



# Newsletter



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From the Editor's Desk

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[CALLS for PAPERS](#)

[Calls from IAPR Committees](#)

[ICPR 2024 Call for Papers](#)

[ICPR 2024 Call for Competitions](#)

[ICPR 2024 Call for Workshops](#)

[ICPR 2024 Call for Tutorials](#)

[Call for IAPR Prizes to be Awarded at ICPR 2024](#)

[Call for IAPR Fellow Nominations](#)

[Call for Bids to Host ICPR 2028](#)

[From the ExCo: News plus Essay: Introducing the International Conference Support Specialist](#)

[Getting to Know: IAPR Fellow René Vidal](#)

[News from EDI - Equality, Diversity, and Inclusion Committee](#)

[PRL Announcements](#)

[IAPR...The Next Generation Asma Bensalah, IAPR Research Scholar](#)

[Technical Committee News TC2, TC3, TC4, TC6, TC12, TC15, TC18, TC20](#)

[Meeting Reports IbPRIA23, Gbr23, IJCB23, ICCPR23, CVIP23, ACP23, CIARP23, CCB23, SSDA23](#)

[Bulletin Board](#)

[Meeting and Education Planner](#)

*New!*

## Iberoamerican Congress on Pattern Recognition (CIARP): Opportunities for Promoting and Sharing PR Research

Reflections by Ruber Hernández García



In previous essays from the Editor's Desk, EiC Heydi Méndez-Vázquez and Dr. José Ruiz Shulcloper have talked about the development of Pattern Recognition (PR) in developing countries. I feel this is a good time to share some reflections about the Iberoamerican Congress on Pattern Recognition (CIARP), which has been positioned as one of the most relevant events in the region. Since its creation in 2003 (Havana, Cuba), CIARP has provided an excellent space for researchers, encouraging international research partnerships and bridging the gap between developed and developing countries.

CIARP brings together leading researchers from across the Ibero-American region and beyond, showcasing the latest advancements in pattern recognition. Attendees can meet renowned experts, build professional relationships, and explore potential collaborations – crucial for career development and access to resources. Workshops, tutorials, and PhD symposiums allow young researchers to share their work, receive feedback, and learn. Presenting research at CIARP offers a platform for publication in reputable conference proceedings and journals' special issues, increasing visibility and credibility within the field. Also noteworthy is the Aurora Pons Porrata Award, which is given to a living woman in recognition of an outstanding technical contribution in the field of pattern recognition or related areas.

To further strengthen the development of conferences like CIARP and promote the development of scientific communities in participating countries, it is essential to address regional urgencies in terms of research, like those presented by Prof. Ruiz Shulcloper ([linked here](#)). His call to action addresses specific pattern recognition

*Continued on page 2...*

Editor's note: Ruber Hernández García is a researcher on Computer Vision and Biometrics at the Centro de Investigación de Estudios Avanzados de la Universidad Católica del Maule, Chile. He is member of the Chilean Association of Pattern Recognition ([ACHiRP](#)) and the General Chair of [CIARP 2024](#). A detailed report from CIARP 2023 is linked in the Table of Contents (left).

~ Heydi Méndez-Vázquez, IAPR Newsletter EiC

The views expressed in this newsletter represent the personal views of the authors and not necessarily those of their host institutions or of the IAPR.

# 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)

Conferences,  
Dates, &  
Locations

## 2024

Calls and Deadlines

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

[ICPRAI 2024](#)  
July 3-6, 2024  
Jeju Island, South Korea

4th International Conference  
on Pattern Recognition and  
Artificial Intelligence

**Papers: closed**  
WiP papers: Feb. 20, 2024

[ICDAR 2024](#)  
August 30-Sept. 4, 2024  
Athens, Greece

18th International Conference  
on Document Analysis  
and Recognition

**Papers: Feb. 1, 2024**

[DeLTA 2024](#)  
July 10-11, 2024  
Dijon, France

5th International Conference  
on Deep Learning Theory  
and Applications

**Papers: Feb. 15, 2024**  
Position Papers: Apr. 1, 2024  
Workshops/Spec. Sess. Proposals: Mar. 1, 2024  
Abst. Track & Doctoral Cons: May 8, 2024  
Tutorials, Demo, or Panel Prop: May 27, 2024

[ICPRS 2024](#)  
July 15-18, 2024  
London, UK

14th International Conference  
on Pattern Recognition Systems

**Papers: Mar. 6, 2024**

[ISPR 2024](#)  
June 12-14, 2024  
Istanbul, Turkey

4th International Conference  
on Intelligent Systems  
and Pattern Recognition

**Papers: Mar. 15, 2024**

[ICPR 2024](#)  
December 1-5, 2024  
Kolkata, India

27th International Conference  
on Pattern Recognition

**Papers: Mar. 20, 2024**  
Competition Proposals: Mar. 1, 2024  
Workshop Proposals: Mar. 31, 2024  
Tutorial Proposals: June 15, 2024

[CCIW 2024](#)  
September 25-27, 2024  
Milan, Italy

Computational  
Color Imaging Workshop 2024

**Papers: Apr. 1, 2024**

[CVIP 2024](#)  
December 19-21, 2024  
Chennai, India

9th International Conference  
on Computer Vision  
and Image Processing

**Papers: Apr. 15, 2024**

[ANNPR 2024](#)  
October 10-12, 2024  
Montreal, Canada

11th TC3 Workshop  
on Artificial Neural Networks  
in Pattern Recognition

**Papers: May 14, 2024**  
Spec. Sess. Proposals: Apr 1, 2024

[CIARP 2024](#)  
November 26-29, 2024  
Talca, Chile

27th Iberoamerican Congress  
on Pattern Recognition

**Papers: June 1, 2024**  
Workshop Proposals: May 31, 2024

*From the Editor's Desk (...continued from page 1)*

challenges relevant to developing countries. Also, adopting and promoting Open Science policies to access conference proceedings can ensure the impact of CIARP extends beyond the event itself. Finally, it is crucial to preserve the history of previous events and promote the active work of national associations to ensure the continuity of this valuable initiative.

Since its beginning, my scientific career has been linked to CIARP as an active member of national associations (ACRP, ACHiRP), and currently, as General Chair of [CIARP 2024](#) in Talca, Chile. I would like to invite you to attend the event and continue promoting the advances in this field as a powerful catalyst for young researchers, thereby shaping a brighter future for science and technology in the region.

~Ruber Hernández García

# 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. Applications may be submitted at any time before the visit starts.

**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 [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; and 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 38 companies –from Adobe to Zhongan Technology– offering internships, locations (some remote), requirements, etc.

**NOTE:** As of Jan 25, 2024, 45 opportunities are listed, 30 of them with continuous or flexible application cycles.

### ***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 students and junior students to the latest trends and techniques in a 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.

**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.**

Send proposals 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](#).



27TH International Conference on Pattern Recognition  
December 01-05, 2024, Kolkata, India



## CALL FOR PAPERS

### General Chairs

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

### Program Chairs

Rama Chellappa, USA  
Apostolos Antonacopoulos, USA  
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  
L. Likforman-Sulem, 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 Ohshima, Japan  
Ananda S. Chowdhury, India

### Awards Committee Chair

Arpan Pal, India

### International Liaison / Visa Chairs

Balasubramanian Raman  
Yue Lu, China

### Finance Chairs

Kaushik Roy, India  
Michael Blumenstein, Australia

### Organizing Chairs

Saumik Bhattacharya, India  
Palash Ghosal, 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: January 20, 2024
- ▶ Paper submission deadline: March 20, 2024
- ▶ Reviews sent to authors: June 20, 2024
- ▶ Revision/ Author rebuttal deadline: July 10, 2024
- ▶ Acceptance notification: August 5, 2024
- ▶ Camera-ready submission: August 31, 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  
Petia Radeva, Spain  
Sushmita Mitra, India  
Dacheng Tao, Australia  
Jiliang Tang, USA

#### Track 2: Computer and Robot Vision

Maja Pantic, UK  
C. V. Jawahar, India  
João Paulo Papa, Brazil  
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  
Prem Natarajan, USA

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

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

#### Track 5: Document Analysis and Recognition

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

#### Track 6: Biomedical Imaging and Bioinformatics

Xiaoyi Jiang, Germany  
Seong-Whan Lee, Korea  
J. Mukhopadhyaya, India

#### Women in ICPR Chairs

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

#### Sponsorship Chairs

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

ORGANIZING / TECHNICAL PARTNERS

[www.icpr2024.org](http://www.icpr2024.org)

[icpr2024@gmail.com](mailto:icpr2024@gmail.com) / [icpr2024@isical.ac.in](mailto:icpr2024@isical.ac.in)



IAPR



The ICPR 2024 Organizing Committee cordially invites the IAPR community to submit proposals for competitions that aim at evaluating the performance of algorithms and methods related to pattern recognition.

### Proposals should include:

- Contest title and abstract
- Brief description of the competition, including the particular task under evaluation, why it is of interest to the ICPR community, and the expected number of participants
- Outline of the competition schedule
- Description of the dataset to be used, and the evaluation process and metrics for submitted methods
- Names, contact information, and brief CVs of the competition organizers, outlining previous experience in performance evaluation and/or organizing competitions

### Important Dates

March 1, 2024	Competition Proposal Due
March 15, 2024	Competition Acceptance Notification
April 2, 2024	Competition Websites Go Live
July 21, 2024	Deadline for competition participants
August 18, 2024	Initial Submission of Competition Reports Deadline
September 2, 2024	Camera-Ready Papers Due
October 28, 2024	Communicate Winners to Chairs
December 1-5, 2024	Presentation at ICPR Conference

### Competition Requirements

- The name of the competition must be standardized by starting with "ICPR 2024" e.g. "ICPR 2024 Competition on ..." or "ICPR 2024 ... Competition."
- Datasets used in the competitions must be made available after the end of the competitions. Specifically, the training data and ground truth must be publicly released and there must be a way to evaluate performance on a test set. This could take the form of an evaluation server, or the test data, ground truth, and evaluation script could be made publicly available.
- Evaluation methodologies and metrics must be described in detail so that results can be replicated later. Evaluation scripts must be released afterwards.
- Each competition must be presented with a poster at a prominent place at the conference venue. Good competitions may be selected for oral presentation during ICPR 2024.
- Competitions must have at least three participants to be able to draw meaningful conclusions.
- Reports (full papers) on each competition will be reviewed and, if accepted (the competition ran according to plan, attracted sufficient participation and was appropriately described), will be published in the ICPR 2024 conference proceedings.
- Participants should not have access to the ground-truth test dataset until the end of the competition. The evaluation should be done by the organizers.

### Submissions & Inquiries

All proposals should be submitted by electronic mail to the **Competition Chairs** (**Lian Wen Jin**, **Richard Zanibbi**, and **Laurence Likforman-Sulem**) via: [icpr2024competition@gmail.com](mailto:icpr2024competition@gmail.com).

We encourage competition proposals with a solid plan to remain active and challenging for the community over and above ICPR 2024.

## COMPETITION COMMITTEE CHAIRS

Lian Wen Jin (China), Richard Zanibbi (USA) and Laurence Likforman-Sulem (France)



# CALL FOR WORKSHOPS



27TH International Conference on Pattern Recognition  
December 01-05, 2024, Kolkata, India

The ICPR 2024 Workshop Chairs invite proposals from all segments of the ICPR community. Successful Workshop Proposals will provide a forum for the active exchange of ideas and experiences.

## About ICPR 2024 Workshops

Workshops may be half-day or full-day, virtual, hybrid, or onsite, though most workshops will be hybrid or onsite. We seek proposals on timely topics and applications such as Artificial Intelligence, Computer Vision, Image and Sound Analysis, Pattern Recognition, Biometric and Human Computer Interaction, Document Analysis and Recognition and Biomedical Imaging and Bioinformatics.

Each proposal will be assessed based on scientific merit, proposed structure, overall relevance, and how it complements the main conference. Workshop organizers are responsible for inviting speakers and ensuring their participation, submission, review of papers, preparation of the program, etc. Accepted workshop papers will be published in [Lecture Notes in Computer Science \(LNCS\)](#), Springer. The registration fee (set by ICPR 2024) will be the same for all workshops. ICPR 2024 reserves the right to cancel any workshop if, at the early registration deadline, there are too few registrants to cover the cost of hosting the workshop.

### Proposals should include, in the following format:

#### Workshop Content

1. Title
2. Description of topics to be covered, including specific goals and technical issues the workshop aims to address.
3. Brief discussion of why the workshop is relevant to the IAPR community.
4. How the proposal relates to previous workshops at main conferences in the field.

#### Organizers and Speakers

1. Names, affiliations, and email addresses of workshop organizers.
2. Why the proposers are well suited for organizing the workshop (including past experience).
3. Invited speakers' names and tentative talk titles. For each speaker, indicate whether attendance is tentative or confirmed.

#### Logistics

1. Preference for half-day or full-day workshop.
2. Preference for on-site or virtual workshop.
3. Estimated numbers of oral presentations and posters.
4. Tentative program outline.
5. Expected number of paper submissions.
6. Program committee names. For each name, indicate whether committee membership is tentative or confirmed.
7. Expected number of attendees.
8. Advertisement and publicity planned.
9. Special space or equipment requests, if any.
10. If the workshop includes a competition, please provide details.
11. Important Dates for Workshop participants, including: workshop paper submission deadline; notification to authors; camera ready paper deadline (should be no later than September 27, 2024).

#### Important Dates

March 31, 2024	Workshop Proposal Due
April 31, 2024	Decision Notification
Sept. 27, 2024	Camera-Ready Papers (recommended)
Oct. 7, 2024	Early Bird Registration Deadline
Dec. 1, 2024	Workshop Date
Dec. 2-5, 2024	ICPR Main Conference Dates

#### IAPR Workshop Sponsorship

If the IAPR name and logo are to be used, workshop organizers must obtain sponsorship for the workshop from [IAPR Conferences and Meetings Committee](#). Without approved IAPR sponsorship, the name and logo of IAPR cannot be used.

#### Submissions & Inquiries ~ Workshops

Workshop proposals should be submitted via email to the ICPR 2024 Workshop Chairs (listed below) at [icpr2024workshop@gmail.com](mailto:icpr2024workshop@gmail.com) by March 31st, 2024 (11:59PM Pacific Time). You will receive an acknowledgement of receipt by email within a few working days.

## WORKSHOP COMMITTEE CHAIRS

**P. Shivakumara (Malaysia),  
Edwin Hancock (USA), Stephanie Schuckers (USA), and Jean-Marc Ogier (France)**

The ICPR 2024 Organizing Committee invites members of the IAPR community to submit proposals for tutorials on core techniques, application areas, and emerging research topics of interest for ICPR attendees.

## About ICPR 2024 Tutorials

An effective and informative tutorial should provide a broad introduction to the chosen research area as well as in-depth coverage on selected advanced topics. Each proposal will be assessed based on its scientific merit, proposed structure, overall relevance, and how it complements the main conference. *Proposals that focus exclusively on the presenters' own work or commercial presentations are not acceptable.*

## Costs and Terms

Tutorials are free for all participants with full ICPR2024 registration. Separate (paid) registration for tutorial(s) alone will be available. Anyone interested in attending a tutorial should register for it, whether or not they have registered for ICPR 2024. Participation in tutorials is limited to the room capacity. Admittance for unregistered attendees will be first come, first served. ICPR 2024 reserves the right to cancel a tutorial if the responsibilities are not fulfilled by the proponent, or if too few attendees register for the event, or for any unforeseen reason.

## ICPR 2024 will be responsible for

- Providing a meeting venue with necessary technical equipment and catering services (lunch and/or coffee breaks)
- Providing staff to help with the on-site/on-line organization
- Advertising the event on the ICPR web site
- Scheduling the event together with the organizers and including it in the conference program

## Tutorial organizers are responsible for

- Compiling and distributing notes to the participants
- Leading the tutorial event at ICPR2024

## A tutorial proposal must include:

- Title of tutorial
- Names, titles, affiliations, emails, and brief bio sketches of the people delivering the tutorial
- Name and email of the lead person for communication and responsibility
- Preference for half- or full-day event (the latter requires a brief justification)
- Tutorial description with list of topics to be covered, along with a brief outline and important details; any innovative pedagogy employed; any hands-on participation, etc.
- Expected target audience, in terms of both composition and estimated number of attendees.
- List of citations and/or URLs to relevant publications and/or products of the tutorial presenters and other relevant work.
- A description of how this proposal relates to tutorials/short courses appearing at ICPR (and also other major related conferences) within the last two editions
- A description of and/or links to any planned materials or resources to be distributed to attendees.

