

# IAPR Newsletter

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From the Editor's Desk

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IAPR RS Recipient](#)[Technical Committee News](#)[TC3, TC4, TC5, TC6, TC12,  
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VISAPP23, IWBF23, MCPR23](#)[Bulletin Board](#)[Meeting and Education Planner](#)*Pattern Recognition in Developing Countries*

From the moment I started this journey as Editor-in-Chief of the IAPR Newsletter, I have been thinking about ways to carry on the tradition of timely and enlightening series through our From the Editor's Desk columns. As a researcher living in a developing country, I appreciated very much the series promoted by Jing Dong (EiC 2019-2022), talking about collaborative efforts in PR and technology to benefit humanity. While these efforts are of common interest for all the IAPR community, they become even more important for low and middle-income countries (or developing countries).

Over the past few years, we have witnessed a significant growth in the influence of pattern recognition in various aspects of our everyday lives, such as medicine, industry, and security, to name a few. However, to fully embrace the potential advantages of these applications for developing countries, it is crucial to increase collaborative efforts.

It would be both timely and enlightening for researchers and professionals from developing countries (widely defined) to share with the community your stories of success, challenges, and suggestions. Stories from our many IAPR members from all over the world who have greatly supported the creation of IAPR societies in these countries, with the aim of increasing PR research and applications, would be valued as well. This space can also be used to promote joint international projects. In my own experience, publicly celebrating collaborations fosters more collaboration, which helps spread more advanced research globally.

I would like to invite professors, researchers, professionals, students, and engineers from these and other countries that have some story or project to share, to feel free to [contact me](#). We are sure your experiences and insights can make our newsletter more interesting and beneficial to the IAPR community. See you in the next issue!

Heydi Méndez-Vázquez, IAPR Newsletter EiC

# Calls For Papers



For the most up-to-date information on IAPR-supported conferences, workshops and summer/winter schools, visit [www.iapr.org/conferences](http://www.iapr.org/conferences)

## 2023

### Conferences, Dates, & Locations

#### PReMI 2023

Dec 12-15, 2023  
Kolkata, India

10th International Conference on Pattern Recognition and Machine Intelligence

### Calls and Deadlines

in order from earliest paper deadline (other deadlines vary in order)

Papers (closed)

Doctoral Colloquium: Sep 30, 2023

#### IJCB 2023

Sept 25-28, 2023  
Ljubljana, Slovenia

8th International Joint Conference on Biometrics

Papers (closed)

Special Session Papers: Jul 31, 2023  
Doctoral Consortium: Aug 10, 2023

#### ICCP 2023

Oct 27-29, 2023  
Quigdao, China

12th International Conference on Computing and Pattern Recognition

Papers: Before Aug 5, 2023

#### CCBR 2023

Dec 27 1-3, 2023  
Xuzhou, China

17th Chinese Conference on Biometric Recognition

Papers: (extended to) Aug 15, 2023

## 2024

#### ISPR 2024

Feb 6-8, 2024  
Sharejah University, UAE

4th International Conference on Intelligent Systems and Pattern Recognition

Papers: Sep 30, 2023

#### DGMM 2024

April 15-18, 2024  
Florence, Italy

3rd IAPR International Conference on Discrete Geometry and Mathematical Morphology

Title and Abstract: Sep 23, 2023  
Papers: Oct 1, 2023

#### ICPRAM 2024

Feb 24-26, 2024  
Rome, Italy

13th International Conference on Pattern Recognition Applications and Methods

Papers: Oct 9, 2023  
Position Papers: Nov 17, 2023  
Spec. Sess. Proposals: Oct 20, 2023  
Abst. Track & Doctoral Cons: Jan 1, 2024  
Tutorials, Demo, or Panel Prop: Jan 12, 2024

#### VISAPP 2024

Feb 27-29, 2024  
Rome, Italy

19th International Conference on Computer Vision Theory and Applications

Papers: Oct 9, 2023  
Position Papers: Nov 17, 2023  
Spec. Sess. Proposals: Oct 20, 2023  
Abst. Track & Doctoral Cons: Jan 1, 2024  
Tutorials, Demo, or Panel Prop: Jan 12, 2024

#### ICPRAI 2024

Jun 18-21, 2024  
Jeju Island, South Korea

4th International Conference on Pattern Recognition and Artificial Intelligence

Papers: Dec 15, 2023

#### ICPR 2024

Dec 1-5, 2023  
Kolkata, India

27th International Conference on Pattern Recognition

Papers: May 1, 2024

# CALLS FROM IAPR COMMITTEES

*From the IAPR Education Committee:*

## Call for Applications for IAPR Research Scholarships

IAPR Research Scholarships 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. The scholarship covers round trip travel & basic living expenses for a visit of less than 12 months.

**COVID:** Applications are welcome, assuming pandemic travel regulations allow a visit during the proposed period.

**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.

Click on Call (or [here](#)) to learn more or contact: IAPR Secretariat, c/o Linda O'Gorman, [secretariat@iapr.org](mailto:secretariat@iapr.org)

*From the IAPR Industrial Liaison Committee:*

## Call for Students Seeking Internship Opportunities and for Companies with Internships Available to contribute to the Internship Listings on the IAPR Internship Brokerage Page

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 do this through a web-based internship listing service. Companies can list their internship opportunities; students can browse the listings and contact the company.

### **For Students**

If you are seeking an internship, please click on the underlined call title above (or [here](#)) to find an updated list of 44 companies –from Adobe to Zhongan Technology– offering internships, locations (some remote), requirements, etc.

**NOTE:** As of April 17, 2023, there were 44 opportunities listed and 20,171 accesses (since November 2017).

### **For Companies with Internships Available**

Click on call title (link) above for examples.

Please email your listings as follows:

- To: [webmaster@iapr.org](mailto:webmaster@iapr.org)  
Subject: IAPR internships, listing  
1. Details:  
2. Host:  
3. Location:  
4. Post Type:  
5. Specialty:  
6. Funded:  
7. Length:  
8. Degree & Visa Requirements:  
9. Internship start date:  
10. Application closing date:  
11. Details:  
12. Contact:

*From the IAPR  
Executive Committee (ExCo):*

## Call for Proposals for Summer/Winter Schools

Summer/winter schools are training activities that expose participants to the latest trends and techniques in the particular pattern recognition field. To be eligible for a grant, the organizers must work through at least one of the IAPR's Technical Committees as they develop and present the proposal.

### **Deadline Schedule**

<i>For School Dates In...</i>	<i>Proposal Deadline</i>
Aug, Sept, Oct, or Nov	June 1
Dec, Jan, Feb, or Mar	October 1
April, May, June, or July	February 1

**How to Submit:** Proposals for IAPR-supported summer schools should be submitted by email, *at least four months in advance of the start of the school*, to IAPR Secretariat Linda O'Gorman ([secretariat@iapr.org](mailto:secretariat@iapr.org)). A PDF attachment containing all the required information is appreciated.

For detailed guidelines, see the Proposal Requirements described in the [ExCo Initiative on Summer Schools](#).



## PRELIMINARY CALL FOR PAPERS

### General Chairs

Umapada Pal, India  
Josep Kittler, UK  
Anil Jain, USA

### Program Chairs

Rama Chellappa, USA  
Apostolos Antonacopoulos, UK  
Cheng-Lin Liu, China  
Subhasis Chaudhuri, India

### Workshop Chairs

Edwin Hancock, UK  
P. Shivakumara, Malaysia  
Stephanie Schuckers, USA  
Jean-Marc Ogier, France

### Tutorial Chairs

B. B. Chaudhuri, India  
Guoying Zhao, Finland  
Michael R. Jenkin, Canada

### Competition Chairs

Richard Zanibbi, USA  
Lianwen Jin, China  
Laurence Likforman, France

### Doctoral Consortium Chairs

Daniel Lopresti, USA  
Véronique Eglin, France  
Mayank Vatsa, India

### Publicity Chairs

Dipti Prasad Mukherjee, India  
Bob Fisher, UK  
Xiaojun Wu, China

### Publications Chairs

Wataru Ohyama, Japan  
Ananda S. Chaudhury, India

### Awards Committee Chair

Arpan Pal, India

### International Liaison / Visa Chairs

Palash Ghosal, India  
Yue Lu, China, China

### Finance Chairs

Kaushik Roy, India  
Michael Blumenstein, Australia

### Organizing Chairs

Saumik Bhattacharya, India  
Sk Md Obaidullah, India

The International Conference on Pattern Recognition (ICPR) is the flagship conference of the International Association of Pattern Recognition (IAPR) and the premier conference in pattern recognition, covering computer vision, image, speech and video processing, machine intelligence, and other related areas. It is a 5-day event that comprises the main conference, Workshops, Tutorials, different Competitions, Doctoral Consortium etc. ICPR-2024 is the 27th event of the series and it provides a great opportunity to nurture new ideas and collaborations for students, academics and industry researchers.

### MAIN TOPICS OF INTEREST

- ICPR-2024 has 6 tracks as follows:
- Artificial Intelligence, Machine Learning for Pattern Analysis
  - Computer and Robot Vision
  - Image, Speech, Signal and Video Processing
  - Biometrics and Human Computer Interaction
  - Document Analysis and Recognition
  - Biomedical Imaging and Bioinformatics

### IMPORTANT DATES

- First Call for Papers: August 2022
- Second Call for Papers: August 2023
- Paper submission open: Feb 1, 2024
- Paper submission deadline: March 31, 2024
- Acceptance/rejection/revision decision: June 30, 2024
- Revision/rebuttal submission deadline: July 20, 2024
- Final acceptance notification: August 20, 2024
- Camera-ready submission: September 10, 2024
- Conference: December 1-5, 2024

### SUBMISSION AND REVIEW

ICPR-2024 will follow a single-blind review process. Authors can include their names and affiliations in the manuscript.

### PAPER FORMAT AND LENGTH

Springer LNCS format with maximum 15 pages (including references) during paper submission. To take care of reviewers' comments, one more page is allowed (without any charge) during revised/camera ready submission. Moreover, authors may purchase up to 2 extra pages. Extra page charges must be paid at the time of registration.

Contact: For any enquiry please contact the ICPR-2024 Secretariat via email at [icpr2024@gmail.com](mailto:icpr2024@gmail.com) and [icpr2024@isical.ac.in](mailto:icpr2024@isical.ac.in)

### Track Chairs

#### Track 1: Artificial Intelligence, Machine Learning for Pattern Analysis

Larry O'Gorman, USA  
Dacheng Tao, Australia  
Petia Radeva, Spain  
Sushmita Mitra, India  
Jiliang Tang, USA

#### Track 2: Computer and Robot Vision

C. V. Jawahar, India  
João Paulo Papa, Brazil  
Maja Pantic, UK  
Gang Hua, USA  
Junwei Han, China

#### Track 3: Image, Speech, Signal and Video processing

P. K. Biswas, India  
Shang-Hong Lai, Taiwan  
Hugo Jair Escalante, Mexico  
Sergio Escalera, Spain

#### Track 4 : Biometrics and Human Computer Interaction

Massimo Tistarelli, Italy  
Richa Singh, India  
Vishal Patel, USA  
Wei-Shi Zheng, China

#### Track 5: Document Analysis and Recognition

Xiang Bai, China  
David Doermann, USA  
Josep Lladós, Spain  
Mita Nasipuri, India

#### Track 6: Biomedical Imaging and Bioinformatics

Jayanta Mukhopadhyaya, India  
Xiaoyi Jiang, Germany  
Seong-Whan Lee, Korea

#### Women in ICPR Chairs

Ingela Nyström, Sweden  
Alexandra B. Albu, Canada  
Jing Dong, China  
Sarbani Palit, India

#### Sponsorship Chairs

P. J. Narayanan, India  
Yasushi Yagi, Japan  
Venu Govindaraju, USA  
Alberto Del Bimbo, Italy

### ORGANIZING / TECHNICAL PARTNERS



# OPEN CALL FOR PRIZE NOMINATIONS



KING-SUN FU PRIZE  
J. K. AGGARWAL PRIZE  
MARIA PETROU PRIZE

OPEN CALL FOR  
IAPR FELLOW  
NOMINATIONS ON [PAGE 9](#)



From the IAPR King-Sun Fu, J. K. Aggarwal, and Maria Petrou Prize Committees

## Open Calls for Nominations for Three Prestigious Prizes to be presented at the

27th International Conference on Pattern Recognition  
ICPR 2024 ~ Kolkata, India ~ December 1-5, 2024



### KING-SUN FU PRIZE

The IAPR's highest honor, this Prize is given to honor the memory of Professor King-Sun Fu, who was instrumental in the founding of IAPR, served as its first president, and is widely recognized for his extensive contributions to the field of pattern recognition. The Prize is given to a living person in recognition of an outstanding technical contribution to the field of Pattern Recognition.

photo: ethw.org/King-Sun\_Fu



### J.K. AGGARWAL PRIZE

This Prize is given in honor of Professor J. K. Aggarwal, widely recognized for his extensive contributions to the field of pattern recognition and for his participation in IAPR's activities. The Prize is given to a young scientist, under the age of 40 at the date of the final deadline for nominations, who has brought a substantial contribution to a field that is relevant to the IAPR community and whose research work has had a major impact on the field.

photo:en.wikipedia.org/wiki/J.\_K.\_Aggarwal



### MARIA PETROU PRIZE

This Prize honors the memory of Professor Maria Petrou, a scientist and engineer of the first rank, particularly in her role as a pioneer and role model for women researchers. Widely recognized for her extensive contributions to the fields of image processing and pattern recognition, she also made significant contributions to the growth of IAPR. The Prize is awarded to a living woman scientist/engineer who has made substantial contributions to the field of Pattern Recognition (or a closely related field), and whose past contributions, current research activity, and future potential may be regarded as a model.

photo: iapr.org/members/newsletter/Newsletter13-01/index\_files/Page652.htm

## CLICK ON PORTRAITS FOR FULL CfNs, RULES AND NOMINATION FORMS Nomination letters accompanied by the nominee's CV are requested by December 1, 2023.

