THE INTERNATIONAL ASSOCIATION FOR PATTERN RECOGNITION

IAPR Newsletter

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IN THIS Issue

STEM, Part 3

by Arjan Kuijper
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Two years ago, in the January [38:1] and April [38:2] issues of the IAPR newsletter, we paid attention to “Encouraging gender diversity in nominations for IAPR Awards” and gender balance. Two years later: has anything changed? I guess so, but not that much and perhaps not as fast as we had hoped for. I won’t repeat what I wrote earlier—I encourage you to read the old IAPR issues —but I recently had some new experiences that I’d like to share with you.

Fraunhofer organizes a talent school for female STEM students each year. This year they visited Darmstadt. It was a pleasure to talk with them, explaining what we do and what our groups look like. Inevitably, the question of how many women work in our institute came up. Prepared as I was, I did not have a good "STEM" answer to that question...

The only thing I could think of was “Not enough”. Which is true! I also mentioned that we look for the right person first and don't primary look at gender. That was something all agreed upon. But then came the most surprising thing. Some asked me if it would make sense to apply at our institute because they thought that they might not have enough programming skills.

Although I had heard before that women tend to be more careful and only apply when they think that the match is close to 100%, whereas men are satisfied with 50%, I hadn't encountered this in real life before. Is this usually the case? Is the way job descriptions are written down already a hurdle?

In any case, one-to-one talks like this can clarify a lot. And, for those who haven't yet had that one-to-one talk, we need to spread the word and spread the wisdom of those who have dealt with these issues firsthand.

That is why I am very happy to introduce a new series of articles in this newsletter called “An IAPR Her Story”. In the inaugural article in the series, Gabriella Sanniti di Baja shares her history: the decisions she made (economic stability? uncertainty of a precarious position?) and the influence people had. I particularly like that she

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/*

PRRS 2018
10th IAPR Workshop on Pattern Recognition in Remote Sensing
Beijing, China
Deadline: Apr. 20, 2018
Dates: Aug.19-20, 2018

CVIP 2018
3rd International Conference on Computer Vision & Image Processing
Jabalpur, India
Deadline: Apr. 20, 2018
Dates: Sep. 29-Oct. 1, 2018

ANNPR 2018
8th IAPR TC3 Workshop on Artificial Neural Networks in Pattern Recognition
Siena, Italy
Deadline: Apr. 29, 2018
Dates: Sep. 19-21, 2018

CIARP 2018
23rd Iberoamerican Congress on Pattern Recognition
Madrid, Spain
Deadline: May 31, 2018
Dates: Nov. 19-22, 2018

ISAIR 2018
3rd International Symposium on Artificial Intelligence and Robotics
Nanjing, China
Deadline: Aug. 1, 2018
Dates: Nov. 17-19, 2018

IAPR Sponsored/Endorsed Workshops @ ICPR 2018
Date: Aug. 20, 2018

IWCF 2018
7th International Workshop on Computational Forensics
Beijing, China
Deadline: Apr. 27, 2018

MIPPSNA 2018
2018 Multimedia Information Processing for Personality & Social Networks Analysis Workshop
Beijing, China
Deadline: Apr. 30, 2018

FFER 2018
3rd International Workshop on Face and Facial Expression Recognition from real world video
Beijing, China
Deadline: May 21, 2018

CVAUI 2018
3rd Workshop on Computer Vision for Analysis of Underwater Imagery
Beijing, China
Deadline: May 15, 2018

RRPR 2018
2nd Workshop on Reproducible Results in Pattern Recognition
Beijing, China
Deadline: May 28, 2018

MPRSS 2018
5th International Workshop on Multimodal Pattern Recognition of Social Signals in human computer interaction
Beijing, China
Deadline: Jun. 1, 2018

J. K. Aggarwal Prize to be presented at ICPR 2018
Deadline for Submission of Nomination and Endorsement Forms: April 30, 2018
http://www.iapr.org/fellowsandawards/awards_aggarwal.php

"preferred to continue to chase my dream of working in pattern recognition research".

Chasing your dream: that is my wish for you! Perhaps you can do that at ICPR. By the time you read this, decisions are out. Congratulations when your paper is accepted, and I hope you can incorporate the review comments and improve your paper and submit it somewhere else if it's not accepted: to quote Gabriellla, "I have had problems, like everyone else, but I always tried to address them by considering them as a test bench."

Happy reading!

Arjan

IAPR Then and Now...2 Years Ago

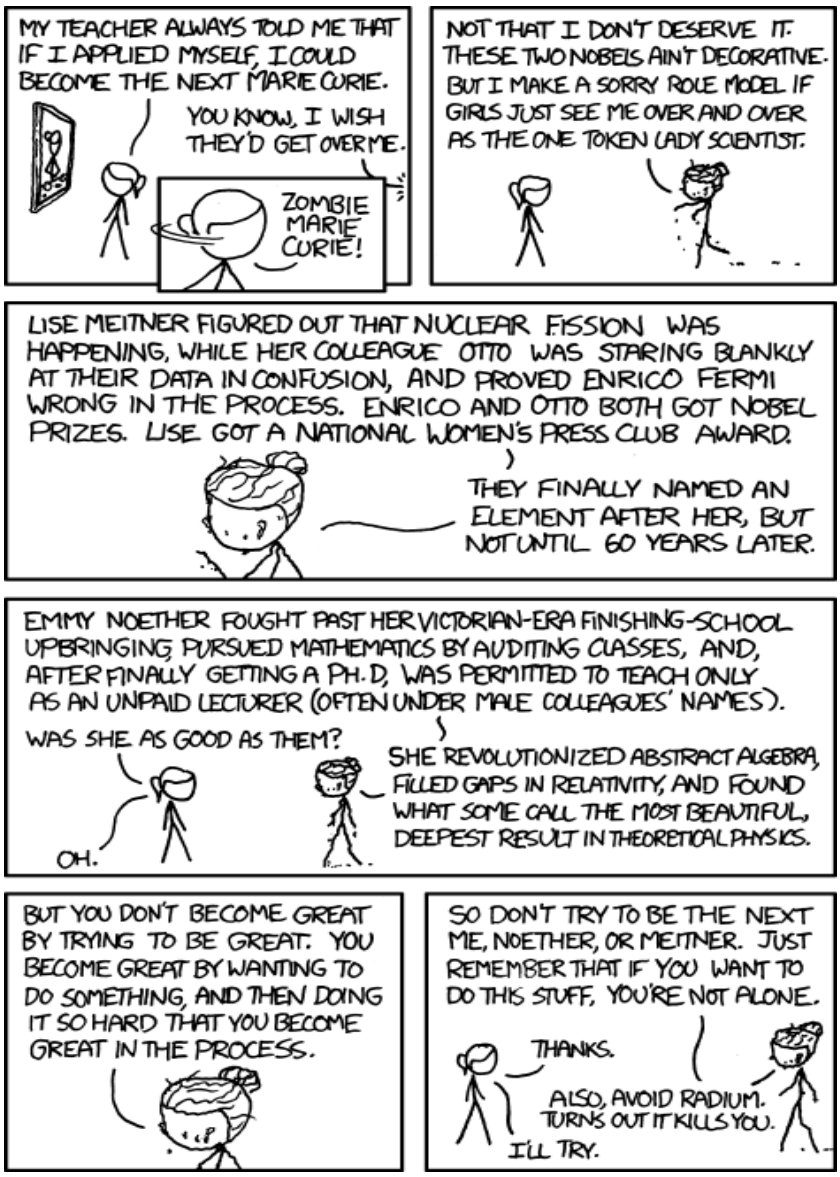
Excerpt from "From the Editor's Desk: What can *you* do to help achieve better gender balance? We want to hear your thoughts."

***IAPR Newsletter*, Vol. 38 No. 2, April 2016**

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!



Link to this comic:
https://xkcd.com/896/

Calls from IAPR Committees

From the IAPR Education Committee:

Call for Applications for IAPR Research Scholarships

http://www.iapr.org/docs/IAPR-EC-RS-Call-2016.pdf

Description: IAPR Research Scholarships, awarded by the IAPR through its Education Committee (IAPR-EC), seek to make possible mobility across institutions and international boundaries for Early Career Researchers working in fields within the scope of the IAPR's interests. Through this program, the IAPR sees an opportunity to make a significant contribution to the development of Early Career Researchers as well as the wider Pattern Recognition community.

Covered expenses and duration: The scholarship covers round trip travel & basic living expenses for a visit of less than 12 months.

Requirements: The candidate must be a full-time researcher with between one and eight years experience. The candidate must also be a member of an IAPR member society. See Call for Applications for a full list of requirements.

Contact information:

IAPR-EC Chair
c/o Josep Lladós, josep.llados@cvc.uab.es

IAPR Secretariat
c/o Linda O'Gorman, secretariat@iapr.org

From the IAPR Industrial Liaison Committee:

Call for Internship Listings for the IAPR Internship Brokerage Page

for Companies with internships available for Students seeking internship opportunities

http://homepages.inf.ed.ac.uk/rbf/IAPR/INDUSTRIAL/

Description: The IAPR-ILC wishes to promote opportunities for students to undertake internships at companies working in Pattern Recognition, AI, Computer Vision, Data Mining, Machine Learning, etc. We propose to do this by having a web-based internship listing service. Companies can list their internship opportunities; students can browse the listings and contact the company.

For companies with internships to list:
(see examples at the URL above)

Please email your listings as follows:

To: Bob Fisher - rbf@inf.ed.ac.uk
Subject: IAPR internship listing
Details:

- Host:
- Location:
- Post Type:
- Specialty:
- Funded:
- Length:
- Degree & Visa Requirements:
- Internship start date:
- Application closing date:
- Details:
- Contact:

For students:
If you are a student, please visit the web site given above.

NOTE: At the time of publication, there were 19 opportunities listed and more than 4700 views.

Contact Information:
Bob Fisher, rbf@inf.ed.ac.uk
Chair, IAPR-ILC

From the IAPR Executive Committee (ExCo):

Call for Proposals for "Summer" Schools

Deadline: October 1, 2018 (for schools planned for December 2018 - March 2019)

"Summer" schools are training activities that expose participants to the latest trends and techniques in the particular pattern recognition field. ("Summer" is used generically; the school can take place in any season.)

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.

How to Submit: Proposals for IAPR funded summer schools should be submitted to IAPR Secretariat Linda O'Gorman by email (secretariat@iapr.org). A PDF attachment containing all the required information is appreciated.

For detailed guidelines on the proposal, see the **ExCo Initiative on Summer Schools**, http://www.iapr.org/committees/SummerSchool-2016.pdf

An IAPR Her Story: Gabriella Sanniti di Baja

Editor's note:
With the belief that every woman scientist has a compelling story to tell about her life and career choices, the IAPR Newsletter is launching this new series of feature articles called "An IAPR Her Story" designed as a space for women to share their life experiences as they related to the IAPR community.

The IAPR Newsletter is very grateful to Prof. Gabriella Sanniti di Baja for agreeing to write the inaugural article.

~ Arjan Kuijper, IAPR Newsletter *Editor-in-Chief*

Gabriella Sanniti di Baja was born in 1950, received the laurea degree (cum laude) in Physics from the "Federico II University" of Naples, Italy, in 1973 and the PhD *Honoris Causa* from Uppsala University, Sweden, in 2002. Since 1973, she has been working in the field of image processing and pattern recognition at the Institute of Cybernetics E. Caianiello of the Italian National Research Council (CNR), where she was director of research until she retired in February 2015. She is currently an Associate Researcher at the Institute for High Performance Computing and Networking, CNR (ICAR-CNR). Her research interests include 2D and 3D shape representation and analysis. She has published a number of papers in international journals and conference proceedings. G. Sanniti di Baja is co-Editor-in-Chief of the journal Pattern Recognition Letters, where she is responsible for the Special Issues. She was President of the International Association for Pattern Recognition (IAPR) in the term 2000-2002 and has had various positions within

continued on next page...

I was born in 1950, the third daughter of a career military father and a teacher mother. At that time in Italy it was not common for a woman to do work outside the family. All my aunts and most of my mother's friends and the wives of my father's colleagues were housewives. My mother's example was fundamental for me to understand the importance of economic independence and, above all, of the social position given by work.

After obtaining my high school diploma, I enrolled at the Faculty of Physics of the Federico II University of Naples. One of the courses of the third year, Electronics, was held by Professor Stefano Levialdi (1936-2015, IAPR Fellow, see 34:2) who at that time was in touch with scientists such as Azriel Rosenfeld (see 26:2), King-Sun Fu (see 8:1, Herbert Freeman (see 11:3), and many others that were active in the emerging field of research in Computer Science, namely Pattern Recognition, and were preparing the founding of the IAPR. Professor Levialdi modified the standard Electronics course by dedicating a large part of it to the fundamentals of Pattern Recognition. I was fascinated by this discipline and by the ability of Professor Levialdi to make it so interesting, and from then on, I had the certainty that I would work in research and that my field would be pattern recognition. Obviously, the subject of my dissertation was in the field of pattern recognition and my supervisor was Professor Levialdi.