## Important Dates

June 15, 2024 (anywhere on Earth)	Tutorial Proposals Due
July 15, 2024	Acceptance Notification
Dec. 1, 2024	Tutorial Date (tentative)
Dec. 1-5, 2024	ICPR Conference Dates

## Submissions and Inquiries ~ Tutorials

To propose a tutorial, a PDF file containing the information listed above must be submitted by email using this link:

[icpr2024tutorials@gmail.com](mailto:icpr2024tutorials@gmail.com) Questions should be addressed to the ICPR 2024 Tutorial Co-Chairs (listed below), using this link:  
[icpr2024tutorials@gmail.com](mailto:icpr2024tutorials@gmail.com)

# TUTORIAL COMMITTEE CHAIRS

B. B. Chaudhuri (India), Michael Jenkin (Canada), and Guoying Zhao (Finland)

# CALL FOR PRIZE NOMINATIONS



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

VISIT [IAPR.ORG](http://IAPR.ORG) OR CLICK ON  
PRIZE DESCRIPTIONS BELOW FOR  
NOMINATION FORMS



From the IAPR King-Sun Fu, J. K. Aggarwal, and Maria Petrou Prize Committees  
**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](http://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/](http://en.wikipedia.org/)



## 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](http://iapr.org/members/newsletter/Newsletter13-01/index_files/Page652.htm)

## Click Prize Descriptions for Full CfNs, Rules and Nomination Forms

**All nomination forms and endorsements must be received by March 31, 2024**

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)





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.

Full 2024 Nomination Instructions can be found [here](#).

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 a nominator, except for nominees themselves and current members of the Executive Committee and Fellow Committee.

Each nomination must be endorsed by at least one recommendation letter

(submitted [Endorsement Form](#)),

either from a member of an IAPR Member Society (different from the nominator) or from an IAPR Fellow.

**All nominations and endorsements must be received by March 31, 2024**

Nomination and Endorsement forms must be submitted electronically via webpages (linked left) and will be acknowledged by an email. Submission problems should be reported to the IAPR Webmaster, cc'ing the Fellow Committee Chair, Prof. Umapada Pal, Indian Statistical Institute, Kolkata, India. The following email link will autofill correct addresses and subject heading:

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

Subject: Submission Problem, IAPR Fellowship 2024

CC: [umapada@isical.ac.in](mailto:umapada@isical.ac.in); [umapada\\_pal@yahoo.com](mailto:umapada_pal@yahoo.com)

Click for a list of members of the

[IAPR Fellow Committee](#)

*IAPR appreciates your efforts to support our fellowship program!*



## HAVE YOU EXPLORED OUR NEW WEBSITE YET? WE LAUNCHED ON JULY 25, 2023!

The updated presentation incorporates suggestions from a 2022 survey of the IAPR community, including:

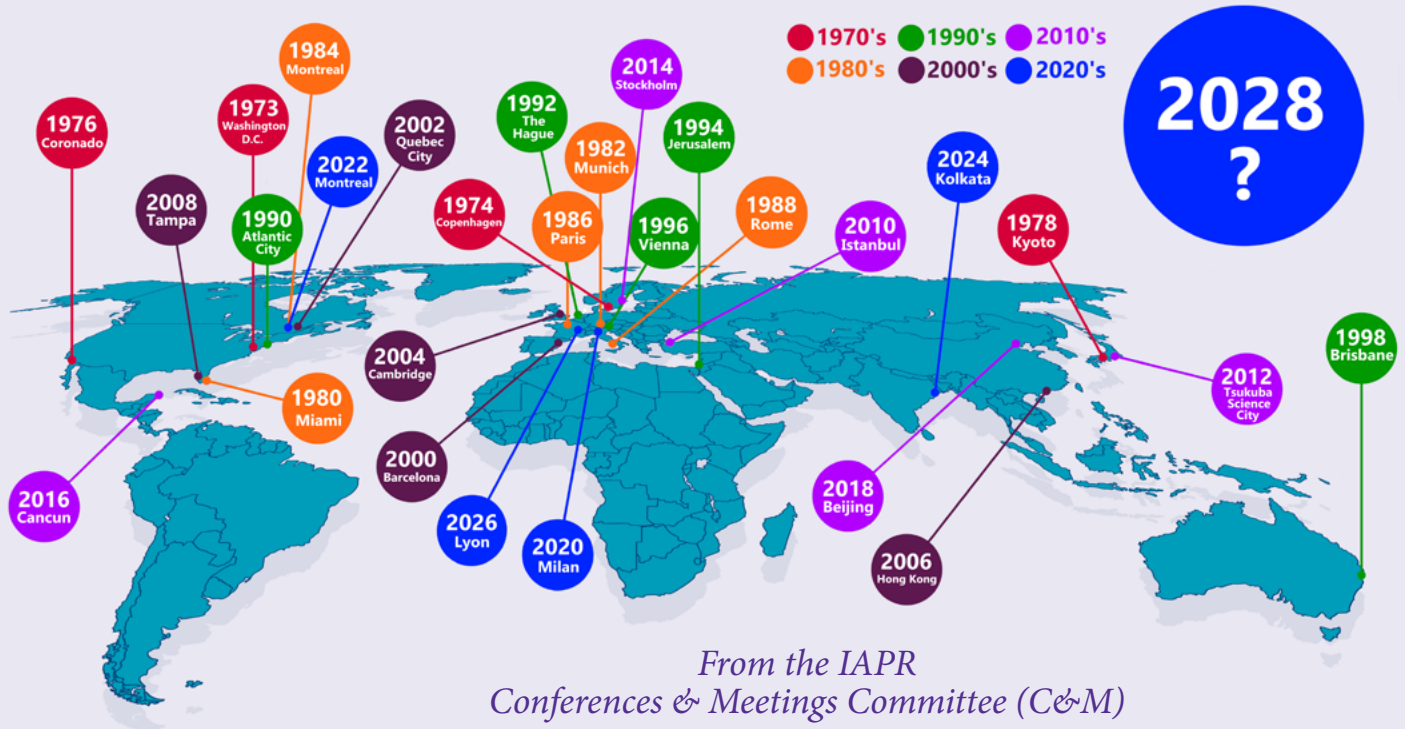
- » improved compliance with web accessibility standards
- » mobile friendly adaptive layout
- » contemporary structure, comparable to existing scientific community websites

Plus, our improved content management system means more efficient maintenance, search engine optimization, and information organization, including database updates for members, fellows, and committee appointments.

The IAPR website continues to grow and improve over time...

Contact the IAPR Webmaster ([webmaster@iapr.org](mailto:webmaster@iapr.org)) for more information or to offer additional suggestions.

**CLICK  
HERE  
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From the IAPR  
Conferences & Meetings Committee (C&M)

# CALL FOR BIDS TO HOST ICPR 2028

Deadline: Aug 5, 2024

## ICPR<sup>THE</sup> INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION

THE major scientific event organized under the aegis of the International Association for Pattern Recognition brings together a truly international community of experts to discuss their work and experiences, form new collaborations, and promote research and development in Pattern Recognition.

The conference is hosted and coordinated by an institution with the support of an endorsing IAPR member organization (i.e., a national pattern recognition society).

Institutions interested in hosting ICPR 2028 must proceed according to the rules outlined [here](#), in the latest version of the proposal guidelines. A bid submission implies full agreement with the IAPR constitution and with the guidelines and procedures for hosting the conference.

*Please read the guidelines carefully.*

### DEADLINES AND DECISIONS

Bids must be submitted to the Chair of the IAPR Conferences and Meetings Committee (C&M) by Aug 5, 2024. The selection of the conference venue will be made by the IAPR Governing Board during its meeting at ICPR 2024 in Kolkata, India.

**SEND BIDS BY AUG 5, 2024 TO**  
C&M Chair Anna Esposito ([anna.esposito@unicampania.it](mailto:anna.esposito@unicampania.it))



# FROM THE EXCO...

## INTRODUCING THE INTERNATIONAL CONFERENCE SUPPORT SPECIALIST

by Robert Fisher, ExCo Treasurer  
and Linda O’Gorman, IAPR Secretariat



### News from the IAPR Executive Committee

The ExCo encourages IAPR member societies and the community at large to nominate candidates for [IAPR Fellow](#) and the [J.K. Aggarwal, King Sun Fu and Maria Petrou Prize](#) awards, to be presented at ICPR 2024. The deadline for nominations is March 31, 2024. Click links above for more information.

The 27th International Conference on Pattern Recognition (ICPR 2024) will be held in Kolkata, India, December 1-5, 2024. The paper submission deadline is approaching (March 20, 2024). We encourage the IAPR community to submit contributions.

ICPR 2024 calls for [Workshops, Tutorials, and Competitions](#) are open; we invite your proposals. Details are linked to each call above. Important submission deadlines: Workshops by March 31; Tutorials by June 15; Competitions by March 1.

The Call for bids to host ICPR 2028 is open. Details are [in this issue](#) or click [here](#) to go directly to submission guidelines on the IAPR website. The deadline for bids is August 5, 2024.

**IAPR endorsed Conferences:** Many Conferences and Workshops under the umbrella of the IAPR will be held next year around the world. Go to Conferences > Conference Schedule at [iapr.org](#) for details about dates, deadlines, and venues.

**50th Anniversary of the IAPR:** Learn more [here](#). If you have ideas about activities to celebrate the anniversary, or memories or photos to share, please let us know by emailing [50th@iapr.org](mailto:50th@iapr.org). The new 50th Anniversary logo can be seen in this issue, at the bottom of [page 21](#).

It is with great sadness that we learned of the passing of Professor Edwin Hancock on Friday, January 19, 2024. He made fundamental contributions in the fields of structural and statistical pattern recognition and computer vision, and served the IAPR (as a Governing Board member from the UK, Chair of several standing committees, and ExCo 2nd VP) and broader Pattern Recognition communities throughout his long, distinguished career. The ExCo expresses our deepest condolences to Prof Hancock’s family, friends, and colleagues on behalf of the entire IAPR community. An In Memoriam tribute is planned for our April issue.

In its early days, IAPR activities were centered around its international conference, which became known as the International Conference on Pattern Recognition. ExCo positions called “Past Conference Chair” and “Next Conference Chair” evolved into the Conference Committee (CC). (ICPR was the only IAPR conference at the time.) Around 1986, the CC became the Conferences & Meetings Committee. The ICPR Standing Committee (now referred to as the ICPR Liaison/Advisory Committee) was added in 2004:

*“With respect to the ICPR, IAPR’s major event, an ICPR task force will be created under the responsibility of the Conferences and Meetings Committee to enhance interactions between the IAPR and conference organizers and to initiate mechanisms to learn from experience.”*  
(From the ExCo, IAPR Newsletter, 2004, 26:4)

Due to considerable growth over the past 20 years, this structure has become increasingly inadequate to provide the standard of consistency that IAPR seeks. At the 2022 Governing Board Meeting, the ExCo proposed having an International Conference Support Specialist (ICSS) to work with the ICPR Organizers and the related IAPR committees to monitor progress along the published ICPR Hosting Guidelines and help maintain consistency from one ICPR to the next.

ICPR conference delivery is a complex, four-year process with almost 150 separate issues to consider (and for which we now have a detailed checklist). The primary aim of the ICSS is to liaise with the ICPR organization teams to ensure that these important tasks have been completed in a timely manner and to keep the ExCo and ICPR Liaison/Advisory Committee informed about ICPR status. This new position is an experiment, and we shall see its impact soon – at ICPR 2024, December 1-5, in Kolkata, India.

The advertising campaign for the ICSS was highly successful, yielding around 20 candidates from whom three were selected for interviews. Prof. Ugur Halici was selected to fill the role. We will be fortunate to have her as our ICSS and look forward to working with her. Welcome Ugur!

We’ve asked Prof. Halici to introduce herself as part of this “From the ExCo” feature:

*I am very excited to take part in the IAPR organization as the International Conference Support Specialist (ICSS). I am currently a professor in the Dept. of Electronics and Electrical Engineering, Middle East Technical University, Ankara, Turkey. During my long academic life, I not only led the establishment of the Turkey Chapter of the IEEE Computer Society in 1991, but also attended and contributed to the organization of various conferences. The Brain-Machine Conference I chaired in 2000 is worth mentioning since it was envisioning the importance of efforts for understanding artificial intelligence and the brain together. My main research area, Artificial Neural Networks, is now at the heart of pattern recognition due to Deep Learning. As the IAPR ICSS, I am hoping to build a strong bridge between the IAPR ExCo and the ICPR organization that will facilitate their interactions while supporting sustainable quality in the ICPR series.*





*René Vidal received B.Sc. and M.Sc. degrees in Engineering from the Pontificia Universidad Católica de Chile in 1995 and 1997, and M.Sc. and Ph.D. degrees in Electrical Engineering and Computer Science from the University of California at Berkeley in 2000 and 2003. From 2004 to 2022 he was on the faculty of The Johns Hopkins University as the Herschel Seder Professor of Biomedical Engineering and Director of the Mathematical Institute of Data Science. In 2023, he joined the University of Pennsylvania as the Penn Integrates Knowledge and Rachleff University Professor of Electrical and Systems Engineering & Radiology and the Director of the Center for Innovation in Data Engineering and Science (IDEAS). He is also an Amazon Scholar and an Affiliated Chief Scientist at NORCE. His current research focuses on the foundations of deep learning and trustworthy AI and their applications in computer vision and biomedical data science. He is an ACM Fellow, AIMBE Fellow, IEEE Fellow, IAPR Fellow and Sloan Fellow, and has received numerous awards for his work, including the IEEE Edward J. McCluskey Technical Achievement Award, D'Alembert Faculty Award, IAPR J.K. Aggarwal Prize, ONR Young Investigator Award, NSF CAREER Award as well as best paper awards in machine learning, computer vision, controls, and medical robotics.*

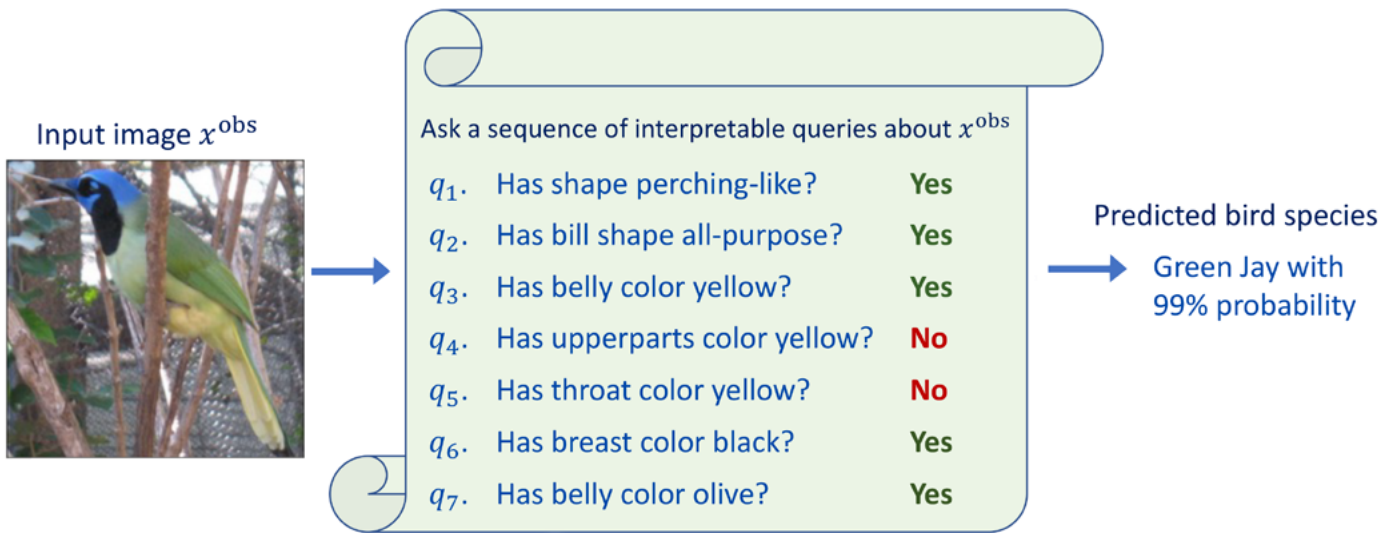
Artificial intelligence (AI) has made remarkable progress over the last decade. For instance, state-of-the-art speech and natural language processing systems perform extremely well in tasks such as speech recognition, text summarization, and machine translation. Similarly, modern computer vision systems have significantly enhanced their accuracy in tasks such as image classification, object detection, semantic segmentation, and action recognition. Our own work has contributed to the detection and recognition of fine-grained human actions in videos. Furthermore, recent developments in generative AI have enabled the automatic generation of text and images of unprecedented quality. Tasks like generating captions from images, images from text, and multimodal conversational AI, are now within reach for the first time.

