



# Newsletter

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From the Editor's Desk

## *ICPR Conferences* by Heydi Méndez-Vázquez, IAPR Newsletter EiC

With ICPR 2024 quickly approaching, I imagine many readers are preparing for travel and setting expectations for the conference. I still remember my first ICPR conference 15 years ago, at Tampa, USA. I was at the beginning of my PhD and was very excited to be at a major scientific conference for the first time. When I arrived, the reality greatly exceeded my expectations! Having the possibility of receiving tutorials and lectures given by prestigious professors, most of whom I only knew from reference articles (Anil Jain, Arun Ross, Massimo Tistarelli, Josef Bigun, Ludmila Kuncheva, among others); being able to exchange ideas about my research with my advisor (Josef Kittler, now a General Chair of ICPR2024) and other researchers from around the world; learning about and feeling inspired by the winners of important awards such as the K.S.Fu, J.K. Aggarwal and IAPR Fellows; selecting which presentations to attend among more than 1000 papers...it was really impressive!

When we were preparing this issue, I was thinking about ICPR through the years and retrieved some data from the last 10 conferences. A large number of papers were submitted for all editions, and selectivity remains high, around 50%, which is considered a standard for prestigious conferences, indicating that ICPR is an attractive conference for the scientific community. It is worth noting that the last two editions have seen even lower acceptance rates, but this might be due to the introduction of a two-round review process in 2020 and/or the virtual options created during the pandemic, which eliminated obstacles related to travel.



Future IAPR Newsletter Editor in Chief  
Heydi Méndez-Vázquez presenting a poster at  
her first ICPR Conference (2008, Tampa, USA)

At the same time, the wide range of topics covered in ICPR articles reflects the vitality of pattern recognition as an active area of research. Browsing the proceedings illustrates the influence of ICPR on advances in this field. The h-index for articles published as proceedings in the last five years is 56, and the top papers have more than 1000 citations (according to data provided by Google Scholar, as of July 2024).

Further analysis can be done, but these data suggest that ICPR is one of the most influential conferences in our field. I would like to invite you to attend ICPR2024 and contribute, to continue promoting advances in pattern recognition!

~ Heydi Méndez-Vázquez,  
IAPR Newsletter EiC

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# Calls For Papers



Conferences,  
Dates, &  
Locations

2024

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)

ICCP 2024  
October 25–27, 2024  
Tianjin, China

13th International  
Conference on Computing and  
Pattern Recognition

## Calls and Deadlines

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

**Papers:**  
Aug. 25, 2024

LATAM SSABT 2024  
November 25–27, 2024  
Talca, Chile

1st IAPR LATAM Summer School on  
Advanced Biometrics Techniques

**Registration:**  
Oct. 15, 2024

2025

ROBOVIS 2025  
February 23-25, 2025  
Porto, Portugal

5th International Conference  
on Robotics, Computer Vision  
and Intelligent Systems

**Papers:** Oct. 2, 2024  
Position Papers: Nov.13  
Workshop, Spec. Sess Proposals: Oct 17  
Tutorial, Demo, Panel Prop.: Jan 17, 2025

VISAPP 2025  
February 23-25, 2025  
Porto, Portugal

20th International Conference  
on Computer Vision  
Theory and Applications

**Papers:** Oct. 2, 2024  
Position Papers: Nov.13  
Workshop, Spec. Sess Proposals: Oct 17  
Tutorial, Demo, Panel Prop.: Jan 17, 2025

ICPRAM 2025  
February 23-25, 2025  
Porto, Portugal

14th International Conference  
on Pattern Recognition  
Applications and Methods

**Papers:** Oct. 2, 2024  
Position Papers: Nov.13  
Workshop, Spec. Sess Proposals: Oct 17  
Tutorial, Demo, Panel Prop.: Jan 17, 2025

ICIAP 2025  
September 15-19, 2025  
Rome, Italy

23rd International  
Conference on Image  
Analysis and Processing

**Papers:**  
1<sup>st</sup> round: Feb. 1, 2025  
2<sup>nd</sup> round: Apr. 15, 2025

IbPRIA 2025  
June 30-July 3, 2025  
Coimbra, Portugal

12th Iberian Conference on  
Pattern Recognition  
and Image Analysis

**Papers:**  
TBD

2026

ICPR 2026  
August 16-20, 2026  
Lyon, France

28th International Conference  
on Pattern Recognition

**Papers:** Dec, 2025 (TBD)  
Workshop Proposals: Nov, 2025 (TBD)



Check the [ICPR 2024](#) website regularly for [registration](#)  
information, important dates, and links to  
[Competition](#) and [Workshop](#) websites. A list of ICPR2024  
Workshops with direct links is on [page 3](#) of this IAPR Newsletter.



# WORKSHOPS



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

The ICPR Organizing Committee  
encourages you to participate in one or more of the 24 workshops at ICPR 2024.