Since Professor Levialdi was working at the Institute of Cybernetics of the Italian National Research Council (ICIB-CNR), I prepared my dissertation there, and after graduating, I continued my research activity at ICIB-CNR with a fixed-term collaboration contract that, if it had not turned into a stable position, would not have given me economic independence and a serene future. Thus, my parents suggested to

me to consider also other job possibilities. Actually, finding a job for a young graduate in Physics was not difficult in my day, but the work found was not always the long desired one. For example, I would have had no problems at all in becoming a teacher like my mother, but that was not what I wanted to do. Anyway, I did a national competition to become a teacher of physics in secondary schools and I won it.

So I found myself having to make a difficult decision by having to choose between the economic stability for the future that was guaranteed by the teacher position and the uncertainty of a precarious position at ICIB-CNR that, however, allowed me to do what was for me the best job in the world. I preferred to continue to chase my dream of working in pattern recognition research and gave up the teacher position. I risked, but I was lucky and I have never regretted my choice, even if I had to wait eight years before getting a permanent position at ICIB-CNR. Honestly, times have dramatically changed, and I do not know if nowadays I would suggest to a young girl with her eyes full of enthusiasm to do as I did and leave the certain for the uncertain.

During the years of research activity in pattern recognition, I started to be more and more involved with IAPR, and I'm proud to say that all my dreams became true when I was elected the IAPR President. In fact, I was the first woman to have such an important IAPR position. Other important events occurred, most at the same time. When I became IAPR President, at ICPR 2000

...continued from previous page

IAPR (Executive Committee Member, 1994-2004, Chair of Fellow Committee, 2004-2008, Chair of Nominating Committee, 2002-2004, member of the IAPR Governing Board and member of a number of other standing committees). She was also President of the Italian Group of Researchers in Pattern Recognition (GIRPR), which is the Italian Member Society of IAPR, for two terms (2008-2012). In 2000, she was named an IAPR Fellow, and in 2011, she was elected Foreign Member of the Royal Society of Sciences at Uppsala, Sweden.

G. Sanniti di Baja has co-organized several international conferences, has been member of the program committees of a large number of international conferences, and acts as a reviewer for most of the journals in the field.

IAPR Then and Now...Gabriella Sanniti di Baja in the IAPR Newsletter, a sampling

From CfPs to conference reports to ad hoc committees to Executive Commitees to Feature Articles, Gabriella Sanniti di Baja has steadily appeared in and contributued to this newsletter. Below is just a sampling.

Please refer to the IAPR Newsletter *Archive for these and other back issues.*

~ Arjan Kuijper, Chair , IAPR Publications and Publicity Committee and EiC, IAPR Newsletter

1989 Vol. 12 No. 4: Report from the General Chair on the 5th International Conference on Image Analysis and Processing (ICIAP1989)

1992-93 Vol. 15 No. 2: In the letter from outgoing President Michael Duff, the announcement of the formation of "Dr. Gabriella Sanniti di Baja's Education Committee".

1994 Vol. 16 No. 1: First report from the IAPR Education Committee.

1995 Vol. 17 No. 1: Announcement of the 1994-1996 Executive Committee with Secretary Gabriella Sanniti di Baja.

1996 Vol. 18 No. 4: Announcement of the 1996-1998 Executive Committee with Secretary Gabriella Sanniti di Baja.

1998 Vol. 20 No. 4: Announcement of Certificate of Appreciation awarded for "outstanding service as secretary of the IAPR 1994-1998".

2001 Vol. 23 No. 1: Letter from the President, Gabriella Sanniti di Baja.

2002 Vol. 24 No. 2: "President Becomes Honorary Doctor". Announcement of the degree "Doctor of Philosophy, *honoris causa*" conferred by the faculty of Science and Technology, Uppsala University, Sweden, on 25 Jan. 2002.

2010 Vol. 32 No. 3: "Getting to Know...Gabriella Sanniti di Baja, IAPR Fellow"

in Barcelona, I also became an IAPR Fellow and Editor-in-Chief of Pattern Recognition Letters. Definitely the best way to start the new millennium!

Of course, having many responsibilities at work implies that a large part of my time had to be devoted to my professional life. However, this did not lower the quality of my private life, and I never suffered from the Monday morning syndrome.

On the contrary, I have always tried to transform the seemingly disadvantageous situations into advantageous opportunities. If staying away from home for a conference or for a longer scientific visit could have caused a bit of homesickness, I always tried to avoid nostalgia by using any free time while I was travelling around the world to enrich myself culturally.

I have been lucky enough to meet several times people like Azriel Rosenfeld, Herbert Freeman, Michael Duff, and many other who inspired me to be as active as possible within the IAPR. Life has been generous to me and has given me so much. I have had problems, like everyone else, but I always tried to address them by considering them as a test bench.

Should I be born again I would not change anything in my life.

IAPR Then and Now...Photos from the IAPR Newsletter Archives

In 1989, Dr. Sanniti di Baja opening the 5ICIAP

In 2000, Gabriella, Sergey, and Stina

In 2000, IAPR President Sanniti di Baja

In 2000, Gabreilla Sanniti di Baja celebrated her new appointments as President of IAPR and PRL Editor at a party held at the Instituto di Cibernetica, Naples, on 12 October where food and drink were generously provided. It was an opportunity to mingle with colleagues from the Institute, from the University and to meet some international guests. Here Gabriella is seen talking to Professonr Luigi Cordella.

In 2000, The General, Programme and Local Chairs with the Organisers of DGCI 2000 held at the University of Uppsala, Sweden.

At ICPR 2002, presenting the K-S Fu Prize to Thomas S. Huang

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?***
- ***In more detail: What technical work have you done, and what is/are your current research interest(s)?***
- ***And lastly: How can the IAPR help young researchers?***

~Arjan Kuijper, Editor -in-Chief

Mohamed Cherif NAIT-HAMOUD

Mohamed Cherif NAIT-HAMOUD was born in Algeria in 1969; He received in 1993 his engineer degree in computer engineering at the University of Annaba. He worked as a senior tax analyst in a public institution from 1994 to 2011. In 2011, he obtained his Magister degree in computer science from the University of Tebessa of Algeria . Since 2011, he has been working as a professor assistant at the University of Tebessa of Algeria and preparing a PhD thesis in computer science at the University of Tlemcen of Algeria. His principal research interests include data mining, machine learning, pattern recognition and recently social networks.

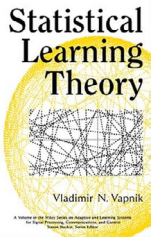
Editor's note:
Mohamed Cherif NAIT-HAMOUD won the IAPR Best Student Paper Award at MedPRAI 2016 (see report in 17:2) for the paper entitled, "Core Community Detection Algorithm based on Edge Removal Learning", co-authors Fedoua Didi and Yaakoub Boualleg.

~ Arjan Kuijper, IAPR Newsletter *EiC*

by Mohamed Cherif NAIT-HAMOUD, Department of Mathematics and Computer Science,University of Tebessa of Algeria

How did you get involved in pattern recognition?

I was always asking myself about the next step that will bring science fiction to reality. When I discovered machine learning and pattern recognition throughout my first courses, I thought that it was the beginning of a new era, and the limit towards innovation was really humans' imagination. I was impressed by Vapniks' book on Statistical Learning Theory; this book has guided me to gain theoretical knowledge through its reading (nearly in one go).



My first work on pattern recognition was on the preparation of my Magister degree. The assigned work, proposed by my supervisor Prof. Abdelouahab Moussaoui from the University of Setif of Algeria, was concerned with the discrimination of heart beats. I found that very interesting, since it involves a bunch of important fields, such as signal processing and machine learning. As it was my first work, I still remember that to appease my curiosity I was reading quite a bit about several theories such as fuzzy and rough sets that I was discovering for the first time.

What technical work have you done, and what is/are your current research interest(s)?
After getting my Magister degree, during which I was involved in pattern recognition, my wife Dr. Amel Bouchemha, who was working in the same field, and I shared a project that deals with biometrics. It was about multispectral palmprint recognition. The choice of this kind of images was not fortuitous, since it leads to systems that overcome techniques acting in visible light. Under the supervision of Prof. Amine NAIT-ALI from university of Creteil of France, we explored pixel and feature level fusion of several modalities for the identification and the authentication of individuals. Both approaches were used for statistical and energy distribution of finite ridgelet transform coefficients. To soften the computational complexity of the proposed system, multispectral images of palmprints were subdivided in sub blocks; the same processing operations were applied to each block, which allows conducting the processing of a palmprint in parallel. Our proposed work showed quite good results in the classification phase carried out with Support Vector Machine.

This experience brought us more things to share, with good moments of reflection and long debates on the way to achieve success with that project.

Actually, as a part of my PhD in science computing at the University of Tlemcen of Algeria, I am working on social networks under the supervision of Dr. Fedoua Didi. In this project we are looking for what governs information diffusion in social networks and community effects, with a particular interest in influence in social and collaborative networks. The issues are multiple, and the challenges are big due to the tremendous amount of data being made available for analysis in several domains.

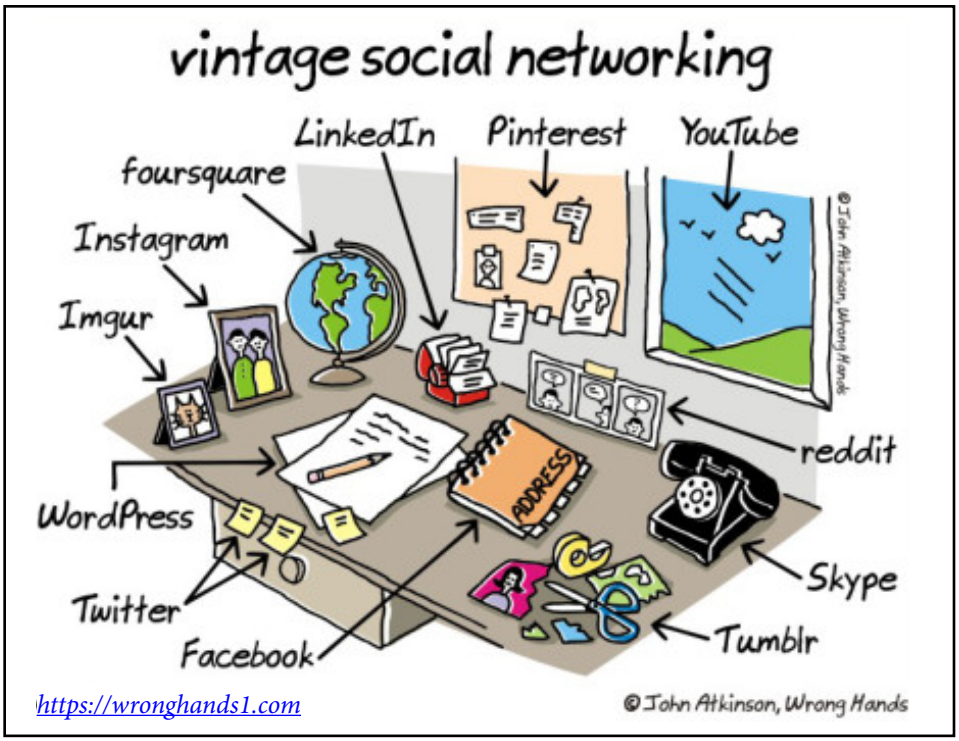
Seeking information diffusion could be conducted by tracking cascades of exact words, often called memes, trough certain paths of the underlying network. Unfortunately, it is not always the case since users could use different lexicons. Indeed, semantic analysis requires dictionaries about all possible and imaginable topics, which is not feasible. To this extent some other methods we are exploring leverage mutual entropy and transfer entropy to detect transfer of information between users and its direction.

My recent work, about community detection in social networks presented at MedPRAI'16 is a prelude to the study of effects on information diffusion of building blocks of social networks.

Moreover, we are interested in analyzing contemporary collaborative networks such as DBLP that could be assimilated into social networks. Significant insights could be gained trough this analysis that could be helpful for the scientific community and could lead to various interesting applications, such as detecting topical communities, revealing influential authors, and predicting new topics.

Within a backdrop of pattern recognition, I always have in mind finding out patterns in these kinds of networks that will help to detect and identify useful information to offer the big picture of what is going on in this entangled virtual world.

How can the IAPR help young researchers?
Honestly, I was not aware about all the activities of the IAPR towards young researchers. In my opinion, the best way to help young researchers is to bring them together with senior researchers and give them opportunities to share their experiences through programs of partnerships and collaborations. Sponsorships are also useful for young researchers from developing countries to attend conferences, summer schools and visits to research centers.



BENCHMARK DATASETS

Editor's note: Do you have benchmarking news to share?