Prize recipients are expected to present an invited talk at ICPR 2024 and to provide a contribution to the special issue of *Pattern Recognition Letters*, which will include extended versions of all papers that received an IAPR award at ICPR 2024.

Prize recipients shall be selected by the respective Prize Committees, subject to approval by the IAPR Governing Board, and based upon nomination criteria set out in the full CfNs on the IAPR website. Members of the IAPR Executive Committee and respective Prize Committees are ineligible for these Prizes and may not serve as nominators or endorsers.

Nomination and endorsement forms (linked via portraits above) may be submitted on a preliminary basis to the IAPR Secretariat and modified until the final submission deadline set by each Prize Committee. Only complete applications will be considered for the 2024 Prizes.

Contact information: IAPR Secretariat, c/o Linda O'Gorman, [secretariat@iapr.org](mailto:secretariat@iapr.org)

# UPCOMING SPECIAL ISSUE PATTERN RECOGNITION LETTERS

## *Graph-based Representations for Pattern Recognition: New Results and Challenges (VSI:GbRNRC)*

### GUEST EDITORS



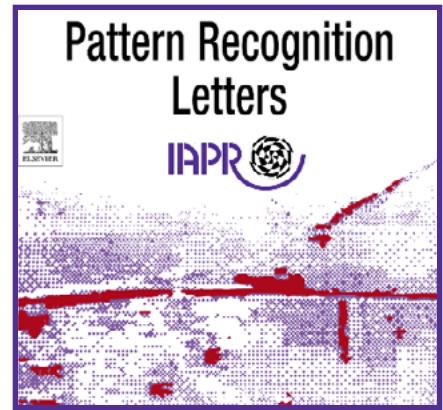
**Pasquale Foggia**  
University  
of Salerno,  
Fisciano (SA) (Italy)



**Mario Vento**  
University  
of Salerno,  
Fisciano (SA) (Italy)



**Donatello Conte**  
Université  
de Tours,  
Tours (France)



**Submission Period**  
Dec 1, 2023  
through  
Dec 20, 2023

For more details and  
manuscript submission  
information, click:  
[PRL Special Issue](#)  
[Call for Papers](#)  
(scroll down to GbRNRC)

## PATTERN RECOGNITION LETTERS ~ CALL FOR SPECIAL ISSUES

We invite researchers in Pattern Recognition and related fields to submit proposals for new Special Issues. Special Issues are a unique occasion to collect high-quality papers that pertain to topics not strictly related to the journal, and therefore to expand the scientific offer for our readers.

Special Issue proposals are submitted about one year in advance with respect to the requested submission slot (i.e., the period in which paper submissions for the Special Issue will be uploaded). We divide the year into four quarters, starting in January. One year in advance of the paper submission period for a Special Issue, we collect proposals for Special Issue topics (in Jan., Apr., July, or Oct.), make the decision (in Feb., May, Aug., or Nov.), and notify the prospective Guest Editors (GEs) (in Mar., June, Sept., or Dec.). In this way, our decision can be made by comparing all proposals for the same quarter.

Selection criteria include the following:

1. The VSI must be well-focused on a current, relevant topic of interest for the international scientific community, particularly for researchers in Pattern Recognition. Too-wide topics such as "Deep Networks for Image Understanding" or "Advances in Pattern Recognition for Image Understanding" will not be considered.
2. The candidate GEs' scientific production must testify sufficient experience in the proposed topics in order to better evaluate the overall quality of both papers and reviews.
3. Proposals with multiple GEs with a wide geographic distribution of GEs will be preferred as this promotes a wider submission population.
4. GEs must underline in their CVs their engagement with PRL, as either authors or reviewers; proposals from such GEs will be preferred.
5. Rotation of GEs is preferred, in groups or individually.

For candidate GEs' convenience, a proposal template with all requested information is available. Please contact Prof. Maria De Marsico ([demarsico@di.uniroma1.it](mailto:demarsico@di.uniroma1.it)), the EiC for PRL Special Issues.



### Josiane Zerubia



*For contributions to stochastic image modeling for classification, segmentation, and object detection in remote sensing*

*Josiane Zerubia is a French Senior Research Scientist at the National Institute for Research in Computer Science and Automation (INRIA). She has also been Professor at ISAE-Supaero, Toulouse, France, for more than 20 years. She has supervised many students, including 26 post-docs and 35 PhDs.*

*She received the MSc degree from the Department of Electrical Engineering at ENSIEG, Grenoble, France (1981), and her Doctor of Engineering degree (1986), PhD (1988) and Habilitation (1994), all from the University of Nice, France.*

*She is Head of the exploratory team [AYANA at INRIA](#), which is an interdisciplinary project using knowledge in stochastic modeling, image processing, artificial intelligence, remote sensing, and embedded computing to explore the “New Space.”*

*Dr. Prof. Zerubia has made major contributions in stochastic models applied to remote sensing (see, for example, “Unsupervised Line Network Extraction in Remotely Sensed Images” [1]).*

*A Fellow of IAPR (2020), EURASIP (2019) and IEEE (2003), she has been IEEE Signal Processing Society Distinguished Lecturer (2016-2017) and has obtained a Doctor Honoris Causa from University of Szeged in Hungary (2020). She was associate editor of IEEE Transactions on Image Processing from 1998 to 2002, area editor of the same from 2003 to 2006, guest co-editor of a special issue of IEEE Transactions on Pattern Analysis and Machine Intelligence in 2003, and a member of the editorial board of International Journal of Computer Vision from 2004 to March 2013. She initiated several projects and contributed to many conferences (for more details, see her [webpage](#)).*

The scientific topics related to space have fascinated me since the age of 10. I had the chance to devote most of my career (35 years) to a subject closely related to space: Earth Observation, where I have studied image processing in general and remote sensing in particular.

Earth Observation is a crucial hot topic. In a time of high-intensity conflicts where all types of forces are required, having tools to both obtain large, accurate images and analyze them automatically gives a huge informational advantage. Earth Observation requires being at the cutting edge of technology in terms of carriers (drones, planes, high-altitude balloons), on-board sensors (uncooled IRT, far Ultra-

violet, etc.), as well as embedded systems and image processing algorithms. It is this last part that I am going to talk about.

Let the reader be reassured: Earth Observation does not only have military applications! It is also applied to major ecological challenges: It enables climate change to be measured. And when natural disasters have occurred (such as flooding in Alessandria, Italy, in 2004, the earthquake in Haiti in 2010 or more recently the one in Turkey/Syria), remote sensing enables very quick assessment of the damage as well as the infrastructures still spared (e.g. detecting roads still passable for emergency services).

In addition to the applications

relating to semantic segmentation of remote sensing images, there are many others: The monitoring and management of road traffic -- it can be important to have efficient software for detecting vehicles and tracking them in remote sensing images or videos.

Furthermore, the world of Earth Observation has been turned upside down by what has been called the New Space, i.e. the irruption at the beginning of the 21st century of private economic interests in the space field where states once held a monopoly.

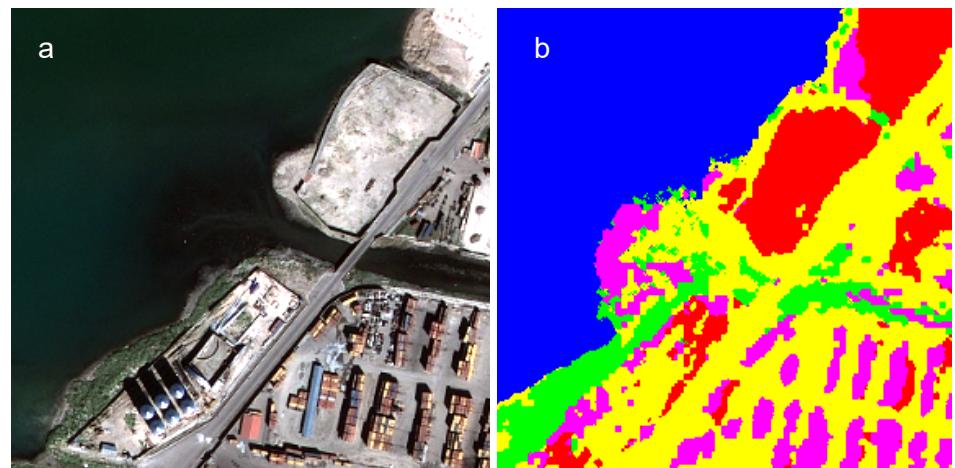
Having received an engineering background, and being passionate about physics, I was very early interested in the application of statistical physics models for image

processing. More particularly, in the case of semantic segmentation, it is possible to apply Ising or Potts models and thus obtain for each possible classification an associated Gibbs energy (cf. Section 1.2 of the book written with Zoltan Kato on Markov Random Fields for Image Segmentation [2]).

In order to be able to do classification, also called semantic segmentation, we introduced several energy models including both a data term and prior terms to take into account the context (i.e. to look for pixel interactions).

To consider such interactions, we proposed various Markovian Hierarchical Models. For instance, in the quadtree model, interactions no longer simply take place between neighboring pixels but also at coarser scales. This quadtree architecture not only has the advantage of creating dependency between more distant pixels to recognize more complex shapes, but also enables data fusion (e.g. data from optical and SAR sensors, taken at different times, and at different resolutions) (Fig.1).

There was another turning point in the early 2010s that revolutionized the world of image processing: The explosion of the third generation of neural networks. Remote sensing has obviously been impacted but with a significant difference: The quantity of reliable ground truths remains low due to the high cost of producing them (crowdsourcing ground truths are not precise enough for many remote sensing applications). In addition, ground truths made by specialists are often partially labelled. For this reason, Convolutional Neural Networks (CNN) can be improved by coupling them with stochastic models.



**Figure 1.** Image of the harbour of Port-au-Prince, Haiti, after the 2010 earthquake (a) the 1.25m resolution GeoEye-1 image and (b) the classification map generated via the fusion of image (a) and two other images: Optical QuickBird (2.5m resol.) and SAR COSMO-SkyMed (5m resol.) images through a Causal Hierarchical Markov framework (see an article devoted to this problem and from which the images are taken [3]).

Another example application is vehicle detection and tracking: Vehicles are not randomly arranged. The geometric configurations of objects of interest tell us something about the configuration of the other ones (in terms of shape or size, alignment, overlapping, etc.) These ‘geometric priors’ could be combined with CNNs to get better results. Figure 2 shows an example for a comparison between a CNN-classical method and our method (described in [4]).

As a conclusion, I would advise

young computer vision scientists interested in remote sensing to develop and encourage their own curiosity. Each problem has its own characteristics. These technical characteristics make often classical methods improvable. Algorithms must be designed for a precise use. We have seen two examples above where considerations from physics and geometry enable my research group (Ayana) to set up new and efficient algorithms in remote sensing.

~ Josiane Zerubia



**Comparison algorithm for the detection of objects of interest (vehicles).**  
On the left: a classical method, on the right the method developed by the Ayana team.  
© Airbus D&S

**Figure 2** illustrates a difficult situation: A large building’s shadow hides vehicles. Alignment constraints make it possible to locate the long line of cars parked in the shadow compared to CNN-only method. This example is taken from the article [4] coupling CNN with a Markov Point Process.