Abbreviated Title	Workshop Titles  Click on the abbreviated title (left) for Workshop details and updates on deadlines.	Submission Deadline P=Paper, CR=Challenge Results
<a href="#">A2I</a>	<a href="#">Affective Artificial Intelligence – Methods and Applications</a>	<a href="#">Aug 15</a>
<a href="#">ABCWML2024</a>	<a href="#">International Workshop on Advancing Brain-Computer Interfaces with Machine Learning</a>	<a href="#">Jul 15 (closed)</a>
<a href="#">AI4D</a>	<a href="#">Enhancing Human Security, Equality &amp; Dignity: 2nd International Workshop on AI for De-escalation</a>	<a href="#">Jul 12 (closed)</a>
<a href="#">AIHA2024</a>	<a href="#">3rd International Workshop on Artificial Intelligence for Healthcare Applications</a>	<a href="#">Aug 9</a>
<a href="#">AISIA2024</a>	<a href="#">Artificial Intelligence for Surgical Image Analysis</a>	<a href="#">Aug 10</a>
<a href="#">CVAUI 2024</a>	<a href="#">6 th Workshop on Computer Vision for Analysis of Underwater Imagery</a>	<a href="#">Aug 7</a>
<a href="#">FAIRBIO</a>	<a href="#">2nd Workshop on Fairness in Biometric Systems</a>	<a href="#">Aug 12</a>
<a href="#">FBE2024</a>	<a href="#">2nd workshop on Facial and Body Expressions</a>	<a href="#">Aug 30</a>
<a href="#">G2SP-CV 2024</a>	<a href="#">First International Workshop on Graph Learning and Graph Signal Processing Algorithms in Computer Vision</a>	<a href="#">Jul 30</a>
<a href="#">IMTA-IX-2024</a>	<a href="#">Image Mining. Theory and Applications</a>	<a href="#">Sep 13</a>
<a href="#">MADiMa</a>	<a href="#">Multimedia Assisted Dietary Management</a>	<a href="#">Aug 30</a>
<a href="#">MCMI</a>	<a href="#">Multi- and Cross-Modal Information for Enhanced Pattern Recognition</a>	<a href="#">Aug 30</a>
<a href="#">MMVPR</a>	<a href="#">Multi-Modal Visual Pattern Recognition</a>	<a href="#">CR: Oct 7 P: Oct 15</a>
<a href="#">MPRSS (link coming soon)</a>	<a href="#">Multimodal Pattern Recognition for Social Signal Processing in Human-Computer Interaction: Check <a href="#">icpr2024/workshops</a> for updates.</a>	
<a href="#">PRHA2024</a>	<a href="#">The 3rd International Workshop on Pattern Recognition in Healthcare Analytics</a>	<a href="#">Aug 12</a>
<a href="#">PRRS 2024</a>	<a href="#">13th IAPR Workshop on Pattern Recognition in Remote Sensing</a>	<a href="#">Aug 12</a>
<a href="#">RRPR</a>	<a href="#">Fifth Workshop on Reproducible Research in Pattern Recognition</a>	<a href="#">Sep 5</a>
<a href="#">SPRCV</a>	<a href="#">Sustainable Pattern Recognition and Computer Vision Developments - Balancing Innovation and Environmental Responsibility</a>	<a href="#">Aug 9</a>
<a href="#">VAIB</a>	<a href="#">Visual Observation and Analysis of Vertebrate and Insect Behavior</a>	<a href="#">Sep 1</a>
<a href="#">WCWCE</a>	<a href="#">Workshop on Challenges in Wireless Capsule Endoscopy (CWE)</a>	<a href="#">Jul 29</a>
<a href="#">WICV</a>	<a href="#">Workshop on Infrared Computer Vision</a>	<a href="#">Aug 1</a>
<a href="#">MMFORWILD2024</a>	<a href="#">3rd Workshop on MultiMedia FORensics in the WILD</a>	<a href="#">Jul 31</a>
<a href="#">IMUE2024</a>	<a href="#">First Workshop on Intelligent Mobility in Unstructured Environments</a>	<a href="#">Aug 10</a>
<a href="#">XAIE</a>	<a href="#">3-nd Workshop on Explainable and Ethical AI</a>	<a href="#">Jul 30</a>

# 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

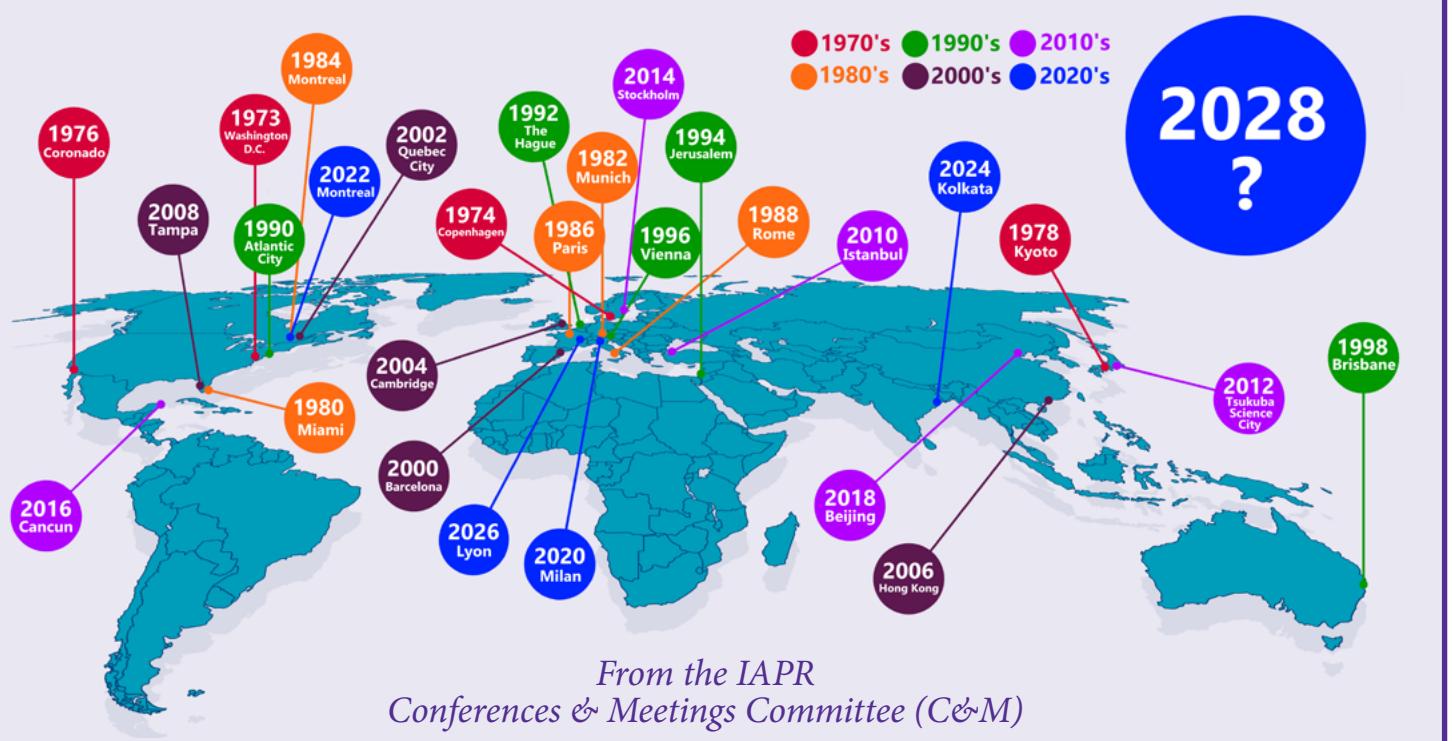
Summer/winter schools are training activities that expose students and junior students to the latest trends and techniques in a particular pattern recognition field.