Send the link.
Describe the contents.
Include a contact person.
We'll feature your dataset in this series.

~ Arjan Kuijper, IAPR Newsletter *EiC, arjan.kuijper@igd.fraunhofer.de*

SBM-RGBD Dataset

http://rgbd2017.na.icar.cnr.it/SBM-RGBDdataset.html

"The SBM-RGBD dataset [provides] all facilities (data, ground truths, and evaluation scripts) in order to evaluate and compare scene background modelling methods for moving object detection on RGBD videos. It includes 35 RGBD videos acquired by the Microsoft Kinect and provided as synchronized color and depth sequences. These are representative of typical indoor visual data captured in video surveillance and smart environment scenarios [...].

"The videos span 7 categories, selected to include diverse scene background modelling challenges for moving object detection related only to the RGB channels, only to the depth channel, or related to all the channels: Illumination Changes, Color Camouflage, Depth Camouflage, Intermittent Motion, Out of Sensor Range, Shadows, and Bootstrapping.

"To enable a precise quantitative comparison and ranking of various algorithms for moving object detection from RGBD videos, each video comes with a set of pixel-wise ground truth foreground segmentations. Moreover, the dataset comes with tools to compute performance metrics for moving object detection from RGBD videos, and thus identify algorithms that are robust across various challenges.

"The SBM-RGBD dataset has been created for the SBM-RGBD Challenge, organized in conjunction with the Workshop on Background Learning for Detection and Tracking from RGBD Videos (RGBD2017), but it will remain available, together with the Challenge results, also after the competition, as reference for future methods."

Citation information:

- The dataset webpage: *http://rgbd2017.na.icar.cnr.it/SBM-RGBDdataset.html* and
- The paper: M. Camplani, L. Maddalena, G. Moyà Alcover, A. Petrosino, L. Salgado, *A Benchmarking Framework for Background Subtraction in RGBD videos*, in S. Battiato, G. Gallo, G.M. Farinella, M. Leo (Eds), *New Trends in Image Analysis and Processing-ICIAP 2017 Workshops*, Lecture Notes in Computer Science, Springer, 2017.

The Darmstadt Noise Dataset

https://noise.visinf.tu-darmstadt.de

"Lacking realistic ground truth data, image denoising techniques are traditionally evaluated on images corrupted by synthesized i. i. d. Gaussian noise. This is quite problematic, since noise in real photographs is not i. i. d. Gaussian and even seemingly minor details of the synthetic noise process, such as whether the noisy values are rounded to integers, can have a significant effect on the relative performance of methods.

"Hence, we present a novel denoising benchmark, the Darmstadt Noise Dataset (DND). It consists of 50 pairs of real noisy images and corresponding ground truth images that were captured with consumer grade cameras of differing sensor sizes. For each pair, a reference image is taken with the base ISO level while the noisy image is taken with higher ISO and appropriately adjusted exposure time. The reference image undergoes a careful post-processing entailing small camera shift adjustment, linear intensity scaling and removal of low-frequency bias. The post-processed image serves as ground truth for our denoising benchmark.

Left: Ground truth image shot at low ISO.
Right: Noisy image shot at high ISO

"Features

- "Benchmark consisting of 50 high-resolution images with realistic image noise.
- "We used four different consumer cameras with differing sensor sizes: A Sony A7R (full-frame), an Olympus OMD E-M10 (Micro Four-Thirds), a Sony RX100 IV (1 inch) and a Nexus 6P (1/2.3 inch)
- "Scenes include typical photographs as well as challenging structures.
- "Data is provided as RAW and sRGB intensities (after applying custom camera processing pipeline).
- "Evaluation is done in RAW space and sRGB space."

Citation information:
The paper: Tobias Plötz and Stefan Roth, *Benchmarking Denoising Algorithms with Real Photographs*, CVPR 2017

From the ExCo

News from the Executive Committee of the IAPR

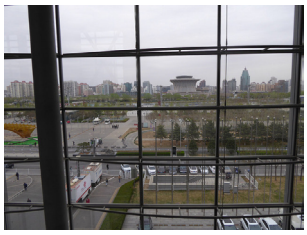
by Alexandra Branzan Albu (Canada)
IAPR Secretary

Victoria, April, 2018

ICPR 2018 Registration

With ICPR 2018 registration open *http://www.icpr2018.org/index.php?m=content&c=index&a=lists&catid=22*, it's time to start planning your trip to Beijing. These highlights from IAPR Second Vice-President Edwin Hancock's report on his recent visit to the China National Conference Centre in Beijing should add some motivation:

- Taxis from the airport are inexpensive and take about 1 hour. There is also a direct metro link to Beijing South Station, with superfast trains to major cities in China.
- The conference centre connects to the conference hotel by a private subway and there is also a new metro station for the centre, which is at the intersection of lines 8 and 15. Close by the conference centre there is a large shopping mall with a variety of restaurants.
- The conference centre is very modern—with state-of-the-art facilities—and abuts the 2008 Olympic Park, with iconic buildings like the Birds Nest Stadium and the Aquatic Centre close by and visible from the light and airy concourses.
- Within the venue, delegates pass up a long escalator through a glass atrium with panoramic views of the concourses and Olympic Park to the Third Floor, where our main meeting and exhibition area is located. The plenary lecture room is on Fourth Flour. This consists of a large hall with comfortable seating for several thousand delegates. This hall will be used for the opening ceremony, and the morning plenary sessions – including the three prize lectures and six invited speakers. There will be a stage for the speakers with a large LCD screen behind, and state of the art AVC systems. An adjacent room will be used for the conference reception and banquet.
- The conference centre will make an ideal venue to meet up with old friends, make new ones and catch up with the latest developments in our field. Cheng-Ling Liu and his colleagues are doing an excellent job preparing for the arrival of delegates in August. Beijing abounds with all sorts of possibilities, including amazing food, thousands of years of heritage and culture, and stunning sights like the Forbidden City and the Great Wall. See you in August!



On the subject of ICPR 2018, nominations are being taken until April 30th for the 2018 J. K. Aggarwal Prize to be presented at the conference. Please see *http://www.iapr.org/fellowsandawards/awards_aggarwal.php.*

In other news, the ExCo would like to announce a new agreement with Springer. Through this agreement, proceedings of meetings endorsed or sponsored by the IAPR that have been published by Springer will be made freely available four years after publication. Here's a list of what's available now: *http://www.iapr.org/publications/springer.php*.

This issue of the IAPR Newsletter introduces a new feature series, "An IAPR Her Story" that spotlights women of the IAPR. In the inaugural article, Gabriella Sanniti di Baja shares some of her life experiences. There are also many meeting reports plus reports and announcements from several IAPR Technical Committees in addition to the other regular features. Happy reading!

IAPR Technical Committee News

This section the IAPR Newsletter *publishes 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*

In this issue:

IAPR TC1 - Statistical Pattern Recognition Techniques

http://iapr-tc1.diee.unica.it

Battista Biggio, University of Cagliari, Italy, Chair
Luis Muñoz-González, Imperial College London, Vice Chair

IAPR TC1 on Statistical Pattern Recognition Techniques aims to promote interaction and collaboration among researchers working directly in statistical pattern recognition and machine learning but also among those specialized in other fields using or developing statistical techniques. More information about our objectives and activities can be found at our constantly-updated website *http://iapr-tc1.diee.unica.it*.

We also have a mailing list to foster the interaction among TC1 members and to announce events, news, and forthcoming conferences and workshops. To subscribe to our mailing list, please, send an email to iapr-tc1+subscribe@*googlegroups.com*.

We are currently involved in the organization of the IAPR Joint International Workshops on Statistical Techniques in Pattern Recognition and Structural and Syntactic Pattern Recognition (S+SSPR 2018), which will be celebrated in Beijing (China) on 17th-19th August 2018. This workshop is jointly organized with IAPR TC2 (Structural and Syntactical Pattern Recognition). Paper submission deadline is 15th April. Please, check the S+SSPR website for further information, *http://ssspr2018.buaa.edu.cn*.

We are happy to announce Professor Edwin Hancock as the winner of the Pierre Devijver Award. Prof. Hancock has a remarkable trajectory with significant scientific merits in pattern recognition and computer vision. He has also provided relevant contributions to the IAPR and to both TC1 and TC2. The award will be announced at S+SSPR 2018 workshop where Prof. Hancock will deliver the Peirre Devijver Award Lecture.

If you are working in this exciting domain areas, and want to be kept up-to-date or maybe contribute to the TC's activities please mail to *battista.biggio@diee.unica.it* or subscribe to our mailing list.

IAPR Then and Now...19 Years Ago
"A New Award"
IAPR Newsletter, Vol. 21 No. 2, Spring 1999

A new award has been created in honour of the memory of the former IAPR President Pierre Devijver, who passed away in December, 1996. After discussions in the ExCo and with the chairman and other members of the Technical Committee TCI (Statistical Pattern Recognition Techniques), it was decided to link the award to this Technical Committee, since Pierre had been predominantly active in the area of Statistical Pattern Recognition. TCl has a well established custom of organising a workshop biennially in conjunction with the ICPR. At this workshop it has been customary to invite a distinguished speaker. The lecture given by the invited speaker will be called the "Pierre Devijver Lecture" and the invited speaker will receive the "Pierre Devijver Award". The selection of the lecturer, the responsibility of TCl, will be regarded as a great honour.

More IAPR Technical Committee News

IAPR TC3 Neural Networks & Computational Intelligence
http://iapr-tc3.diism.unisi.it

Edmondo Trentin, Chair
Markus Hagenbuchner, Vice Chair

Three news items from TC3 this quarter:

First and foremost, we just issued the 2nd Call for Papers and a Call for Special Session proposals for the forthcoming 8th edition of our biennial Workshop on Artificial Neural Networks in Pattern Recognition (ANNPR 2018). ANNPR 2018 will take place in the picturesque medieval city of Siena (Tuscany, Italy) on September 19-21, 2018. We have two confirmed Invited Speakers so far, namely Marco Gori (*http://www.dii.unisi.it/~marco/*) and Marcello Pelillo (*http://www.dsi.unive.it/~pelillo/*). Check out all the details on the ANNPR 2018 website (*http://annpr2018.diism.unisi.it/index.html*). The deadline of April 29th is approaching fast, so save the date and submit your latest research: fresh ideas are welcome even in their preliminary stages.

Then, the TC3-endorsed International Conference on Pattern Recognition and Artificial Intelligence (ICPRAI 2018) is about to be held at Concordia University in Montréal (Canada) on May 14-17, 2018. Still in time to register at *http://www.icprai2018.com*

Finally, we invite you to check out our new, constantly-updated website at *http://iapr-tc3.diism.unisi.it*, where you can learn about TC3, access new resources, and possibly join us. At *http://iapr-tc3.diism.unisi.it/Research.html*, in particular, you can find our Manifesto on "off-the-mainstream" research. A better world is still possible.

IAPR TC11 - Reading Systems

http://www.iapr-tc11.org/mediawiki/index.php/IAPR-TC11:Reading_Systems

Dimosthenis Karatzas, Chair
Masakazu Iwamura, Vice Chair

https://twitter.com/iapr_tc11

by Richard Zanibbi, TC11 Communications Officer

Conferences

This spring and summer will be a busy time for TC11. In addition to the Workshop on Document Analysis Systems in April (DAS 2018), the International Conference on Frontiers in Handwriting Recognition (ICFHR 2018) and the Document Analysis and Recognition Track at ICPR 2018 in Beijing are being held in August. There will also be a conference celebrating the 30th Anniversary of the CENPARMI lab at Concordia University (Montreal) in May (ICPRAI 2018). Please join us!

- DAS (Vienna, April 24-27): *https://das2018.cvl.tuwien.ac.at/en*
- ICPRAI 2018 (Montreal, May 13-17): *http://icprai2018.com*
- ICFHR (Niagara Falls, NY, August 5-8): *http://icfhr2018.org*
- ICPR (Beijing, August 20-24): *http://www.icpr2018.org*

Summer School on Document Analysis (SSDA)

The second edition of the TC10/11 Summer School on Document Analysis will be organized by a team headed by Jean-Christophe Burie in La Rochelle, France. Two bids were submitted in response to a Call for Hosting Proposals. The bids were evaluated by the TC Chairs, the General Chair of the previous Summer School, and the TCs' Education Officers. The summer school will be held from July 2 to 6 – details will be shared through the TC11 Newsletter and web pages.

Following TC11

You can join the TC11 mailing list using this link: *https://www.jiscmail.ac.uk/cgi-bin/webadmin?SUBED1=iapr-tc11&A=1*, or follow us on our Twitter feed (#iapr_tc11).