These AI advancements are impacting various fields of science and technology. In physics, biology, and chemistry, AI accelerates scientific discovery, playing a crucial role in drug discovery. Medical imaging benefits from AI by accelerating image reconstruction, improving image quality, and aiding in the detection and analysis of biological and anatomical structures. Additionally, AI powers diverse industrial applications, from automated shopping to self-driving cars to innovative medical devices. Our own work has contributed to the development of new blood tests that use AI to detect, count and classify blood cells in holographic images.

Despite these advances, concerns are growing about the typically opaque decision-making of modern AI algorithms. For instance, AI-based

image classification systems have shown brittleness to imperceptible image perturbations, leading to incorrect predictions. Conversational AI systems have been shown to hallucinate wrong facts, and instances of unfair or biased predictions by AI algorithms have been reported. The lack of understanding regarding AI methods' success and failure is concerning, especially as the predominant approach to improving AI methods is to increase the size of the model and train it on larger datasets.

To address this challenge, an emerging approach is to develop AI algorithms that provide an explanation of the reasoning behind their predictions. Such explainable AI algorithms would allow the user to discern whether a correct prediction



**Figure 1.** Application of Information Pursuit to Explainable Bird Classification: Given the task of classifying a bird in an image, information pursuit selects a query that is most informative for the task: “Has shape perching-like?” An attribute classifier applied to the given image answers the query as “Yes.” Conditioned on that answer, information pursuit selects the next query “Has bill shape all-purpose?” and so on. After only seven queries (out of around 300), information pursuit predicts the class is a “Green Jay” with 99% probability. The explanation for the prediction is the sequence of seven queries and their answers.

is made for the right reasons or to understand why a method arrived at an incorrect decision. How do we define an explanation? How do we capture semantics in the definition? How do we build algorithms that provide an explanation by design?

Surprisingly, most of the existing literature does not even attempt to answer these questions. Instead, ad-hoc feature attribution methods are used to measure the importance of a feature for making a prediction. However, such methods have faced criticism for providing explanations that may not align with user expectations. For example, when trying to predict which regions of a brain MRI are most informative for predicting a neurological disease, existing methods such as GradCAM might give anatomical regions that a radiologist would not consider as relevant. While other methods are less ad-hoc, e.g., Shapley values are grounded in cooperative game theory, they do not rely on semantics that a user of an AI system would expect. While concept bottleneck models do provide explanations based on semantic concepts, the explanation is obtained by selecting concepts using ad-hoc

attribution methods, like the highest weights in a linear classifier.

We argue that an explanation should involve a description in words, symbols, or patterns of the reasoning leading to the decision. Furthermore, we advocate that machine learning algorithms should be interpretable by design and that the language in which these interpretations are expressed should be domain- and task-dependent. For example, a doctor’s explanation of the rationale behind a patient’s diagnosis could be different depending on whether the explanation is given to the patient or to another doctor. Consequently, we base our model’s prediction on a family of user-defined and task-specific functions of the data, called queries, each one with a clear interpretation to the user. In this way, a prediction is interpretable by design because it is based on a set of interpretable queries and their answers, which define the explanation (Fig. 1).

We propose an information-theoretic approach for selecting a minimal number of queries that are sufficient for making an accurate prediction. Our approach, called Generative Information Pursuit, uses a deep generative model to select queries in

order of information gain. To enhance efficiency, we introduce a method called Variational Information Pursuit, which is based on training a querier network to select queries that are best for classification based on a history of previous queries and answers. Additionally, we leverage Large Language Models (LLMs) to generate query sets for a given task and Large Vision and Language Models (LVLMs) to answer these queries. Experiments on vision, language, and medical diagnosis tasks demonstrate the efficacy of our approach and its superiority over post-hoc explanations. Our emphasis on explainability and interpretability aims to bridge the gap in understanding AI decision-making processes, contributing to more reliable and accountable AI systems.

~ René Vidal

*IAPR J. K. Aggarwal Prize, ICPR 2012, Tsukuba, Japan: For outstanding contributions to generalized principal component analysis (GPCA) and subspace clustering in computer vision and pattern recognition.*

*IAPR Fellow, ICPR 2016, Cancún, Mexico: For outstanding contributions to computer vision and pattern recognition.*



## 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."*

Dear Readers of the  
*IAPR Newsletter,*

In our meetings of the IAPR Equity, Diversity and Inclusion Committee, one of the questions that often arises is when and how to tackle the problem of gender and opportunity imbalance before it influences forever the lives and careers of underrepresented groups.

The answer seems obvious: Corrective actions should start during high school (at the latest!), favoring the improvement in the diversity of undergraduate enrollment in university classes, possibly focusing on underrepresented demographic groups in specific disciplines. For instance, as often noticed, women are underrepresented in STEM (science, technology, engineering, and mathematics) careers. While it would be worth encouraging women at universities to enroll in STEM courses, it is also important to first understand the reasons for the imbalance.

González-Pérez, et al. [1] investigated how gender-role stereotypes and motivational factors are able to either encourage or prevent girls from entering STEM



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careers, and analyzed factors that influence how people perceive certain roles to be more or less appropriate for their gender. A commonly shared hypothesis is that observing men and women in gender-congruent roles fosters gender-congruent aspirations and behavior. The corollary is that observing or interacting with men and women in non-traditional domains has the potential to nurture a gender-counterstereotypical role model. Indeed, a review of experimental research has shown that frequent exposure to gender-incongruent role models during childhood decreases gender-stereotypical attitudes in pre-adolescent girls [2].

A further study [3] summarizes research in economics, sociology, psychology, and other disciplines to investigate the persistent under-representation of women in STEM. The authors argue that women's under-representation is concentrated in the math-intensive science fields of geosciences, engineering, economics, math/computer science and physical science. Their analysis concentrates on environmental factors that influence abilities, as well as choices and the rewards for those choices. The authors investigate the impact of a wide variety of contributors to the creation of stereotypes, ability beliefs, and preferences regarding educational choices, particularly in mathematics. These start from the very early

years, proceed with families' and teachers' influence, and in general, with the cultural environment and its prevailing role models. All these create gender differences in STEM beliefs, which then affect STEM preferences and young girls' interest in occupations related to STEM, including research and academia.

It is worth one's time to look at statistics presented by the Organization for Economic Cooperation and Development (OECD, available at <https://stats.oecd.org/>). In particular, a search for "Distribution of graduates and new entrants by field" allows selection of groups by gender and year. Summing up by hand the results for women vs men in discipline groups "Natural sciences, mathematics and statistics," "Information and Communication Technologies," and "Engineering, manufacturing and construction," and summing

the resulting entries from Bachelor to tertiary education including "Doctoral or equivalent" level reveals something interesting: The proportion of women slowly increases from 2013 (the first year presently available for search) to 2021 (the last presently available year), at a pace possibly affected by the COVID pandemic. But the pace of change is so slow that the gender gap in STEM occupations remains very large, despite the fact that diversity and inclusion have been on the higher education agenda of Western countries for decades. Colleges, universities and scientific organizations have created dedicated offices and committees for diversity, equity, and inclusion. They have added diversity statements to their websites and rules. Many universities run special initiatives to attract girls to coding. Why are these efforts not leading to significant change? What is the solution?

It seems obvious that no single program will close the gap, and all evidence-based strategies should be employed. Research strongly suggests that early exposure to gender-counterstereotypical role models will help. If so, this strategy should start as early as possible, well before high school and university: in families and primary schools.

~ Maria De Marsico

[1] González-Pérez, S., Mateos de Cabo, R., & Sáinz, M. (2020). Girls in STEM: Is it a female role-model thing? *Frontiers in Psychology*, 11, 2204

[2] Olsson, M., and Martiny, S. E. (2018). Does exposure to counterstereotypical role models influence Girls' and Women's gender stereotypes and career choices? A review of social psychological research. *Frontiers in Psychology*, 9, 2264. doi: 10.3389/fpsyg.2018.02264

[3] Kahn, S., & Ginther, D. (2017). Women and STEM (No. w23525). National Bureau of Economic Research. Available at <https://www.nber.org/papers/w23525> (accessed January 2024)

## 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.***

### SELECTION CRITERIA

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. If more GEs participate in the proposal, **a wide geographic distribution** will be preferred to assure a wider submission population; these proposals will be preferred.
4. GEs must underline in their CVs their **engagement with PRL**, as either authors or reviewers; proposals from such GEs will be preferred.
5. The candidate GEs must not be engaged in a massive editorial activity: When editing a Special Issue for *Pattern Recognition Letters*, the **GEs are expected to avoid handling further Special Issues for either the same or other publishers.**
6. Rotation of GEs is preferred, in groups and/or individually.

Proposals are submitted about one year in advance with respect to the requested submission slot (i.e., the period in which submissions will be uploaded). We divide each year into four quarters, starting in January, April, July, and October. We collect proposals during the first month of the quarter of the year before (e.g., April 2024 for Special Issues in April through June, 2025). Decisions are made in the second month of the quarter of the year before (e.g., May 2024), and prospective GEs are notified in the third month of the quarter of the year before (e.g., June 2024). In this way, our decision can be made by comparing all proposals for the same quarter.

A proposal template with all requested information is available. More details can be found in the documents available [here](#):

For further inquiries, please contact the EiC for Special Issues, Prof. Maria De Marsico at [demarsico@di.uniroma1.it](mailto:demarsico@di.uniroma1.it)

# IAPR THE NEXT GENERATION

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

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*Editor's note: Asma received an IAPR Research Scholarship for 2023. Her report on the experience is a testament to the value of this scholarship program for young researchers in pattern recognition.*

~ Heydi Méndez-Vázquez  
EiC

*Asma Bensalah is a PhD student at the Computer Vision Center, Universitat Autònoma de Barcelona.*

*She holds an MSc in Computer*

*Engineering (2019) from the same University and a Bachelor in Computer Science (2010) from Université des Sciences et de la Technologie Houari Boumediene (Algeria). Her research focuses on spotting strokes in human signals and analyzing them for health applications directed at patients affected by neurological diseases. She was a part of the European project CHERRIES - Responsible Healthcare Ecosystems, working on developing metrics to monitor multi sclerosis patients' progress using smartwatches. Prior to that, she was a part of the European project entitled "3D Kinematics for Remote Patient Monitoring RPDM3" (Principal Investigator: Alicia Fornés), aiming to analyze stroke patients' movements in order to assess the existent rehabilitation protocols.*

## Asma Bensalah

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

I have an atypical research career path. I graduated from university and worked for a few years, then went back for a Master's Degree at Universitat Autònoma de Barcelona. My Master's research was related to pattern recognition, but I found it difficult to envision myself continuing in that specific line for a longer time.

Toward the end of my Master's internship, my supervisor received a one-year grant to work on monitoring stroke patients' progress. At that moment, it felt right to join something pleasant, solving a real-world problem with something that would be useful to me in the future, pattern recognition research, and it all started there...



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

I started my PhD by working on stroke patients' movements (spotting and analysis) to monitor their motor progress during rehabilitation, using Deep Learning and the Kinematic Theory of Rapid Movements.<sup>1</sup> I quickly realized that a common problem for machine/deep learning applications with real-world-use cases, including medical-use cases, is the lack of quality data. That is why I am now working on using domain data knowledge to generate more human-like synthetic handwriting samples for general purposes and for early screening of neurodegenerative diseases, in particular.

With a Research Scholarship from IAPR, I was able to stay at the Natural Computation Lab at the University of Salerno.

That is where I began work on handwriting analysis for neurodegenerative disease, taking into account findings from psychology and neuroscience. I enjoyed doing work that uses the knowledge domain and data from other fields to design more efficient technical solutions.

The collaborative journey began weeks prior to the research stay with some meetings and email exchanges, paving the way for discussions of potential research interests. A shared interest in a specific research problem arose: exploring in-air movements within neurodegenerative patient populations. We started with a comprehensive review of the use of in-air movements for handwriting analysis for neurodegenerative diseases, with a particular emphasis on similar works in psychology and neuroscience. Linked psychology works focusing on "Poor



Handwriting” and “Handwriting Analysis for Alzheimer’s Disease” became a crucial foundation for our work.

As the focus of the research stay became clearer, we needed to establish a real-use case. We opted for the task of generating synthetic data for healthy and patient populations using in-air movements and Adversarial Networks. The experiments spanned various conditions involving in-air movements, on-paper movements, and a combination of both, contributing to a nuanced understanding of synthetic handwriting generation in diverse contexts.

Following the research stay, collaboration continued remotely. The results obtained from various scenarios were compared to draw insightful observations regarding the efficacy of in-air movements and Generative Adversarial Networks (GANs) for handwriting generation in the context of neurodegenerative diseases. Against our initial hypothesis, the synthetic samples we generated using in-air movements did not help our model to discern better handwriting samples afterwards. However, in-air movements hold discriminative features especially for patient populations. In practice, to generate a synthetic sample, a model needs first to synthesize the given examples. This was the most difficult aspect of the work, as the quality and quantity of

in-air movements depend on an individual’s motor capacity, which varies from one patient to another.

We shared our preliminary results within the community at the International Graphonomics Conference 2023 with a paper entitled *I Can’t Believe It’s Not Better: In-air Movement for Alzheimer Handwriting Synthetic Generation*, authored by A. Bensalah, A. Parziale, G. De Gregorio, A. Marcelli, A. Fornés, and J. Lladós, and we received valuable feedback. Thanks to this work, I have had another research stay of two months with the same group to work on data generation, and that collaboration is ongoing.

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

Being an IAPR Research Scholar has impacted me both on a personal and professional level. As a woman in STEM, I had many concerns about the research stay experience itself. I was happy that my first visiting research experience happened in a very inclusive and supportive working environment. I also cultivated connections that hopefully will last beyond my research stay.

On a professional level, working under the supervision of Professor Angelo Marcelli was a transforming experience. It not only awakened in me the sense of working on a problem while paying attention to

what is happening in other fields to connect the dots, but it also felt satisfying to come up with a solution and produce work that will last in time and have a real impact. While I am very pleased that the work may be useful to other researchers in the field of pattern recognition, I am thrilled about the real-world applications.

There were many memorable, unexpected moments and experiences related to my IAPR stay. Indeed, the ones I liked most were moments in which I thrived thanks to the inclusive and very supportive atmosphere; that was a pure joy!

Certainly, there are people and atmospheres that bring the best out of us, not only as researchers but as human beings, and the IAPR Research Scholarship Program helps create more of those moments for young researchers.

I am thankful both to the group that hosted me and the IAPR for making this possible.

~ Asma Bensalah

1. *Series in Machine Perception and Artificial Intelligence: The Lognormality Principle and its Applications in e-Security, e-Learning and e-Health*, pp. 327-342 (2020). Chapter 15: Modeling 3D Movements with the Kinematic Theory of Rapid Human Movements  
Andreas Fischer, Roman Schindler, Manuel Bouillon, and Réjean Plamondon  
[https://doi.org/10.1142/9789811226830\\_0015](https://doi.org/10.1142/9789811226830_0015)

## **IAPR Research Scholarships help Early Career Researchers engage in international and inter-institutional research.**

Scholarships cover round trip travel & basic living expenses for research visits under 12 months.

Applications may be submitted at any time before the visit starts.

Candidate must be a full-time researcher with between one and eight years experience and must be a member of an IAPR member society.