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](#).



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

# CALL FOR BIDS TO HOST ICPR 2028

## 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 dates published [online](#). Check the website regularly for updates.

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 TO**  
C&M Chair Anna Esposito ([anna.esposito@unicampania.it](mailto:anna.esposito@unicampania.it))

# FROM THE ExCo...

## NEWS AND INFORMATION FROM THE IAPR EXECUTIVE COMMITTEE



The 27th International Conference on Pattern Recognition ([ICPR 2024](#)) will be held in Kolkata, India, December 1-5, 2024. Paper submissions are now closed. Stay tuned to the [website](#); registration will open soon.

**ICPR 2024 Student Stipends:** A call for applications for IAPR Travel Stipends for ICPR 2024 will be distributed to authors of accepted papers after August 5, 2024 and posted on the ICPR 2024 website."

**ICPR 2024 Workshops:** There are still several workshops accepting submissions. Click [here](#) for more information.

**The Call for bids to host ICPR 2028:** The deadline for bids to host ICPR 2028 is rapidly approaching! Potential hosts can find the bidding and hosting guidelines [here](#).

**50th Anniversary(ies) of the IAPR:** The ad hoc committee is working to organize the first celebratory activities during ICPR2024. 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). Be sure to check out our [history](#).

**Who's Who at NATO ASI 1983 and 1986?** With sincere thanks to Virginio Cantoni, we have two photos from NATO Advanced Study Institute (ASI) meetings in [1983](#) (Cetraro) and [1986](#) (Maratea). We need your help identifying the participants. Click on the years to see the photos and fill out the forms.

**The Nominating Committee** has been formed, consisting of the following members: Daniel Lopresti (chair), Apostolos Antonacopoulos, Inês Domingues, Ingela Nyström and José Ruiz-Shulcloper.

**The Office of the IAPR Secretariat** is expanding. A warm welcome to Rosemary Green, the new Assistant IAPR Secretariat, who will work with Linda O'Gorman, our Executive IAPR Secretariat. Rosemary will introduce herself in the next issue of the *IAPR Newsletter*.

**The full IAPR Newsletter archive (1978 - present)** is now available through this [link](#) on the IAPR website. Thank you to Edward Sobczak for making the older scanned editions available.

**The IAPR ExCo proposes** a method for recruiting new members to national society: A delegate registering for ICPR gets one year of free membership in a national society. The GB officers, as representatives of national societies, have been contacted by the IAPR Treasurer to consider this opportunity.

**It is with heavy hearts** that we recognize the passing of Professor John Daugman, IAPR Fellow, whom *IAPR Newsletter* readers had the pleasure of "Getting to Know" in [July 2017](#), and whose groundbreaking research has been exceptionally impactful in so many ways. A tribute to John is in this issue's [TC4 News](#) and describes the impressive range and significance of his research.

Every two years, IAPR seeks nominations for a variety of leadership roles, including on our Standing Committees, Technical Committees, and the Executive Committee.

The IAPR invites you to share your suggestions for outstanding candidates for leadership positions on Standing Committees (learn more [here](#)) and Technical Committees (learn more [here](#)).

IAPR is particularly interested in nominations of candidates who are active researchers, publishing at IAPR-sponsored or endorsed conferences. Candidates should also be collegial and collaborative, with ideas for advancing IAPR, its global impact, and the breadth and efficacy of its initiatives to support and improve communication and collaboration among researchers in pattern recognition and related areas. Attention and dedication to overcoming the challenges faced by disadvantaged and underserved researchers is also highly valued. Please send suggestions to [secretariat@iapr.org](mailto:secretariat@iapr.org) no later than November 1.

~ Daniel Lopresti, IAPR Past President

We are happy to announce that Josep Lladós, a member of the IAPR Executive Committee (2022-2024), has been invited to present a keynote address at CIARP 2024. Josep is Director of the Computer Vision Center and a Professor at the Computer Sciences Department of the Universitat Autònoma de Barcelona. He will speak as a representative of IAPR, on the topic of Graph-based Reasoning in Document Intelligence: Language Models of Documents.