IAPR TC12 Multimedia and Visual Information Systems

http://iapr-tc12.info

Sergio Escalera, Chair
Henning Müller and Martha Larson, Vice Chairs
Hugo Jair Escalante, Information Officer

IAPR TC12 is running a contest and organizing a workshop, Multimedia Information Processing for Personality & Social Networks Analysis Workshop (MIPPSNA 2018), at ICPR 2018. The contest has two associated tracks: (1) Div-Fusion: retrieval result diversification from social media; and (2) HWxPI: Personality recognition from handwritten texts. The former focuses on the development of effective information fusion techniques, and the latter on combining images and text for modeling personality traits. The associated workshop is receiving submissions on related topics (deadline: April 30, 2018), and there will be an associated special issue in a top tier journal, *see http://chalearnlap.cvc.uab.es/workshop/28/description/* for more information. These are IAPR endorsed events, and the workshop will take place on August 20, 2018 in Beijing, China. Looking forward seeing you there!

ChaLearn Looking at People is also organizing an academic competition and workshop in the context of **inpainting of imaged and video sequences**. Recent strategies make use of generative models to impute missing or corrupted data. Participant methods will be evaluated on large, newly collected and annotated datasets related to three realistic scenarios in visual inpainting: Track 1. Image inpainting to recover missing parts of human body *https://competitions.codalab.org/competitions/18423*. Track 2. Video inpainting to remove overlayed text in video clips *https://competitions.codalab.org/competitions/18421*. Track 3. Image denoising and inpainting for fingerprint verification *https://competitions.codalab.org/competitions/18426*. In all cases, the main goal is to generate the visually best possible set of pixels to obtain a complete image or video clip. The challenges are running in the CodaLab platform (*http://codalab.org/*), and results will be presented at the WCCI 2018 conference in Rio de Janeiro, Brazil (*http://www.ecomp.poli.br/~wcci2018/competitions/*) and at a ChaLearn LAP Satellite event at ECCV. Participants obtaining the best results will be invited to submit a paper to an associated event (with post event Springer proceedings) and extended versions to a dedicated Special Issue in a top tier journal (TBA). There will be travel grants and AWS credits for top ranked participants sponsored by Google, Amazon, Disney Research, and ChaLearn.

Eight competitions were accepted to be part of the NIPS 2018 competition program. Sergio Escalera, chair of IAPR TC12 and NIPS 2018 Competitions Co-chair, announced, after a careful review procedure of proposals, the eight challenges that will take place in NIPS this year. Accepted competitions comprise deep learning, natural language, AutoML, and autonomous vehicles. Post proceedings will be published in a volume of the Springer Series on Challenges in Machine Learning *http://www.springer.com/series/15602*.

IAPR TC15 Graph Based Representations
https://iapr-tc15.greyc.fr

Pasquale Foggia, Chair
Luc Brun and Bin Luo, Vice Chairs

TC15 was pleased to receive this email from Rachel Martin, a teacher in an after school educational program.

Ms. Martin's students have shown great initiative in continuing to investigate other ideas even after they had left the classroom.

Well done, Amy and Courtney!

Keep up the good work! And keep exploring and researching and asking questions of those around you.

Hi iapr-tc15.greyc.fr!

My name is Rachel and I volunteer with an after school educational program for a very special group of kids. I came across your website https://iapr-tc15.greyc.fr/links.html while discussing the significance of math and technology to our lives, and in particular, the significance of different discoveries and how they have changed the world!

Two of my kids, Amy and Courtney, found this great page at home that they brought in for me to see about where "measurement" came from! https://www.mtiinstruments.com/knowledge-center/history-of-measurements/

I suggested that they share this with you because it was so relevant to what we were learning and because I want to impress upon them that by reaching out and simply asking others, things can be accomplished that the girls might not otherwise think can.

Rachel Martin, Teacher
Behold the tortoise that only makes progress when it sticks its neck out!

IAPR TC18 Discrete Geometry and Mathematical Morphology
http://www.tc18.org

Bertrand Kerautret, Chair
Michael Wilkinson, Vice Chair
email: tc18@tc18.org

The main objective of IAPR TC18 is to gather research activities around Discrete Geometry (DG) and, since the last ICPR, around Mathematical Morphology (MM). Conferences in these domains (especially DGCI and ISMM) together with the TC18 website offer these opportunities. The website contains major reference works on DG and MM (https://www.tc18.org/educational.php) along with data sets and code repositories (https://www.tc18.org/code_data_set/data_code.php). Following the TC18 meeting at the main conferences, the open problems and their code/data resources are updated and new implementations are forked from the new TC18 GitHub repository (https://github.com/TC-18).

Related to TC18, the second workshop on Reproducible Research in Pattern Recognition (RRPR) will be organized in conjunction with the next edition of ICPR in Beijing (website: https://rrpr2018.sciencesconf.org). A special focus on Discrete Geometry and Mathematical Morphology is proposed. The ICPR authors can submit companion papers to focus on the reproducibility aspect of their work (implementation details of the algorithms, parameter influence, potential limitations, etc). The authors of ICPR papers are also invited to submit their source code in order to obtain a "Reproducible Label" badge that can be attached to the camera ready version. See more details here: https://rrpr2018.sciencesconf.org/resource/page/id/5. This workshop provides the opportunity to present and discover new ways to perform Reproducible Research in the field of Pattern Recognition, for instance, with the presentation/tutorial of automatic demonstration systems, as the demo system of the IPOL journal (http://www.ipol.im). You can follow the Twitter account for more news (@RRPR_Workshop).

After this workshop, the main events coming up are: the Call for Papers for the next DGCI, which will take place at ESIEE Paris in spring 2019, followed by ISMM in Munich.

ICPR 2018

See you in Beijing!!!!

Registration is now open!

24th INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION

In Beijing, China — August 20-24, 2018

www.icpr2018.org

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.

GENERAL CHAIRS:

Tieniu Tan (China), Josef Kittler (UK), Anil Jain (USA)

PROGRAM CHAIRS:

Cheng-Lin Liu (China), Rama Chellappa (USA), Matti Pietikäinen (Finland)

TRACKS and TRACK CHAIRS:

Track 1: Pattern Recognition and Machine Learning

Dacheng Tao (Univ. of Technology Sydney, Australia)
Daniel Lee (University of Pennsylvania, USA)
Marcello Pelillo (University of Venice, Italy)
Sergios Theodoridis (Univ. of Athens, Greece)

Track 2: Computer Vision

Hongbin Zha (Peking University, China)
Takayuki Okatani (Tohoku University, Japan)
Krystian Mikolajczyk (Imperial College, UK)
Ming-Hsuan Yang (UC Merced, USA)

Track 3: Speech, Image, Video and Multimedia

Changsheng Xu (Inst. of Automation of CAS, China)
Theo Gevers (Univ. of Amsterdam, The Netherlands)
Bhiksha Raj (Carnegie Mellon University, USA)
Yi Yang (University of Technology Sydney, Australia)

Track 4: Biometrics and Human Computer Interaction

Zhenan Sun (Institute of Automation of CAS, China)
Arun Ross (Michigan State University, USA)
Massimo Tistarelli (University of Sassari, Italy)
Brian Lovell (University of Queensland, Australia)

Track 5: Document Analysis and Recognition

Koichi Kise (Osaka Prefecture University, Japan)
Venu Govindaraju (SUNY Baffalo, USA)
Simone Marinai (University of Firenze, Italy)
Apostolos Antonacopoulos (University of Salford, UK)

Track 6: Biomedical Imaging and Bioinformatics

Tianzi Jiang (Institute of Automation of CAS, China)
Dimitris Metaxas (Rutgers University, USA)
Elena Marchiori (Radboud Univ., The Netherlands)
Seong-Whan Lee (Korea University, Korea)

WORKSHOPS, TUTORIALS & CONTESTS

To take place August 20, 2018,
immediately before the main conference

Workshop Co-chairs:

Zhaoxiang Zhang (China)
David Suter (Australia)
Yingli Tian (USA)

Tutorial Co-chairs:

Greg Mori (Canada)
Zhouchen Lin (China)

Contest Co-chairs:

Dimosthenis Karatzas (Spain)
Xiang Bai (China)

Important Links:

Main conference: *www.icpr2018.org*

Registration: *http://www.icpr2018.org/index.php?m=content&c=index&a=lists&catid=22*

Program Overview: *http://www.icpr2018.org/index.php?m=content&c=index&a=lists&catid=18*

Workshops: *http://www.icpr2018.org/index.php?m=content&c=index&a=lists&catid=46*

Tutorials: *http://www.icpr2018.org/index.php?m=content&c=index&a=lists&catid=45*

Contests: *http://www.icpr2018.org/index.php?m=content&c=index&a=lists&catid=42*

Meeting Reports

Conferences, Workshops & Summer Schools

General Chair:
Robert Jenssen (UiT The Arctic University of Norway)

Program Chairs:
Puneet Sharma (UiT The Arctic University of Norway)
Filippo Maria Bianchi (UiT The Arctic University of Norway)

Program Co-Chairs:
Arnt-Børre Salberg (Norwegian Computing Center)
Jon Yngve Hardeberg (Norwegian University of Science and Technology)
Trym Vegard Haavardsholm (Norwegian Defense Research Establishment)

by Robert Jenssen, General Chair of SCIA 2017 and President of the Norwegian Image Analysis and Pattern Recognition Society (NOBIM *http://nobim.no/*)

SCIA 2017 was organized on the "north pole" in Tromsø, Norway, by the UiT Machine Learning Group *http://site.uit.no/ml* on behalf of NOBIM. Tromsø is a major cultural hub above the Arctic Circle (at 70 degrees north) and it is the northernmost city in the world with a population above 50,000. It is famed as a viewing point for colourful Northern Lights in the winter and midnight sun during summer time.

The SCIA biennial conference series is organized in turns by the Norwegian, Swedish, Finnish, and Danish pattern recognition societies under the auspices of the International Association of Pattern Recognition (IAPR).

There were around 150 participants in total at SCIA 2017. The Danish and Swedish contingents were the largest, followed by the Norwegian, the German, the Finnish, and the one from the US. However, there were participants also from the Czech Republic, Australia, Italy, Hungary, UK, Poland, Japan, Romania, Greece, and Spain – a truly international crowd.

A tutorial was organized on June 11, the day before the start of the main conference. Michael Felsberg from Linkøping University gave the tutorial, entitled "Deep Visual Features - Selection, Fusion, and Compression with Applications in Visual Object Tracking".

In the evening after the tutorial, an ice breaker was organized at the Polaria museum in the city center.

After the welcome by the general chair, the main conference was kicked off by the IAPR President Ingela Nyström and the IAPR Seretary Alexandra Branzan-Albu. Thereafter, SCIA veteran Ewert Bengtsson from Uppsala University gave a special invited talk on the "20th SCIA Edition – 37 Years of History in Image Analysis". Bengtsson has been present at all 20 SCIA conferences.

There were four additional invited keynote speakers. First out was

the IAPR invited speaker Klaus-Robert Müller from the Technical University of Berlin, with the talk "Machine Learning

and AI for the Sciences – Towards Understanding." Thereafter, Henrik

Christensen from the University of California, San Diego, gave the talk "Vision of Everyday Service Tasks." Jeremy Wolfe from Harvard Medical School presented "The Incidental Gorilla: What can the Science of Visual Attention tell us about the Art of Radiology?".

Finally, Gustau Camps-Valls from the University of Valencia delivered the talk "Physics-Aware Gaussian Processes for Earth Observation".

Out of 140 submissions, 87 were accepted for publication in the proceedings (Springer Lecture Notes in Computer Science - acceptance rate 63%). Out of these, 33 were oral presentations and 54 were poster presentations. This resulted in a varied program covering basic research in image analysis, pattern recognition and machine learning, as well as applied and industrial research in image analysis.

The best paper award was sponsored by the company Tobii, and was awarded to Markus Ylimaki, Juho Kannala, and Janne Heikkila for their paper "Robust and Practical Depth Map Fusion for Time-of-Flight Cameras".

The best student paper award was won by Michael Kampffmeyer for his paper "Deep Kernelized Autoencoders".

Following tradition, the Best Nordic PhD Thesis Award (for 2015-2016) was also presented at SCIA. The award went to Çağlar Aytekin for the thesis "A Quantum Mechanical Spectral Graph Partitioning Method for Salient Object Detection". (*Editor's note: in 2015, Çağlar Aytekin was a contributor to the "IAPR...The Next Generation" series of the* IAPR Newsletter. *Please see [37:4].*)

Social events included an evening trip to the mountain Fløya with the cable car, watching spectacular midnight sun and having dinner at the restaurant at the mountain top. In addition, there was a banquet dinner at the conference venue, the Scandic Ishavshotel, located in the Tromsø harbour.

SCIA was endorsed by the IAPR. SCIA was also sponsored by several companies and research institutions:

- Tobii
- The Norwegian Computing Center
- Sintef
- Norut
- UiT The Arctic University of Norway.

In addition, the conference received generous funding from the Research Council of Norway.

At the conference dinner, representatives from the Swedish Pattern Recognition Society announced that the 21th Scandinavian Conference on Image Analysis will be held at Linköping University, at the campus in Norrköping, in 2019.