Click [here](#) to learn more or contact the IAPR Secretariat  
Linda O’Gorman at [secretariat@iapr.org](mailto:secretariat@iapr.org)

## IN THIS ISSUE

(USE BUTTONS FOR PAGE NAVIGATION)

- TC2 Structural & Syntactical Pattern Recognition
- TC3 Neural Networks & Computational Intelligence
- TC4 Biometrics
- TC6 Computational Forensics
- TC12 Multimedia and Visual Information Systems
- TC15 Graph-based Representations in Pattern Recognition
- TC18 Discrete Geometry and Mathematical Morphology
- TC20 Pattern Recognition for Bioinformatics



IAPR TC2  
**STRUCTURAL &  
SYNTACTICAL  
PATTERN RECOGNITION**

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[iapr.org/tc2](http://iapr.org/tc2)

*Chair:* Andrea Torsello (Ca' Foscari University of Venice Italy)  
*Vice Chairs:* Bai Xiao (Beihang University, Beijing, China)  
Luca Rossi (Hong Kong Polytechnic University, Hong Kong)

*The aim of IAPR [TC2](#) is to promote interaction and collaboration among researchers working on Structural and Syntactical Pattern Recognition (SSPR). Since 1996, the IAPR TC1 and TC2 jointly organize the biennial conference S+SSPR. The event is traditionally colocated with the International Conference on Pattern Recognition (ICPR), attracting participants working in a wide variety of fields that make use of statistical, structural or syntactic pattern recognition techniques.*

## CALL FOR PAPERS S+SSPR 2024

IAPR Joint International Workshops

15th Statistical Techniques in Pattern Recognition (SPR)  
20th Structural and Syntactic Pattern Recognition (SSPR)  
*September 9th - 11th, 2024, Venice, Italy*

## PAPER SUBMISSION DEADLINE: JUNE 23, 2024

[S+SSPR 2024](#) is a joint event organized by IAPR [TC1](#) (Statistical Pattern Recognition Technique) and IAPR [TC2](#) (Structural and Syntactical Pattern Recognition).

Authors are invited to submit papers addressing topics in statistical, structural, or syntactic pattern recognition and their applications. For a list of topics of interest and more details click [here](#).



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IN THIS ISSUE  
(Use buttons for page navigation)

- TC2 Structural & Syntactical Pattern Recognition
- TC3 Neural Networks & Computational Intelligence
- TC4 Biometrics
- TC6 Computational Forensics
- TC12 Multimedia and Visual Information Systems
- TC15 Graph-based Representations in Pattern Recognition
- TC18 Discrete Geometry and Mathematical Morphology
- TC20 Pattern Recognition for Bioinformatics



**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.*

The TC3 Committee is delighted to announce

# THE 11TH TC3 WORKSHOP ON ARTIFICIAL NEURAL NETWORKS IN PATTERN RECOGNITION ANNPR 2024

**OCTOBER 10-12, 2024**  
**CONCORDIA UNIVERSITY  
MONTREAL, QUÉBEC, CANADA**

Following the success of previous editions, this will be an opportunity to discuss the latest progress in deep learning, machine learning, and computational intelligence. Click [here](#) for detailed information and submission guidelines.

### CALL FOR PAPERS

Prospective authors are invited to submit papers showcasing their innovative work in diverse domains. We welcome submissions covering a wide array of topics, including but not limited to

- Deep Learning*
- Supervised and Self-Supervised Learning*
- Deep Reinforcement Learning*
- Continual Learning*
- Meta-Learning, Auto-ML*
- Interpretability and Explainability*
- Generative Models*
- Applications in Computer Vision, Speech/Audio Processing, Industrial Applications (e.g., quality control and predictive maintenance)*
- Bioinformatics, and Medical Applications.*

### IMPORTANT DATES

Workshop Dates: October 10 - 12, 2024  
Paper Submission Deadline: May 14, 2024  
Acceptance Notification: June 29, 2024

**CHAIRS**

Chair: Ching Y. Suen Concordia University, CENPARMI, Canada  
Co-Chair: Adam Krzyzak Concordia University, CENPARMI, Canada  
Program and Publication: Mirco Ravanelli Concordia University  
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**[ANNPR](#)**  
**[2024!](#)**



- TC2 Structural & Syntactical Pattern Recognition
- TC3 Neural Networks & Computational Intelligence
- TC4 Biometrics
- TC6 Computational Forensics
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- TC20 Pattern Recognition for Bioinformatics



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 and workshops, publications, standardization, databases, evaluations, research groups, and other biometrics news.*

The [21st International Summer School for Advanced Studies on Biometrics for Secure Authentication](#) will be held in Alghero, Italy, from June 3 to 7, 2024. The theme for the 21st edition is trustful, fair, and privacy-friendly biometric systems. This school follows the successful track of the International Summer Schools on Biometrics held since 2003.

*Courses from 18 outstanding researchers will focus on lessons learned and on new and emerging issues including:*

*The impact of AI and advanced learning techniques in Biometrics.*

*How to make “Deep Biometric” systems explainable.*

*How to exploit new biometric technologies in forensic and emerging applications.*

*How to develop fair, trustful and privacy-friendly biometric systems.*

*Where is biometric research going next?*

21<sup>st</sup> International Summer School  
for Advanced Studies on Biometrics for Secure Authentication  
**BIOMETRICS: Trustful, Fair and  
Privacy-Friendly**



The school is open to about 70 highly qualified, motivated and pre-selected participants. Ph.D. students, post-docs, researchers, forensic examiners, police officers and professionals are encouraged to apply.

**The deadline for submission of applications is February 29th, 2024.**



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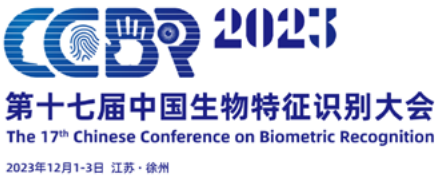
# IEEE INTERNATIONAL JOINT CONFERENCE ON BIOMETRICS (IJCB 2024)

15-18 September 2024, Buffalo, New York, USA

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 2024 will be held in Buffalo/Niagara Falls, New York, United States, September 15-18, 2024, as an in-person conference. **The firm deadline for paper submission is March 15, 2024.** Visit the conference website at [IJCB 2024](http://IJCB 2024) for more details. (Read the IJCB 2023 report [here](#).)

The 17th Chinese Conference on Biometric Recognition ([CCBR 2023](#)) was held in Xuzhou, China from December 1 to 3, 2023. CCBR 2023 was **endorsed by IAPR and technically supported by TC4**. A full report is included in this issue of *IAPR Newsletter* and linked [here](#)..



Airlie House, Warrenton, Virginia, USA, site of the first meeting of the Committee for the First International Conference on Pattern Recognition, 1972.



Biswa Bangla Gate, Kolkata, India. The Biswa Bangla Convention Center (less than 2 km from the Gate) will be the site for ICPR 2024.



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**TC 6** IAPR TC6 [iapr.org/tc6](http://iapr.org/tc6)  
**COMPUTATIONAL FORENSICS**  
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 information among 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.

**IAPR TC6 CompFor** **ADDITIONAL LEADERSHIP OF TC6**  
Honorary Chair: Chang-Tsun Li (Deakin University, Australia)  
Newsletter Editor: Petra Gomez (Université de La Rochelle, France)  
Speech Organiser: Irene Amerini (Sapienza Università di Roma, Italy)  
Information Officer and Web Master: Bosheng Yan (Deakin University, Australia)

TC6 organizes [hybrid seminars](#) delivered by renowned researchers. The latest seminar was delivered by Prof. Vitomir Štruc on *Face Image Quality Assessment (FIQA): Recent Advancements and Future Challenges*. Our next seminar will be delivered on March 13th, 2024 by Dr. Cecilia Pasquini from The Center for Cybersecurity at the Fondazione Bruno Kessler (FBK). Visit this [webpage](#) for further details.

If you are interested in the activities of IAPR TC6, please visit our [website](#) or email Prof. Victor Sanchez [V.F.Sanchez-Silva@warwick.ac.uk](mailto:V.F.Sanchez-Silva@warwick.ac.uk)

**TC 12** IAPR TC12 [Twitter](#) [LinkedIn](#) [iapr.org/tc12](http://iapr.org/tc12)  
**MULTIMEDIA AND VISUAL INFORMATION SYSTEMS**  
Chair: Hugo Jair Escalante (INAOE & CINVESTAV, Mexico)  
Vice Chair: Sergio Esclara (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.

## TEN-YEAR TECHNICAL IMPACT AWARD AT ICMI'23

The paper entitled *Multi-modal Gesture Recognition Challenge 2013: Dataset and Results* by Sergio Escalera, Jordi González, Xavier Baró, Miguel Reyes, Oscar Lopes, Isabelle Guyon, Vassilis Athitsos, and Hugo Jair Escalante, originally published in *Proceedings of the 15th ACM on International Conference on Multimodal Interaction (ICMI'13)*, **won the Ten-Year Technical Impact Award at ACM ICMI'23**. Click [here](#) to read the paper.



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## [FG 2024](#)

### THE 18TH IEEE CONFERENCE ON AUTOMATIC FACE AND GESTURE RECOGNITION

Istanbul (Turkey) May 27-31, 2024.

will feature the following three competitions:

#### 1 [Synthetic Data for Face Recognition \(SDFR\) Competition](#)

invites teams to propose clever ways to use synthetic face recognition datasets (either existing or new synthetic face datasets) to train face recognition models. The competition is split in two tasks; the first task involves a predefined face recognition backbone and limits the dataset size to focus on the quality of synthesized face datasets, while the second task provides almost complete freedom on the model backbone, the dataset and the training. Learn more by clicking [here](#).

image: <http://iapr.challenge/sdfr/>

#### 2 [The Second REACT Challenge@IEEE FG24](#)

focuses on developing generative models that can automatically output multiple appropriate, diverse, realistic and synchronized facial reactions under both online and offline settings. The Challenge encourages the participants to generate realistic images and video clips as results of their submission.

Learn  
more by  
clicking [here](#).

image: <https://sites.google.com/cam.ac.uk/read2024/home?authuser=0>

#### 3 [Brain Responses to Emotional Avatars Challenge](#)

shares a special database collected from 40 subjects with an EEG device. The subjects are asked to show emotions they see on an avatar's face on the screen.

Learn more by  
clicking [here](#).

image: <https://voxelab.pl/EmoNeuroDB/>


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TC  
12

IAPR TC 12  
**MULTIMEDIA AND VISUAL  
INFORMATION SYSTEMS**

[Twitter](#)   [LinkedIn](#)   [iapr.org/tc12](http://iapr.org/tc12)

**TC 12 NEWS, CONTINUED**



[ImageCLEF 2024](#) is open for registration.

*Continuing the diversity of previous editions, ImageCLEF 2024 contains four main tasks:*

- |   |   |
|---|---|
| <p><b>1</b> <a href="#">ImageCLEF Medical</a> (8th edition): To better understand and refine automatic systems that aid in the broad task of radiology-image metadata generation. Tasks include <a href="#">Automatic Image Captioning</a>; <a href="#">Synthetic Medical Images Created via GANs</a>; <a href="#">Visual Question Answering for Colonoscopy Images</a>; <a href="#">Multimodal And Generative TelmedICine (MAGIC)</a>.</p> | <p><b>2</b> <a href="#">ImageCLEF Retrieval for Arguments</a> (3rd edition): Conventional image retrieval is not well-suited to finding images that support a particular point of view. The task is to fill this gap and develop techniques for finding suitable images for argumentative texts.</p>        |
| <p><b>3</b> <a href="#">ImageCLEF Recommending</a> (2nd edition): This task focuses on content-recommendation for cultural heritage content in 15 broad themes that have been curated by experts in the <a href="#">Europeana Platform</a></p>  | <p><b>4</b> <a href="#">ImageCLEFtoPicto</a> (1st edition): This task introduces two new challenges whose objective is to provide a translation in pictograms from a natural language, either from (i) text or (ii) speech understandable by the users, in this case, people with language impairments.</p> |


TC  
15

IAPR TC 15  
**GRAPH-BASED  
REPRESENTATIONS IN  
PATTERN RECOGNITION**

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

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

The goal of [TC15](#) is to federate and to encourage research works at the intersection of Machine Learning, Pattern Recognition and Image Analysis on one side and graph theory framework on the other side. Topics of interest include: graph matching, graph-based segmentation and graph pyramids, graph-based clustering regression or classification together with clustering, classification and regression of graphs using various methods such as: graph edit distance, graph embeddings, graph kernels and graph neural networks.



GbR is a biennial workshop organized by the 15th Technical Committee. This 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. Additionally, new emerging topics and approaches in graph representation learning and graph neural networks are becoming relevant in pattern recognition; researchers in this field are encouraged to actively participate. Furthermore, the application of graphs to pattern recognition problems in other fields like computational topology, graphic recognition systems, bioinformatics, cybersecurity, and engineering is also highly welcome at the workshop. A complete report on GbR2023, which took place in Vietri sul Mare, on the beautiful Amalfi Coast of Italy, is included in the Meeting Reports section of this issue of IAPR Newsletter, and linked [here](#).

TC15 is working to organize the next edition of GbR, scheduled for 2025. A call has been sent to all TC15 community members, inviting them to send proposals and expressions of interest for participating in the organization of GbR2025. To learn more about TC15 membership, please visit [iapr.org/TC15](http://iapr.org/TC15).



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**TC  
18**

IAPR TC 18  
**DISCRETE GEOMETRY  
AND MATHEMATICAL  
MORPHOLOGY**

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

*Chair:* Sara Brunetti (University of Siena, Italy)  
*Vice Chair:* Benjamin Perret (Universite Gustave Eiffel, France)

*The mission of [TC18](#) is to promote interactions and collaborations among researchers working on Discrete Geometry and Mathematical Morphology. It aims to facilitate discussions and identify emerging trends in research areas involving discrete geometry and combinatorial topology, image segmentation and discrete shape analysis, digitized objects, geometrical transforms, image and shape filtering, metrics and machine learning, visualization, and feature extraction.*



**CALL FOR PARTICIPATION**

**3RD INTERNATIONAL CONFERENCE ON  
DISCRETE GEOMETRY  
AND MATHEMATICAL MORPHOLOGY**

Florence University, Italy, April 15 - 18, 2024

We are delighted to host [DGMM 2024](#), the third joint event between the two main conference series of IAPR TC18: the International Conference on Discrete Geometry for Computer Imagery (DGCi) and the International Symposium on Mathematical Morphology (ISMM).

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.

Click [here](#) for Early Bird Registration, opening soon and available until February 25. Looking forward to seeing you in Florence!

~ The DGMM 2024 Organizing Committee

**TC  
20**

IAPR TC20  
**PATTERN RECOGNITION  
FOR BIOINFORMATICS  
AND DIGITAL HEALTH**

[LinkedIn](#)   [iapr.org/tc20](http://iapr.org/tc20)

*Chair:* Bert Arnrich (Hasso Plattner Institute and University of Potsdam, Germany)  
*Vice Chair:* Arzucan Özgür (Boğaziçi University, Turkey)  
*Communication Officer:* İnci M. Baytaş (Boğaziçi University, Turkey)

*IAPR [TC20](#) aims to pursue cutting-edge developments in pattern recognition for health, and to encourage interdisciplinary collaborations at the intersection of pattern recognition and bioinformatics, biomedical informatics, and digital health analytics. The activities organized by TC20 will enable a two-way knowledge transfer between pattern recognition and health domains.*

TC 20 is organizing the Pattern Recognition in Healthcare Analytics (PRHA) special issue of the *Journal of Computational Biology*. For information on submissions, please click [here](#).

A vast amount of digital health data has become accessible to clinical and machine learning researchers. Thus, healthcare has become a prominent field that benefits from data-driven techniques. In parallel, pattern recognition for healthcare has emerged to develop models to assist physicians and clinical researchers in solving complex healthcare tasks and making clinical decisions. Digital patient data retains multiple challenges. The PRHA issue aims to provide a collection of the latest pattern recognition solutions to address emerging challenges in bioinformatics and digital health.

**SUBMISSION DEADLINE IS MARCH 15, 2024.**

- The special issue's scope entails but is not limited to:
- Bioinformatics*
  - Patient Phenotyping and Subtyping*
  - Patient Monitoring & Machine Learning in Pervasive Healthcare*
  - Multi-modal Learning for Disease Prediction and Treatment Effects*
  - Temporal Modeling for Disease Progression*
  - Interpretable Models for Clinical Decision Support*
  - Privacy-preserving Techniques for Distributed and Sensitive Patient Data*



# MEETING REPORTS

## CONFERENCES, WORKSHOPS, & SUMMER/WINTER SCHOOLS



### **General Chairs**

[Joan Andreu Sánchez](#)

*Polytechnic University of Valencia, Spain*

[Inês Domingues](#)

*Instituto Superior de Engenharia de Coimbra, Portugal*

**Local Chair** [Antonio Pertusa](#) *University of Alicante, Spain*

### **Program Chairs**

Antonio Javier Gallego *University of Alicante, Spain*

Manuel J. Marín *Universidad de Córdoba, Spain*

Raquel Justo *Universidad del País Vasco, Spain*

Hélder Oliveira *INESC TEC, University of Porto, Portugal*

The Iberian Conference on Pattern Recognition and Image Analysis (IbPRIA) is an international conference co-organized by the Portuguese APRP (Associação Portuguesa de Reconhecimento de Padrões) and Spanish AERFAI (Asociación Española de Reconocimiento de Formas y Análisis de Imágenes) chapters of the IAPR (International Association for Pattern Recognition), and it is technically endorsed by the IAPR.

