathematical and Computational Methods in Biomedical Imaging and Image Analysis** (MCBMIIA 2015), organised by Atsushi Imiya, Chiba University, Japan, Michael Cree, Waikato University, New Zealand, and Hamid Krim, North Carolina State University, USA, with four invited lectures by Hamid

Gholamhosseini, AUT, New Zealand, Akinobu Shimizu, Tokyo University of Agriculture and Technology, Japan, Hiroshi Ishikawa, Waseda University, Japan, and John Rugis, University of Auckland, New Zealand,

- **Passive and Active Electro-Optical Sensors for Aerial and Space Imaging** (EO4AS 2015), organised by Ralf Reulke, German Aerospace Center, Germany, and John Robertson, AUT, New Zealand, with one invited talk by Andreas Brunn, BlackBridge, Germany, and
- **Video Surveillance** (VSWS 2015), organised by Wei Qi Yan, Auckland University of Technology (AUT), New Zealand, Pradeep Atrey, The State University of New York at Albany, USA, and Mohan Kankanhalli, National University of Singapore, Singapore.

The accepted and presented workshop papers at PSIVT 2015 were published in a volume of Springer's Lecture Notes in Computer Science in early 2016. Editors are the workshop co-chairs of PSIVT'2015, Fay Huang, National Ilan University, Taiwan, and Akihiro Sugimoto, National Institute of Informatics, Japan.

The social program of PSIVT 2015 included a Welcome Reception, accompanied by a Jazz band, a bus excursion to a gannet colony at the wild West coast of Auckland, a banquet at "Settlers Country Manor", also featuring a group of Cook Island dancers, and, finally, a "Survivor's Party", wonderfully entertained by a female accordion player. Those social program events are possibly also especially memorable, besides the excellent keynotes and the high-quality academic program at PSIVT 2015 in general. This issue of the Pacific-Rim Symposium on Image and Video Technology showed that there is already some kind of "traditional" group of participants at PSIVT events, contributing to the deepening of a network of collaborations in the Pacific Region, and it was also interesting to see that PSIVT attracted quite a group of participants coming from other places in the world.

Workshop proceedings

Click on the image to go the publisher's web site for this volume.

PSIVT 2017

will be held in

Wuhan, China

http://www.psivt.org/psivt2017/index.html

10 Reasons Why You Should Submit a Paper to ICPR 2016

ICPR 2016: 23rd International Conference on Pattern Recognition

www.icpr2016.org

Cancun, Mexico, 4-8 December 2016.

Hosted by the Mexican Association for Computer Vision, Neurocomputing and Robotics.

The scientific success of the previous 22 editions of the ICPR is the primary reason to submit your paper and to attend. But we can add at least 10 more reasons:

1. ICPRs are the premier scientific event on Pattern Recognition (PR) organized biennially under the auspices of the International Association for Pattern Recognition (IAPR).
2. ICPRs offer excellent conditions to combine science, culture and tourism. ICPR 2016 is organized in Cancun, Mexico, an attractive and enjoyable location.
3. ICPRs bridge the theory and practice of multi- and inter-disciplinary fields ranging from Machine Learning to Biomedical Engineering, from Computer Vision to Robot Applications, from Deep Learning to Biometrics, from Data Retrieval to Computer-Aided Diagnosis, from Image Processing to Document Analysis, to name only a few.
4. ICPRs give you the opportunity to network with top scientists and to meet industry leaders in PR disciplines and, at the same time, to interact with young researchers—the researh leaders of the future.
5. ICPRs are the right place to enlarge the visibility of your work, in proceedings published by the IEEE and accessible in IEEE*Xplore*.
6. ICPRs open new opportunities to form worldwide partnerships and to discover the richness of belonging to a challenging scientific research environment ideal for catalyzing new research ideas or successful technical applications.
7. ICPRs are an educational forum for graduate students, research supervisors and curriculum developers.
8. ICPRs offer you the opportunity to listen to the top, highly-cited scientists and to become part of the evolution of PR fields.
9. ICPRs, through science and technology, give you the opportunity to create, tighten and renew links of friendship with people from around the world.
10. ICPRs offer the opportunity to know the name and scientific activities of the winners of prestigious awards. In particular, ICPR 2016 will see the inaugural presentation of the Maria Petrou Prize that will recognize the achievements of a female scientist at any career stage.