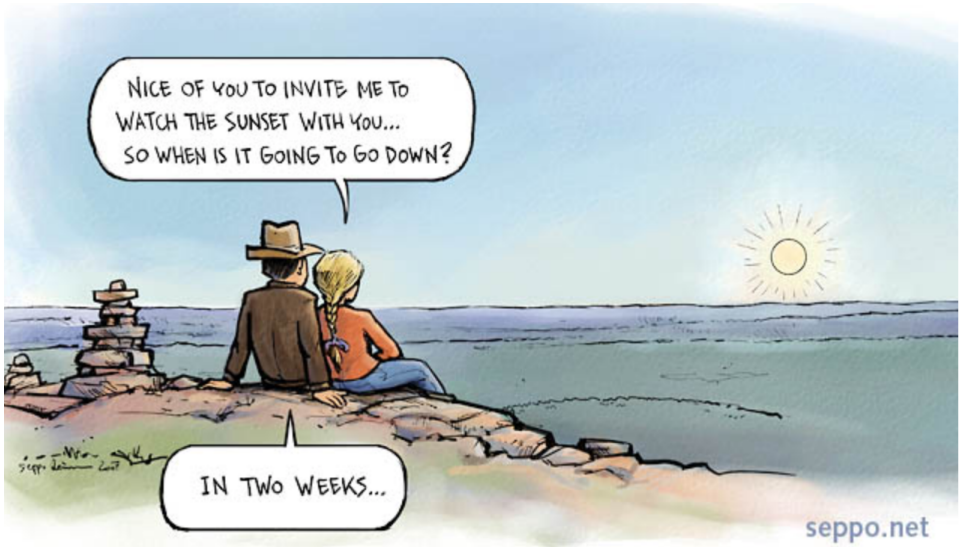
Thank you to all participants at SCIA 2017!

Conference Proceedings

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

The Proceedings are also available online at **Springer**Link

Part 1: *https://link.springer.com/book/10.1007/978-3-319-59126-1*
Part 2: *https://link.springer.com/book/10.1007/978-3-319-59129-2*



General Chairs:
Sebastiano Battiato (University of Catania, Italy)
Giovanni Gallo (University of Catania, Italy)

Program Chairs:
Raimondo Schettini (University of Milan-Bicocca, Italy)
Filippo Stanco (University of Catania, Italy)

by the General and Program Chairs

The 2017 International Conference on Image Analysis and Processing, ICIAP 2017, was the 19th edition of a series of conferences promoted biennaly by the Italian Member Society (GIRPR) of the International Association for Pattern Recognition (IAPR). The conference traditionally covers both classic and the most recent trends in image processing, computer vision, and pattern recognition, addressing both theoretical and applicative aspects, promoting connections and synergies among senior scholars and students, universities, research institutes, and companies. ICIAP 2017 was held in Catania in the Benedictine Monastery of San Nicolò l'Arena. The monastery is a UNESCO World Heritage Site and today it hosts the Department of Humanities (DISUM) of the University of Catania. The conference was organized by Image Processing Laboratory, Department of Mathematics and Computer Science (DMI) of the University of Catania. Moreover, ICIAP 2017 was endorsed by the International Association for Pattern Recognition (IAPR), the Italian Member Society of IAPR (GIRPR), and received the institutional support of the University of Catania. Notable sponsorships came from several industrial partners such as STMicroelectronics, Micron, and iCTLab.

The program was subdivided into eight main topics, covering a broad range of scientific areas, which were managed by two area chairs per each topic. They were: Biomedical and Assistive Technology; Image Analysis, Detection and Recognition; Information Forensics and Security; Imaging for Cultural Heritage and Archaeology; Multimedia; Multiview Geometry and 3D Computer Vision; Pattern Recognition and Machine Learning; and Video Analysis and Understanding. Moreover, we hosted several prominent companies as well as start-ups to show their activities while assessing them with respect to the cutting-edge research in the respective areas.

ICIAP 2017 received 229 paper submissions coming from all over the world, including Australia, Austria, Brazil, Canada, China, Colombia, Cuba, France, Germany, Hungary, Iran, Ireland, Italy, Israel, Japan, Korea, Kuwait, Malaysia, Mexico, Poland, Portugal, Romania, Russia, Saudi Arabia, Serbia, Spain, South Africa, The Netherlands, Tunisia, Turkey, UK, USA. The paper review process was managed by the program chairs with the invaluable support of 15 area chairs, together with the Program Committee and a number of additional reviewers. The peer-review selection process was carried out by three distinct reviewers in most cases. This led to the selection of 138 high-quality manuscripts, 23 oral presentations, and 115 interactive papers/posters, with an overall acceptance rate of about 60% (about 10% for oral presentations). The ICIAP 2017 proceedings are published as volumes of the Lecture Notes in Computer Science (LNCS) series by Springer (Vol. 10484 and Vol. 10485).

The program also included five invited talks by distinguished scientists in computer vision pattern recognition and image analysis. We enjoyed the plenary lectures of Daniel Cremers (Technische Universität München), Irfan Essa (Georgia Institute of Technology), Fernando Peréz-González (University of Vigo), Nicu Sebe (University of Trento), Roberto Scopigno (ISTI-CNR), and Alain Trémeau (University Jean Monnet) all of whom addressed very interesting and recent research approaches and paradigms, such as deep learning and semantic scene understanding in computer vision, multimedia forensics, and applications in the field of color retrieval and management and cultural heritage.

ICIAP 2017 also included five tutorials and seven workshops on a variety of topics, held on the two days before the main conference. The organized tutorials were: "Virtual Cell Imaging (Methods and Principles)" by David Svoboda; "Image Tag

Assignment, Refinement, and Retrieval" by Xirong Li, Tiberio Uricchio, Lamberto Ballan, Marco Bertini, Cees Snoek, Alberto Del Bimbo; "Active Vision and Human Robot Collaboration" by Dimitri Ognibene, Fiora Pirri, Guido De Croon, Lucas Paletta, Mario Ceresa, Manuela Chessa, Fabio Solari; "Humans Through the Eyes of a Robot: How Human Social Cognition Could Shape Computer Vision" by Nicoletta Noceti and Alessandra Sciutti. There was a special session, "Imaging Solutions for Improving the Quality of Life (I-LIFE'17)," organized by Dan Popescu and Loretta Ichim, with eight interesting works selected by the organizers.

ICIAP 2017 also hosted seven half- or full-day satellite workshops: the "First International Workshop on Brain-Inspired Computer Vision (WBICV 2017)" organized by George Azzopardi, Laura Fernández-Robles, Antonio Rodríguez-Sánchez; "Third International Workshop on Multimedia Assisted Dietary Management (MADiMa 2017)" organized by Stavroula Mougiakakou, Giovanni Maria Farinella, Keiji Yanai; "Social Signal Processing and Beyond (SSPandBE 2017)" organized by Mariella Dimiccoli, Petia Ivanova Radeva, Marco Cristani; "Natural Human–Computer Interaction and Ecological Perception in Immersive Virtual and Augmented Reality (NIVAR 2017)" organized by Manuela Chessa, Fabio Solari, Jean-Pierre Bresciani; "Automatic Affect Analysis and Synthesis" organized by Nadia Berthouze, Simone Bianco, Giuseppe Boccignone, Paolo Napoletano; "International Workshop on Biometrics As-a-Service: Cloud-Based Technology, Systems, and Applications" organized by Silvio Barra, Arcangelo Castiglione, Kim-Kwang Raymond Choo, Fabio Narducci; "Background Learning for Detection and Tracking from RGBD Videos" organized by Massimo Camplani, Lucia Maddalena, Luis Salgado. The workshop papers were all collected in a separate volume of the LNCS series by Springer (Vol. 10590).

We thank all the workshop organizers and tutorial speakers who made possible such an interesting pre-conference program.

Several awards were conferred during ICIAP 2017.

- The "Eduardo Caianiello" Award was attributed to the best paper authored or co-authored by at least one young researcher (PhD student, postdoc, or similar). This was assigned to the paper "Just DIAL: Domain alignment Layers for Unsupervised Domain Adaptation" co-authored by Fabio Maria Carlucci, Lorenzo Porzi, Barbara Caputo,Elena Ricci and Samuel Rota Bulò.
- A Best Paper Award was also assigned after a careful selection made by an ad hoc appointed committee provided by Springer and IAPR. This was assigned to the paper "Virtual EMG via facial video analysis" co-authored by Giuseppe Boccignone, Vittorio Cuculo, Giuliano Grossi, Raffaella Lanzarotti, Raffaella Migliaccio.

Also a special mention was given to the following works:

- "A Compact Kernel Approximation for 3D Action Recognition" Jacopo Cavazza, Pietro Moreiro, Vittorio Murino
- "PRNU-based forgery localization in a blind scenario" - Davide Cozzolino, Francesco Marra, Giovanni Poggi, Carlo Sansone, Luisa Verdoliva
- "Learning to Map Vehicle into Bird's Eye View"- Andrea Palazzi, Guido Borghi, Davide Abati, Simone Calderara, Rita Cucchiara
- Food Recognition using Fusion of Classifiers based on CNNs - Eduardo Aguilar, Marc Bolanos, Petia Radeva

The organization and the success of ICIAP 2017 were made possible thanks to the cooperation of many people. First of all, special thanks should be given to the area chairs, who, with all the members of the PC, made a big effort on the selection of the papers. Second, we would also like to thank the industrial, special session, publicity, publication, and Asia and US liaison chairs, who, operating in their respective fields, made this event a successful forum of science. Special thanks go to the workshop and tutorial chairs as well as all workshop organizers and tutorial lecturers for enriching the conference program with notable satellite events. Last but not least, we are indebted to the local Organizing Committee, mainly colleagues from IPLAB, who dealt with almost every aspects of the conference. Thanks very much indeed to all the aforementioned people.

We hope that ICIAP 2017 met its aim to serve as a basis and inspiration for future ICIAP editions.

Conference Proceedings

The Proceedings are also available online at

SpringerLink

Part 1: https://link.springer.com/book/10.1007/978-3-319-68560-1

Part 2: https://link.springer.com/book/10.1007/978-3-319-68548-9

Workshops: https://link.springer.com/book/10.1007%2F978-3-319-70742-6

General Chairs:
Ross Beveridge (Colorado State University, USA)
Liang Wang (Chinese Academy of Sciences, China)
Mark Nixon (University of Southampton, UK)
Program Chairs:
Olga Bellon (Universidade Federal do Paraná, Brazil)
Jean-Luc Dugelay (EURECOM, France)
Vishal Patel (Rutgers University, USA)
Walter Scheirer (University of Notre Dame, USA)

by Ross Beveridge, General Co-Chair

IJCB 2017 combines two major biometrics research annual conferences, the Biometrics Theory, Applications and Systems (BTAS) conference and the International Conference on Biometrics (ICB). IJCB 2017 presents a major, authoritative event, bringing the worldwide biometrics research community into a single location to report and discuss recent progress in the field. In 2017 the venue for IJCB was the Denver Marriott Tech Center hotel. The blending of these two conferences in 2017 was through special agreement between the IEEE Biometrics Council and the IAPR TC-4.

There were two tutorials offered on October 1st, 1) "Heterogeneous Face Recognition (HFR): Infrared-to-Visible Matching", and 2) "Bob's Biometric Recognition Framework - A Hands-on Tutorial with Face Recognition Examples".

On October 1st, there was also a special session on the Future of Biometrics organized by the IEEE Biometrics Council. The well-attended meeting included a keynote from Prof. Rama Chellappa and a panel discussion. Prof. Mark Nixon, President of the Biometrics Council, chaired the panel discussion with panelists Prof. Josef Kittler, Prof. Venu Govindaraju, and Prof. Terry Boult.

The main program was made possible through the hard work of the Program Chairs along with the help of 140 reviewers. IJCB 2017 received 183 submissions and based on recommendations of the reviewers 101 papers were accepted; the final acceptance rate was 45%. Of these, 40 were given time for full oral presentations and the remaining 61 works were presented both in morning poster highlights sessions and afternoon poster sessions. Oral presentations were spread over 6 area focused sessions, 2 special sessions and 1 session reporting on competitions held in conjunction with IJCB 2017. The special session topics were: 1) Linking Biometrics with Forensics, and 2) Ocular Biometrics in the Visible Spectrum.

The conference also included three keynote speeches. They were 1) John F. Sheets, "Enabling Payments: From What You Have to Who You Are", 2) James Ferryman, "Biometrics at the Border – Challenges, Progress, Future", 3) Alvaro Bedoya, "Regulating Face Recognition: Integrating Lessons from Science and Policy into a Commonsense Framework to Protect Privacy, Civil Rights, and Civil Liberties". There was also a special keynote talk by Julian Fierrez, the recipient of the 2017 IAPR Young Biometrics Investigator Award.