[1] Lacoste, C., Descombes, X. & Zerubia, J. "Unsupervised line network extraction in remote sensing using a polyline process". *Pattern Recognition* 43(4), pp. 1631-1641 (2010). [doi.org/10.1016/j.patcog.2009.11.003](https://doi.org/10.1016/j.patcog.2009.11.003)

[2] Kato, Z. & Zerubia, J. "Markov Random Fields in Image Segmentation". *Foundations and Trends® in Signal Processing* 5(1–2), pp. 1-155 (2012). [dx.doi.org/10.1561/2000000035](https://dx.doi.org/10.1561/2000000035)

[3] Pastorino, M., Montaldo, A., Fronda, L., Hedhli, I., Moser, G., Serpico, S. & Zerubia, J. "Multisensor and Multiresolution Remote Sensing Image Classification through a Causal Hierarchical Markov Framework and Decision Tree Ensembles". *Remote Sensing* 13(5), pp. 1-25 (2021). [doi.org/10.3390/rs13050849](https://doi.org/10.3390/rs13050849)

[4] Mabon, J., Zerubia, J. & Ortner, M. "Point process and CNN for small object detection in satellite images". *SPIE, Image and Signal Processing for Remote Sensing XXVIII*, Berlin, Germany (Sep. 2022). [doi.org/10.1117/12.2635848](https://doi.org/10.1117/12.2635848)

## AN IAPR HER STORY: JOSIANE ZERUBIA

### Early Career Influences

My early career choices were influenced by mentors in three main areas of research: First, in speech processing, my two directors at HP France (J.M Julia) and HP Labs (E. Loebner) in California (in the 80's; then, the supervisor (J. Menez) of my two PhD theses at University of Nice (now called UCA). Second, in image processing and computer vision, the head of the USC-SIPI Institute (R. Chellappa) when I was a postdoc at USC in L.A. at the end of the 80's. Finally, in the early 90's, my first manager at INRIA, head of the PASTIS team (M. Berthod), influenced me a lot with respect to both pattern recognition and applications to remote sensing.

### An Early-Career Challenge in Pattern Recognition Research

When I started my career as a junior researcher at INRIA in PASTIS' team, I had a six-year collaboration with HUJI (Hebrew University of Jerusalem, Israel). During this collaboration, I worked with [Pr. Shmuel Peleg](#) and [Pr. Michael Werman](#) and a young PhD student, [Nicolas Merlet](#). Together we developed a new method called [ELIESER](#) to extract line networks such as roads, rivers or geographical curves in satellite images. This work resulted in a journal paper (\*) published in IEEE TPAMI in 1996, after a successful software transfer to the French Space Agency (CNES) in 1995.

(\*) N. Merlet and J. Zerubia: New prospects in line detection by dynamic programming. *IEEE Trans. on Pattern Analysis and Machine Intelligence*, 18(4):426-431, April 1996."



From the IAPR Fellow Committee

Open Call for  
*Nominations*

for the 2024 IAPR Fellow Awards ~ Deadline: March 31, 2024

We welcome nominations for the award of FIAPR

Anyone is eligible to be nominated except current members of the Executive Committee and of the Fellow Committee.

To initiate a nomination, a nominator must complete and submit an [IAPR Fellow Nomination Form](#).

Any member of an IAPR Member Society can serve as nominator, except for the nominees themselves and current members of the Executive Committee and Fellow Committee.

Each nomination must be endorsed by at least one recommendation letter ([Endorsement Form](#)), either from a member of an IAPR Member Society (other than the nominator) or from an IAPR Fellow.

Each electronic submission will be acknowledged by an email. In case of difficulty please address your data and the problem encountered through email to the IAPR Secretariat, Linda O'Gorman:

To: [secretariat@iapr.org](mailto:secretariat@iapr.org)

Subject: IAPR Fellowship 2024

CC: [webmaster@iapr.org](mailto:webmaster@iapr.org)

Click here for a list of members of the [IAPR Fellow Committee](#)

For a general idea of the nomination and the endorsement please download the [2022 instructions](#). The 2024 instructions are forthcoming.

IAPR appreciates your efforts to support our fellowship program!

*In this feature, we invite young researchers  
to tell us...*



- = how they became involved in pattern recognition research
- = their technical background, current and future research interests
- = how IAPR can help young researchers

*Enterprise image credit: tab62 - stock.adobe.com*

*Editor's note: Dmitry Demidov, with other co-authors, received the Best Student Paper Award at VISAPP 2023 for a paper entitled Vision Transformer for Fine-Grained Classification. A full report from VISAPP 2023 is included in this issue of the IAPR Newsletter.*

~ Heydi Méndez-Vázquez, EiC

## Dmitry Demidov Valerevich

Dmitry completed his bachelor's degree in computer engineering at Omsk State Technical University (OmSTU) in 2020, after which he joined Mohamed bin Zayed University of Artificial Intelligence (MBZUAI), where he obtained his master's degree in computer vision in 2022. He is currently pursuing a PhD in computer vision at the Computer Vision Department of MBZUAI, where his research interests are focused on deep-learning-based computer vision, mainly involving object recognition in extreme cases and image understanding.

### **How did you get involved in pattern recognition research?**

My first engagement with pattern recognition happened during the first years of my bachelor's degree in computer engineering at OmSTU, where I joined a robotics lab working on a project involving a simultaneous localization and mapping (SLAM) task.

Initially, this problem was solved in a classical, static way, which included different kinds of tags, beacons, and strictly defined visual labels. As an intern responsible for the improvement of this task in the unknown and fuzzy conditions, I quickly realized that the problem required a dynamic and environment-independent approach. My solution consisted of an autonomous pattern recognition module which complements an existing system with extra data about current surroundings. The final navigation system had better performance in undefined scenarios, and our team was able

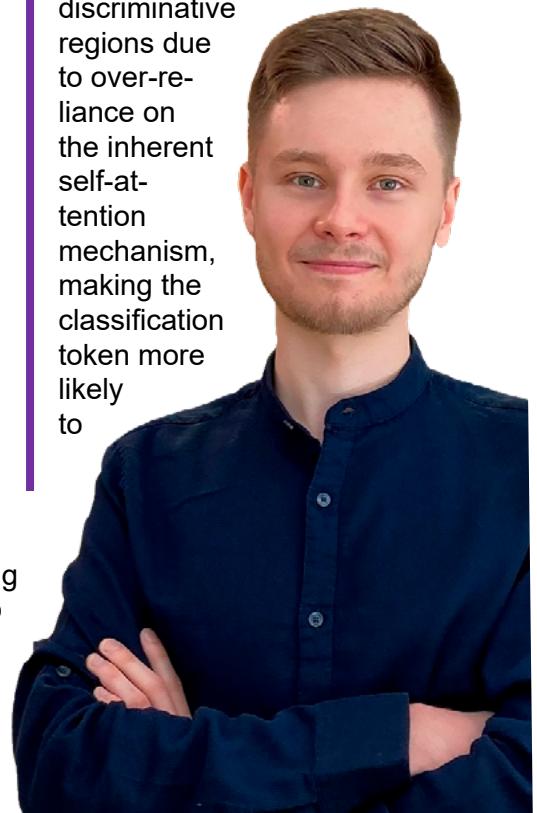
to take one of the top prizes in the subsequent SLAM contest.

This and other related computer vision projects significantly influenced the way I thought about engineering and made me realize that not every task can be hard-coded into a static algorithm, so that in successive research activities I delved deeper into pattern recognition methods, especially machine-learning-based ones.

### **What technical work have you done and what are your current and future research interests?**

My current field of interest includes image recognition in extreme cases and scenarios. For example, one of my latest projects is related to the fine-grained visual classification (FGVC) task, which is a challenging computer vision problem aiming to automatically recognise objects from subordinate categories. One of its main difficulties is capturing the most discriminative inter-class variances among visually similar classes.

Although recent methods based on the popular Vision Transformer (ViT) architecture have demonstrated noticeable achievements in FGVC, many of the approaches may struggle to effectively focus on truly discriminative regions due to over-reliance on the inherent self-attention mechanism, making the classification token more likely to



aggregate global information from less important background patches.

Moreover, due to the immense lack of datapoints, classifiers may often fail to find the most helpful interclass distinguishing features, since other unrelated but distinctive background regions may be falsely recognised as being valuable.

Taking this into account in my recent work, we introduced a simple yet effective Salient Mask-Guided Vision Transformer (SM-ViT), where the discriminability of the standard ViT's attention maps is boosted through salient masking of potentially discriminative foreground regions.

We argue that, in the case of fine-grained classification, the most important features are in the foreground and come from the main (salient) object in an image. However, unlike most of the previous ViT-based works, we do not completely disregard the less recognizable image parts, but rather guide the attention scores towards the more beneficial salient patches.

Extensive experiments demonstrate that with the standard training procedure our SM-ViT achieves state-of-the-art performance on popular FGVC benchmarks among existing ViT-based approaches, while requiring fewer resources and lower input image resolution.

Another important advantage of our solution is its integrability, since it can be fine-tuned on top of many of the ViT-based backbones and can also be integrated into most of the Transformer-like architectures that leverage the standard self-attention mechanism.

My current research interests involve various image classification fields, but my main projects involve such problems as medical imaging and classification based on an extremely limited amount of data. Medical image processing has always been one of my priorities, since by solving the problems in this field one automatically helps to improve lives of many people all around the world, which is an important goal for any researcher.

Low-data image classification basically explores the ways of performing visual recognition using only a highly limited number of images per class. This problem may seem minor at first glance but is an essentially crucial problem that requires redefining the conventional machine- and deep-learning algorithms and rules of thumb typically used in traditional image classification with a vast number of images. This issue is often overlooked by top research teams; however, improving the performance of existing solutions on this class of tasks may help in numerous applications since most of the real

projects in industry are usually extremely limited in terms of data.

### **How can IAPR help young researchers?**

From my experience, one of the main concerns of junior researchers is having a lack of communication in their chosen direction and in the research field in general, which is mainly related to the lack of connections with fellow researchers.

I believe this issue can be tackled by providing opportunities to join various international academic communities specifically designed for juniors and led by established researchers and academics. Such communities may be helpful for arranging different kinds of special events for discussions, connections, and knowledge exchange between recent joiners and professionals bonded by similar interests.

As one of the major international associations, IAPR already helps young researchers to meet these goals by arranging an international community of people with shared fields of interest. Doing this effectively boosts research, development, and further application of computer vision innovations, and helps to disseminate the existing knowledge along with encouraging new practitioners to join the field and the network.

~ Dmitry Demidov.



## **WHAT YOU CAN MEASURE, YOU CAN CHANGE**





# EQUALITY, DIVERSITY & INCLUSION



Note from your *EiC, LE, and EDI Committee Chair*: This feature of the IAPR Newsletter is devoted to advertising activities and news from the IAPR standing committee on Equity, Diversity and Inclusion (EDI). The statement of IAPR Policy on EDI can be found [here](#). Our goal in this regular feature is to call attention to EDI initiatives that may be of interest to our readers.

**Maria De Marsico, Chair of EDI, invites all readers to share information about any related initiatives in their countries or national organizations. Information can be sent to [demarsico@di.uniroma1.it](mailto:demarsico@di.uniroma1.it). Please use the subject line: "Relevant Information for IAPR EDI Committee"**

Valuing and making known the work of women in a scientific field can encourage new women recruits to embark on a research-related career. Associate Professor Indriyati Atmosukarto kindly provided more details about a volume series devoted to research by women.

~ Maria DeMarsico

[Women in Pattern Recognition 2022](#) is an exciting and transformative article collection hosted by Associate Professors [Indriyati Atmosukarto](#) (Singapore Institute of Technology) and [Shabnam Sadeghi Esfahlani](#) (ARU, Chelmsford). This research topic is part of the Women in Artificial Intelligence series that includes several other titles ([linked](#) in the April issue of *IAPR Newsletter*).

The core objective of this initiative is to bridge the alarming gender gap prevalent in research. Based on recent [Unesco data](#), women comprise less than 30% of researchers worldwide, a disparity that cannot be ignored. Moreover, the COVID-19 pandemic has further exacerbated the

challenges faced by women in scientific careers. (An interesting article <sup>1</sup> describes this problem and suggests an action plan that is worthy of consideration.)

To be considered for this collection, the first or last author should be a researcher who is a woman. The first article published in the collection is a contribution from a team led by Professor Linda Shapiro, Professor of CSE & ECE, University of Washington, who has done pioneering work in the computer vision field for the past three decades. Her featured research on the automated processes for analyzing digital skin biopsy images ([linked here](#)) details how deep learning can aid dermatopathologists in their work.

The *Women in Pattern Recognition 2022* series is produced by the journal [Frontiers in Artificial Intelligence](#), following up on their successful project *Women in Science: Chemistry*. It showcases and celebrates the contributions of women scientists across various domains in pattern recognition.

Actively promoting the work of women researchers in PR can, of course, encourage more women to also participate in PR research. The featured work highlights the diversity of research by women across the entire breadth of topics in pattern recognition, including advances in theory, experiment, and methodology, and with applications to compelling problems.

The launch of *Women in Pattern Recognition 2022* coincided with the celebration of the UN International Day of Women and Girls in Science in February 2022. Through this initiative, the field of pattern recognition takes a pivotal step toward narrowing the gender gap in research. By providing a platform for women scientists to share exceptional work and achievements, this collection challenges existing biases and fosters an inclusive environment that values and recognizes the immense contributions of women in research.