Paper submission is open!

http://www.icpr2016.org/site/guideline-for-initial-submission/

CALL FOR PAPERS

23RD INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION
DECEMBER 4-8, 2016, CANCUN INTERNATIONAL CONVENTION CENTER, CANCUN, MEXICO
www.icpr2016.org

Welcome to the 23rd International Conference on Pattern Recognition in Cancun, Mexico, December 2016, hosted by the Mexican Association for Computer Vision, Neurocomputing and Robotics (MACVNR). ICPR will be an international forum for discussions on recent advances in the fields of Pattern Recognition, Machine Learning and Computer Vision, and on applications of these technologies in various fields. The Scientific Program is organized in five tracks, addressing several Pattern Recognition topics.

ORGANIZING COMMITTEE

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CONFERENCE SECRETARIAT
contact_info@icpr2016.org

TRACKS`

Track 1: Pattern Recognition and Machine Learning
Prof. Edwin Hancock (United Kingdom)
Prof. Enrique Succar (Mexico)
Prof. Liang Wang (China)

Track 2: Computer Vision and Robot Vision
Prof. Richard Hartley (Australia)
Prof. Anders Heyden (Sweden)
Prof. Ales Leonardis (United Kingdom)
Prof. Sudeep Sarkar (USA)

Track 3: Image, Speech, Signal and Video Processing
Prof. Michael Felsberg (Sweden)
Prof. Vaclav Hlavac (Czech Republic)
Prof. Dong Xu (Singapore)

Track 4: Document Analysis, Biometrics and Pattern Recognition Applications
Prof. Anil Jain (USA)
Prof. Mark Nixon (UK)
Prof. Tieniu Tan (China)

Track 5: Biomedical Image Analysis and Applications
Prof. Xiaoyi Jian (Germany)
Prof. Ioannis Kakadiaris (USA)
Prof. Reinhard Klette (New Zealand)

DEADLINES:

Workshop & contest proposals ...Mar. 1, 2016
Paper submission.....Apr. 4, 2016
Tutorial proposals .....Jul. 1, 2016
Contest papers ..... Sep. 5, 2016

CALLS FOR NOMINATIONS: Awards to be presented @ ICPR 2016

Please see related memo, Encouraging Diversity in Nominations for IAPR Awards

Call for Nominations for the King-Sun Fu Prize

The prestigious King-Sun Fu Prize is the highest honor given by the IAPR.
http://www.iapr.org/fellowsandawards/awards_kingsunfu.php
Deadline for submission of nomination and endorsement forms will be in April 2016.

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 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

http://www.iapr.org/fellowsandawards/awards_aggarwal.php

Deadline for submission of nomination and endorsement forms will be in April 2016.

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 and 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

http://www.iapr.org/fellowsandawards/awards_petrou.php

Deadline for submission of nomination and endorsement forms will be in April 2016.

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 fields of image processing and pattern recognition. She also made significant contributions to the growth of IAPR.
The Maria Petrou Prize is to be awarded 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.
The prize will be awarded for the first time at ICPR 2016 in Cancun.
Members of the IAPR Executive Committee and of the Maria Petrou Prize Committee shall be ineligible for the prize and may not serve as nominators or endorsers.

Call for Nominations IAPR Fellow Award

http://www.iapr.org/fellowsandawards/index.php
Click on "Call for Nominations"

Deadline for Submission of Nomination and Endorsement Forms is February 29, 2016

We welcome nominations for the award of Fellow of the IAPR. Anyone is eligible to be nominated, except for current members of the Executive Committee and of the Fellow Committee.

Guidelines for
IAPR Fellowship Nomination:
http://www.iapr.org/fellowsandawards/IAPRInstructions-2016.pdf

Please address any questions to the chair of the Fellow Committee, Sudeep Sarkar,

To: sarkar@usf.edu
Subject: IAPR Fellowship 2016
CC: webmaster@iapr.org

The IAPR appreciates your efforts to support the Fellowship program!