Several works presented at IJCB were highlighted for special recognition. The Best Paper Award went to "Multi-View 3D Face Reconstruction with Deep

Recurrent Neural Networks" by Pengfei Dou and Ioannis Kakadiaris. The Best Paper Runner-up Award went to "Towards Open-Set Face Recognition using Hashing Functions" by Rafael Vareto, Samira Silva, Filipe Costa and William Schwartz. The IAPR Best Biometrics Student Paper went to "On the Vulnerability of ECG Verification to Online Presentation Attacks" by Nima Karimian, Damon Woodard and Domenic Forte. The Best Student Paper Runner-up Award went to "Fingerprint Pose Estimation Based on Faster R-CNN" by Jiahong Ouyang, Jianjiang Feng, Jiwen L and Jie Zhou. The Best Poster Award on Monday went to "Full 3D Touchless Fingerprint Recognition: Sensor, Database and Baseline Performance" by Javier Galbally, Gunnar Bostrom and Laurent Beslay. The Best Poster Award on Tuesday went to "Gender and Ethnicity

Julian Fierrez receiving the 2017 IAPR Young Biometrics Investigator Award is award; in the photo from left to right are: Ross Beveridge, Jullian Fierrez, Walter Scheirer, Arun Ross and Mark Nixon

Classification of Iris Images using Deep Class Encoder" by Maneet Singh, Shruti Nagpal, Mayank Vatsa, Richa Singh, Afzel Noore, and A. Majumdar. The Best Poster Award for Wednesday went to "Synthetic Iris Presentation Attack via iDCGAN" by Naman Kohli, Daksha Yadav, Mayank Vatsa, Richa Singh and Afzel Noore.

Finally, IJCB 2017 was generously co-sponsored by industry. In particular, on behalf of all those who enjoyed and benefitted from the conference the conference organizers would like to thank ZKAccess for being a Gold Level Conference Sponsor, Progeny for being a Silver Level Conference Sponsor and Cognitec for being a Bronze Level Conference Sponsor.

IJCB 2017 Proceedings are available through

IEEE Xplore® Digital Library

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http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=8263072

Editor's note:
In the course of laying out this report for publication, the IARP Newsletter *learned that some IAPR Fellows had recently been honored by the IEEE Biometrics Council. Professor Mark Nixon was elected as its President in 2016, and Professors Rama Chellappa and Kevin Bowyer both received prestigious awards. We would like to take this opportunity to congratulate all of them.*

~ Arjan Kuijper, IAPR Newsletter *Editor-in-Chief*

Professor Mark Nixon

Professor Rama Chellapa received the IEEE Biometrics Council Leadership Award 2016

Professor Kevin Bowyer received the IEEE Biometrics Council Meritorious Service Award 2017

General Chairs:
Marcelo Mendoza, Universidad Técnica Federico Santa María, Chile
Sergio Velastin, Universidad Carlos III, Spain

by the General Chairs

Preliminary words
CIARP 2017 was endorsed by the IAPR, the International Association for Pattern Recognition, and it was the 22nd in the CIARP series of annual international conferences devoted to all aspects of pattern recognition, image processing, computer vision, multimedia, and related fields.

The conference was held over four days and consisted of presentations of 86 papers (oral and poster) and four keynotes.

We would like to thank all the members of the Program Committee for their work, which we are sure contributed to improving the quality of the selected papers.

CIARP was possible because of our sponsoring organizations: Department of Informatics at Universidad Técnica Federico Santa María, the Chilean Association of Pattern Recognition, and the International Association of Pattern Recognition. We thank all the people involved in this conference and the

Steering Committee of CIARP. We would like to thank especially the members of our local Organizing Committee for helping us in the organization of the conference.

The conference process
Diffusion, Call for Papers and Program Committee: The work started at the annual meeting of CIARP 2016, where the steering committee of CIARP decided to hold CIARP 2017 in Valparaíso, Chile, under the tuition of the Chilean Association of Pattern Recognition (*http://www.achirp.org*). The conference site was released in November 2016 (*http://www.ciarp2017.org*), and, in December, the program committee was defined and published at the conference site and the first call for papers was released. The Program Committee was composed of 83 international reviewers.

A second call for papers was released during February. Then a last call for papers was published during April. The deadline of the conference for these three CfPs was defined as 21 May. Finally, the deadline was extended to 9 June. 156 papers were submitted to the conference site through EasyChair.

Each submission was reviewed by three Program Committee members, using a double-blind

reviewing process. The reviewers were chosen based on their expertise, ensuring that they came from different countries and institutions around the world.

A paper bidding process was conducted during one week and finally the papers were assigned according to the paper bidding process by the General Chairs of the conference (Marcelo Mendoza and Sergio Velastín). Based on the reviews, a total of 87 papers were selected for CIARP. Notification of acceptance was done the 1 August 2017.

Keynote speakers: Four keynote speakers were included in the program:

- Prof. Aaron Courville of the University of Montreal, Canada, spoke about "Deep Generative Models"
- Gert Lanckriet, principal researcher at Amazon, USA, gave a talk entitled "Search and Recommendation from Millions of Songs and Videos"
- Ingela Nyström of Uppsala University in Sweden, presented "Interactive Image Segmentation and Visualization for Cranio-Maxilofacial Surgery Planning and Orthopedic Applications", and
- Nello Cristianini of the University of Bristol in the UK, discussed "Artificial Intelligence and Our Obsession for Data"

It was a pleasure to work with this outstanding group of invited speakers. We would like to also thank Professor José Ruiz Schulcloper for his keynote during the CIARP student consortium.

Registration: 101 persons registered in the conference. From the 87 papers selected for inclusion in CIARP, 86 papers were presented in the plenary. In addition, some of them were also included to present the work using posters. In total the conference included the four keynotes and 86 presentations. An important note about the program: Papers selected to expose the work as posters were also included in the plenary with short presentations of five minutes.

CIARP awards: CIARP 2017 declared that the paper "Semi supervised online kernel semantic embedding for multi-label annotation" authored by Jorge Vanegas, Fabio González and Hugo Jair Escalante as the winner of the IAPR Best Paper Award. This paper was the paper with the highest review scores by the Program Committee. The award was announced during the conference. The award consist of a cash prize and a certificate.

CIARP 2017 declared that "Olga Regina Pereira Bellon", member of the Brazilian Association of Pattern Recognition has won the Aurora Pons-Porrata Award for her contributions to the field of pattern recognition. The award was announced during the conference. The award consisted of a cash prize, a certificate and the APP Medal.

Annual meeting of the steering committee: During the annual CIARP steering committee developed during the conference we decided to allocate CIARP 2018 in Madrid, Spain.

Statistics

Program Committee:

- 83 reviewers
- International: Ar (5), Au (1), Aus (1), Br (14), Ca (2), Cl (13), Co (1), Cu (3), Cz (1), De (1), Fr (1), Hu (1), It (6), Jp (1), Ma (1), Mx (5), Pt (2), Sp (15), Sw (1), UK (2), Ur (4), US(4), Tu (1)

Papers:

• Submissions	156
• Accepted	87
• Acceptance rate	0.56
• Accepted (full)/rate	48 / 0.31
• Accepted (short)/rate	39 / 0.25
• Reviews	431
• External reviewers	51
• External reviews	64

Conference Proceedings

The Proceedings are also available online at

SpringerLink

https://link.springer.com/book/10.1007/978-3-319-75193-1

23rd Iberoamerican Congress on Pattern Recognition
Madrid, Spain
November 5-8, 2018

Paper Submission Deadline: May 15, 2018

General Chairs:
Larry Davis, University of Maryland, USA
Antonio Robles-Kelly, NICTA, Australia
Xinguo Yu, Central China Normal University, China

by Xinguo Yu

The eighth edition of the Pacific-Rim Symposium on Image and Video Technology (PSIVT) was held in Wuhan, a beautiful city located in the middle of China. After Taiwan, Chile, Japan, Singapore, South Korea, Mexico and New Zealand, the PSIVT steering committee decided to organize the biennial conference on the western side of the Pacific Rim, for the fifth time in the conference history.

The conference was organized by National Engineering Research Center for E-Learning and the Central China Normal University Wollongong Joint Institute. Central China Normal University is a comprehensive and prestigious university on the list of the “National 211 Priority Project”.

Wuhan is known as "the nine provinces' leading thoroughfare"; it is a major transportation hub, with dozens of railways, roads and expressways passing through the city. And there are a lot of scenic spots, such as Yellow Crane Tower, Wuhan Yangtze River Bridge, and Wuhan East Lake Scenic Area. Wuhan is composed of three towns, namely, Hankou, Hanyang, and Wuchang. The main conference was held in the Central China Normal University in Wuchang.

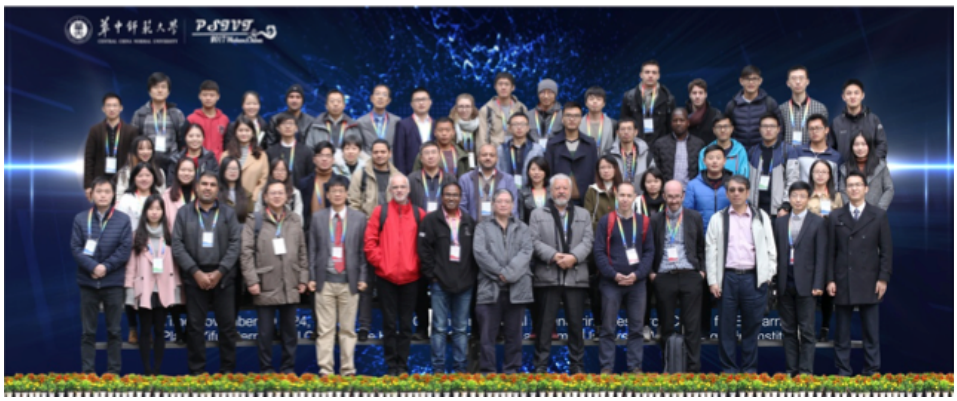
The PSIVT 2017 call for papers attracted a record number of 92 paper submissions, and the five workshops received 103 submissions. We are very thankful to the reviewers for their excellent work. The papers were reviewed by a program committee composed of four program chairs and 86 technical reviewers. A double-blind and rebuttal phase composed the whole review process, which was closely supervised by the PSIVT 2017 Program Chairs. As a result, 19 papers were accepted for oral presentation and 20 papers were accepted for poster presentation, with acceptance rates of 21% for oral presentations and 43% overall. The presented works were of very high quality.

The best paper prize was awarded to the paper: "Continuous Motion Recognition in Depth Camera based on Recurrent Neural Networks and Grid-based Average Depth" by Tao Rong, Rui Yang and Ruoyu Yang.

The best presentation paper prize was awarded to: "Auto-calibration method for active 3D endoscope system using silhouette of pattern projector" by Ryo Furukawa, Masahito Naito, Daisuke Miyazaki, Masahi Baba, Shinsaku Hiura, Yoji Sanomura, Shinji Tanaka and Hiroshi Kawasaki.

The best paper runner-up prize was awarded to: "Unsupervised Domain Adaptation with Robust Deep Logistic Regression" by Guangbin Wu, Weishan Chen, Wangmeng Zuo and David Zhang.

The success of PSIVT 2017 can



also be attributed to the four great keynotes that we had. We are very grateful to the keynote speakers:

- Xiaoyi Jiang gave an overview of "Biomedical Imaging: A Galisonian Perspective for Sciences".
- Domingo Mery gave an overview of "Modern Computer Vision Techniques for X-ray Testing in Baggage Inspection".
- Martin Constable gave an overview of "Color Contrast in the Aesthetic Image: An examination of the complex ways that color contrast manifests in paintings".
- Shuicheng Yan gave us an overview of "Deep Learning towards on-device Visual Analytics".

Also, five workshops were organized in the days preceding the conference:

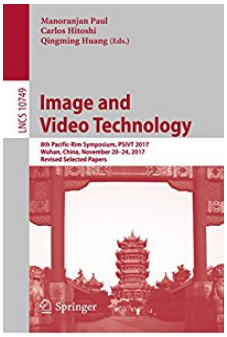
- Human Behavior Analysis (HBA).
- Passive and Active Electro-Optical Sensors for Areal and Space Imaging (PAEOSASI).
- Computer Vision and Modern Vehicles (CVMV).
- Educational Cloud and Image and Video Enriched Cloud Services (ECIVECS).
- Vision meets Graphics (VMG).

There is a long list of people we would like to thank for contributing to the success of the symposium. We thank the keynote speakers, authors, and presenters who contributed actively to the symposium program. Of course, we also thank everyone on the Organizing Committee, area chairs, workshop organizers, student volunteers, and Event Services of Central China Normal University. We thank the International Association for Pattern Recognition (IAPR) for endorsing the event, and Springer's Lecture Notes in Computer Science, for having the main conference and the workshop papers published as post-conference LNCS volumes. We also thank our sponsors, the National Engineering Research Center for E-learning, Central China Normal University Wollongong Joint Institute and Wuhan Jingtian Electrical, Co., Limited.