~ Indriyati Atmosukarto and  
Maria DeMarsico

1. Davis, P.B., Meagher, E.A., Pomeroy, C. et al. "Pandemic-related barriers to the success of women in research: a framework for action," *Nat. Med.*, vol. 28, pp. 436-438, 2022, [doi.org/10.1038/s41591-022-01692-8](https://doi.org/10.1038/s41591-022-01692-8)



# FROM THE ExCo...

## ANNOUNCING THE IAPR AD-HOC COMMITTEE ON HYBRID CONFERENCES

by Terence Sim, Hybrid Conference Committee Chair



### ***News from the IAPR Executive Committee***

**New Website** ~ IAPR's new website is up and running! Stay connected at [iapr.org](http://iapr.org) and follow our social media sites on [LinkedIn](#), [Twitter](#), and [YouTube](#).

**ICPR 2024, Kolkata, India, December 1-5, 2024** ~ An updated Call for Papers (CFP) is included in [this Newsletter](#)

**Summer and Winter Schools** ~ This year, three schools got support from IAPR (Winter School on Biometrics, Summer School on Biometrics, and Summer School on Document Analysis). The IAPR encourages Technical Committees to [organize summer schools](#)

**50th Anniversary(ies) of the IAPR** ~ The IAPR Ad Hoc 50th Anniversary Committee is discussing a range of possible activities to help us celebrate. Some of these will take place at ICPR 2024 and beyond, while others will be virtual. If you have ideas, memories, or photos to share, please [let us know](#)

**Diversity in the Pattern Recognition Community** ~ The IAPR web page on diversity includes videos celebrating our diversity. To be represented here, visit the [website](#) and send an email to the address provided at the top.

**Use of LLMs in Conferences** ~ Authors are responsible for their own papers and must act in accordance with each conference's rules regarding the use of tools like ChatGPT. In general, LLM-generated text is not accepted, with some exceptions for grammar correction. Reviewers are also not allowed to use it, especially in double-blind reviews. The ExCo encourages debate among our C&M, ICPR committees, and ICPR organizers on the use of LLM in our conferences.

**IAPR Research Scholarships** ~ The IAPR Education Committee awards IAPR Research Scholarships (IAPR RS) to provide opportunities for Early Career Researchers working with host institutions across international boundaries. More information can be found [here](#). Please see the [report](#) in this issue from Andrea Gemelli, the most recent IAPR Research Scholar.

**Bids to Host ICPR 2028** ~ The Call for bids to host ICPR 2028 will open in the coming months. More information is available [here](#).

**Calls for Nominations for Prizes and Awards to be presented at ICPR 2024** ~ The IAPR has announced open calls for the King-Sun Fu, J. K. Aggarwal and Maria Petrou Prizes and the IAPR Fellow Award. Please see the CfNs for [Prizes](#) and [Fellows](#) in this issue and go to the websites for more details.

With restrictions on Covid-19 easing up in many cities, virtual conferences are no longer preferred. Instead, on-site physical conferences have resumed once again. Physical meetings allow close-up interactions, impromptu meetups, and a level of camaraderie that can only develop with shared experiences.

But virtual conferences are not without benefits. They reach a larger audience geographically, cost less in time and money to attend, and are more environmentally friendly. Some organizers have turned to hybrid conferences in the hope of getting the best of both worlds. However, hybrid conferences are very hard to get right; they are more complex for organizers and can be more confusing for attendees.

To tackle this challenge, an ad-hoc committee has recently been formed. The goal is to develop a best-practices guide for organizing hybrid conferences, detailing how to avoid the known pitfalls and achieve a successful and financially sound hybrid event. The IAPR Committee on Hybrid Conferences consists of these volunteers:

**Terence Sim, Chair** (*National University of Singapore, Singapore*)

**Daniel Lopresti, IAPR ExCo Liaison** (*Lehigh University, USA*)

**Vijayakumar Bhagavatula** (*Carnegie Mellon University, Africa Campus, Rwanda*)

**Andreas Fischer** (*University of Applied Sciences and Arts, Western Switzerland*)

**Xiang Bai** (*Huazhong University of Science and Technology, China*)

**Jose Francisco Martinez-Trinidad** (*National Institute for Astrophysics, Optics and Electronics, Mexico*)

**Neamat Elgayar** (*Heriot-Watt University, Dubai Campus, UAE*)

**Ana Filipa Sequeira** (*INESC TEC, Portugal*)

We are drawn from across the world to better reflect the concerns and requirements of different regions. All members of this committee have experience running conferences, especially during the Covid years of lockdowns and travel restrictions. The task before us is large and complex, and we will need assistance from conference organizers, contributors, and attendees.

We will soon reach out to the wider IAPR community for your views and suggestions on the different aspects of running a hybrid conference: finances, logistics, timing and time zones, travel-related issues, health precautions, social events, publicity, and emergency plans. This could take the form of a survey or informal requests for suggestions. Please watch for these requests and be generous with your ideas. If it takes a village to raise a child, it will most certainly take the world to run a hybrid conference. Feel free to reach out to us via email: [hybrid@iapr.org](mailto:hybrid@iapr.org).

~ Terence Sim

*Editor's Note: This feature of the IAPR Newsletter provides space for students who have been granted IAPR Research Scholarships to share and reflect on their visiting research experience. The goal in this feature is to share first-hand knowledge with those who might be interested in participating or applying for the IAPR Research Scholarship program. ~ Heydi Méndez-Vázquez*

*Andrea Gemelli earned an MCS degree in 2020 from University of Florence, where he then began research pursuing a Ph.D. in the Smart Computing program, under the supervision of Prof. Simone Marinai. Andrea's main topics of research interest include Document Understanding, Natural Language Processing and Graph Neural Networks.*

*He is scheduled to conclude his PhD research programme in October 2023. During these three years, he participated in several international conferences and summer schools. Among others, the 4<sup>th</sup> IAPR Summer School on Document Analysis and the 26<sup>th</sup> International Conference on Pattern Recognition (ICPR) stand out for him. Andrea's publications have mainly focused on exploiting the expressiveness of graphs over documents to unveil important structural patterns for automatic information extraction.*

*With the support of the IAPR Research Scholarship Program, Andrea was a visiting researcher at the Computer Vision Center (CVC), Barcelona, from March 2022 to February 2023. This experience allowed him to meet with other colleagues and experts working on similar topics, expanding his knowledge and resulting in an important publication. He writes here about that experience.*

*More here: <https://andreagemelli.github.io/>*



When I learned about the IAPR Research Scholarship program, I was excited to have this research opportunity. I am now happy to share my experience and conclusions with other researchers and colleagues.



**First day at ECCV 2022 ~ Left to right:** Andres M. Delgado, Ali F. Biten, Sergi Garcia, Dimosthenis Karatzas, Ruben Perez, Sanket Biswas, Me

I can broadly divide the whole visiting year into two main periods: In the first, we designed the GNN-based framework, later published as Doc2Graph to Text in Everything @ ECCV 2022. In the second, we explored how to enrich the developed project to be further extended.

In March 2022, I started my collaboration with the Computer Vision Center (CVC) of Universitat Autònoma de Barcelona. As a visiting researcher, I moved there to start a new project on Entity Detection and Entity Linking tasks within rich documents such as forms, with the supervision of Prof. Joseph Llados and the collaboration of PhD student Sanket Biswas. We started by revising the state-of-the-art, redefining baselines

and tasks, and finding the best datasets to work with. We then began development of the framework [Doc2Graph](#). The latter, on top of weekly meetings and several refinements, ended up in a very important publication to me and for my PhD. I had planned to stay only for six months, but having found such a good place to work and amazing colleagues to work with made me choose to stay longer, until February 2023. In the second period, we mainly extended the preliminary results we obtained within the first months, on which I am still working to conclude my PhD thesis.

While I was at the CVC in Barcelona, I also joined important activities for my personal and professional growth. Among others, I attended weekly reading groups with other researchers to keep updated on the latest discoveries in the field; I participated in many internal seminars and poster sessions that helped me share my research with experts outside of my research field to get insightful feedback; I also had the chance to share projects in The Annual Catalan Meeting on Computer Vision ([ACMVC](#)) poster sessions.



The period as visiting researcher at CVC made me grow research-wise, professionally and personally. I think that moving outside of the home institution is something that every PhD student should do. Meeting with researchers all over the world and sharing one's research with other experts is a vital part of the research itself because feedback is the essential ingredient for a successful PhD.

I would also really like to share my gratitude for the visited institution: I believe CVC is an exceptional place that would be beneficial to any other PhD student out there who would like to pursue something similar to my experience. I felt welcomed from the very first day until the last. The visiting period undoubtedly

impacted my research positively, and in the last part of my PhD, will still influence future directions as an extension of joint projects with CVC. I did not expect that such an experience would be one of the best I ever had in my entire life, allowing me to meet friends that will last forever. A special thank you goes to Sanket, Andres, and Ali, who believed in me and helped me focus on my good points. I now understand that in such a competitive field the most important thing is to make comparisons with previous versions of ourselves only. And if you find yourself grown, as I did, it is the greatest success you would ever achieve.

~ Andrea Gemelli



*“Arrivederci” CVC* ~ The goodbye with my colleagues and friends, the day before coming back to Florence. Left to right: Ali F. Biten, Sounak Dei, Me, Sanket Biswas, Mohamed A. Souibgui, Khanh Nguyen, Andrea M. Mendoza, Laura M. Montanez, Andres M. Delgado

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### IAPR TC3 **NEURAL NETWORKS & COMPUTATIONAL INTELLIGENCE**

[iapr.org/tc3](http://iapr.org/tc3)

Chair: Hazem Abbas (Ain Shams University, Egypt)

Vice Chair: Mirco Ravanelli (Université de Montréal, Canada)

IAPR TC3 serves as a platform for promoting research in the areas of artificial neural networks, computational intelligence, and machine learning techniques for pattern recognition. The committee is interested in a wide range of topics, including deep learning, adaptive modeling of sequences and structures (such as graphs), probabilistic graphical models, kernel methods, fuzzy systems, evolutionary computing/genetic algorithms, and statistics relevant to these fields.

We are delighted with the success of our ANNPR2022 biennial meeting, held in Dubai (as [reported](#) in the April issue of *IAPR Newsletter*). The workshop [proceedings](#), published by Springer, are now accessible to all interested parties. I want to express my heartfelt appreciation to Dr. Neamat El Gayar, the organizer of ANNPR2022, for her exceptional contributions.

Now, we are excited to launch the call for hosting and organizing the next edition of ANNPR, scheduled for November 2024. We invite both TC3 members and non-members who might be interested to kindly send their expressions of interest via email to [mirco.ravanelli@concordia.ca](mailto:mirco.ravanelli@concordia.ca).

For more information, please visit our [TC3 website](#)

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### IAPR TC4 **BIOMETRICS**

[iapr.org/tc4](http://iapr.org/tc4)

Chair: Julian Fierrez (Universidad Autónoma de Madrid, Spain)

Vice Chair: Shiqi Yu (Southern University of Science and Technology, China)

With an increasing demand on enhanced security and more reliable personal authentication, biometrics has become a very active research topic in pattern recognition and is set to remain so for many years to come. IAPR TC4 is the leading force in the international biometrics community. Our [website](#) serves as the information hub on biometrics-related conferences or workshops, publications, standardization, databases, evaluations, research groups, and other biometrics news.

20<sup>th</sup> International Summer School  
for Advanced Studies on Biometrics for Secure Authentication:

### **20 YEARS OF BIOMETRICS: Reflections and Outlooks**



[The 20th International Summer School for Advanced Studies on Biometrics for Secure Authentication](#): 20 Years of Biometrics: Reflections and Outlooks was held in Alghero,

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### IAPR TC4 BIOMETRICS

[iapr.org/tc4](http://iapr.org/tc4)

#### TC4 NEWS, CONTINUED

Italy from June 5 to 9, 2023. This school followed the successful track of the International Summer Schools on Biometrics held since 2003. This 20th edition focused on the scientific and technological advances observed in the last 20 years, wishing to gather up the knowledge accrued over the past two decades with the current trends in AI

and related fields. The school particularly addressed how the most advanced technologies for personal recognition impact current society and how they can be applied for social good. The school program was enriched by two round tables —on the impact of current concerns in the application of AI and on the need for the development

of ethical systems—and by a panel on the last 20 years of biometrics research. Prof. Arun Ross moderated a stimulating discussion with four panelists: Prof. Anil Jain, Prof. Michael King, Prof Alice O'Toole, and Dr. Jonathon Phillips. A complete report and student report/s will be published in an upcoming issue of the *IAPR Newsletter*.