BOOKSBOOKSBOOKS

FREE BOOKS

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 latest 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.

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

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

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

Other recently published Springer titles include:

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

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

* ***Computer Vision for X-Ray Testing*** by Domingo Mery: *http://www.springer.com/gb/book/9783319207469*

PENDING BOOK REVIEWS

We are looking forward to reports on the following books under review:

1. *Airborne and Terrestrial Laser Scanning* by George Vosselman, Hans-Gerd Maas (Whittles Publishing, 2010). Reviewer: Giuseppe Maino. Under review since February 2010.

2. *Support Vector Machines for Pattern Classification, 2nd Ed.*, by Shigeo Abe (Springer, 2010). Reviewer: Huthaifa Abderahman. Under review since July 2013.

3. *Concise Computer Vision* by Reinhard Klette (Springer 2014). Reviewer: Tayyab Naseer. Under review since February 2014.

4. *Decision Forests for Computer Vision and Medical Image Analysis* by Antonio Criminisi and Jamie Shotton, Eds. (Springer 2013). Reviewer: Zeeshan Zia. Under review since April 2014.

5. *Scalable Pattern Recognition Algorithms* by Pradipta Maji and Sushmita Paul. Reviewer: Munish Kumar. Under review since February 2015.

6. *Handbook of Biometric Anti-Spoofing edited* by Sebastien Marcel et al. Reviewer: George A. Papakostas. Under review since February 2015.

7. *Probabalistic Graphical Models* by Luis Enrique Sucar (Springer 2015). Reviewer: Jon Azpiazu. Under review since November 2015.

This bulletin board contains items of interest to the IAPR Community

Call for Proposals for Summer Schools

Deadlines:
February 1, 2016 (for schools planned for April-July, 2016)
June 1, 2016 (for schools planned for August-November, 2016)
October 1, 2016 (for schools planned for December 2016-March 2017)

Background: In 2012, the IAPR Executive Committee (ExCo) drafted an Initiative on Technical Committee Activities specifically related to Summer Schools. Since that time, several summer schools (on Biometrics, Complex Networks, Computer Vision, and Document Image Processing) have applied for and been given grants to support their activities.

These summer schools are training activities where participants are exposed to the latest trends and techniques in the particular pattern recognition field. To be eligible for a grant, the organizers must work through at least one of the IAPR's technical committees as they develop and present the proposal.

Call for Proposals: The ExCo believes summer schools provide a unique opportunity to engage students and junior researchers with senior scientists in a fruitful way consistent with the mission of the IAPR.

Of course, the term "Summer School" is somewhat generic and traditional. There is no requirement that a school be offered during the summer. The ExCo is confident that summer school organizers will select a time not in conflict with the academic schedules of the target audience and lecturers.

How to Submit: Proposals for IAPR funded summer schools should be submitted to IAPR Second Vice President Simone Marinai by electronic mail (*simone.marinai@unifi.it*). A PDF attachment containing all the required information is appreciated.

For detailed guidelines on the proposal, see the ExCo Initiative on Summer Schools.

ICPR 2016
Paper submission is open!
http://www.icpr2016.org/site/guideline-for-initial-submission/

Be on the lookout:

Call for Bids to Host ICPR 2020

Updated Call and Guidelines coming here soon!

Deadline: July 31, 2016

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	FEB	CVIP 2016: International Conference on Computer Vision and Image Processing		**India**
	MAR	IWBF 2016: 4th International Workshop on Biometrics and Forensics	IWBF 2014	**Cyprus**
	APR	DAS 2016: 12th IAPR International Workshop on Document Analysis Systems	DAS 2014	**Greece**
		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**
	JUN	ICB 2016: 9th International Conference on Biometrics	ICB 2015	**Sweden**
		CTIC 2016: 6th International Workshop on Computational Topology in Image Context		**France**
		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	* GCPR 2016: 38th German Conference on Pattern Recognition *		**Germany**
	OCT	PRIP 2016: 13th International Conference on Pattern Recognition and Information Processing		**Belarus**
		ICFHR 2016: 15th International Conference on Frontiers in Handwriting Recognition	ICFHR 2014	**China**
	NOV	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**
	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**

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