We think that PSIVT 2017 was a great conference both scientifically and socially, and we would like to say good luck for our next conference. Please consult our webpage for more information at: *http://www.psivt2017.org/*.

Conference proceedings

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



IAPR Then and Now...IAPR Fellows

Two of the invited speakers at PSIVT 2017 are IAPR Fellows who have been featured in the Getting to Know...IAPR Fellows series of this newsletter.

~ Arjan Kuijper, Chair , IAPR Publications and Publicity Committee and EiC, IAPR Newsletter

Getting to know...Xiaoyi Jiang, IAPR Fellow
Toward biomedical imaging,
a fortunate journey
IAPR Newsletter, Vol. 36 No. 2

Getting to know...Shuicheng Yan, IAPR Fellow
Theory and application
bring double satisfaction
IAPR Newsletter, Vol. 38 No. 3

General Chairs:
Cheng-Lin Liu (Chinese Academy of Sciences, China)
Seong-Whan Lee (Korea University, Korea)
Jing-Yu Yang (Nanjing University of Science and Technology, China)

by Jianfeng Lu and Chen Gong, Nanjing University of Science and Technology, China

ACPR 2017 is the fourth edition in the series, with the first in 2011 in Beijing, the second in 2013 in Okinawa, the third in 2015 in Kuala Lumpur. ACPR 2017 was sponsored by the International Association for Pattern Recognition (IAPR) and organized by Nanjing University of Science and Technology (NJUST), Institute of Automation of Chinese Academy of Sciences (CASIA), and Chinese Association of Automation (CAA).

ACPR 2017 was attended by over 210 participants from China, India, Japan, Korea, Austria, etc. The conference received 298 submissions from 22 countries, which were reviewed by 167 program committee members and 64 additional reviewers. As a result, 34 papers (11.41% of the total submissions) were accepted for oral presentation, 128 papers (42.95% of the total submissions) were accepted for poster presentation.

Topics of the accepted papers are classified into four categories: Computer Vision and Robot Vision, Pattern Recognition and Machine Learning, Signal Processing, and Media Processing and Interaction. The proceedings were electronically published by IEEE and will be available at IEEE *Xplore*. Moreover, the outstanding accepted papers will be invited to submit to a special issue on Advances in Representation Learning in Pattern Recognition Journal.

The conference program was organized in a single track with three keynote speeches, five oral sessions, three spotlight sessions, and three poster sessions. The keynote speeches were given by three internationally-renowned researchers active in pattern recognition and computer vision: Prof. Edwin R. Hancock (UK) with the speech entitled "Entropic Models of Network Structure and Evolution"; Prof. Brian C. Lovell (Australia) with the speech entitled "Scalable biometric systems for banking and security", and Dr. Gang Hua (China) with the speech entitled "Deep Visual Patterns beyond Recognition".

At the closing ceremony, three paper awards were announced. The awards were selected based on an evaluation of review scores and presentation quality by a committee consisting of the General and Program Chairs. The paper awards and the recipients are as follows:

- ACPR 2017 Best Paper Award: Xiaobo Chen, Han Zhang, Yu Zhang, Zuoyong Li, Dinggang Shen, "Learning Pairwise-Similarity Guided Sparse Functional Connectivity Network for MCI Classification".
- ACPR 2017 Best Student Paper Award: Taiki Oyama, Takao Yamanaka, "Fully Convolutional DenseNet for Saliency-Map Prediction".
- ACPR 2017 Best Poster Award: Dehua Song, Yao Tang, Jufu Feng, "Fingerprint Indexing based on Minutia-centred Deep Convolutional Features".

19th International Conference on Digital Image Computng: Techniques and Applications

Sydney, Australia
November 29 - December 1, 2017
http://dicta2017.dictaconference.org

General Chairs:
Zhiyong Wang (The University of Sydney, Australia)
Junbin Gao (The University of Sydney, Australia)
David Dagan Feng (The University of Sydney, Australia)

by Zhiyong Wang

DICTA is the main Australian Conference on computer vision, image processing, pattern recognition, and related areas. Established in 1991 as the premier conference of the Australian Pattern Recognition Society (APRS), DICTA has been successfully held in major cities in Australia and New Zealand during the past 26 years. The 19th International Conference on Digital Image Computing: Techniques and Applications (DICTA 2017) was held at Novotel Sydney Manly Pacific at the iconic Manly Beach, Sydney, Australia, and was endorsed by the APRS, IAPR, and IEEE.

DICTA 2017 received 209 submissions from 32 countries across Africa, Asia, Australasia, Europe, and North America, and accepted 124 papers. Among the accepted papers, 40 were allocated to seven oral sessions, and 84 to three poster sessions.

DICTA 2017 Proceedings are available through

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http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=8226656

The highlights of DICTA 2017 include:

- Four keynotes
  - Colour Homography by Prof Graham Finlayson, University of East Anglia, United Kingdom
  - See What You Think: Exploring a New Concept of Imaginative Media by Prof Jianmin Jiang, Shenzhen University, China
  - Video data compression, processing and evaluation with human feedback in the loop by A/Prof Manoranjan Paul, Charles Sturt University, Australia
  - Delivering Efficiencies in Health Care and Manufacturing by Prof Svetha Venkatesh, Deakin University, Australia
- One panel discussion on AI: Opportunities and Challenges with panel members Professor Chengqi Zhang (University of Technology, Sydney), Professor David Dagan Feng (The University of Sydney), Professor Michael Blumenstein (University of Technology, Sydney), and Professor Yongsheng Gao (Griffith University)
- One special session on Image and Video Processing for Information Forensics and Security organized by A/Prof Shyh Wei Teng, Federation University Australia, Prof Ying Liu, Xian University of Posts and Telecommunications, and Prof Jiulun Fan, Xian University of Posts and Telecommunications
- One full-day pre-conference tutorial
  - Large scale, vision-based person re-identification by Dr. Pantelis Elinas (Data 61), Dr. Fei Mai (CiSRA), Dr. Geoffrey Taylor (CiSRA), Dr. Getian Ye (CiSRA)
  - Multi-view learning by Dr. Chang Xu, The University of Sydney
  - Learning with label noise by Dr. Tongliang Liu, The University of Sydney
  - Consistent sequential dictionary learning by Dr. Karim Seghouane, The University of Melbourne

The banquet of DICTA 2017 was held at Luna Park Sydney with fantastic harbour view. During the banquet, four conference awards were presented:

- APRS/IAPR Best Paper Award, to the paper HOSO: Histogram Of Surface Orientation for RGB-D Salient Object Detection by David Feng, Nick Barnes, Shaodi You
- APRS/CiSRA Best Student Paper Award, to the paper Attention to the Scale: Deep Multi-Scale Salient Object Detection by Jing Zhang, Yuchao Dai, Bo Li, and Mingyi He
- STG Award, to the paper RATSAC - Random Tree Sampling for Maximum

Consensus Estimation by Huu Le, Tat-Jun Chin and David Suter
- CiSRA Best Paper Award, to the paper Quadratic Objective Functions for Dichromatic Model Parameters Estimation by Alexandre Krebs, Yannick Benezeth and Franck Marzani

We would like to thank the generous support from our sponsors for the abovementioned awards and other activities during the conference. The sponsors of DICTA 2017 include the Defence Science and Technology group (DSTG), the University of Sydney, CiSRA, APRS, IAPR, and the IEEE. Particular thanks go to the University of Sydney who provided financial sponsorship, as well as services in finance, conference registration, tutorial arrangements, and staff hours.

DICTA 2017 had a great success, which could not be possible without the time and efforts from the Technical Program Chairs, Local Arrangement Chairs, Publicity Chairs, Treasurer, Web Chairs, and Sponsorship Chairs, and the Advisory Committee. We also would like to thank all the technical program committee members for their dedicated time in reviewing the submitted papers, and tremendous help from student volunteers to make the conference run smoothly. DICTA 2018 will be held in Canberra, Australia.

7th international workshop on Representations, analysis and recognition of shape and motion FroM Imaging data

Aussois (Savoie), France
December 17-21
http://www.arts-pi.org.tn/rfmi2017/index.html

General Chair:
Liming Chen (LIRIS/Ecole Centrale de Lyon, France)
Co-Chairs:
Faouzi Ghorbel (CRISTAL/ENSI, Tunisia)
Boulbaba Ben Amor (CRISTAL/ENSI, Tunisia)

by Boulbaba Ben Amor and Liming Chen

The goal of the international workshop on Representations, analysis and recognition of shape and motion FroM Imaging data (RFMI) is to promote interaction among researchers working on static and dynamic shape analysis and applications in computer vision, scene understanding, computer animation, biometrics recognition, robotics, cultural heritage conservation, and medical diagnostics. The seventh edition (RFMI'2017) received again the endorsement of the prestigious IAPR association. The proceedings publication was renewed in the series Communications in Computer and Information Science (CCIS) of Springer as post-proceedings of revised papers.

RFMI'2017 was organized in the Centre Paul-Langevin of the CNRS (Aussois, France). Thirty researchers from different countries (France, Tunisia, USA, Japan, EAU, Switzerland, Belgium, Netherlands and Norway) attended the workshop, with several PhD students among the participants. The Program Committee received 24 submissions from which eight were accepted as regular papers (34% of acceptance). Nine additional papers were accepted as short papers. Between two and five reviewers were involved in a rigorous peer-review process for each submission. All the authors of accepted papers were given the opportunity to present, with 25 minutes for long papers and 15 minutes for short papers.

Two distinguished researchers were invited to attend the workshop and give tutorial-oriented talks on their research. Their talks lie to fundamental tasks of shape and motion analysis and new trends in robotics and healthcare diagnosis. They are,

- Prof. Sylvain Calinon from the Idiap Research Institute, "Robot learning from few demonstrations by exploiting the structure and geometry of data", and
- Prof. Boulbaba Ben Amor from IMT Lille Douai/CRIStAL (UMR CNRS 9189), "Rate-invariant analysis of trajectories on Kendall's shape space and applications".

The rest of the program was organized in 4 oral sessions related to different topics including 2D/3D shape registration and comparison; Video and Motion Analysis; and Human and Face Analysis and Recognition. There were two IAPR best paper prizes. The IAPR Best Paper Award, was given to the paper "Stereo Matching Confidence Learning based on Multi-modal Convolution Neural Networks" by Zehua Fu and Mohsen Ardabilian. The IAPR Best Student Paper Award went to the paper "Defining Mesh-LBP Variants for 3D Relief Patterns Classification" by Claudio Tortorici, Naoufel Werghi and Stefano Berretti. Several social events were organized during the three days of the workshop (visits, banquet, hiking, etc.).

The organizers are very thankful to the reviewers, the steering committee, and all the members of the young local organization committee for their excellent work to make RFMI 2017 a successful event.

Conference Chair:
Ana Fred, Instituto de Telecomunicações / IST, Portugal

Program Co-Chairs:
Maria De Marsico, Sapienza Università di Roma, Italy
Gabriella Sanniti di Baja, ICAR-CNR, Italy

Local Chair:
Morgado Dias, University of Madeira, Portugal

by the Conference and Program Chairs

ICPRAM 2018 was held in Santa Cruz, a lovely village not far from Funchal, in the wonderful Madeira Island (Portugal). ICPRAM is a series of annual conferences, sponsored by the "Institute for Systems and Technologies of Information, Control and Communication (INSTICC)", and endorsed by the IAPR. ICPRAM 2018 was organized "in cooperation" with a number of international organizations involved in research related to Pattern Recognition, namely: the Association for the Advancement of Artificial Intelligence (AAAI), the Italian Association for Artificial Intelligence (AI*IA), the Associação Portuguesa de Reconhecimento de Padrões (APRP), and the International Neural Network Society (INNS). The conference local partner for ICPRAM 2018 was the Madeira Interactive Technologies Institute (M-ITI).

The main goal of ICPRAM is to provide a forum for researchers active in theory or applications of the manifold branches of pattern recognition. During the conference, the attendees had the possibility to meet and exchange ideas regarding their respective scientific achievements and future research plans, as well as to establish new and original threads of collaboration to investigate brand new approaches.

ICPRAM 2018 received 102 submissions, including those submitted to a special session, from 33 countries. Out of the accepted papers, 29 were selected for oral presentation as full papers, 24 for oral presentation as short papers, and 30 as posters. The special session titled "INsights DiscovEry from LifElog Data (INDEED)" focussed on topics spurring a very interesting research field. As a further matter of interest and scientific growth, the conference program also included a panel titled "The Master Algorithm for Artificial Intelligence – Are we almost there?". The panel was chaired by the ICPRAM Local Chair, Fernando Morgado-Dias, and the four internationally distinguished ICPRAM 2018 invited speakers (Rita Cucchiara, Edwin Hancock, Alfred Bruckstein and Xiaoyi Jiang) gave their opinions and stimulated an

interesting discussion with the audience. Moreover, the invited speakers also presented the following plenary lectures:

- "Human Behaviour Understanding for Automotive and Surveillance" by Rita Cucchiara, University of Modena and Reggio Emilia, Italy;
- "Time Evolving Networks in Finance and Medicine" by the IAPR distinguished speaker Edwin Hancock, York University, United Kingdom;
- "On Location and Registration Fiducials: Their Analysis and Design" by Alfred Bruckstein, Technion, Israel;
- "Biomedical Imaging - Challenges and Potentials", by Xiaoyi Jiang, University of Münster, Germany.