FOR CONTRIBUTIONS  
TO IMAGE ANALYSIS AND  
FOR SERVICE TO IAPR

# *In Memoriam* **PROF. LUIGI CORDELLA**

NOVEMBER 26 1938 - APRIL 21 2024



## **MASTER TEACHER, FRIEND TO MANY**

a memorial written by

**Gabriella Sanniti di Baja, IAPR Fellow**

Former Director of Research of the Italian National Research Council (CNR)

Fellow of the Asi-Pacific Artificial Intelligence Association (AAIA)

Foreign Member of the Royal Society of Sciences at Uppsala, Sweden

**Luigi Pietro Cordella** was among the pioneers in Italy in the field of Pattern Recognition. His research extended into Electronics, Mathematical Models of Biological Systems, Image Analysis, Artificial Intelligence, Biomedical Applications, and Parallel Computing. His main research interests included Syntactic and Structural Pattern Recognition, Shape Analysis, Document Recognition, Optical Character Recognition, Neural Networks, and Evolutionary Computation. Luigi was a senior researcher at the Institute of Cybernetics of the National Research Council from 1970-1983 and then full Professor at the University of Naples Federico II, where he founded the school of sub-symbolic artificial

intelligence. Luigi was an important resource for all his students, to whom he always left the freedom to follow their own ideas, and who, thanks to his teachings, went on to have brilliant academic careers.

Luigi was an IAPR Fellow and Life member of the IEEE. From 2000 to 2004 he was President of the Group of Italian Researchers in Pattern Recognition, GIRPR (later renamed as Italian Association for Research in Computer Vision, Pattern Recognition and Machine Learning, CVPL), which is the Italian Association member of IAPR. He was also a member of the IAPR Governing Board, and a chairman or member of the program committee of many national and international conferences. In particular, he was one of the three founders and organizers of the successful series, International Workshop on Visual Form (IWVF), held in Capri from 1991 to 2001.

I met Luigi in 1973 when I was preparing my degree thesis at the Image Analysis group of the Institute of Cybernetics of CNR, formed by Stefano Levialdi, Luigi P. Cordella and Carlo Arcelli. Since then, my working relationship and friendship with all the members of the Image Analysis group and in particular with Luigi has continued without interruption. The relationship with Luigi did not even change when Luigi left the Institute of Cybernetics to become Full Professor at the Federico II University of Naples. In addition to sharing some specific research interests, Luigi and I have collaborated as organizers of numerous international events such as the edition of ICIAP in Positano and the various editions of IWVF in Capri.

During his activity at the University of Naples, Luigi fostered a close-knit group of researchers who had been his doctoral students or simply were scientists who saw in Luigi a Master whose teachings they could follow. An important merit achieved by Luigi in his role as tutor was the creation of a profound stability of relationships between the members of the group, generally and familiarly called "The Cordellians," which was maintained even as researchers of the group continued their academic careers at universities other than Naples. The stability of the group is such that new young researchers have joined the large family of "The Cordellians," even without having had the opportunity to work directly with Luigi, as they have indirectly followed the advice passed down generation after generation.



IWVF 1991  
Capri

All of us tend to change a little physically over time, but Luigi could always be easily recognized by the ever-present characteristics of his beard, which slowly went from black to white over the years, and his smile, which never changed.

Luigi has a black beard in the three oval photos (kindly provided by Virginio Cantoni).



Two of these photos show Luigi in May 1991, during IWVF in Capri. Where he sits at the head of the table (top left), we distinguish among others Leila de Floriani, Gunilla Borgefors, Maria Frucci, Virginio Cantoni and me. In the second photo taken during IWVF we see Luigi with Enrico Puppo, Elisabetta Bruzzone, Virginio Cantoni, Michael Duff (some readers of this page will remember that Michael, who unfortunately left us at the end of December 2021, was IAPR President from 1990 to '92), Titti Guerra, and Leila De Floriani. The third photo, also 1991 (Sept.), shows a smiling Luigi during the Gala Dinner of the ICIAP conference in Como, together with Virginio Cantoni, Marco Ferretti, Roberto Negrini and others.

The two photos below (kindly provided by Claudio De Stefano), where Luigi has a white beard, were taken during the IGS2017 conference in Gaeta. In the group photo (left) we recognize many "Cordellians" and other scientists, including Antonio Parziale, Davide De Giuli, Angelo Marcelli, Francesco Fontanella, Claudio De Stefano, Rosa Senatore, Alessandro de Rosa, Alessandra Scotto di Freca and Hans-Leo Teulings. Finally in the other photo (right) taken at IGS2017, Luigi appears with Réjean Plamondon and Pino Giordano.

Beyond Luigi's scientific caliber, I would like to highlight his courtesy and his always kind ways. I don't think I've ever seen him react rudely even in the face of very incorrect and difficult to tolerate behavior. Truly, Luigi was what one could simply define as a gentleman. He will be missed not only by Agnese, Paola and Francesca, his family, but also by those who were lucky enough to meet him and walk a stretch of life with him. I am one of them.

*~Gabriella Sanniti di Baja, IAPR Fellow*



IGS2017 Conference (Gaeta). Names are in text above.



IGS2017 Conference (Gaeta)  
Luigi with Réjean Plamondon and Pino Giordano

## REMEMBERING PROF. LUIGI CORDELLA

*George Nagy, PhD '62  
Professor Emeritus, RPI*

Professor Cordella looked like a professor, talked like a professor, and thought like a professor. His students populated the faculty of the universities near Naples, with several eventually gravitating to Salerno. They are among the leaders of the lively pattern recognition and image processing (now "AI") community spawned 60 years ago by Eduardo Caianiello and Stefano Levialdi (who preceded Luigi at the Istituto di Cibernetica in Arco Felice).