### IEEE International Joint Conference on Biometrics (IJCB 2023)

25-28 September 2023, Ljubljana, Slovenia

The International Joint Conference on Biometrics (IJCB) is the premier international forum for research in biometrics and related technologies. It combines two

major biometrics conferences, the IEEE Biometrics Theory, Applications, and Systems (BTAS) conference and the International Conference on Biometrics (ICB)

and is made possible through a special agreement between the IAPR TC4 and the IEEE Biometrics Council. [IJCB 2023](#) is the 7th iteration of this major joint event and will be held in Europe, in Ljubljana, Slovenia, September 25-28, 2023. The conference is financially sponsored by the IEEE Biometrics Council and technically co-sponsored by IAPR. IJCB 2023 will be held as an in-person event.

The [17th Chinese Conference on Biometric Recognition \(CCBR\)](#) will be held in Suzhou, China, December 1-3, 2023. CCBR 2023 is the 17th edition since CCBR was first launched in 2000. It has been held in Beijing, Hangzhou, Xi'an, Guangzhou, Jinan, Shenyang, Tianjin, Chengdu, Shenzhen, Urumqi, Zhuzhou and Shanghai. CCBR 2023 is endorsed by IAPR and expects to have 300 participants and 200 submissions. This conference will bring together a large number of researchers engaged in biometric identification theory and application research ***The submission deadline has been extended to August 15, 2023.***





## TECHNICAL COMMITTEE NEWS, CONTINUED

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### IAPR TC5 **COMPUTER VISION FOR UNDERWATER MONITORING**

[iapr.org/tc5](http://iapr.org/tc5)

*Chair:* Alexandra Branzan Albu (University of Victoria, Canada)  
*Vice Chair:* Kevin Köser (Christian-Albrechts-Universität Kiel, Germany)

*We focus on the development of computer vision and image processing techniques for applications in environmental underwater monitoring. This encompasses a wide range of activities and tasks, such as: habitat mapping, species identification, estimation of species diversity and abundance, and analysis of animal behaviour. CVUEM runs the Computer Vision for Analysis of Underwater Imagery (CVAUI) IAPR workshop series and is also closely involved in other workshops such as the Marine Imaging Workshop (MIW).*

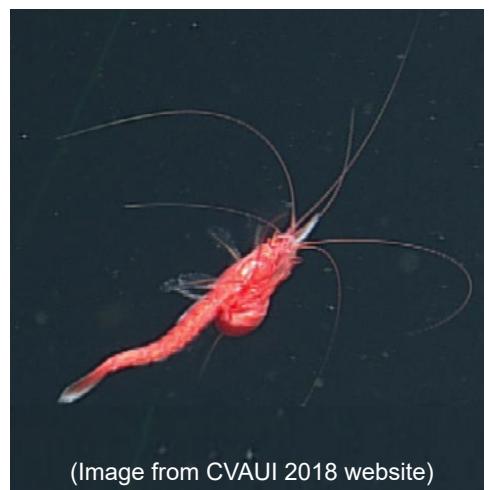
Our technical committee coalesced around a successful ICPR workshop series on Computer Vision for Underwater Image Analysis (CVAUI). The inaugural workshop took place in Stockholm in August 2014, and was followed by workshops in Cancun (2016), Beijing (2018), online (2020), and Montreal (2022). The co-organizers of the workshop series, Maia Hoeberichts and Alexandra Branzan Albu, have seen steady interest, participation, and attendance from research groups around the world with respect to

interdisciplinary topics relevant to the workshop: underwater image analysis, habitat mapping, species identification, estimation of species diversity and abundance, as well as analysis of animal behaviour in response to environmental stressors, conditions, and events.

The successful CVAUI series led to the formation of TC5 in 2018. CVAUI workshops remain the flagship event for our technical committee, while we are engaging with other events of similar scope, such as the Marine Imaging Workshop (MIW) series, the 1st Workshop on Maritime Computer Vision at

WACV 2023 (MACVI), and the [underwater mapping workshop of ISPRS](#) etc.

The [CVUEM website](#) has been recently updated to better inform the community about the TC5 new leadership (Alexandra Branzan Albu (Canada) as chair, Kevin Köser (Germany) as vice-chair, and Declan McIntosh (Canada) as webmaster), relevant activities, and news. This update aims at expanding and strengthening our research community. If you share interests with our community, please also check and join our new [LinkedIn](#) group.



(Image from CVAUI 2018 website)



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### IAPR TC6 COMPUTATIONAL FORENSICS

[iapr.org/tc6](http://iapr.org/tc6)

Chair: Victor Sanchez (University of Warwick, UK)  
Vice Chair: Nicolas Sidère (University of La Rochelle, France)

IAPR TC6 aims to further promote research, development, and education in Computational Forensics (CF) and to provide a platform for cooperation and exchange of researchers, practitioners, and teachers from the various disciplines of computational and forensic sciences. CF involves modeling, computer simulation, computer-based analysis, and recognition in studying and solving forensic problems.

## IWBF2023

The 11th International Workshop on Biometrics and Forensics (IWBF), an international forum devoted specifically to facilitate synergies in research and development in the areas of multi-media forensics, forensic biometrics, and forensic science, was held at Barcelona (Spain) from April 19-20, 2023.

A report is included in this issue of the *IAPR Newsletter* (click [here](#) to jump to the report).



### Webinars

The TC 6 recently started a series of webinars. The first was held by Dr. Benedetta Tondi on May 11, 2023. Dr. Benedetta Tondi is Associate Professor at the Department of Information Engineering and Mathematics of the University of Siena (Italy), and her talk was on *Backdooring Deep Neural Networks: from threats to opportunities*.

The video is online and can be accessed [here](#).



### IAPR TC12 MULTIMEDIA AND VISUAL INFORMATION SYSTEMS

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[iapr.org/tc12](http://iapr.org/tc12)

Chair: Hugo Jair Escalante (INAOE & CINVESTAV, Mexico)

Vice Chair: Sergio Esclaré (University of Barcelona, Spain)

Vice Chair: Henning Müller (HES-SO, Sierre, Switzerland)

Information Officer: Albert Ali Salah (Utrecht University, Utrecht, Netherlands)

IAPR TC12 promotes interaction among researchers working in modeling, design, and development of systems for the analysis, processing, description, and retrieval of multimedia and visual information as well as the applications of these systems in challenging domains.

A [special issue](#) on **Biometrics Security and Privacy** is being edited in the *International Journal of Computer Vision* (IJCV), by Jun Wan (Chinese Academy of Sciences, China), Sergio Escalera (Universitat de Barcelona and Computer Vision Center, Spain), Arun Ross (Michigan State University, USA), and Philip Torr (University of Oxford, UK).



A [special issue](#) on **AutoML for Non-Stationary Data** is being edited in *IEEE Transactions on Artificial Intelligence*, by Ran Cheng (Southern University of Science and Technology, China), Hugo Jair Escalante (INAOE, Mexico), Jan N. van Rijn (Leiden University, the Netherlands), Wei-Wei Tu (4Paradigm Inc., China), Shuo Wang (University of Birmingham, UK), Yun Yang (Yunnan University, China).



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### IAPR TC 12 MULTIMEDIA AND VISUAL INFORMATION SYSTEMS

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#### TC 12 News, Continued



image credit: [imageclef.org](https://imageclef.org)

[ImageCLEF 2023](#) will present its results for all the tasks at CLEF 2023. The conference will take place in Thessaloniki, Greece, in September 2023.

[GAN Task webpage](#) [Captioning Task webpage](#)



image credit: [codalab.lisn.upsaclay.fr/competitions/10080](https://codalab.lisn.upsaclay.fr/competitions/10080)

Challearn Looking at People series - 4th Face Anti-Spoofing Workshop and Challenge@ CVPR2023 focused on general surveillance scenarios and alleviating the performance degradation of technology in the case of low face resolution, occlusion interference, non-frontal perspective, and other natural person behaviors. The challenge results are now out. [Challenge Website](#) [Workshop](#) [Results](#)

# The 18th IEEE International Conference on Automatic Face and Gesture Recognition

27-31 May 2024 SDKM, ITU Campus, Istanbul, Turkey

18th IEEE Conference on Automatic Face and Gesture Recognition (FG 2024) will take place in Istanbul (Turkey) May 27-31, 2024. FG is the premier international forum for research in image and video-based face, gesture, and body movement recognition. Its broad scope includes advances in fundamental computer vision, pattern recognition, and computer graphics; machine learning techniques relevant to face, gesture, and body motion; interdisciplinary research on behavioral analysis; new algorithms and applications. Please check out the call for papers at [FG2024.ieee-biometrics.org](https://FG2024.ieee-biometrics.org).

**Multimodal Multiple Appropriate Facial Reaction Generation Challenge (REACT 2023)** is being organised as a satellite event of [ACM MM 2023](#), (Ottawa, Canada, October 2023), which aims at comparison of multimedia processing and machine learning methods for automatic human facial reaction generation under different dyadic interaction scenarios. Learn more [here](#).





## TECHNICAL COMMITTEE NEWS, CONTINUED

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navigation)

- TC3 Neural Networks & Computational Intelligence
- TC4 Biometrics
- TC5 Computer Vision for Underwater Environmental Monitoring
- TC6 Computational Forensics
- TC12 Multimedia and Visual Information Systems
- TC15 Graph Based Representations
- TC18 Discrete Geometry and Mathematical Morphology



### IAPR TC 15 **GRAPH BASED REPRESENTATIONS**

[iapr.org/tc15](http://iapr.org/tc15)

Chair: Donatello Conte (Université de Tours, France)  
Vice Chair: Vincenzo Carletti (University of Salerno, Italy)



***The 13th International Workshop on  
Graph-Based Representations in  
Pattern Recognition is ready to start!***

**Vietri Sul Mare, Salerno (Italy) at  
Lloyd's Baia Hotel, September 6-8, 2023**

GbR is a biennial workshop organized by the 15th Technical Committee of IAPR, aimed at encouraging research works in Pattern Recognition and Image Analysis within the graph theory framework. This workshop series traditionally provides a forum for presenting and discussing research results and

applications at the intersection of pattern recognition and image analysis on one side and graph theory on the other side. In addition, given the avenue of new structural/graphical models and structural criteria for solving computer vision problems, GbR2023 organization encourages researchers in this more general context to actively participate in the workshop. Furthermore, the application of graphs to pattern recognition problems in other fields like computational topology, graphic recognition systems and bioinformatics is also highly welcome at the workshop.

The [venue](#) is a few meters away from Vietri sul Mare, a village that is considered the “first pearl” in the Amalfi Coast. The hotel’s location was carefully chosen to allow participants to reach the center of Salerno in just a few minutes and to visit the surrounding tourist attractions such as Maiori, Minori, Amalfi, Ravello, Positano, Cetara, Atrani and the famous Fiordo di Furore.

***Late registrations are possible until July 30th  
Click [here](#) for more information about GbR2023***





## TECHNICAL COMMITTEE NEWS, CONTINUED

IN  
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- TC18 Discrete Geometry and Mathematical Morphology



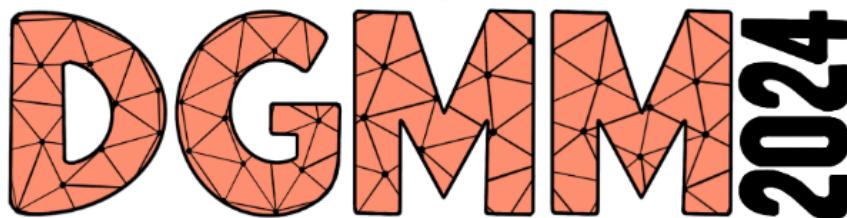
### IAPR TC 18 DISCRETE GEOMETRY AND MATHEMATICAL MORPHOLOGY

[twitter](#) [iapr.org/tc18](http://iapr.org/tc18)

Chair: Sara Brunetti (University of Siena, Italy)

Vice Chair: Benjamin Perret (Université Gustave Eiffel, ESIEE Paris, France)

### Announcement



DGMM offers the opportunity for researchers, students, and practitioners to share and discuss novel, high-quality research results within the fields of discrete geometry and mathematical morphology, and their applications to image processing and image analysis. Both theoretical and application-focused contributions related to these fields are welcome

*The 3rd edition of the conference on Discrete Geometry and Mathematical Morphology ([DGMM 2024](#)) will be held in Florence, Italy April 15-18, 2024*

### Important Dates

Title & Abstract Submission  
September 23, 2023

Paper Submission Deadline  
October 1, 2023



**RRPR Updates** Since the successful fourth edition of the Reproducible Research in Pattern Recognition (RRPR) workshop, held in Montreal, Canada on August 21st (during ICPR 2022), the event has extended beyond the workshop in two ways:

First, RRPR continued with a new open poster presentation track at the second edition of the IAPR international conference Discrete Geometry and Mathematical Morphology (DGMM 22), held two months after RRPR, in Strasbourg, Oct 24-27, 2022.

Second, two focus groups were formed with the goal of discussing efforts to integrate reproducible research in international conferences, motivate reproducible research, and measure the balance between impact versus investment.

Finally, after the post-proceedings process, 5 full papers and 4 short companion papers were accepted.

Proceedings are now available [here](#) and by clicking on the cover image. See our [Bulletin Board](#) note for information on access to Springer's Conference Proceedings.