In order to testify the value of the best contributions, the conference organization assigned three awards to be given during the conference: the Best Paper Award, the Best Student Paper Award and the Best Poster Award. The winning papers were chosen by the Program/Conference Chairs based on the best combination of review marks, assessed by the Program Committee, and of paper presentation quality, assessed by Session Chairs and Program Chairs at the conference venue. For this edition, the winning papers were:

- Best Paper Award: "Density-based Clustering using Automatic Density Peak Detection" by Huanqian Yan, and Yonggang Lu, and Heng Ma;
- Best Student Paper Award: "Fully Automatic Faulty Weft Thread Detection using a Camera System and Feature-based Pattern Recognition" by Marcin Kopaczka, Marco Saggiomo, Moritz Güttler, Thomas Gries, and Dorit Merhof
- Best Poster Award: "Self-Learning 3D Object Classification" by Jens Garstka and Gabriele Peters

The ICPRAM 2018 Award winners

Last but not least, the ICPRAM 2018 technical program also included a tutorial on "Low Rank and Sparse Representations in Large Scale Image Processing" given by Tien Dai Bui.

We would like to point out that authors of ICPRAM 2018 selected papers will be invited to submit an extended version of their work for a book in the Springer LNCS Series.

As usual, besides the interesting technical program, ICPRAM 2018 also offered a number of social events, where the participants had different opportunities to meet and discuss in a relaxed atmosphere. A Welcome Reception and a Farewell Drink were respectively offered on the first and on the last conference day, while on the second day participants could enjoy a guided tour to one of the most famous wineries of Funchal, followed by a delicious dinner and by the performance of a popular dance and singing group.

We look forward to meeting you at the 8th edition of ICPRAM in Prague, Czech Republic, February 19-21, 2019 (*http://www.icpram.org/Home.aspx?y=2019*).

BOOKSBOOKSBOOKS

Statistical Analysis of Noise in MRI: Modeling, Filtering and Estimation,

by Santiago Aja-Fernández
Gonzalo Vegas-Sánchez-Ferrero

Springer, 2016
http://www.springer.com/us/book/9783319399331

Reviewed by, Dr. Pramod Kumar Pisharady, Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, USA

Magnetic Resonance Imaging (MRI) is one of the most widely used medical imaging methods that can provide high resolution structural and functional images of the brain as well as other body parts, noninvasively. The reviewed book can be positioned as a reference manual for researchers and students working in MRI, for those who do the analysis of MRI data in particular.

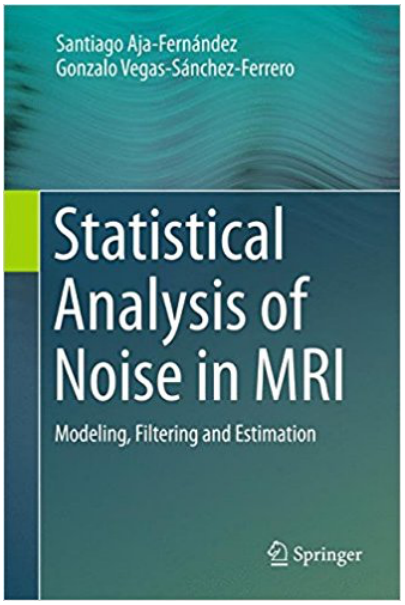
Filtering noise effects and addressing issues caused by noise are the major challenges for researchers interested in improving the current acquisition schemes or for those who want to use the data for further analysis and reconstructions. This book presents a signal processing approach to addressing the noise in MRI through the various steps of modeling, estimation, and filtering. A comprehensive framework for modeling and analysis of noise, considering the different modalities and acquisition schemes, is presented in the book. This makes the book a unique reference guide for anyone interested in quantifying and filtering the noise or anyone who wants to do model parameter estimations (e.g. diffusion tensor model fitting) in the presence of noise.

The book has 11 chapters. The first chapter introduces the noise problem in MRI and presents the organization and approach of the book in explaining how to deal with such noise. The noise considered is termed as thermal noise, which is caused by the object being imaged, and electronic noise produced by coils. Noise modeling, noise estimation, and noise filtering are presented as the three main issues focused in the book. The significance of noise filtering in tasks like image segmentation, registration, fMRI data analysis, and model parameter estimation from diffusion and perfusion data are explained in this chapter.

The rest of the book (Chapters 2 to 11) is divided into three parts:

Part-1 (Chapters 2 to 5) describes modeling, estimation, and filtering of noise. Chapter 2 reviews basic concepts of MRI acquisition and reconstruction, that are necessary to understand the material presented in the remaining chapters. Different statistical noise models are presented in Chapter 3. An overview of noise analysis methods is provided in Chapter 4. Different noise filtering methods such as noise correction during acquisition, generic filtering methods, transform domain methods, and statistical methods are detailed in Chapter 5. A case study with Linear Minimum Mean Square Error signal estimator is also provided in this chapter.

Part-2 (Chapters 6 to 9) describes the noise estimation and analysis methods in non-accelerated acquisitions. This part reviews



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techniques to estimate noise out of a single MRI slice in single and multi-coil systems for fully sampled acquisitions. Chapter 6 provides a generic overview of noise estimation using Gaussian model, forming the base for more complex methods reviewed in the following chapters. Chapter 7 specifically focus on methods for single coil data, whereas Chapter 8 discusses the methods for multi-coil data. These chapters present the estimation using Rician and Rayleigh distribution models. These chapters also discuss the performance evaluation results of the methods with synthetic and real data. Chapter 9 presents noise analysis from correlated multi-coil MR data.

Part-3 (Chapters 10 and 11) describes noise estimation in parallel MRI. Chapter 10 details parametric noise estimation methods for two parallel acquisition

schemes, SENSE and GRAPPA. The methods proposed from unaccelerated acquisitions are reformulated in order to cope with parallel modalities, in this chapter. Chapter 11 discusses blind estimation of non-stationary noise in MRI. Difficulties in blind analysis, such as spatially varying noise variance, and a review of different proposals to address these issues are provided in this chapter. Both of these chapters also present examples and evaluations of the performance estimators.

The book has 3 appendices to complement its contents. The first one provides information about the probability density functions used in the book, with their moments and features. The second appendix describes the variance stabilizing transformation, a technique used for parameter estimation. The last appendix explains the different MRI datasets used in the book for illustration and evaluation.

Review summary:
Addressing noise issues and performing noise regularization are major topics of research in MRI. Even if this area is well-researched and there exist many published research articles, a comprehensive and step-by-step analysis of the statistical methods for MRI noise analysis was missing in the literature. This book is a successful attempt in providing such an analysis, by being a reference manual for MRI researchers and medical imaging students interested in MRI data analysis. The book is presented in a simple and lucid manner, starting with the basics of MRI noise and its analysis with simple models, progressing to an analysis using complex models and the noise issues in multi-coil and parallel acquisition schemes. Overall the book is self-contained to help the beginners, though the authors state prior knowledge about MRI acquisition, linear systems, and image processing as a prerequisite.

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~Owais Mehmood, Associate Editor for Book Reviews

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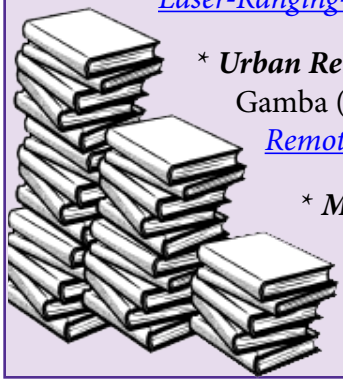

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This bulletin board contains items of interest to the IAPR Community

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Letter to the Editor

Editor's Note:
We received this request from Moises Diaz, PhD (Universidad del Atlantico Medio, Las Palmas de Gran Canaria, Spain). Moises was the first IAPR Research Scholar. You can read about his research scholarship in this issue [39:3] of the IAPR Newsletter.

~Arjan Kuijper, EiC

Dear colleague,

I wonder if you can complete my survey; just 3 minutes of your time. As a part of some follow-up work, I'm doing this survey for research.

I'd also really appreciate if you can distribute it among your colleagues or students.

Thanks in advance!
- Moises

LINK: *https://goo.gl/forms/rckR5lPxiFauWWRj2*

The IEEE Biometrics Council recently announced IEEE T-BIOM!

The IEEE Transactions on Biometrics, Behavior, and Identity Science (T-BIOM) is a new journal that "publishes original articles on all aspects of biometrics (i.e. recognizing people through their physiological or behavioral traits such as face, fingerprint, iris, and signature), including theory, applications, systems, and surveys." The T-BIOM EiC is Prof. Kevin Bowyer, FIAPR, FIEEE(University of Notre Dame, USA).

CALL FOR PARTICIPATION

2nd Summer School on Document Analysis

Registration opens April 15th
Dates: July 2-6, 2018
Location: La Rochelle, France
Organised by: L3i Laboratory
https://soda.univ-lr.fr

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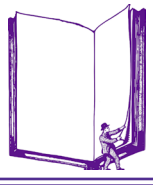
Meeting and Education Planner

The IAPR web site has the most up-to-date information on IAPR events. Click here.
NOTE: Highlighting indicates that the paper submission deadline is still open.
*** Asterisks denote non-IAPR events ***

		Meeting	Report on previous edition	Venue
2018	APR	DAS 2018: 13th International Workshop on Document Analysis Systems	DAS 2016	**Austria**
	MAY	ICPRS-18: 9th International Conference on Pattern Recognition Systems	ICPRS-17	**Chile**
	JUN	IWBF 2018: 6th IAPR/IEEE International Workshop on Biometrics and Forensics	IWBF 2017	**Italy**
		MCPR 2018: 10th Mexican Conference on Pattern Recognition	MCPR 2017	**Mexico**
	JUL	ICISP 2018: 8th International Conference on Image and Signal Processing	ICISP 2016	**France**
	AUG	ICFHR 2018: 16th International Conference on Frontiers in Handwriting Recognition	ICFHR 2016	**USA**
		S+SSPR 2018: IAPR Joint Internatioanl Workshops on Statistical Techniques in Pattern Recognition (SPR 2018) and Structural and Syntactic Pattern Recognition (SSPR 2018)	S+SSPR 2016	**China**
		PRRS 2018: 10th IAPR Workshop on Pattern Recognition in Remote Sensing	PRRS 2016	**China**
		MIPPSNA 2018: 2018 Multimedia Information Processing for Personality and Social Networks Analysis Workshop (an ICPR 2018 Workshop)		**China**
		RRPR 2018: 2nd Workshop on Reproducible Research in Pattern Recognition (an ICPR 2018 Workshop)		**China**
		MPRSS 2018: 5th Intl. Workshop on Multimodal Pattern Recognition of Social Signals in human computer interaction (an ICPR 2018 Workshop)	MPRSS 2016	**China**
		IWCF 2018: 7th International Workhsop on Computational Forensics (an ICPR 2018 Workshop)		**China**
		CVAUI 2018: 3rd Workshop on Computer Vision for Analysis of Underwater Imagery (an ICPR 2018 Workshop)	CVAUI 2016	**China**
		FFER 2018: 3rd International Workshop on Face and Facial Expression Recognition from real world video (an ICPR 2018 Workshop)	FFER 2016	**China**
		ICPR 2018: 24th International Conference on Pattern Recognition	ICPR 2016	**China**
	SEP	ANNPR 2018: 8th IAPR TC3 Workshop on Artificial Neural Networks in Pattern Recognition	ANNPR 2016	**Italy**
		CVIP 2018: Third International Conference on Computer Vision and Image Processing	CVIP 2017	**India**
	NOV	ISAIR 2018: 3rd Intl. Symposium on Artificial Intelligence and Robotics		**China**
		CIARP 2018: 23rd Iberoamerican Congress on Pattern Recognition	CIARP 2017	**Spain**

2019 & 2020 meetings on next page...



Meeting and Education Planner

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		Meeting	Report on previous edition	Venue
2019	MAY	MVA 2019: 16h International Conference on Machine Vision Applications	MVA 2017	**Japan**
2020	AUG	ICPR 2020: 25th International Conference on Pattern Recognition		**Italy**
	SEP	ICFHR 2020: 25th International Conference on Pattern Recognition		**Germany**

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

Ideas for features you'd like to see in the IAPR Newsletter?

Send your comments to:

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arjan.kuijper@igd.fraunhofer.de

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