As a senior professor at the revered Federico II University, Professor Cordella had responsibilities encompassing the entire information-engineering spectrum of Italy. On one occasion when I arrived to visit him, he told me that we cannot meet in his office. "Why?" "Let me show you." A layer of file boxes covered his entire office floor, with many on top of others. "Every box contains the credentials – résumé, publications, and teaching evaluations – of a candidate for

a professorial position. I must assign each to the department that provides the best match with the candidates' qualifications, their preferred location, and the department's teaching, research and service needs. Let us go have a coffee!" I do not doubt that in the succeeding days Luigi found near-optimal assignments for all. And that he was asked again, year after year.

Others can comment more knowledgeably about his leadership of the Italian pattern recognition, image processing and computer vision communities, and of his contributions to IAPR. However, I do treasure luminous memories of the three Visual Form conferences that he anchored in Capri in the 1990's.

I owe Carlo Arcelli for my introduction to Luigi in 1980. As Carlo expected, we immediately found some mutual avocations and common research interests. We shared a love of mountains and skiing that Luigi may have acquired when he taught, at the beginning of his career, at the University of L'Aquila in the Abruzzi. We collaborated at the Istituto di Cibernetica in bucolic

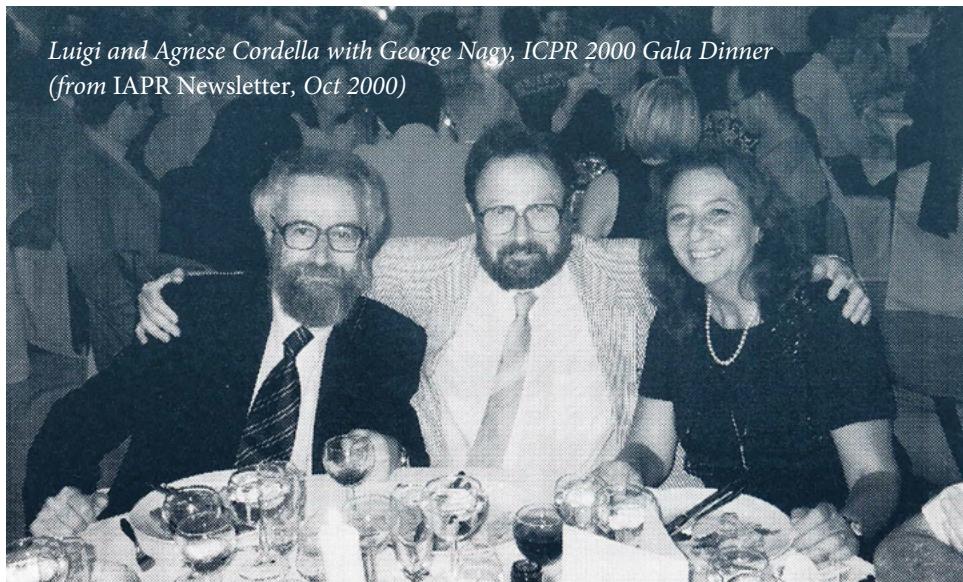
Arco Felice, and then at the bustling University Federico II in Naples. Often I walked to his apartment house at the top of a hill. He would then liberate his triple-locked car and drive us to work. We presented our first results on optical scanner characteristics at the 1982 ICPR in Munich. I eventually passed on most of what I learned from Luigi – and from his resourceful photographer-technician Salvatore Piantedosi – to my RPI digital photography students.

Major treats for me were Luigi's invitations to his home. It was a museum-like apartment with a magnificent panorama. I was always welcomed by his most amiable wife Agnese, and by his merry and (then) little daughters Paula and Francesca. Evening meals with guests were like a state dinner. Afterwards, we lingered until the wee hours with cognac and pipe, with no topic deemed out of bounds. I would still trust answers to arcane queries from Luigi's bookshelves more than from any search engine.

Luigi was enormously teasable: for his mock-pedantry, quips in Greek or Latin, chronic apologetic lateness, prodigious appetite, and weather-agnostic jacket and tie. Perhaps also because he was an immigrant from the North, a graduate of the Politecnico di Milano. Later he often returned halfway to visit his mother in Pescara. But Luigi always gave as good as he got, with a leavening of gentle irony. He was also a model of old-fashioned courtesy, with colleagues, students, and staff, and random encounters.

With regard to philosophy, Luigi was definitely a Skeptic. Yet for over forty years, we always parted optimistically, with Arrivederci. It is with the most profound regret that I now turn to Adios, Luigi.

~George Nagy



*Luigi and Agnese Cordella with George Nagy, ICPR 2000 Gala Dinner  
(from IAPR Newsletter, Oct 2000)*

I started working on binary image processing in 1980 and, studying the literature, I found an article on parallel thinning published in 1975 by C. Arcelli, L.P. Cordella and S. Levialdi, which helped me very much in the initial phase of my research activity. It happened that in 1988 I had the possibility to spend 3 months in Italy where I was able to personally meet the three Italian scientists whom I had greatly admired while reading their article on parallel thinning.

Since then, I have visited Italy many times, during which I did not collaborate directly with Luigi, as I belonged to a later generation than his, but I had the opportunity to collaborate with younger researchers for whom Luigi had been a tutor, such as Angelo Marcelli, Maria Frucci, Giuseppe Boccignone, and Mario Vento.

Over the last approximately 35 years I have met Luigi many times at the University of Naples, at the CNR, and at various ICPRs and other conferences. He was a very kind man, and I always had interesting and useful discussions with him and tried to follow his advice. I am grateful for the teachings received from Luigi through his works and personal discussions which have meant a lot in my professional life. I will always remember Luigi Cordella.

**Sergey Ablameyko, IAPR Fellow**  
Belarusian State University, Minsk, Belarus; Professor & former Rector

As we mourn the loss of Luigi Cordella, memories bring me back to the first time we met in Fuorigrotta in the 1980s. The computer science department was near the stadium, and everything was painted shades of blue —the colors of the Napoli soccer team— with writings on the walls of the buildings, bedsheets, even blue underwear hanging from balconies, celebrating the victory of the Italian league Title and the genius of Maradona.