Bertrand Kerautret · Miguel Colom · Adrien Krähenbühl · Daniel Lopresti · Pascal Monasse · Hugues Talbot (Eds.)

### Reproducible Research in Pattern Recognition

Third International Workshop, RRPR 2021  
Virtual Event, January 11, 2021  
Revised Selected Papers





# MEETING REPORTS

## CONFERENCES, WORKSHOPS, & SUMMER/WINTER SCHOOLS



### ICFHR 2022

## INTERNATIONAL CONFERENCE ON FRONTIERS IN HANDWRITING RECOGNITION

December 04 - 07, 2022

Hyderabad, India

#### General Chairs

Apostolos Antonacopoulos (University of Salford)

Venu Govindaraju (University at Buffalo)

C.V. Jawahar (IIIT Hyderabad)

#### Program Chairs

Alicia Fornes (Universitat Autònoma de Barcelona)

Utkarsh Porwal (Walmart Inc, USA)

Faisal Shafait (NUST)

[Click here for complete list of Organizing Committee members](#)

The 18th edition of the **International Conference on Frontiers of Handwriting Recognition (ICFHR 2022)** was held as a hybrid event at IIIT, Hyderabad, India in December 2022.

One of the major conferences of the IAPR Technical Committee on Reading Systems (TC-11), the ICFHR is held biennially, and plays an important scientific role in the field of handwriting recognition. The conference brings together experts across the world from academia and industry to promote research and development in all aspects of handwriting and its applications.



ICFHR 2022 was endorsed by IAPR, and the proceedings were published in Springer's Lecture Notes in Computer Science (proceedings are linked [here](#) and with the cover image below). The event was sponsored by Amazon, University of Buffalo, Indian School of Business, and International Institute of Information Technology, Hyderabad.

As part of ICFHR 2022, the ICFHR-IJDAR journal track was introduced to provide the benefit of rapid and timely turnaround of scientific developments to the community offered by conferences while maintaining the rigor and discipline of the journal review.

Researchers from 19 different countries participated in this prestigious event. Based on peer reviews, 47 were accepted for oral presentation, resulting in an oral acceptance rate of 64.3%. Most of the submissions came from China, Germany, India, US, Denmark, and Spain. A total of 105 participants from various countries attended the event. While 90 of them joined the conference physically at Hyderabad, the remaining attended online.

The event spread over 4 days, with two pre-conference workshops on Day 1. The workshops were: *1st Workshop on Deep Document Understanding* ([DeepDoc 22](#)) and *Workshop on Improving Document Analysis Tools for Indian Languages* ([WIDAFIL 22](#)).

The technical activities of the main conference included: 3 keynotes sessions, 8 oral sessions, a session in honour of Dr. Sargur Srihari, a panel discussion on Intelligent Technologies and Systems for Palm Leaf Manuscript Understanding, and a TC-11 meet.

Three keynote speeches were given by internationally renowned researchers active in handwriting recognition and computer vision. Christopher Kermorvant, Founder and Scientific Director at Teklia, gave a talk on *Large-scale Handwriting Recognition: Implementation in Historical Document Processing Projects*. Dr. Prem Natarajan from Amazon (Alexa) enlightened us on *Frontiers of Fair and Accessible (Conversational) AI*. Prof. Rajeev Sangal from IIIT, Hyderabad, gave a talk on *Document Understanding for Machine Translation*.

## KEYNOTE SPEAKERS



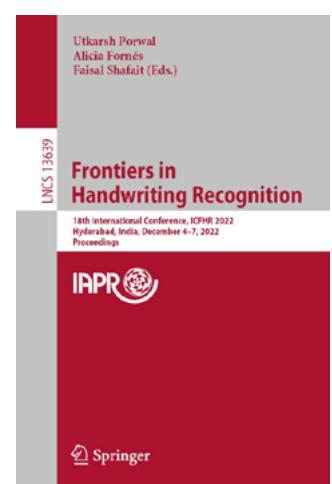
Christopher Kermorvant



Prem Natarajan



Rajeev Sangal



IAPR-sponsored awards were announced for the best paper and the best student paper. The IAPR-ICFHR 2022 Best Paper Award was presented to Ming-Ming Yu, Heng Zhang, Fei Yin, and Cheng-Lin Liu for the paper titled *An Efficient Prototype-based Model for Handwritten Text Recognition with Multi-Loss Fusion*. The IAPR-ICFHR 2022 Best Student Paper Award went to Xiaoyi Zhang, Tianwei Wang, Jiapeng Wang, Lianwen Jin, Canjie Luo, and Yang Xue for their contribution, titled *ChaCo: Character Contrastive Learning for Handwritten Text Recognition*.

In addition to its intense technical activities, there were cultural programs presenting some of India's rich cultural heritage. The classical dance recital comprising various classical dance forms such as a Mohiniyattom, Bharatnatyam, and Kuchipudi was highly appreciated by all. This was followed by the banquet ceremony that introduced the participants to traditional Indian cuisine.



Report  
Submitted by  
The ICFHR 22 Team



## THEN & NOW: 15 YEARS AGO, ICFHR 2008

19—21 August 2008 ~ Montréal, Canada



# ICPRAM 2023

12<sup>th</sup> International Conference on Pattern Recognition Applications and Methods

Lisbon, Portugal

22 - 24 February, 2023

## General Conference Chair

Ana Fred

Instituto de Telecomunicações

University of Lisbon, Portugal

## Program Co-Chairs

Maria De Marsico

Sapienza Università di Roma, Italy

Gabriella Sanniti di Baja

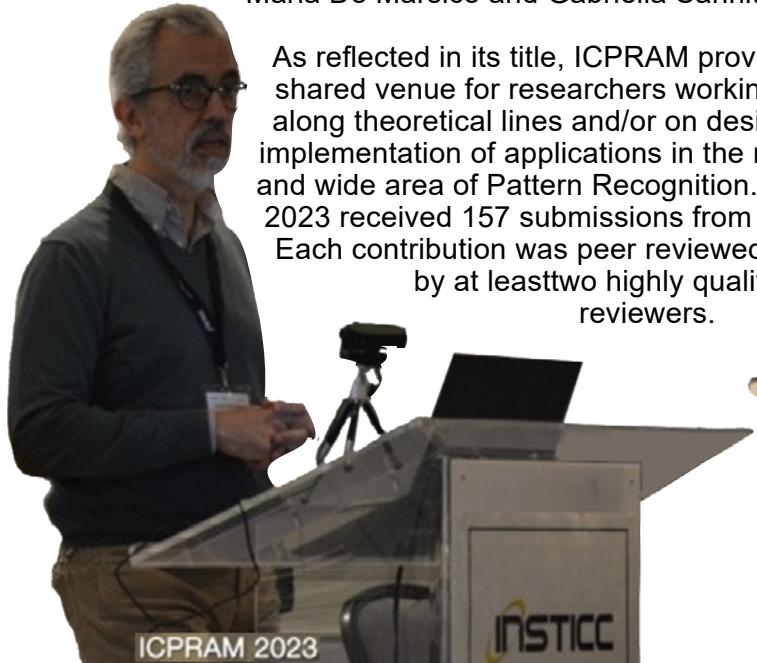
Italian National Research Council CNR, Italy

The 12th International Conference on Pattern Recognition Applications and Methods ([ICPRAM 2023](#)) was the first post-COVID edition organized in-person and was held in Lisbon, Portugal, February 22-24, 2023. To accommodate different needs and the continued travel restrictions in some countries, the conference was held in hybrid mode. Both attendees and invited speakers had the option to connect via streaming.

The conference was supported in various ways by several international organizations. ICPRAM 2023 was technically co-sponsored by IEEE Computational Intelligence Society and by the ACM Special Interest Group on Artificial Intelligence (ACM SIGAI), in cooperation with the International Neural Network Society (INNS) and EAB (European Association for Biometrics), and endorsed by IAPR. As usual, the Institute for Systems and Technologies of Information, Control and Communication (INSTICC) sponsored the conference, together with Elsevier's Artificial Intelligence journal.

The General Chair of ICPRAM 2023 was Ana Fred, as has been the case since the first edition. Since 2016, the Program Co-Chairs have also been the same:  
Maria De Marsico and Gabriella Sanniti di Baja.

As reflected in its title, ICPRAM provides a shared venue for researchers working both along theoretical lines and/or on design and implementation of applications in the multifaceted and wide area of Pattern Recognition. ICPRAM 2023 received 157 submissions from 40 countries. Each contribution was peer reviewed by at least two highly qualified reviewers.



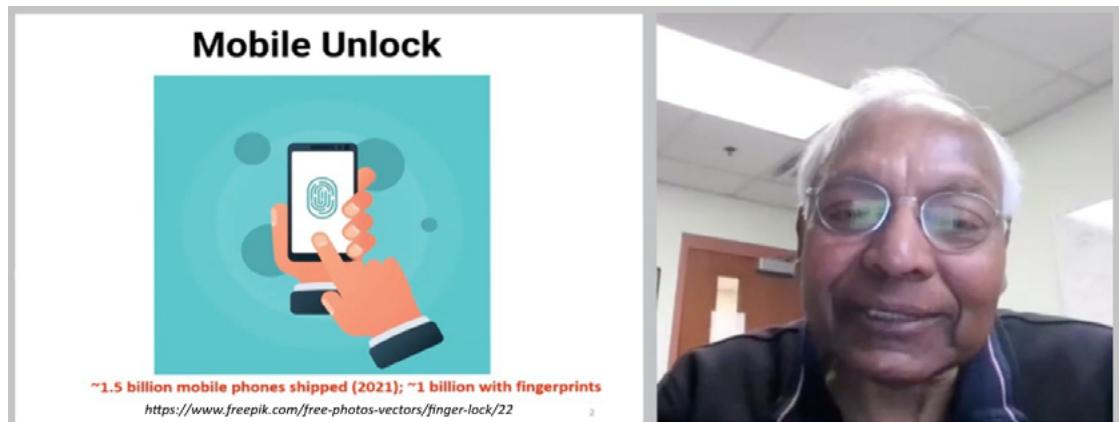
They selected 28 submissions for oral presentation as full papers, 42 submissions for oral presentation as short papers, and 43 submissions for poster presentation.

Notwithstanding the difficulties of a hybrid meeting, ICPRAM 2023 maintained its goals, and the organizing team extended their best effort in providing an engaging event. The attendance numbers testify a new increase in community interest, with a total of 147 participants. Out of these, 97 were in presence and 50 online. This confirms the appropriateness of the hybrid choice, which could be maintained for the next edition.

Besides the accepted contributions, as a further matter of interest and scientific growth, the conference program included three invited talks by internationally distinguished speakers.

In person at the conference, Mario Figueiredo, from Instituto de Telecomunicações, Portugal presented *Causal Discovery from Observation Data: Some Recent Advances* (page 17, left); and Petia Radeva, from Universitat de Barcelona, Spain, presented *Self-Supervised Fine-Grained Food Recognition* (page 17, right). Anil Jain, from Michigan State University, United States presented online, *Fingerprint Recognition: Billion-Class Pattern Recognition Problem* (below).

As is the tradition of ICPRAM, the best contributions presented this year received awards. The conference assigned the Best Scientific Paper Award, the Best Student Paper Award, the Best Industrial Paper Award and the Best Poster Presentation Award.



Works nominated for the first three awards were selected by the Program/Conference Chairs among ICPRAM 2023 full papers, considering the best combined review marks (assessed by the Program Committee) and the paper presentation quality (assessed by the Session Chairs at the conference venue and by the Conference Chairs who personally attended the candidate presentations). As in past editions of the conference, the Best Poster Presentation Award was given to the most appealing poster.



Each author and co-author of an awarded paper received: A signed and stamped official award certificate; an announcement of their achievement on a special conference webpage; a one year free membership of [INSTICC](#), warranting full access to the SCITEPRESS Digital Library; a personal voucher for a free or reduced registration fee in one event sponsored by INSTICC.

#### **For ICPRAM 2023, awards were presented as follows:**

*Data Streams: Investigating Data Structures for Multivariate Asynchronous Time Series Prediction Problems*, authored by Christopher Vox, David Broneske, Istiaque M. Shaikat and Gunter Saake, received the Best Paper Award (top left).

*The Effects of Character-Level Data Augmentation on Style-Based Dating of Historical Manuscripts*, authored by Lisa Koopmans, Maruf A. Dhali and Lambert Schomaker, received the Best Student Paper Award.

*Rainfuzz: Reinforcement-Learning Driven Heat-Maps for Boosting Coverage-Guided Fuzzing*, authored by Lorenzo Binosi, Luca Rullo, Mario Polino, Michele Carminati and Stefano Zanero, received the Best Industrial Paper Award (bottom left).

*Towards Explainability in Using Deep Learning for Face Detection in Paintings*, authored by Siwar Bengamra, Olfa Mzoughi, André Bigand and Ezzeddine Zagrouba, received the Best Poster Presentation Award.