IbPRIA consists of high-quality, previously unpublished papers, presented either orally or as a poster, intended to act as a forum for research groups, engineers, and practitioners to present recent results, algorithmic improvements, and promising future directions in pattern recognition and image analysis.

Previous editions of IbPRIA were held in Andraxt (2003), Estoril (2005), Girona (2007), Póvoa de Varzim (2009), Las Palmas de Gran Canaria (2011), Madeira (2013), Santiago de Compostela (2015), Faro (2017), Madrid (2019), and Aveiro (2022). The University of Alicante hosted [IbPRIA 2023](#) with the support of the University Institute for Computing Research (IUII).



IbPRIA 2023 received 86 submissions. The review process required careful consideration by more than 100 reviewers, with an average of 2.9 single-blind reviews per paper and an average number of papers per reviewer of 2.2. In the end, a total of 56 papers (65%) were accepted, lowering the acceptance rate from previous editions. For the final program, 26 papers (30%) were selected for oral presentations, and 30 (35%) for poster presentations. Of the 198 authors whose works were accepted, 57% were from Spain, and 15% from Portugal. The rest were from 16 countries: Belgium, Sweden, the USA, Norway, Mexico, Ukraine, France, Germany, New Zealand, Czech Republic, Italy, India, Bangladesh, Cuba, Switzerland, and Estonia.



All accepted papers were published in the Springer Lecture Notes in Computer Science Series (linked to the cover image, left). In addition, authors of a short list of presented papers were invited to submit extended versions for possible publication after revision in the journal *Pattern Analysis and Applications*. Winners of the best paper and best student paper awards were invited to prepare extended versions to be considered for publication in *Pattern Recognition Letters*.

The conference's technical program included a doctoral consortium, three tutorial presentations, three plenary talks, seven oral sessions, and three poster sessions. Distinguished active researchers gave the following plenary talks and tutorials.

**Plenary Talks:** **Prof. Timothy Hospedales** (University of Edinburgh, UK): *Distribution Shift: The Key Bottleneck for Pattern Recognition in Practice?*

**Prof. Nuria Oliver** (Ellis Unit Alicante, Spain): *Data Science against COVID-19*

**Prof. Gustau Camps-Valls** (Universitat de València, Spain): *AI for Sustainable Earth Sciences*

#### Tutorials:

**Prof. Mikel Artetxe** (Reka): *A Brief History of Unsupervised Machine Translation: From a Crazy Idea to the Future of MT?*

**Prof. Sergio Orts** (Google): *Machine Learning for Computational Photography*

**Prof. Karteek Aklahari** (Inria, France): *Continual Visual Learning: Where are We?*



The oral sessions were related to Machine Learning, Document Analysis, Computer Vision, Computer Vision Applications, Medical Imaging, and Machine Learning Applications.

IbPRIA 2023 presented awards for: Best Paper, Best Student Paper, Best Paper Honorable Mention, Best Student Paper Honorable Mention, Best Doctoral Consortium Presentation, AERFAI Best PhD, two AERFAI PhD accesits, and APRP Best PhD.

The Best Paper Award was given to authors Albert Catalan Tatjer, Bhalaji Nagarajan, Ricardo Jorge Rodrigues Sepúlveda Marques, and Petia Radeva for their paper entitled *CCLM: Class-Conditional Label Noise Modelling*. The Best Student Paper was given to Carlos Peñarrubia, Jose J. Valero-Mas, Antonio Javier Gallego, and Jorge Calvo-Zaragoza, for *Addressing Class Imbalance in Multilabel Prototype Generation for k-Nearest Neighbor Classification*.



Amina Achaibou, Nofre Sanmartín-Vich, Filiberto Pla, and Javier Calpe received the Best Paper Honorable Mention for *Guided Depth Completion Using Active Infrared Images in Time of Flight System*, and José Ramón Prieto Fontcuberta, David Becerra, Alejandro Hector Toselli, Carlos Alonso, and Enrique Vidal received the Best Student Paper Honorable Mention for *Segmentation of Large Historical Manuscript Bundles into Multi-page Deeds*.

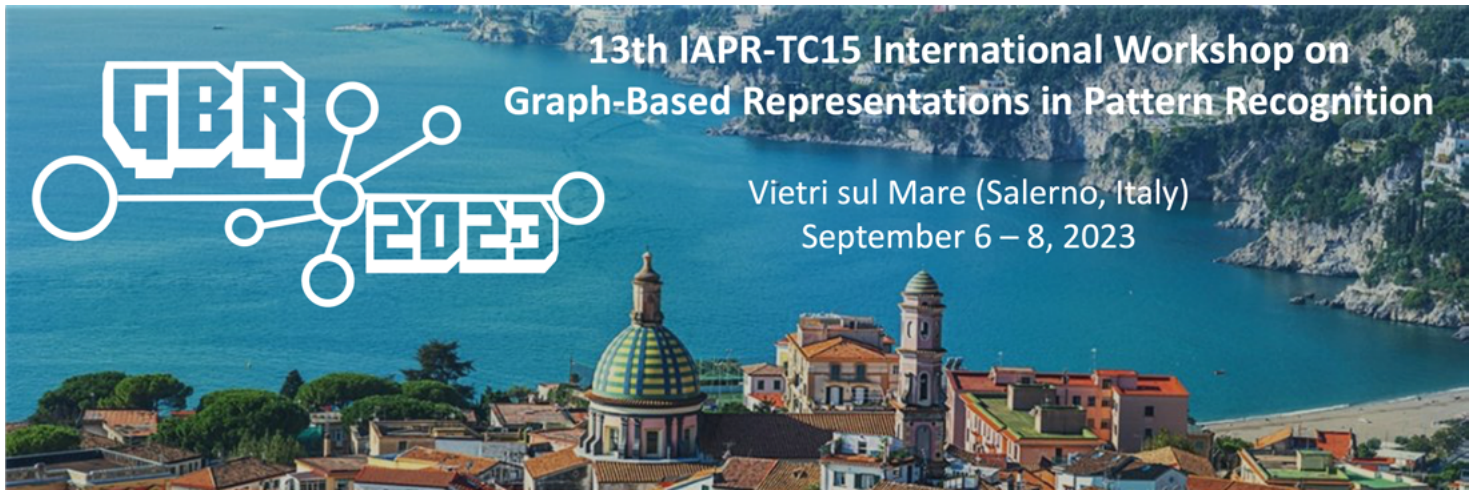
We are thankful to the reviewers and all the local organizing committee members for their excellent work in making IbPRIA 2023 a very successful event.



Report Submitted by

[Antonio Pertusa](#),  
Local Chair, IbPRIA 2023





### **Workshop Chairs**

Mario Vento *University of Salerno, Italy*  
Pasquale Foggia *University of Salerno, Italy*  
Donatello Conte *Université de Tours, France*

### **Program Chair**

Vincenzo Carletti *University of Salerno, Italy*

GbR is a biennial workshop sponsored by the International Association for Pattern Recognition (IAPR) and organized by its 15th Technical Committee. The primary aim of this workshop is to promote research in Pattern Recognition and Image Analysis within the framework of graph theory. This workshop series traditionally serves as a platform for the presentation and discussion of research findings and applications at the intersection of pattern recognition, image analysis and machine learning on one side, and graph theory on the other.

[GbR 2023](#), the 13th edition of GbR, took place in Vietri sul Mare, a charming village near Salerno on the beautiful Amalfi Coast of

Italy. This event was organized by Professors Pasquale Foggia and Mario Vento from the University of Salerno, along with the [MIVIA lab](#).

The conference program featured two distinguished IAPR Invited Speakers:

Prof. Francesc Serratosa from the Universitat Rovira i Virgili in Tarragona, Spain, delivered a talk titled *Face to Face: Graphs and Biotechnology*.

Prof. Walter G. Kropatsch from the Vienna University of Technology in Austria, presented *From LBP on Graphs to Slopes in Images*.



Sixteen oral presentations were organized into five sessions covering various topics such as Pooling in GNNs, Graph Kernels, Graph Theory for Pattern Recognition, Applications of Graph-based Approaches, and Graph Neural Networks. These 16 accepted papers originated from multiple countries, including France, Italy, UK, China, Spain, Switzerland, Austria, Poland, Germany, and Sweden.



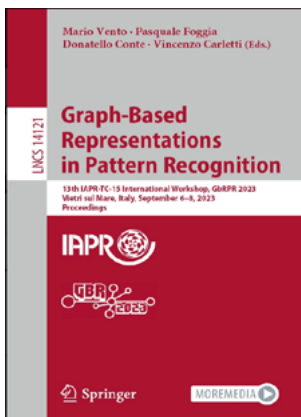
The GbR2023 Best Paper award was granted to the paper titled *Minimum Spanning Set Selection in Graph Kernels*, authored by Domenico Tortorella and Alessio Micheli.



The workshop also encompassed the gathering of the IAPR Technical Committee 15 (Graph-based Representations), where committee members engaged in discussions covering several important areas of interest. These topics included initiatives aimed at enhancing the accessibility of datasets, protocols, and algorithm libraries to facilitate improved experimental evaluations in the realm of scientific knowledge. Discussions also revolved around educational endeavors, including student exchanges and researcher exchanges. Lastly, the committee delved into the evolving landscape of graph-based machine learning, considering its future growth and significance in the field.

Conferring of the Best Paper Award, GbR 2023

The conference's social program featured a visit to the historic Benedictine Abbey of the Holy Trinity on the Amalfi Coast. Attendees explored its rich heritage and architecture. There was also a memorable gala dinner with a panoramic sea view at the Lloyd's Baia Beach restaurant (above, right). A boat tour along the stunning Amalfi Coast offered breathtaking views and stops in Amalfi for exploration.



The proceedings of the workshop have been published as part of the *Lecture Notes in Computer Science* series by Springer-Nature (publication linked to cover image, left). The authors of the presented papers have also been asked to submit an extended version of their work for a thematic Special Issue of the journal *Pattern Recognition Letters*, titled *Graph-based Representations for Pattern Recognition: New Results and Challenges* (GbRNRC), to be published in 2024.

The success of GbR 2023 is undoubtedly attributable to the tireless efforts and dedication of our organizing committee members, Gennaro Percannella, Pierluigi Ritrovato, Alessia Saggese, Luca Greco, Vincenzo Carletti, and Antonio Greco, whom we wholeheartedly thank for their contributions.

*Report Submitted by*  
Pasquale Foggia  
and Mario Vento  
Chairs of GbR 2023



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

25-28 September 2023, Ljubljana, Slovenia



### General Chairs

Kevin Bowyer *University of Notre Dame*  
Alice O'Toole, *University of Texas at Dallas*  
Vitomir Štruc, *University of Ljubljana*

### Program Chairs

Zhen Lei *CASIA*  
Hugo Proença *University of Beira Interior*  
Anderson Rocha *University of Campinas*  
Luísa Verdoliva *University Federico II of Naples*

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

The 2023 edition of the International Joint Conference on Biometrics ([IJCB 2023](#)) was held in Ljubljana, Slovenia from 25-28 September 2023.

IJCB is the premier international forum for research on biometrics and related technologies and combines two major biometrics conferences: the IEEE International Conference on Biometrics Theory, Applications and Systems (BTAS); and the IAPR International Conference on Biometrics (ICB). The blending of these two conferences is made possible through a special agreement between the IEEE Biometrics Council and the IAPR Technical Committee on Biometrics (TC4).

After years of online and hybrid events due to the COVID-19 pandemic, IJCB 2023 was held as a **fully in-person event** in Ljubljana, Slovenia. The conference was made possible

through the efforts of the local organizers, the Faculty of Electrical Engineering of the University of Ljubljana, the Slovenian Pattern Recognition Society (member of IAPR) and the European Association for Biometrics (EAB), as well as numerous volunteers who served on the Organizing Committee.

The IJCB conference series continues to attract high-quality submissions on a broad range of topics related to biometrics and supporting technologies. In 2023, the meeting received 199 papers in the main track that underwent a rigorous peer-review procedure overseen by the four IJCB 2023 Program Chairs and 26 Area Chairs. More than 230 reviewers helped with the reviewing process, provided comments on the submissions, and participated in discussions during the rebuttal phase. Ultimately, 72 high-quality papers (36.2%) were accepted for presentation at IJCB 2023, out of

which, 30 (15.1%) were scheduled as oral presentations, with the remaining 42 (21.1%) as posters. Ten competitions on different biometrics-related problems were also accepted to be part of IJCB 2023. These competitions produced ten summary papers that are included in the technical program of the conference.

Four special sessions were also held in the scope of IJCB 2023 and enriched the regular conference program with posters and talks on several timely topics. Fadi Boutros, Nasir Memon, Vitomir Štruc and Andreas Uhl organized a special session on *Synthetic Data in Biometrics*; Abhijit Das, Aritra Mukherjee, and Xiangyu Zhu spearheaded a session on *3D Biometrics with Monocular Vision*; Ioannis Kakadiaris and Yi Yao set up a session on *Long-Range Biometrics Challenges*; and Abhijit Das, Meiling Fang, and Raghavendra Ramachandra organized a special session on

*Recent Advances in Detecting Manipulation Attacks on Biometric Systems.* The special sessions received a total of 50 submissions, and 26 were selected for presentation based on a peer-review procedure overseen by the special session organizers.

Following the tradition of previous IJCBs, a call was also issued for presentation of papers published in major journals on topics of interest to the biometrics community. In response to this call, multiple applications were received, and 11 journal paper presentations were selected.

These journal papers came from top-tier venues, including the *IEEE Transactions on Biometrics, Behavior, and Identity Science*, the go-to journal for biometrics-related research. The technical program of IJCB also consisted of two demos that were presented in parallel to the journal poster session.

In addition to the paper presentations and demos, IJCB hosted four IAPR-sponsored Keynotes from leading researchers and winners of awards from IJCB's sponsoring societies. Dr. Gouying Zhao (University of Oulu) gave a talk entitled *What Can Machines Read from Human Faces?*; Dr. Manoj Aggarwal (Amazon One) shared a keynote address titled *Amazon One: A Peek under the Hood*; the winner of the IAPR Young Biometrics Investigator Award (YBIA), Prof. Xiangyu (Institute of Automation, CASIA) talked about *Building 3D Representations for Face Recognition*; and the 2023 IEEE Biometrics Council Meritorious Service Award



Postojna Cave (Postojna Jama), Slovenia

recipient, Prof. Mayank Vatsa (IIT Jodhpur, India) delivered an invited talk entitled *Impact of Responsible Biometrics*.

IJCB 2023 featured three tutorials: *Face Recognition and Verification: Recent Trends and Threats*, by Guido Borghi, Nicolò Di Domenico and Lorenzo Pellegrini; *Alpha and Omega of Deepfakes*, by Abhijit Das and Antitza Dantcheva; and *Power Papers: Some Practical Pointers*, by Terence Sim. These tutorials helped participants gain insights on timely technical topics, such as deepfakes and face morphing attacks, and improve their paper-writing skills. Finally, a Doctoral Consortium was also organized to give young researchers the opportunity to meet with established researchers and leaders from academia and discuss their work and career opportunities.

There was ample opportunity to make new acquaintances and socialize with old friends and colleagues during the social events of IJCB 2023. These

included a trip to the Postojna Cave, one of the largest caves in Europe, a reception at the conference hotel, and a gala dinner in the medieval Castle of Ljubljana.

During the gala dinner, an award ceremony was organized to honor scientific achievements and the best research presented during IJCB 2023. As part of the award ceremony, Naser Damer, Nuno Gonçalves, Rajesh Kumar, Joao Neves, Nisha Srinivas, and Ruben Tolosana were honored with the Outstanding Reviewer award. The paper titled *CoNAN: Conditional Neural Aggregation Network For Unconstrained Face Feature Fusion* by Bhavin Jawade, Deen Dayal Mohan, Dennis Fedorishin, Srirangaraj Setlur, and Venu Govindaraju received the IJCB 2023 Best Paper Award.