There are encounters and people who change your life: Luigi was one of them. A few years later, I would follow this blue thread in a journey backwards, from industry research labs to academy, where I would meet lifelong friends.

I will not touch here on his undeniable scholarly contribution and legacy. Luigi guided countless young researchers, myself included, through the labyrinth of academia with patience and precious support. His mentorship extended beyond the academic. With an ironic wisdom, he taught us to navigate life's challenges with integrity and resilience. A kind of enlightened skeptical gentlemen, his door was always open, whether for an intellectual debate or a political quarrel, a piece of advice, or simply a compassionate ear. I recall one late Friday afternoon in Olivetti Research labs, Ivrea, decades ago, checking with Luigi some experimental results... repeatedly, checking and double-checking, so that at a point, exhausted, I shyly and naively tried to shorten the procedure. "Luigi, trust me. I have already controlled the data twice before your visit."

Silence. Luigi briefly scrutinized me with his unique expression that I would never forget in the years to come, somewhere between serious and ironic, then uttered: "I don't trust anyone, not even myself, because sometimes you can even deceive yourself."

Thanks, Luigi, for all your lessons in science and in life. Ciao, Beppe

**Giuseppe Boccignone, Università di Milano-Statale**

I have always associated Luigi Cordella with a quote that is often attributed to the Greek philosopher Aristotle: *We are what we repeatedly do. Excellence, therefore, is not an act, but a habit.* Luigi was just the kind of person who inspired other people with his habits and daily behaviors. I have a clear memory of Luigi. Luigi, who writes and rewrites for hours the report for a competition for a university position, until he was fully sure that the judgment of the selection committee was fair and objective. He inspired me a lot.

**Fabio Roli**  
Fellow IEEE, Fellow IAPR, Fellow AAIA  
University of Genova,  
University of Cagliari, Italy

I first met Professor Luigi Cordella immediately after my graduation in 1990, over 35 years ago, participating in my first school on "La Visione delle Macchine" (Machine Vision) in Rome and then at the International Conference on Image Processing and Application Conference (ICIAP93) in Sanremo, Italy. I immediately appreciated him very much for his way of presenting his research, a master of science. I always remember his confident look and his gentle manner, accompanied during his short speeches by a subtle irony that was always pleasant and appropriate. An elegant man pervaded by great humanity of thought and action. The Italian IAPR community owes him a lot for what he has done in the field of Pattern Recognition and Image processing.

**Prof. Gian Luca Foresti, IAPR Fellow**  
University of Udine, Italy

I first met Prof. Luigi Cordella at the 4th ICIAP conference in Cefalù in 1987. Since then I have visited Naples many times both for conferences and collaborations. Almost every time, I was lucky enough to meet Luigi. He was always the perfect gentleman both in manners and attire and very interesting and pleasant to talk to. At conferences he never took center stage, but let his PhD students show off. I will indeed miss him my next time in Napoli.

*Gunilla Borgefors, IT, Uppsala University*

I met Luigi when, as a doctoral student in Information Engineering at the University of Salerno, I started working with his scientific sons, Beppe (my supervisor), Angelo, and Massimo. They often talked to me about him and about what an inspiration he was. It wasn't long before I had the chance to meet him in person, and I quickly realized that he was one of the absolute fathers of Italian Pattern Recognition. On many other occasions when I met him, I could only confirm what everyone had told me about him, that he was a great pattern recognition researcher and a kind person with great human qualities.

*Prof. Paolo Napoletano  
University of Milan-Bicocca*

In his long career as a researcher and as a professor, Luigi was an important person to me: a senior in the field of pattern recognition, a guide in the wide spectrum of possible research fields, a man of strong principles and resolve, and finally, a friend.

I came to appreciate him best as Secretary of the Italian association member of IAPR when he was the President. His vision of the group, of the bylaws and of the rules of conduct were instrumental to my subsequent service in the same role. A rigorous man in all his chores, he was able to surprise you with some unexpected irony; a modest person in all his attitudes; an example to many. We will miss him badly.

*Marco Ferretti, University of Pavia, Italy*



In the course of an active career in scientific research, one has the opportunity to meet many passionate and fascinating people, each shining in his or her own way. Luigi Cordella was one of those people who quietly asserted himself. His low-profile attitude concealed a strong personality and a lively, scientific mind. He knew how to listen and ask the right questions, the ones for which we don't really have satisfactory answers. Though I had the opportunity to participate with him in various administrative duties, it is at the scientific level that my fondest memories resurface, discussing with him various problems related to handwriting processing, image-based stroke order recovery, the development of thinning and segmentation algorithms, the use of genetic algorithms and so on, at ICPR, IWFHR, ICDAR or IGS conferences. The last time I saw him was in Gaeta, I think, for IGS 2017 ([photo](#), [page 7](#)). Time goes by, and little by little we lose touch with the people we met by happy chance on this planet. And one sad day, we learn that one of them has just left us...Bon Voyage Luigi!

*Réjean Plamondon, Professor, P.Eng., M.Sc.A., Ph.D.  
NIAS, IAPR and IEEE Fellow, Life Fellow IEEE  
Head of Scribens Laboratory, Dept. of Electrical Engineering  
Polytechnique Montréal*

In the life of a researcher there are numerous traveling companions, among these there are colleagues with whom we discuss projects and sometimes clash over academic matters. With Luigi this was impossible. He was a true rigorous and imperturbable gentleman. I have always remembered him in this way; he was present with personal contributions at the launch of all the initiatives of the Italian PR community. Two of the most important in Pavia: the first ICIAP 1980 (we are now at the 22nd) and the first Machine Vision 1988 (now at the 18th); the photo with five presidents of the Italian PR community (left) is precisely from this edition (unfortunately, Piero, Vito and now Luigi are no longer with us).