INSTITCC ICPRAM 2023



INSTITCC ICPRAM 2023



INSTITCC ICPRAM 2023

All presented papers are included in the conference proceedings published by SciTePress, which will be submitted for indexation by well-known abstract and citation databases of peer-reviewed literature, including SCOPUS. We

will also publish a volume in the Springer series *Lecture Notes in Computer Science* including the revised and extended versions of selected papers, as well as, for the third time, a special issue of the journal *Springer Nature Computer Science*, with revised and extended versions of the best conference papers.

Past editions of ICPRAM, held in presence, included both interesting technical programs and social events. ICPRAM 2023 also offered to participants further occasions to meet and discuss in a relaxed atmosphere. A Welcome Reception was offered on the first conference day, while on the second day participants could enjoy a nice bus tour across Lisbon, followed by a delicious dinner at the Centro de Congressos de Lisboa. During the banquet, the entertainment included traditional dances that also involved the banquet participants. Finally, a Farewell Cocktail was offered to say goodbye to the attendees.

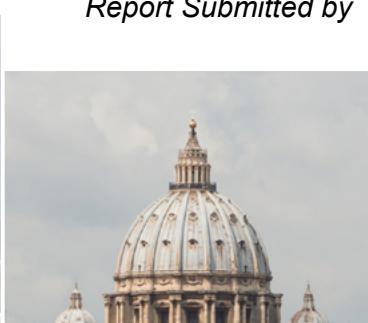
We thank the contributing authors, all the members of the international Program Committee and the additional reviewers, the invited speakers and all members of the INSTITCC team whose collaboration has been fundamental for the success of this conference.

Ana Fred (Instituto de Telecomunicações/IST, Portugal)

Report Submitted by

Maria De Marsico (Sapienza University of Rome, Italy)

Gabriella Sanniti di Baja (ICAR-CNR, Italy)



*We look forward to meeting  
researchers at the  
13th edition of ICPRAM  
in Rome, Italy!  
February 24-26, 2024*

**General Conference Chair**

Kadi Bouatouch  
Université de Rennes, France

**Program Co-Chairs**

Giovanni Maria Farinella (*Università di Catania, Italy*)  
Petia Radeva (*Universitat de Barcelona, Spain*)

The 19th International Conference on Computer Vision Theory and Applications ([VISAPP 2023](#)) was held in Lisbon, Portugal, from February 19 to 21, 2023. VISAPP is part of VISIGRAPP, the 18th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications.

The VISAPP conference was sponsored by the Institute for Systems and Technologies of Information, Control and Communication (INSTICC) and endorsed by International Association for Pattern Recognition.

VISAPP 2023 was organized in cooperation with a number of international organizations involved in research related to five broad areas of computer vision: image and video processing and analysis; image and video understanding; motion, tracking and stereo vision; mobile and egocentric vision for humans and robots; and applications and services. Contributing organizations included: Society for Imaging Science and Technology (IS&T); Center for Virtual Reality and Visualization Forschungs-GmbH (VRVis), European Association for Computer Graphics (EG), Grupo Português de Computação Gráfica; and French Association for Computer Graphics.

The main goal of VISAPP is to become a major point of contact between researchers, engineers, and practitioners in the area of computer vision application systems. During the conference, the attendees had opportunities to exchange ideas amongst themselves and with the invited speakers, regarding their respective scientific achievements and future research plans. The intended goal was to spur new and original threads of collaboration to investigate brand new approaches.

VISAPP 2023 received 284 submissions from 50 countries. Out of the accepted papers, 54 were

selected for oral presentation as full papers, 102 for oral presentation as short papers, and 70 for poster presentation.

Four invited speakers also presented the following plenary lectures:

**Alexandru Telea**

Utrecht University, Netherlands

*Beyond the Third Dimension: How Multidimensional Projections and Machine Learning Can Help Each Other*

**Ferran Argelaguet**

Institut National de Recherche en Informatique et en Automatique (INRIA), France

*The Infinite Loop*

**Liang Zheng**

Australian National University, Australia

*Data-Centric Computer Vision*

**Vincent Hayward**

Sorbonne University, France  
*Human Tactile Mechanics and the Design of Haptic Interfaces*

It is with sincere sadness that the *IAPR Newsletter* recognizes the passing of [Prof. Dr. Vincent Hayward on May 10, 2023](#).



INSTICC VISIGRAPP 2023

The conference organization assigned the awards to be given during the conference to testify the value of the best contributions: Best Paper Award, Best Student Paper Award, Best Poster Award, and Best Industrial Paper 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 paper presentation quality (assessed by Session Chairs and Program Chairs during the sessions).

For this edition, the winning papers were: **Best Paper:** Toon Goedemé and Robby Neven, *Uncertainty-Aware DPP Sampling for Active Learning*; **Best Student Paper:** Dmitry Demidov,

Muhammad H. Sharif, Aliakbar Abdurahimov, Hisham Cholakkal and Fahad S. Khan, *Salient Mask-Guided Vision Transformer for Fine-Grained Classification*; **Best Poster:** Katharina Hohlbau, Niek Andresen, Lars Lewejohann, Olaf Hellwich, Christa Thöne-Reineke and Alexander Dolokov, *Upper Bound Tracker: A Multi-Animal Tracking Solution for Closed Laboratory Settings*; and **Best Industrial Paper:** Francesco Pasti and Nicola Bellotto, *Evaluation of Computer Vision-Based Person Detection on Low-Cost Embedded Systems*.

The authors of VISAPP 2023 selected papers will be invited to submit a revised and extended version of their work for a book in the Springer CCIS Series. Another short list of best papers will be invited for publication of extended and revised versions in a special issue of the *Springer Nature Computer Science Journal*.

[VISAPP2024](#) will be in Rome, Italy, February 27 to 29, 2024.

We look forward to meeting you there! Please add it to your agenda

#### *Report Submitted by*

*Kadi Bouatouch*

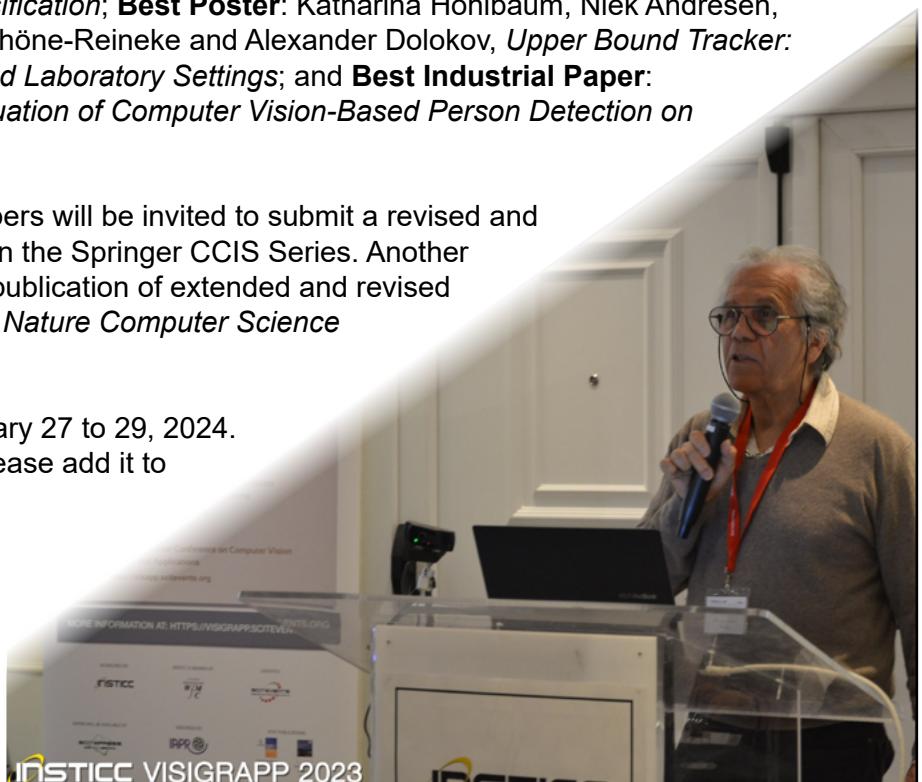
*IRISA, University of Rennes, France*

*Giovanni Maria Farinella*

*Università di Catania, Italy*

*Petia Radeva*

*Universitat de Barcelona, Spain*



# IWBF2023



## 11<sup>th</sup> International Workshop on Biometrics and Forensics

Barcelona, Spain, April 19 – 20, 2023



### Conference Chairs

Victor Sanchez

*University of Warwick, UK*

Xavier Baró Solé

*Universitat Oberta de Catalunya, Spain,*

Chang-Tsun Li

*Deakin University, Australia*



### Technical Program Chairs

Emanuele Maiorana

*Roma Tre University, Italy*

Vitomir Štruc

*University of Ljubljana, Slovenia*

The International Workshop on Biometrics and Forensics (IWBF) is an international forum devoted specifically to facilitating synergies in research and development in the areas of multimedia forensics, forensic biometrics, and forensic science. IWBF has been held annually since 2013. It provides the meeting place for those concerned with the usage of multimedia analysis in forensic applications and biometric recognition systems, attracting participants from industry, research, academia, and end-users.

The 11th edition of IWBF was held at Casa Convalescencia, Barcelona, Catalunya, Spain, 19-20, April, organized by The University of Warwick, UK, Universitat Oberta de Catalunya, Spain, and Deakin University, Australia. [IWBF 2023](#) was supported by the European Association for Biometrics and technically sponsored by the International Association for Pattern Recognition (IAPR) and the IEEE- Spain Section.

IWBF 2023 received 45 submissions from 15 different countries, namely China, UK, USA, Canada, Austria, Slovenia, India, Norway, Italy, Spain, Netherlands, Germany, Chile, Mexico, and France. The Technical Program Committee and a team of nearly 80 additional reviewers were involved in a rigorous peer-review selection process, based on at least three distinct reviewers per paper. The technical program comprised 18 oral presentations and a poster session. IEEE published the [proceedings](#).

The program included two invited talks by experts in digital image forensics and biometrics:

*A Question of Evidence: Gait, Soft and Ear Biometrics and Forensics* was presented by Prof. Mark Nixon, FIAPR, BMVA Distinguished Fellow 2015, School of Electronics and Computer Science, University of Southampton UK



**Mark Nixon**  
Luisa Verdoliva



*Towards Generalization in Deepfake Detection* was presented by Prof. Luisa Verdoliva, Chair of the IEEE Information Forensics and Security Technical Committee - Term 2021-2022, University Federico II of Naples, Italy

Based on the comments of reviewers, the top four papers were presented in a special session chaired by Dr. Vitomir Štruc:

*MorDIFF: Recognition Vulnerability and Attack Detectability of Face Morphing Attacks Created by Diffusion Autoencoders* was presented by Naser Damer, Meiling Fang, Patrick Siebke, Jan Niklas Kolf, Marco Huber, and Fadi Boutros (Fraunhofer IGD, Germany).

*On the Influence of the Quality of Pseudo-labels on the Self-supervised Speaker Verification Task: A Thorough Analysis* was presented by Abderrahim Fathan and Jahangir Alam (Computer Research Institute of Montreal (CRIM), Montreal (Quebec), Canada).

*MMFV: A Multi-Movement Finger-Video Database for Contactless Fingerprint Recognition* was presented by Aakarsh Malhotra (IIIT-Delhi, India), and Mayank Vatsa and Richa Singh (IIIT Jodhpur, India)

*Frequency-Domain Analysis of Traces for the Detection of AI-based Compression* was presented by Sandra Bergmann (Friedrich-Alexander University (FAU) Erlangen-Nürnberg, Germany), Denise Moussa (FAU, Erlangen-Nürnberg, Germany and Federal Criminal Police Office of Germany), and Fabian Brand, Andre Kaup, and Christian Riess (FAU Erlangen-Nürnberg, Germany)

The audience in this session voted for the best paper of the workshop. The Best Paper Award, sponsored

by the IAPR and announced at the end of the workshop, was given to two papers: *MorDIFF: Recognition Vulnerability and Attack Detectability of Face Morphing Attacks Created by Diffusion Autoencoders* and *Frequency- Domain Analysis of Traces for the Detection of AI-based Compression*.

The technical program was complemented by a reception on the first day of the workshop.

IWBF 2023 was a great success thanks to the contributions of the general chairs, the advisory chairs, the program chairs, the reviewers, the volunteer students, and all the authors and attendees.

*Report Submitted by*

~ Victor Sanchez, General Chair

**IAPR Best Paper Award**  
Chair: Vitomir Štruc

**IWBF2023**  
11<sup>th</sup> International Workshop on Biometrics and





The Mexican Conference on Pattern Recognition ([MCPR2023](#)) was the 15th event in the series, this time organized by the Unidad de Transferencia Tecnológica Tepic of Centro de Investigación Científica y de Educación Superior de Ensenada, Baja California (CICESE-UT3), the Centro Nayarita de Innovación y Transferencia de Tecnología (CENITT), and the Computer Science Department of the Instituto Nacional de Astrofísica, Óptica y Electrónica (INAOE) of Mexico.