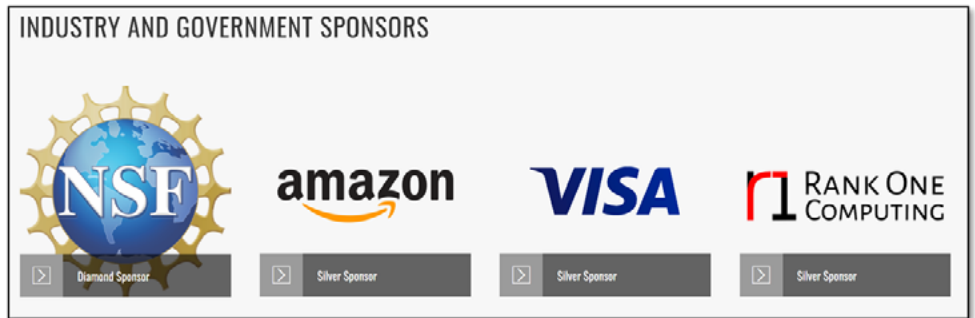
*Sclera-TransFuse: Fusing Swin Transformer and CNN for Accurate Sclera Segmentation*, co-authored by Haiqing Li, Caiyong Wang, Zhao Guangzhe, Zhaofeng He, Yunlong Wang, and Zhenan Sun



received the IJCB 2023 Best Student Paper Award.

The BTAS 2019 paper *Multi-task Learning for Detecting and Segmenting Manipulated Facial Images and Videos*, by Huy Nguyen, Fuming Fang, Junichi Yamagishi, and Isao Echizen was awarded the BTAS/ IJCB 5-Year Highest Impact Award, and Ashwin Prakashm, Thejaswin S, Athira Nambiar, and Alexandre Bernardino were awarded the IAPR Best Biometrics Student Paper Award for *Adapt-FuseNet: Context-aware Multimodal Adaptive Fusion of Face and Gait Features using Attention Techniques for Human Identification*.

The Best Demo Award went to *S2L+S2D: Identity-Preserving Speech-Driven 3D Talking Heads*, presented by Federico Nocentini, Claudio Ferrari, and Stefano Berretti, and the daily Poster awards were given to: (Day 1) *Age-constrained Ear Recognition: The EICZA Dataset and SASE Baseline Model* by Wenda Qin, Margrit Betke, Lauren Etter, Alinani Simukanga, and Christopher



Gill; (Day 2), *Vulnerability of Automatic Identity Recognition to Audio-Visual Deepfakes* by Pavel Korshunov, Haolin Chen, Philip N. Garner, and Sebastien Marcel; and (Day 3) *De-identifying Face Image Datasets While Retaining Facial Expressions*, co-authored by Andreas Josef Leibl, Helmut Mayer, Andreas Attenberger, Andreas Meißner, and Stefan Altmann.

IJCB 2023 received generous support from various sponsors and supporters. The NSF was a Diamond sponsor and provided travel support for students attending the IJCB 2023 Doctoral Consortium; Amazon, VISA and Rank One Computing were Silver Sponsors. The conference also benefited from the contributions of the IEEE Biometrics Council through its DEI travel grant

program, which provided financial support for researchers from various underrepresented groups in attending IJCB 2023. Similarly, the IAPR provided support for the invited keynote speakers. Local supporters include the City of Ljubljana, Ljubljana Tourism, and *Feel Slovenia*.

[IJCB 2024](#) is already around the corner and efforts have begun to set up the next edition of this prestigious conference in Buffalo, Niagara Falls. The Program Chairs for IJCB 2024 will be Richa Singh, Stephanie Schuckers, Marta Gomez-Barrero and Yunhong Wang. Stay tuned for news and updates on the conference.

*Report Submitted by*  
IEEE IJCB 2023 Organizers

Medieval Ljubljana Castle on top of a forest hill in Ljubljana, Slovenia



Photo:PhotoFires (Adobe Stock)



**General Chairs:** Junyu Dong *Ocean University of China*  
 Umпада Pal *Indian Statistical Institute*

**Program Chair:** Guoqiang Zhong *Ocean University of China*

The 12th International Conference on Computing and Pattern Recognition (ICCPR 2023) was held in hybrid mode, online and onsite, October 27-29, 2023, in Qingdao, China. More than 100 experts and scholars from China, Japan, Norway, Thailand, USA, and other countries participated in this conference and conducted in-depth discussions and exchanges on relevant conference topics.

The ICCPR conference series aims to provide an interactive forum for researchers and scientists to share their findings in this domain and exchange ideas about developing new innovative ideas to accelerate the advancement of Computing and Pattern Recognition.

On Oct 28, the General Chair, Prof. Junyu Dong (Ocean University of China) gave the welcome address, and General Chair, Prof. Umпада Pal (IAPR and AAIA Fellow, Indian Statistical Institute) delivered the opening remarks. They extended warm

congratulations and welcoming remarks to the conference. Then Prof. Xiao-Jun Wu (Jiangnan University), Prof. Junyu Dong (Ocean University of China), Prof. Yi Yang (Zhejiang University, China) shared their research work by keynote speeches. The speeches were hosted by Program Committee Chair, Prof. Guoqiang Zhong (Ocean University of China).

Three keynote talks were given:

Prof. Xiao-Jun Wu (Jiangnan University, China) presented *An Exploration on Explainable Sparse/Low Rank Deep Learning Models for Multimodal Visual Fusion*

Prof. Junyu Dong (Ocean University of China, China) presented *Underwater 3D Reconstruction with Interactive VR Applications*

Prof. Yi Yang (Zhejiang University, China) presented *Digital Human Generation Based on Multiple Knowledge Representations*

Additional invited talks included *Solving Math Word Problems with Large Language Models* by Qiufeng Wang (Xi'an Jiaotong-Liverpool University); *Person Re-Identification Using Maintain Translation Invariance and F-triplet Loss* by Chunjie Zhang (Beijing Jiaotong University); *Intelligent Analysis of Remote Sensing Data and Its Application in SST Prediction* by Feng Gao (Ocean University of China); *Mapping and Localization for Large-scale Complex Scenes by Multi-source Fusion* by Lin Zhang (Tongji University); *Optimization in Machine Learning* by Xiaobo Jin (Xi'an Jiaotong-Liverpool University); *Artificial Intelligence for Disaster Environmental Warning* by Lei Han (Ocean University of China); *'Game Rule' of Graph Self-supervised Learning* by Xiao Wang (Beihang University); *Person Re-identification Using Maintain Translation Invariance and F-triplet Loss* by Qing Cai (Ocean University of China);

*Methods for Underwater Image Enhancement* by Shu Zhang (Ocean University of China); *Cloud Removal and Super-resolution for Satellite Image Enhancement* by Meng Xu (Shenzhen University); *Hashing-based Approximate Nearest Neighbor Search* by Yuan Cao (Ocean University of China); *Multi-scale Graph-Level Contrastive Learning* by Yanbei Liu (Tiangong University); *Research on Aspect-level Sentiment Analysis Based on XLNet-GCN* by Yangli Jia (Liaocheng University); *Lesion Analysis Methods in Automated Breast Ultrasound (ABUS) Images* by Yanfeng Li (Beijing Jiaotong University); *Research on High-resolution Fingerprint Recognition* by Feng Liu (Shenzhen University); and *AI4Science, A New Research Paradigm in the Artificial Intelligence Era?* by Wentao Feng (Sichuan University).

Six oral sessions, one poster session, and four online sessions were successfully held under the joint efforts of session chairs and presenters. Talks were broadly grouped based on the following topics: *Target Detection and Algorithms; Pattern Recognition and Intelligent Recognition Technology; Image Segmentation; AI-based Intelligent Computing Design and Model Analysis; Intelligent Image Processing and Multimedia Technology; and Image Model and Analysis.*

On Oct. 29, 2023, experts and scholars shared their research in two special sessions: *AI for Ocean* and *Quantum Deep Learning*.

The poster session was titled *Intelligent Image Detection and Computing Mode*, and online

BEST PRESENTATION WINNERS (IN EACH SESSION)
<b>Phornvipa Werukanjana</b> <i>Royal Police Cadet Academy, Thailand</i> <i>Pose Detection of Dead Body in Crime Scene Investigation</i>
<b>Qi Liu</b> <i>National University of Defense Technology, China</i> <i>Meta-ResNet: A Novel Few-shot SAR Target Recognition Method Based on Meta-learning</i>
<b>Wei Li</b> <i>Zhongyuan University of Technology, China</i> <i>PSAENet: Perceptual Scale Aggregation Enhancement Network for Retinal Vessel Segmentation</i>
<b>Raju Shrestha</b> <i>Oslo Metropolitan University, Norway</i> <i>Solving the Lunar Lander Problem with Multiple Uncertainties Using a Deep Q-Learning-Based Short-Term Memory</i>
<b>Haoqiang Ren</b> <i>Beijing University of Technology, China</i> <i>Perceptual Video Coding based on Spatial Masking for Medical Video Communication</i>
<b>Feixiang Zhao</b> <i>Chengdu University of Technology, China</i> <i>Image Domain Ultra-Sparse View CT Artifact Removal Via Conditional Denoising Diffusion Probability Model</i>
<b>Tianshu Cao</b> <i>Univ. of Shanghai for Science and Technology, China</i> <i>Research on Stage Construction Layout Simulation System Based on Web 3D Technology</i>
<b>Jiaqi Xue</b> <i>Shenzhen University, China</i> <i>MCARNet: Mixed Convolution-Attention-Residual Network for Hyperspectral Image Classification of Cholangiocarcinoma</i>
<b>Xu Yao</b> <i>Beijing Jiaotong University, China</i> <i>Adaptive Blind Super-resolution Model Based on Degradation Representation</i>
<b>Yawei Yuan</b> <i>Qilu University of Technology, China</i> <i>Channel Estimation for Millimeter-Wave Massive MIMO Systems Based on Fast and Flexible Denoising Network</i>



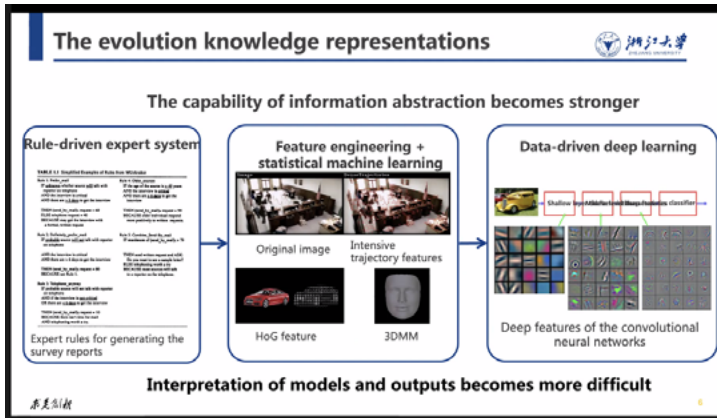
Special Session on AI for Ocean



Special Session on Quantum Deep Learning

sessions centered on *Image Detection, Recognition, and Registration Model; Digital Image Analysis and Processing Methods; Embedded Image Acquisition Device and System Design; and Information Management, Network System Optimization and*

*Data-Driven Calculation.*” Experts and scholars from all over the world shared and reported their research results. The Best Oral Presentations in each session were selected by Session Chairs, and session winners are listed on [page 35](#).



Prof. Yi Yang (Zhejiang University, China), delivers a Keynote Speech entitled *Digital Human Generation Based on Multiple Knowledge Representations*

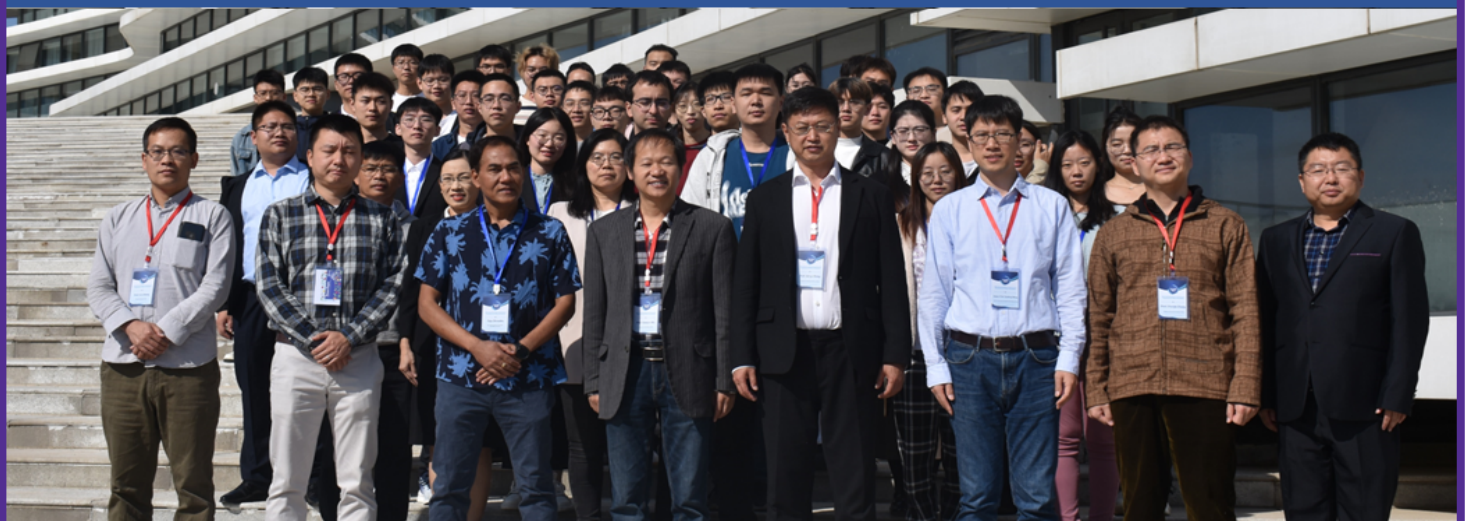
Best Paper Awards were given to Zhiyuan Zhang, Sixiang Ji, and Ping Zhang for *NPTT: Nonlinear Spatial-Temporal Transform for Low-Rank Tensor Recovery in Infrared Small Target Detection* and Junbin Zhuang, Junyi He and Xia Li for *SWACL: Sentimental Words Aware Contrastive Learning for Multimodal Sentiment Analysis*.

The 13th International Conference on Computing and Pattern Recognition (ICCP 2024) will be held in Tianjin, China, October 25-27, 2024. We are looking forward to your support and attendance again!

*Report Submitted by*  
Mickie Gong

## 2023 12th International Conference on Computing and Pattern Recognition (ICCP 2023)

October 27-29, 2023 | Qingdao, China



# 8th International Conference On Computer Vision & Image Processing (CVIP 2023)

November 03-05, 2023 IIT Jammu, India

## General Chairs

Manoj Singh Gaur *IIT Jammu, India*  
Santanu Choudhary *IIT Jodhpur, India*  
Isao Echizen *National Institute of Informatics, Tokyo, Japan*

## General Co-Chairs

Balasubramanian Raman *IIT Roorkee, India*  
Pritee Khanna *IIITDM Jabalpur, India*  
Yudong Zhang *University of Leicester, UK*

## Conference Chairs

Harkeerat Kaur *IIT Jammu, India*  
Vinit Jakhetiya *IIT Jammu, India*  
Deep Gupta *VNIT Nagpur, India*  
Aparajita Ojha *IIITDM Jabalpur, India*  
Puneet Goyal *IIT Ropar, India*

## Conference Co-Chairs

Sanjeev Malik *IIT Roorkee, India*  
Partha Pritam Roy *IIIT Roorkee, India*  
Naoufel Werghi *Khalifa University, Abu Dhabi*

[CVIP-2023](#), the 8th International Conference on Computer Vision & Image Processing, a premier annual conference, was held November 03-05, 2023, at Indian Institute of Technology Jammu (IIT Jammu), India. CVIP provides a great platform for students, academia, researchers and industry persons. Previous editions of CVIP were held at VNIT Nagpur (2022), IIT Ropar (2021), IIIT Allahabad (2020), MNIT Jaipur (2019), IIIT Jabalpur (2018), and IIT Roorkee (2017 and 2016). All editions of CVIP have been endorsed by the IAPR.

This year we had paper submissions in two rounds. Out of a total 467 submissions, 140 were accepted. CVIP 2023 set a benchmark in receiving the highest number of submissions in CVIP history. Submissions were received from almost all premier Indian institutions including IIT institutions (Kharagpur, Guwahati, Roorkee, Delhi, Bombay, Kanpur, Patna,

Goa, Tirupati, Varanasi, Ropar, and Pallakad), IIIT institutions (Allahabad, Delhi, Gwalior, Jabalpur, Kanchipuram), plus IISC, ISI, and various NITs (Calicut, Warangal, Silchar, Delhi, Agartala), as well as various internationally renowned institutes like NTNU, Norway, Norwegian University of Science and Technology, Trinity College Dublin, NTU Singapore, New York University, etc.