*Virginio Cantoni  
Emeritus Professor of Pavia University  
IEEE Life Fellow, IAPR Fellow, AAIA Fellow, and AIIA Fellow*

# THE CORDELLIAN LEGACY

News of the death of dear Prof Cordella left me stunned. He had been the computer science teacher of my first university computer course, and his appearance had never changed over the years.

A distinguished and calm person, he gained his students' and collaborators' respect and esteem by putting them at ease and making debate on even very complicated topics natural. He was meticulous in describing research and evaluating the related results, precise and clear in his papers. One evening, he called to ask me to be more accurate and precise in the revision of a workshop paper because it was necessary to explain to the authors how they could improve their contributions. It was clear that he really loved his work. The love for research and the scientific growth of his collaborators led him to raise a generation of researchers who still bear the affectionate name of "Cordellians" today.

Sometimes his influence was indirect, as when my supervisor would comment on my writing, "Here Luigi would have said," or "To explain this concept, Luigi would have specified," etc.

During meetings, conferences, or projects carried out together, he was always very kind and welcoming, always asking how my research was going. He inspired me to continue my research and academic career. I will always remember him as a great man and a great teacher.

I warmly embrace his family because I feel part of the extended family he created with so much work and dedication.

*Cordially, Alessandra Scotto di Freca  
(2nd Generation Cordellian)*

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Almost 30 years have passed since I started my PhD under the supervision of Luigi. I had never met a professor like him before – nor have I since then. I will always remember his uncompromising integrity and the utmost care he took in every detail. Both these (sometimes frustrating) traits derived from his profound, selfless love for his work.

*Pasquale Foggia  
University of Salerno*

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Luigi was my "academic grandfather," being the mentor of my own teacher. I had the privilege of knowing and collaborating with him during my doctorate, as my tutor was one of his closest disciples. Luigi's influence has been fundamental to my development as a researcher.

He imparted invaluable values such as scientific rigor, the pursuit of continuous improvement, and an openness to listening to any idea without preconceptions. These lessons have deeply shaped my approach to research. Thank you, Luigi!

*Gennaro Percannella  
Full Professor of Computer Engineering  
Department of Information and Electrical  
Engineering and Applied Mathematics  
University of Salerno, Italy*



I met Luigi while I was preparing my degree thesis, and I started attending his laboratory at the University of Naples. I hadn't yet decided to stay at the university, but my personal relationship with him was decisive in this choice. He gave me a passion for scientific research and taught me to be curious, always leaving me the freedom to follow my ideas and engaging with me in an open and constructive way.

Luigi was one of the pioneers in the field of Pattern Recognition and was very well-known and respected internationally. His authoritativeness and the dense network of international relations allowed me to get in touch and collaborate with the most important research centers and to personally know many of the authors of the textbooks I had studied.

Luigi was a master for me and a fundamental reference from the scientific and human points of view. I remember with nostalgia the days spent working together in the writing of the papers, the rigor of his reasoning, and the importance given to each single word: I tried to treasure these teachings and apply them in my relationships with my younger colleagues and my students.

But above all, Luigi was a dear friend who supported and encouraged me in all the difficult moments of my life. As many of the colleagues and friends who knew him said, Luigi was a gentleman: always correct and kind to everyone, humble as only great people can be, and endowed with an innate sense of irony.

His passing leaves me with a huge sense of emptiness and enormous sadness, but also awareness and gratitude for all the values that he has transmitted to me over the course of our very long friendship.

*Ciao Luigi  
Claudio De Stefano  
Full Professor of Information Processing Systems  
Dept of Electrical and Information Engineering  
University of Cassino and Southern Lazio, Italy*

*Remembering Prof. Luigi Cordella  
Master and Playfellow*

I met Luigi in the Spring of 1984, and that gave me the privilege of being his first Ph.D. student. He has been my supervisor and my mentor during my entire academic career. But more, much more than that, he has been a role model when I needed it most. His kindness in approaching students, colleagues, and everyone he met even occasionally, his open-mindedness, topped with a gentle irony, while discussing topics from science and technology to politics and ethics, his determination in pursuing the quest for knowledge, and his infinite patience in helping students to learn, have shaped my teaching and research activity for forty years.

The treasures I value most, of the many he gave me, are the lunches we had together since I was his student. During the two-course meal, we often discussed research topics by scribbling on the paper tablecloth of the family restaurant close to the department building of the University of Naples "Federico II" or, later, in the main cafeteria of the University of Salerno, during his visits to my lab. Sometimes the discussions went well off the initial track, and his concluding remark, after the coffee and while lighting his pipe, was "Let's stop playing: We have serious work to do."

A few years ago, after he retired, we met in Salerno and went for lunch together, as usual. We had been discussing some recent findings of my research, and, as we seated around the table, I took the pen out of the pocket and began sketching a drawing on my paper towel. He looked at me with a smile and said "Angelo, you are now a grandfather; You should stop playing!" I replied, "Just one more time," and kept drawing and talking.

I didn't know that it was the last time we were playing together. Addio Luigi.

*Prof. Angelo Marcelli, Ph.D.  
University of Salerno*

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I first met Luigi in 1984 when he had just been appointed Associate Professor of Computer Science and was about to teach his very first course in Computer Programming. I was a student in that class, and his teaching inspired me to pursue further studies in Computer Science. In a way, we embarked on this journey together. Luigi later became my supervisor during my PhD at the University of Naples. Throughout those years, I witnessed firsthand his deep wisdom, rigorous approach to scientific research, and his sense of humor. His dedication to teaching was strong and constant over the years as well: Luigi taught each lesson with the genuine intent to provide every student with important insights.