MCPR2023 was sponsored by the Mexican Association for Computer Vision, Neural Computing and

Robotics (MACVNR) and the International Association for Pattern Recognition (IAPR), and was held in Tepic, Nayarit, Mexico, during June 21–24, 2023.

In this edition, as in previous years, MCPR attracted Mexican researchers and worldwide participation. We received 61 manuscripts from authors in 12 countries: Belgium, Canada, Colombia, Cuba, Ecuador, India, Ireland, Mexico, Pakistan, South Africa, Spain, and the USA. Peer review by the Program Committee, comprising experts in many fields of pattern recognition, resulted in 30 papers accepted for

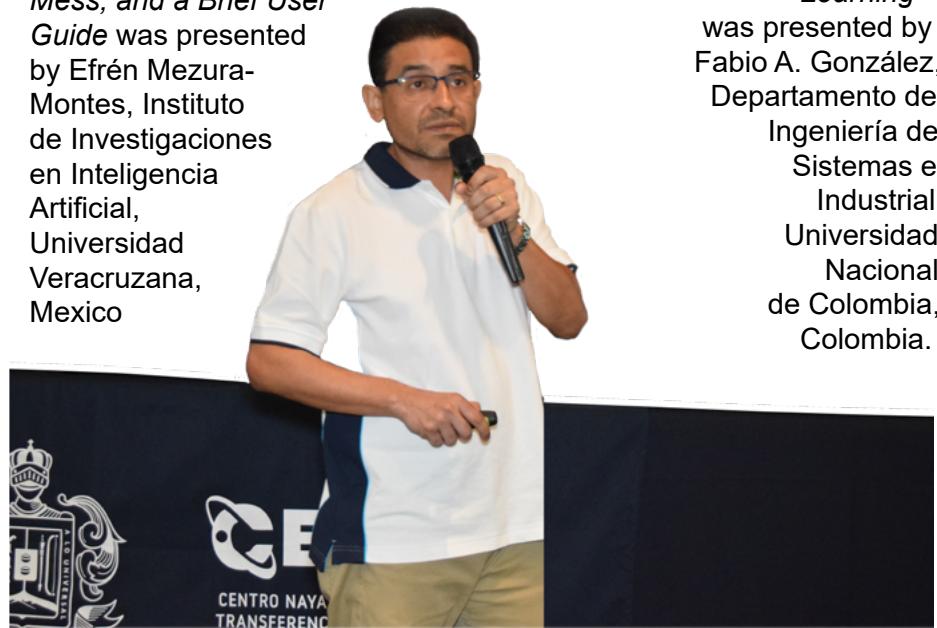
presentation at the conference. These papers are included in the volume *Pattern Recognition, LNCS 13902*, edited by Ansel Y. Rodríguez-González, Humberto Pérez-Espinosa, José Francisco Martínez-Trinidad, Jesus Ariel Carrasco-Ochoa, and Jose Arturo Olvera-Lopez, linked [here](#).

The oral sessions covered the topics: Pattern Recognition and Machine Learning Techniques, Deep Learning and Neural Networks, Medical Applications of Pattern Recognition, Language Processing and Recognition, and Industrial Applications of Pattern Recognition.



Three outstanding speakers were invited to give keynote addresses on topics in Pattern Recognition:

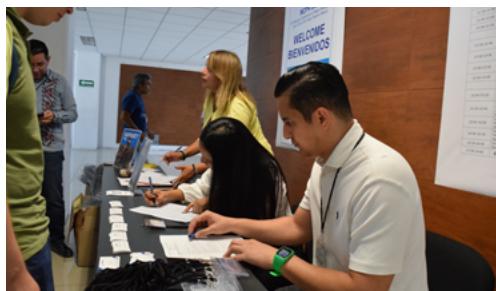
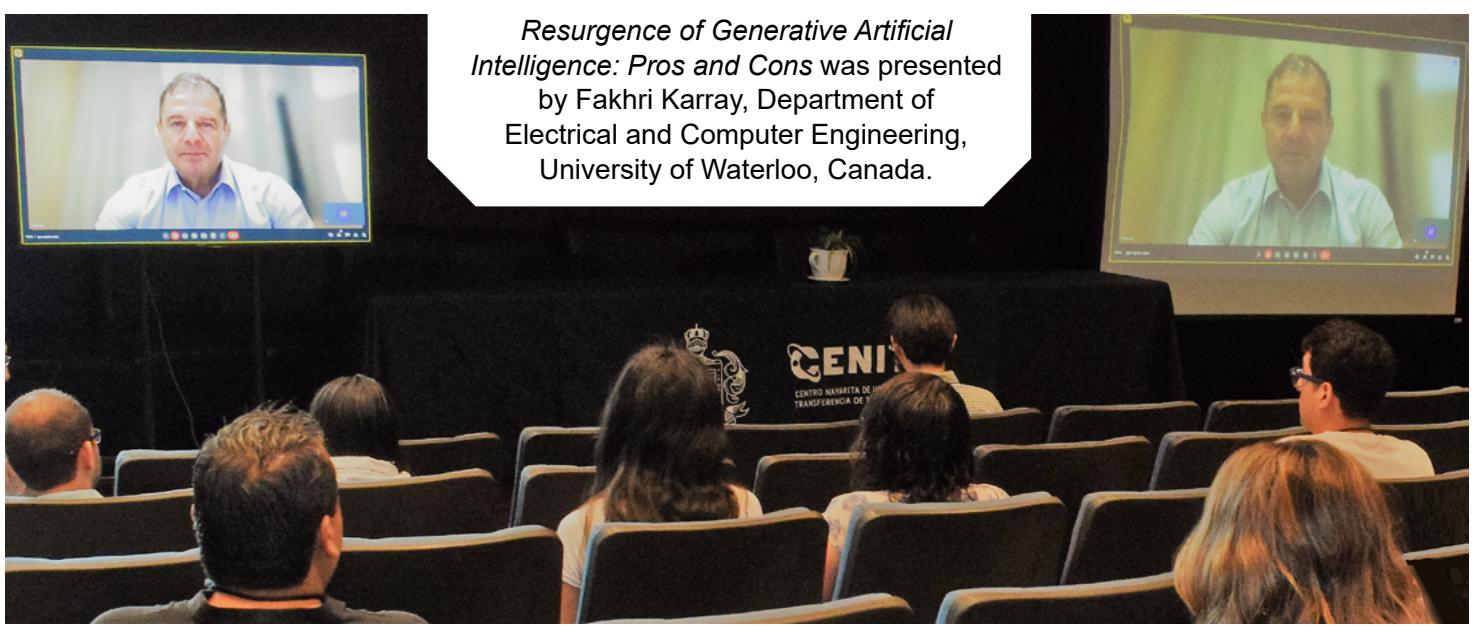
*Bio-Inspired Search Algorithms, History, a little Mess, and a Brief User Guide* was presented by Efrén Mezura-Montes, Instituto de Investigaciones en Inteligencia Artificial, Universidad Veracruzana, Mexico



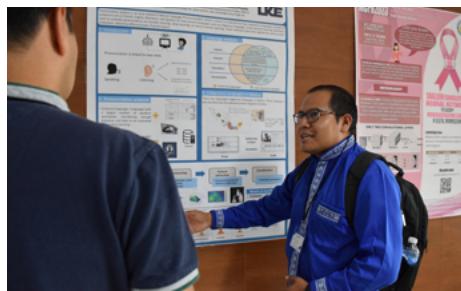
*Quantum Machine Learning* was presented by Fabio A. González, Departamento de Ingeniería de Sistemas e Industrial, Universidad Nacional de Colombia, Colombia.



*Resurgence of Generative Artificial Intelligence: Pros and Cons* was presented by Fakhri Karray, Department of Electrical and Computer Engineering, University of Waterloo, Canada.



Registration



Poster Session



Lunch

MCPR2023 offered two awards for papers accepted and presented at the conference. Award recipients are listed to the right. Authors of these four papers were invited to send extended papers to the special section devoted to MCPR in the Journal Pattern Recognition Letters.

We are pleased that MCPR 2023 provided a forum, again in a virtual format, for enhancing collaboration between Mexican pattern recognition researchers and the broader international pattern recognition research community.

The steering committee for the MCPR has decided that

the 16th Mexican Conference on Pattern Recognition will be held in Xalapa, Veracruz, Mexico in the third week of June, 2024, organized by the Instituto de Investigaciones en Inteligencia Artificial de la Universidad Veracruzana de Mexico and Coordinación de Ciencias Computacionales of Instituto Nacional de Astrofísica Optica y Electrónica. We look forward to seeing you there!

*Report submitted by  
MCPR 2023 Co-chairs:*

Ansel Y. Rodríguez-González  
Humberto Perez-Espinosa  
José Francisco Martínez-Trinidad  
Jesús Ariel Carrasco-Ochoa  
José Arturo Olvera-López

# MCPR2023 AWARDS

## Best MCPR-IAPR Paper

*Comparison of Classifiers in Challenge Scheme* by Sergio Nava-Muñoz et al.  
and

*Machine-learning based Estimation of the Bending Magnitude Sensed by a Fiber Optic Device* by Luis M. Valentín-Coronado, et al.

## Best Student MCPR-IAPR Paper

*Improving the Identification of Abusive Language through Careful Design of Pre-training Tasks* by Horacio Jarquín-Vásquez et al.  
and

*Patterns in Genesis of Breast Cancer Tumor* by Moises León et al..

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# MEETING AND EDUCATION PLANNER

Conference dates and venues may change due to COVID-19 concerns. Some may be held online.

Visit [IAPR.org/conferences](https://IAPR.org/conferences) or specific conference websites for the most up-to-date information.

## Conferences and Dates

2023

Links to Previous Reports, plus  
Venues & Paper/Application Deadlines

Month	Dates	Meeting (shaded = IAPR application for support pending)	Previous Report	Venue	Deadline
Aug.	21-26	<a href="#">ICDAR 2023</a> 17th International Conference on Document Analysis and Recognition	<a href="#">2021</a>	San Jose, CA USA	Closed
	24	<a href="#">GREC 2023</a> 15th IAPR International Conference on Document Analysis and Recognition	<a href="#">2021</a>	San Jose, CA USA	Closed
	25-26	<a href="#">HIP 2023</a> 7th International Workshop on Graphics Recognition	<a href="#">2021</a>	San Jose, CA USA	Closed
Sept.	6-8	<a href="#">GbR 2023</a> 13th IAPR TC15 International Workshop on Graph-Based Representations in Pattern Recognition	<a href="#">2019</a>	Vietri sul Mare Italy	Closed
	25-28	<a href="#">IJCB 2023</a> IEEE International Joint Conference on Biometrics	<a href="#">2022</a>	Ljubljana Slovenia	Closed
Oct.	27-29	<a href="#">ICCP 2023</a> 12th International Conference on Computing and Pattern Recognition	<a href="#">2022</a>	Qingdao China	Closed
Nov.	3-5	<a href="#">CVIP 2023</a> 8th International Conference on Computer Vision and Image Processing	<a href="#">2022</a>	Jammu, JK India	Closed
	5-8	<a href="#">ACPR 2023</a> 7th Asian Conference on Pattern Recognition	<a href="#">2021</a>	Kitakyushu Japan	Closed
	27-30	<a href="#">CIAPR 2023</a> 26th Iberoamerican Congress on Pattern Recognition	<a href="#">2021</a>	Coimbra Portugal	Closed
Dec	1-3	<a href="#">CCBR 2023</a> 17th Chinese Conference on Biometric Recognition		Xuzhou China	Closed
	12-15	<a href="#">PReMI 2023</a> 10th International Conference on Pattern Recognition and Machine Intelligence	<a href="#">2021</a>	Kolkata India	Closed

2024

Feb	6-8	<a href="#">ISPR 2024</a> 4th International Conference on Intelligent Systems and Pattern Recognition	<a href="#">2022</a>	Sharjah UAE	Sept 30 2023
	24-26	<a href="#">ICPRAM 2024</a> 13th International Conference on Pattern Recognition Applications and Methods	<a href="#">2023</a>	Rome Italy	Oct 9 2023
	27-29	<a href="#">VISAPP 2024</a> 19th International Conference on Computer Vision Theory and Applications	<a href="#">2023</a>	Rome Italy	Oct 9 2023
June	18-21	<a href="#">ICPRAI 2024</a> 4th International Conference on Pattern Recognition and Artificial Intelligence	<a href="#">2022</a>	Jeju Island South Korea	Dec 15 2023
Dec	1-5	<a href="#">ICPR 2024</a> 27th International Conference on Pattern Recognition	<a href="#">2022</a>	Kolkata India	May 1 2024

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Please email comments or ideas to EiC or LE!  
 Thank you!