Submissions spanned over 10 different countries. A single blind review policy was used with a minimum of three reviews per manuscript. The selected papers covered various important and emerging image processing, computer vision applications, and advanced deep learning and machine learning techniques in the domain. The selected publications also addressed various practical and life-improving scenarios in the domain.



The technical program committee was led by Dr. Puneet Goyal, Prof. Pritee Khanna, Prof. Aparajita Ojha, Dr. Santosh Kumar Vipparthi (IIT Guwahati), Deepak Mishra (IIST Trivandrum), Ananda S. Chowdhury (Jadavpur University), Dr. Gaurav Bhatanagar (IIT Jodhpur), Dr. Deep Gupta (VNIT Nagpur), Dr. Ranjeet Kumar Rout (NIT Srinagar), Prof. Nidhi Goel (IGDTUW, Delhi), Prof. Rama Krishna Sai Gorthi (IIT Tirupati), Dr. Shiv Ram Dubey (IIIT Allahabad), Dr. Arvind Selwal (Central University Jammu), and Dr. Jagadeesh Kakarla (IIIT Kanchipuram). Apart from their roles as TPC members, their significant contribution along with IIT Jammu faculty members Dr. Karan Nathwani, Dr. Badri S Subudhi, Dr. Yamuna Prasad, Dr. Ambika Shah, Dr. Gaurav Varshney, Dr. Shaifu Gupta, Dr. Samaresh Bera, Dr. Quleen Bijral, and Prof. Subhasis Bhattacharjee, under the mentorship of Prof. Manoj Singh Gaur (General Chair and Director IIT Jammu) led to successful completion of the event.

CVIP 2023 was an incredible mix of academia, industry and entrepreneurship. Keynote talks were delivered by Prof. Santanu Chaudhury (IIT Jodhpur), Dr. D. Ram Rajak (Senior Scientist ISRO), Dr. Amal Chaturvedi (Roche), Prof. Tsachy Weissman (Stanford University), and Prof. Isao Echizen (University of Tokyo).

For the first time in CVIP history, a special session on Women in Computer Vision was held, under which keynote talks were given by Prof. Sushmita Mitra (ISI Kolkata), Prof. Devi Parikh (Georgia Tech), and Dr. Geetha Manjunath (CEO NIRMAI Health analytics), who have distinguished themselves in top research and entrepreneurial positions. The practical and real-life aspect of computer vision was demonstrated in special stalls set up by UNITY AR/VR and Niramai Health Analytics (breast cancer detection device using AI and image processing). Asterbyte (emotion detection) and IHUB Drishti (IIT Jodhpur) were also represented.

A challenge was also organized: *Automatic Detection and Classification of Bleeding and Non-Bleeding Frames in Wireless Capsule Endoscopy*. Over 150 participants



*Industry and Academia Interactions*



*Keynote by Prof. Santanu Chaudhury*



*Sushmita Mitra*

*Devi Parikh*

*Geetha Manjunath*

took on this challenge. Several technical workshops were organized by Mathworks and UNITY AR/VR, and a tutorial on *Learned Image Compression* was delivered by Dr. Pulkit Tandon (Grancia) and Dr. Animesh Chaturvedi (Amazon).

CVIP 2023 presented high-quality research works with innovative ideas. To acknowledge and promote the spirit of research and participation, five different awards were announced: IAPR Best Paper Award, IAPR Best Student Paper, CVIP 2023 Best Paper Award, CVIP 2023 Best Student Paper Award and CVIP 2023 Best Poster Award.



CVIP Inauguration Ceremony

The IAPR best paper award was presented to Sree Rama Vamsidhar S, Bhargava Satya Nunna, Gorthi Rama and Krishna Sai Subrahmanyam for their work entitled *Effective-LDAM: An Effective Loss Function To Mitigate Data Imbalance for Robust Chest X-Ray Disease Classification*. The IAPR Best Student Paper Award was presented to Priyabrata Dash, Monalisa Sarma, and Debasis Samanta for work entitled *Fractal-Based Approach to Secure Key Generation from Fingerprint and Iris Biometrics*. Prizes were also awarded to the Challenge winners who secured first, second and third positions. Moreover, to celebrate his outstanding work, the committee awarded Prof. Umapada Pal, ISI Kolkata, the CVIP 2023 Lifetime Achievement Award, for his

remarkable research in the field of Image Processing and Computer Vision. Also, 75 travel grants were offered to support partial travel of various participants who traveled to Jammu from near and far places.

We wish the CVIP conference series continued grand success, and the baton is passed to IIIT Kanchipuram for CVIP 2024 in the same high spirits!

*Report Submitted by*

- Dr. Harkeerat Kaur, Conference Chair
- Dr. Vinit Jakhetiya, Conference Chair
- Dr. Puneet Goyal, Conference Chair
- Prof. Pritee Khanna, General Co-Chair
- Prof. Balasubramanian Raman, General Chair



# 7th Asian Conference on Pattern Recognition

November 5-8, 2023  
Kitakyushu International Conference Center  
Fukuoka, Japan



## 第7回 > パターン認識に関するアジア会議 (ACPR2023)

### General Chairs

[Cheng-Lin Liu](#) *Chinese Academy of Sciences, China*

[Yasushi Yagi](#) *Osaka University, Japan*

[Tohru Kamiya](#) *Kyushu Institute of Technology, Japan*

### Program Chairs

Michael Blumenstein *The University of Sydney, Australia*

Huimin Lu *Kyushu Institute of Technology, Japan*

Wankou Yang *Southeast University, China*

Sung-Bae Cho *Yonsei University, Korea*

The 7th Asian Conference on Pattern Recognition ([ACPR2023](#)) was held in Kitakyushu International Conference Center, Fukuoka, Japan on November 5-8, 2023.

ACPR was initiated to promote pattern recognition theory, technologies and applications in the Asia-Pacific region. The first ACPR (2011) was in Beijing, China, followed by Okinawa, Japan (2013), Kuala Lumpur, Malaysia (2015), Nanjing, China (2017), Auckland, New Zealand (2019), and in Jeju Island, South Korea (2021). Over the years, ACPR has welcomed authors from all over the world.

ACPR 2023, the 7th edition, focused on four important areas of pattern recognition: pattern recognition and machine learning; computer vision and robot vision; signal processing; and media processing and interaction, covering various technical aspects.

ACPR 2023 received 164 submissions from 21 countries. The program chairs invited 141 program committee members and additional reviewers. Each paper was single-blind reviewed by at least two reviewers, and most papers received three reviews. Finally, 93 papers were accepted for presentation in the program, resulting in an acceptance rate 56.7%. The proceedings were electronically published and are now available

Fireworks at Mikuni World Stadium



at Springer book series *Lecture Notes in Computer Science, Pattern Recognition* (linked [here](#), or click on the cover image, above right).

The final program was organized into a single track with an opening ceremony, four keynote talks, nine oral sessions and two workshops. The keynote speeches were provided by internationally renowned researchers: Professor Tatsuya Harada (University of Tokyo, Japan) gave a speech titled *Learning to Reconstruct Deformable 3D Objects*. Professor Longin Jan Latecki (Temple University, USA) spoke on *Image Retrieval by Training Different Query Views to Retrieve the Same Database Images*. Professor Jingyi Yu (Shanghai Tech University, China) presented *Bridging Recognition and Reconstruction: Generative Techniques on Digital Human, Animal, and Beyond*. Professor Mark Nixon (University of Southampton, UK) gave

a speech titled *Gait Biometrics – From Then to Now and the Deep Revolution*.

Two papers were selected by the award committee as the best papers: Ning Li, Minghui Chen, Guohua Zhao, Lei Yang, Ling Ma, Jingliang Cheng and Huiqin Jiang received the Best Paper Award for *ABFNet: Attention Bottlenecks Fusion Network for Multimodal Brain Tumor Segmentation*. The Best Student Paper Award was given to Pingping Zhou, Cheng Pang, Rushi Lan, Guanhua Wu and Yilin Zhang for their paper entitled *Multi-discriminative Parts Mining for Fine-Grained Visual Classification*

The ACPR2023 was exceptional in its unique social events, which were supported financially by the local government. The welcome reception was held in Mikuni World Stadium Kitakyushu, which is the biggest football stadium in Kitakyushu.

Bali, Indonesia was selected at the closing ceremony as the venue for ACPR2025.

Finally, we would like to thank the organizing committee and attendees of ACPR2023 for a great conference, both scientifically and socially.

Report Submitted by

Huimin Lu

*Kyushu Institute of Technology,  
Japan*



# CIARP 2023

26<sup>th</sup> Iberoamerican Congress on Pattern Recognition

27-30 November • Coimbra • Portugal

## Conference Chairs

*Inês Domingues, ISEC, Portugal*  
*Verónica Vasconcelos, ISEC, Portugal*

## Program Chair

*Simão Paredes, ISEC, Portugal*



## CIARP

is an annual international conference that showcases original, high-quality papers in the fields of Pattern Recognition, Artificial Intelligence, and related areas. Contributions are welcomed on any aspect of theory and applications.

[CIARP 2023](#) took place in Coimbra, Portugal at the Coimbra Institute of Engineering (ISEC) and featured sessions on Machine Learning and Image Analysis, Applications of Deep Learning, Graph Analysis, and Human and Artificial Learning.

The 2023 edition of CIARP received 101 contributions from 21 countries. Among the Ibero-American contributors were Portugal, Brazil, Spain, Argentina, Chile, Cuba, Ecuador, Mexico, and Uruguay. Other notable submissions originated from France, Germany, Ireland, Belgium, India, South Korea, Netherlands, Czech Republic, Italy, Taiwan, Tunisia, and the United States of America.

Following a rigorous review process involving up to four highly qualified reviewers per submission (a total of 232 reviews from 59 reviewers), 61 papers were

accepted, resulting in an acceptance rate of 60.4%. All accepted papers demonstrated high scientific quality above the overall mean rating. Reviewers were selected based on their expertise, ensuring representation from diverse countries and institutions worldwide.

Three awards were presented at CIARP 2023: Best Paper, Best Student Paper, and the Aurora Pons-Porrata Medal, recognizing Ibero-American women excelling in Pattern Recognition and related fields. The Aurora Pons-Porrata Medal was awarded to Bernardete Ribeiro from University of Coimbra, Portugal, for her significant contributions to Machine Learning, Pattern Recognition, Financial Engineering, Text Classification, and Signal Processing, and their applications to a broad range of fields.

The Best Paper Award went to *Detection of COVID-19 in Chest X-ray Images Using Percolation Features and Hermite Polynomial Classification*, by Guilherme Roberto (Univ. of Porto, Portugal), Danilo Pereira, Alessandro Martins, Thaína Tosta, Carlos Soares, Alessandra Lumini, Guilherme Rozendo, Leandro Neves, and Marcelo Nascimento. The Best Student Paper Award went to *Interactive Segmentation with Incremental Watershed Cuts* by Quentin Lebon (Universidade Gustave Eiffel, France), Josselin Lefèvre, Jean Cousty, and Benjamin Perret.

The authors of the best paper, best student paper, and Aurora Pons Porrata Medal were invited to submit extended versions of their papers to *Pattern Recognition Letters*. A special issue of the MDPI *Journal of Imaging* is also in progress, featuring extended versions of the best accepted full papers. Awards were announced at the conference dinner by João Paulo Papa, Inês Domingues, and Verónica Vasconcelos.

CIARP 2023 spanned four days. The first day was dedicated to tutorials: *Symbolic Data Analysis* (led by Paula Brito, Universidade do Porto & LIAAD-INESC TEC and Sónia Dias, Polytechnic Institute of Viana do Castelo & LIAAD-INESC TEC, Portugal) and *Learning Through Physiological Signals: From Sensors for Data Acquisition to Data Processing for Knowledge Discovery* (led by Raquel Sebastião and Vitor Sencadas, University of Aveiro, Portugal, and Rita Paula Ribeiro, University of Porto & INESC-TEC, Portugal).

Each of the other three days had a keynote talk. Petia Radeva (Universitat de Barcelona, Spain) initiated the event with a talk titled *What is Common Between Self-supervised Learning and Food Fine-grained Recognition?! On the following day, João Manuel R. S. Tavares (University of Porto, Portugal) presented Segmentation of Objects in Engineering and Biomedicine: Techniques and Applications. The last day featured*

João Paulo Papa (São Paulo State University, Brazil) discussing *Recent Advances in Pattern Classification Using Optimum-Path Forest*.

The CIARP Steering Committee convened to discuss ways to foster collaborations and give greater visibility to the associations and their actions. Potential venues for future editions of the event were also discussed.

Conference and Program Chairs are listed in the heading for this report. The local committee comprised Cristiana Areias, Cristina Caridade, Fernando Lopes, Frederico Santos, Luís Marques, Nuno Lavado, Nuno Martins, and Teresa Rocha. Technical support was given by António Godinho, and event management, including the homepage and registration, was outsourced to Intellegibilis.

*Report Submitted by*  
Inês Domingues  
Conference Chair





# 第十七届中国生物特征识别大会 The 17<sup>th</sup> Chinese Conference on Biometric Recognition

2023年12月1-3日 江苏·徐州



## General Chairs

Zhengfu Bian *China University of Mining and Technology*  
Shiqi Yu *Southern University of Science and Technology*  
Zhaofeng He *Beijing Univ. of Posts and Telecommunications*  
Jun Wang *China University of Mining and Technology*

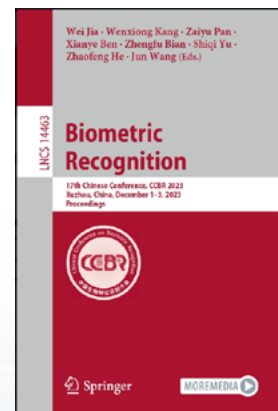
## Program Chairs

Wei Jia *Hefei University of Technology*  
Wenxiong Kang *South China Univ. of Technology*  
Zaiyu Pan *China Univ. of Mining and Technology*  
Xianye Ben *Shandong University*

The 17th Chinese Conference on Biometric Recognition ([CCBR 2023](#)) was held in Xuzhou, China from December 1 to December 3, 2023. CCBR 2023 is the 17th edition since CCBR was first launched in 2000 (Beijing). CCBR has also been held in Hangzhou, Xi'an, Guangzhou, Jinan, Shenyang, Tianjin, Chengdu, Shenzhen, Urumqi, Zhuzhou, and Shanghai in China. CCBR 2023 was endorsed by IAPR.

In total, 196 people participated in CCBR 2023, 129 as attendees and the rest as invited speakers and volunteers. There were 79 papers submitted to the conference and 41 papers accepted into the proceedings (acceptance rate was 51.9%). Among accepted papers, 16 were selected for oral presentation and 25 for poster presentation.

The review process was managed by four Program Chairs, with the assistance of 96 reviewers. The process was double-blind, using Microsoft CMT with at least three reviewers per paper. Accepted papers covered a wide range of topics including fingerprint, palmprint and vein recognition; face detection, recognition and tracking; affective computing and human-computer interface; gait, iris and other biometrics; trustworthiness, privacy and personal data security; and medical and other applications. Proceedings, published by Springer, are linked to the cover image (above right).



The program included five keynote speakers: Prof. Xiaoming Liu from Michigan State University gave a keynote titled *Person Identification at a (Far) Distance*. Prof. Nasir Memon from NYU Shanghai gave a keynote titled *Dictionary Attacks on Biometric Systems*. Prof. Yunlong Wang from the Chinese Academy of Sciences gave a keynote titled *The Progress of Iris Recognition*. Dr. Zhongchao Shi from Lenovo Research introduced face recognition in *The Introduction to LeFace*. Prof. Huibin Li from Xi'an Jiaotong University gave a keynote on 3D face recognition titled *Deep Learning Based 3D Face Synthesis, Disentanglement and Recognition*. The accepted oral papers were presented along with some invited talks in six sessions. The six oral sessions were New Biometrics Technology; Face Recognition; Iris Recognition and Speaker Recognition; Hand-related Biometrics; Behavior

Biometrics; and Security and Privacy. Each session typically started with an invited talk from an experienced researcher, followed by oral presentations of the accepted papers. This kind of session arrangement attracted the audience for the diversity of talks.

The conference hosted three special forums: *Female Scientists Forum; Biometrics Intersection Forum; and Emotion, Psychology, Physiology and Health-Intelligent Perception and Computing Forum*. Industry talks were delivered by Beijing Wanlihong (*Exploration of Iris Recognition*), Beijing SoundAI (*Progress and Application of Generative AI Based on Multi-modal Perception*), Beijing Seetrum (*Application of Spectral Detection Technology in Biometrics*), and Ningbo VeinAuthen (*Palm Recognition in Chips*).

In the award ceremony, five best paper awards were announced: Best Paper Award, Best Paper 1st Runner Up, Best Paper 2nd Runner Up, Best Paper 3rd Runner Up, and IAPR Best Student Paper Award. After careful evaluation by the Best Paper Selection Committee, the Best Paper Award was given to *U-PISRNet: A Unet-shape Palmprint Image Super-Resolution Network*, by Yao Wang, Lunke Fei, Tingting Chai, Shuping Zhao, Peipei Kang, and Wei Jia. Runners-Up Best Paper Awards



were given to *Dynamic Face Expression Generation with Efficient Neural Radiation Field*, by Te Yang, Xiangyu Zhu, and Zhen Lei (1st Runner Up); *Facial Adversarial Sample Augmentation for Robust Low-quality 3D Face Recognition*, by Fengxun Sun, Cuican Yu, and Huibin Li (2nd Runner Up); and *MultiBioGM: A Hand Multimodal Biometric Model Combining Texture Prior Knowledge to Enhance Generalization Ability*, by Zexing Zhang, Huimin Lu, Pengcheng Sang, and Jinghang Wang (3rd Runner Up). The **IAPR Best Student Paper Award** was given to Yingxin Lai, Zhiming Luo and Zitong Yu for their paper, *Detect Any Deepfakes: Segment Anything Meets Face Forgery Detection and Localization*,

*The next CCB, the 18th Chinese Conference on Biometric Recognition (CCBR 2024), will be in Nanjing, China.*



*Report Submitted by*  
Zhengfu Bian, Shiqi Yu,  
Zhaofeng He, and Jun Wang  
*General Co-Chairs*  
CCBR 2023  
*On behalf of the CCB*  
*2023 Organizing Committee*

# 5th IAPR TC10/TC11 Summer School *Statistical and Structural Methods for Document Analysis and Recognition*

University of Fribourg and University of Applied Sciences and Arts of Western Switzerland

July 3 - 7, 2023 Fribourg and Moléson-sur-Gruyères

The Summer School on Document Analysis ([SSDA](#)) was held from July 3 to 7, 2023. The SSDA was organized at the University of Fribourg and in a chalet at Moléson-sur-Gruyères, near Fribourg.

## TOPIC

With the current rise of conversational AI platforms, such as ChatGPT, the significance of automatic document analysis cannot be overemphasized. It aims at automatically understanding written communications addressed to a human reader.

The scientific theme of the SSDA 2023 was **Statistical and Structural Methods for Document Analysis**, highlighting the importance of both statistical and structural pattern recognition approaches. The latter plays a central role in understanding not only the individual elements of a document but also the relationships between elements. With the advent of transformers for sequence analysis and geometric deep learning for graph-based analysis, new perspectives are opening up in the field of structural deep learning. Topics of interest include document image processing, indexing and retrieval of documents, handwriting recognition, historical document analysis, document analysis for literature search, document summarization and translation, and document understanding, among others.



## PROGRAM

The summer school exposed PhD students and young researchers to the latest trends and techniques of Reading Systems (TC11) and Graphics Recognition (TC10) and provided an objective and clear overview of both.

The summer school comprised:

- Seven academic talks and one industrial talk given by invited experts in their fields (listed right)
- Three practical lab sessions with programming tasks
- One pitch session for students
- One poster session for students to present their work
- One learning outcomes assessment and a survey of the summer school experience

## ACTIVE INVOLVEMENT

On the first day, participants were asked to introduce themselves to the group and to indicate their research subject and their university. They were invited to share their reason for coming or their areas of interest. Everyone took part.

A competition was held in which students received a database of manuscript text lines written in the 16th century by three different authors. The aim was to obtain the lowest Character Error Rate (CER). Groups were formed randomly in advance to create new encounters between the participants. On the final day, the participants presented their results.

Each participant created a poster and displayed it at a poster session. Students and young researchers were divided into two groups, and one presented while the other, with the invited speakers, asked questions and vice versa.

On the last day, participants were asked to take a quiz on their phones. The questions were given by the speakers in relation to their talks. The vast majority of participants scored highly, suggesting that they had paid close attention to the lectures.



## INVITED TALKS

Large-scale Recognition of Information-rich Documents:  
From Unreadable Data to Structured Information  
*Apostolos Antonacopoulos*  
*University of Salford, United Kingdom*

Analysis and Understanding of Comics:  
From the Detection of Basic Elements  
to the Creation of Semantic Links with Classic  
and Deep Learning Approaches  
*Jean-Christophe Burie*  
*University of La Rochelle, France*

Deep Learning for Word Spotting: Foundations  
and Current Developments  
*Gernot Fink*  
*TU Dortmund University, Germany*

Structural Methods for Document Analysis  
and Recognition: From Rule-based Models  
to Data-driven Deep Learning  
*Andreas Fischer*  
*University of Fribourg and*  
*Univ. of Applied Sciences and Arts Western Switzerland*

Handwriting Recognition in Low-resource Scenarios  
*Alicia Fornes*  
*Universitat Autònoma de Barcelona and CVC, Spain*

Towards a Deeper Understanding of Documents  
*C.V. Jawahar*  
*III-T Hyderabad, India*

Reading of Reading for Actuating:  
Augmenting Human Learning by  
Experiential Supplements  
*Koichi Kise*  
*Osaka Prefecture University, Japan*

You Can't Hide from Tax Anymore!  
A Real-world Example of How One Company  
Used Document Analysis and  
Recognition to Change the Tax Industry  
*Rich Kent*  
*CTO of Tania, UK*

## SOCIAL ACTIVITIES

In addition to scientific sessions, several social and group activities were organized to create new links and great shared memories.

A [GUIDED TOUR OF GRUYÈRES CASTLE](#) provided opportunities to explore a medieval village and its castle.

The [HR GIGER MUSEUM](#) displayed the works of the world-famous Swiss artist who designed the Alien creature for the 1979 sci-fi movie by the same name. Giger was also known for his biomechanical art, blending organic and machine forms.

[MOUNTAIN PASTURE CHEESE DAIRY](#), an old farmhouse that was converted into an alpine cheese dairy, included a tour where we learned about the making of Gruyère cheese with a demonstration.

Participants and keynote speakers enjoyed [HIKING TO THE TOP OF THE MOLÉSON](#) (2000m elevation). The vast majority did the entire ascent from the chalet, around 900m of ascent.

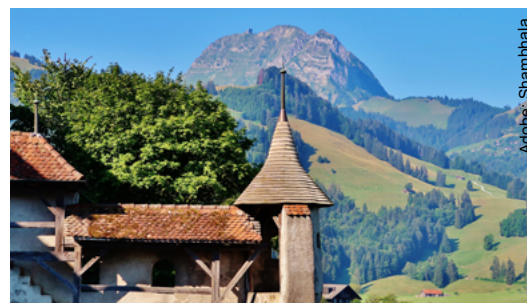
At the end of each workday and before each dinner, we invited participants and speakers to a [SCIENTIFIC EXCHANGE](#) of ideas while enjoying a drink outside, in front of the chalet. It was a great opportunity for students to seek advice from the invited speakers on their PhD or for the competition.

Twice after dinner, we organized [GAMES AT THE CHALET](#), with games linked to document analysis topics. Most of the participants and keynote speakers joined in. These events helped to create or strengthen links within the group.

On Thursday, we organized a [GALA DINNER](#): A traditional Raclette dinner in the chalet. It was again a great moment to exchange with other participants and keynote speakers.

## PARTICIPANTS

A total of twenty-one attendees registered for the summer school. Sixteen were PhD students and five were young researchers. The diversity of backgrounds was impressive: They came from eight different countries on three continents (Austria, Cambodia/China, France, Germany, Pakistan, Spain, Switzerland, and Tunisia).



## FEEDBACK

At the end of the summer school, we asked participants to rate the scientific quality of the presentations and the quality of the social events from 0 to 10. They were also asked to indicate which elements they would like to keep, change, or remove for a future edition, and to provide additional comments. More than half of those surveyed responded (15 people). The scientific quality of the presentations was rated at 8.9 and social events at 9.4. In terms of things to keep, social events and the quality of the courses and the poster session were listed most often. Points for improvement included increasing the length of the poster session and the competition. For the competition, one suggestion was to do a more creative task with a problem to solve and, above all, a less computation-dependent task.

Overall, feedback suggested that all participants enjoyed the summer school. A few comments are included in this report (right).

## CONCLUSION

In conclusion, we consider this summer school a great success both from a scientific and a human point of view.

From the point of view of participants and speakers, the tight-knit format enabled many bonds to be forged and/or strengthened, both between the participants themselves and with the speakers. The absence of hybridization meant that everyone could attend at the same time, avoiding any technical problems. The fact that we were all together during the week was also seen as a very good way of building cohesion. The idea of collaborative games and scientific exchanges should be retained for future events.

Many thanks to the organizing team, TC10/11 for their support and to all our sponsors, in particular IAPR, without whom this event would not have been possible.

## A SELECTION OF SURVEY COMMENTS

*"I had a fantastic time meeting researchers and experts from relevant fields. Their presence was truly motivating and will inspire me to continue making progress in my research. Thank you for the scholarship and the incredible opportunity."*

*"... the summer school was a perfect event in my opinion and I would like to express my gratitude to the organizers for this fantastic experience."*

*"I enjoyed and learned a lot!"*

*"A big thanks to the organizers. Was a great Event."*

*"Thank you in the name of TC10/TC11 for this highly successful event!"*

*"It was a really useful and enjoyable event. Got to know and interact closely with all participants, discussed their work and future directions, spent quality time with students and post-docs/academics and made new friends. Activities (scientific and social) really brought people together - a very significant benefit for our community. Excellent organization, everyone was really looked after. Many congratulations and thanks."*



Report Submitted by  
Anna Scius-Bertrand



Report on Participation in the IAPR/IEEE  
Summer School on Document Analysis 2023

Hamza Gbada  
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I am Hamza Gbada, currently a second-year PhD student enrolled in computer science at the Higher Institute of Informatics and Communication Technologies, University of Sousse, Tunisia, affiliated with the Laboratory of Advanced Technology and Intelligent Systems (LATIS laboratory). My research revolves around utilizing Graph Neural Network techniques for information extraction from Visually Rich Documents.

I am thrilled to share my enriching experience at the 5th IAPR TC10/TC11 Summer School on Document Analysis. The IAPR Grant allowed me to attend the summer school onsite and immerse myself in the world of document analysis.

The summer school came to my attention through the recommendation of my PhD supervisor, Prof. Mohamed Ali Mahjoub, who highlighted its direct relevance to my thesis.

Attending the summer school provided me with a profound and comprehensive understanding of the field of document analysis. The lectures covered a diverse range of topics, including Word Spotting, Handwriting Recognition, and Information Extraction.

One of the most impressive lectures was delivered by Mr. Richard Kent, CTO of TAINA, who shared a real-world example of how their company integrates document analysis and recognition in the tax industry. During the session, I had the opportunity to engage with Mr. Rich, asking several questions related to their implementation and discussing the integration of document analysis models and deployment. I am truly grateful to Mr. Rich for providing such detailed insights into industrial concepts, as it is rare to find a company willing to share this level of information.

Furthermore, I was greatly impressed by the discussion led by Professor Apostolos Antonacopolous on converting large-scale data from an information-rich form. He presented his research and the challenges within the context of solutions developed by PRLmA Lab at the University of Salford. The discussion was extremely informative and thought-provoking, particularly because it aligns closely with my own research.

Another lecture that stood out to me was on the topic of structural methods for document analysis and recognition given by Professor Andreas Fischer. He discussed different methods from structural pattern recognition that are suited for document analysis. The methods that most interested me are the Graph Edit Distance and the Hausdorff Edit Distance, especially when presented as a readout function to calculate graph dissimilarity within a Graph Convolutional Network.

Aside from the informative lectures, the social events –especially the challenging hiking– allowed me to explore Switzerland's nature and capture photos of beautiful landscapes.

In conclusion, my participation in the 5th IAPR TC10/TC11 Summer School on Document Analysis was an exceptionally enriching experience. It provided me with valuable insights and knowledge that directly impact my ongoing research. In particular, Professor Andreas Fischer's lecture on structural methods for document analysis and recognition has sparked a new idea in my research. I plan to incorporate the Hausdorff Edit Distance as a metric in my work to evaluate document graph dissimilarity. This addition has the potential to enhance the accuracy and effectiveness of my research outcomes significantly.

In conclusion, the summer school not only broadened my understanding of Document Analysis, but also provided practical insights that will directly influence my research approach. I am grateful for this opportunity and look forward to applying these newfound perspectives to advance my work.

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

Conferences and Dates

## 2024

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

Month	Days	Meetings, Workshops & Schools (shaded = Sponsored by IAPR)	Previous Report	Venue	Paper Deadline
Feb	24-26	<a href="#">ICPRAM 2024</a> 13th International Conference on Pattern Recognition Applications and Methods	<a href="#">2023</a>	Rome <b>Italy</b>	Closed
	25-27	<a href="#">ROBOVIS 2024</a> 4th International Conference on Robotics, Computer Vision and Intelligent Systems		Rome <b>Italy</b>	Closed
	27-29	<a href="#">VISAPP 2024</a> 19th International Conference on Computer Vision Theory and Applications	<a href="#">2023</a>	Rome <b>Italy</b>	Closed
April	15-18	<a href="#">DGMM 2024</a> 3rd IAPR International Conference on Discrete Geometry and Mathematical Morphology	<a href="#">2023</a>	Florence <b>Italy</b>	Closed
June	3-7	<a href="#">SSB 2024</a> 21st International Summer School for Advanced Studies on Biometrics for Secure Authentication: Trustful, Fair, and Privacy-Friendly	<a href="#">2023</a>	Alghero <b>Italy</b>	Feb 29 2024
	12-14	<a href="#">ISPR 2024</a> 4th International Conference on Intelligent Systems and Pattern Recognition	<a href="#">2023</a>	Istanbul <b>Turkey</b>	Mar 15 2024
	19-22	<a href="#">MCPR 2024</a> 16th Mexican Conference on Pattern Recognition	<a href="#">2023</a>	Xalapa, Veracruz <b>Mexico</b>	Jan 29 2024
July	3-6	<a href="#">ICPRAI 2024</a> 4th International Conference on Pattern Recognition and Artificial Intelligence	<a href="#">2022</a>	Jeju Island <b>South Korea</b>	closed
	10-11	<a href="#">DeLTA 2024</a> 5th International Conference on Deep Learning Theory and Applications	<a href="#">2023</a>	Dijon <b>France</b>	Feb 15 2024
	15-18	<a href="#">ICPRS 2024</a> 14th International Conference on Pattern Recognition Systems	<a href="#">2023</a>	London <b>UK</b>	Mar 6 2024
Aug/Sep	30-4	<a href="#">ICDAR 2024</a> 18th International Conference on Document Analysis and Recognition	<a href="#">2021</a>	Athens <b>Greece</b>	Feb 1 2024
Sept	25-27	<a href="#">CCIW 2024</a> Computational Color Imaging Workshop 2024	2019	Milan <b>Italy</b>	Apr 1 2024
Oct	10-12	<a href="#">ANNPR 2024</a> 11th TC3 Workshop on Artificial Neural Networks in Pattern Recognition	<a href="#">2022</a>	Montreal <b>Canada</b>	May 14 2024
Nov	26-29	<a href="#">CIARP 2024</a> 27th Iberoamerican Congress on Pattern Recognition	<a href="#">2023</a>	Talca <b>Chile</b>	June 1 2024
Dec	1-5	<a href="#">ICPR 2024</a> 27th International Conference on Pattern Recognition	<a href="#">2022</a>	Kolkata <b>India</b>	Mar 20 2024
	19-21	<a href="#">CVIP 2024</a> 9th International Conference on Computer Vision and Image Processing	<a href="#">2023</a>	Chennai <b>India</b>	Apr 15 2024

## 2026

Aug	16-20	ICPR 2026 - 28th International Conference on Pattern Recognition	<a href="#">2022</a>	Lyon <b>France</b>	TBD
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