Beyond being a mentor and friend, Luigi played a pivotal role in shaping my academic and personal development. I am profoundly grateful for the inestimable lessons he taught me and the profound impact he has had on my life.

*Francesco Tortorella  
Full Professor of Computer Engineering  
Chair, Dept. of Information and Electrical  
Engineering and Applied Mathematics  
University of Salerno, Italy*

A Master is more than a teacher; they guide with dedication and care. Luigi Cordella was that for me. He was attentive, precise, and sometimes fussy, yet always supportive. His focus on clarity was often frustrating but ultimately rewarding. I remember long discussions on placing a word in a sentence (of a language not your mother tongue) so that everyone reading you can understand what you mean. But I remember his infinite patience, loving gaze, and constant guidance, and I'll never forget the joy in his eyes when his students succeeded. His friendship was a precious gift, and his every glance remains in my heart. Luigi had a unique way of showing us the wider world, and his influence endures in the International Scientific Community. So I am immensely pleased to look at and share this photo (right), taken on the occasion of Luigi's eightieth birthday, in which he shows us the world. Thank you, Luigi, for everything. Have a good journey.

*Massimo De Santo, Ph.D.; Coordinator of Ph.D. Program in Industrial Engineering  
University of Salerno, Italy*



LUIGI'S 80TH BIRTHDAY

#### *Luigi, My Scientific Father...*

Luigi has been a great source of inspiration and guidance for me since I began my PhD in 1986. I am proud to say that all my academic and scientific achievements are the result of the values he passed on to me. He taught me a profound passion for scientific research, and that intellectual honesty should be defended at all costs. He had the humility that only a great master has, simplicity in the joy of an important scientific result, and irony unexpectedly hidden in his hieratic beard.

He was the best academic father I could have ever imagined, an example to follow, an idol and an aim to achieve. I am determined to be for my students a small fraction of what Luigi was for me, aware that this is a challenging task.

The long time we spent together also made Luigi that authoritative friend who entered my heart. He could encourage me with a pat on the back and rebuke me with the same gesture, making me reassess my positions.

I felt lost at the sad news, but I am strong in the knowledge that he passed on invaluable values to me, which I will jealously guard and try to pass on to my young colleagues. Ciao Luigi.

*Mario Vento, IAPR Fellow  
Director, Computer and Electrical Engineering  
and Applied Maths, University of Salerno, Italy*

I met Prof. Luigi Cordella while teaching at the University of Cassino and Southern Lazio. He left an indelible mark with his professional qualities, but above all, with his human qualities. His fundamental gifts were his ability to make even the most difficult subjects simple, the quality of the educational material he provided, the patience with which he helped less-able students, and the care he provided each student, always trying to highlight their strengths and weaknesses. He even managed to turn exams into formative moments. His dedication to students and the warmth he addressed to them during the courses and the exams was a fundamental lesson for our future as educators. I also deeply admired how he established himself as a respected researcher, becoming a reference point for the international scientific community.

*Prof. Mario Molinara  
University of Cassino and Southern Lazio*

I met Luigi at the beginning of my Ph.D. Although he was not my advisor, I assisted him during the Fundamentals of Computer Science exams. I remember his kindness and extraordinary patience with the students.

Luigi was important for my career on more than one occasion, and in the following years, I believe we established a solid friendship. Over all these years, I have witnessed his ability to set high standards in computer science research and his fairness with colleagues and students. After my transfer to another university, I kept in touch with him. I owe him a lot and am grateful to have been able to share many moments of my professional life with him.

*Giulio Iannello  
Professore Ordinario di Sistemi di Elaborazione  
delle Informazioni  
Universita' Campus Bio-Medico di Roma, Italy*

Luigi taught me to give the right weight to every single word of a scientific paper. I always remember the hours spent with him and the other co-authors to review the abstract or the introduction of a paper or to improve the description of the experimental results. I was lucky to have him as a mentor: his teachings formed me as a researcher and his gentlemanliness and kindness showed me how a good teacher should be.

*Carlo Sansone, IAPR Fellow  
Università degli Studi di  
Napoli Federico II*

I was Luigi's last doctoral student.

Luigi's teachings were a great school for me and are always present in my life. I will never forget our time together, reading each scientific article carefully until every sentence's meaning was perfectly clear. Luigi's was not fussiness but scientific rigor, a sign of great care and passion for his work. Most importantly, Luigi never forced us to accept his point of view. But above all, I will never forget Luigi's kindness, good manners, and gentle irony. I'm sure there is a thought shared by all those lucky enough to know Luigi: He was a true gentleman!!

*Francesco Fontanella  
University of Cassino and Southern Lazio, Italy*



**ON BEHALF OF  
ALL CORDELLIANS,  
THANK YOU, LUIGI!  
YOU WILL BE MISSED!**



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 Equality, 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."

## Mothers & Science

Maria De Marsico  
IAPR EDI Committee

Motherhood and career have long represented (and often still represent) a kind of contrary proposition in many working contexts, especially at the highest levels. Research, and in particular STEM research, unfortunately is no exception.

In 2018, *Scientific American's* blog network hosted an article with a title that underscores the condition of women in STEM: *The Special Challenges of Being Both a Scientist and a Mom* [1]. The author widely discusses several specific issues related to motherhood and science, e.g., the problem of comfortable lactation rooms at conference venues. While this problem may go unnoticed by most conference attendants, she states (rather strongly) that the lactation room (LR) problem is a huge issue for her – one she uses to judge the entire conference for its awareness of women's needs, and she continues to check LR's even now that she is no longer breastfeeding. The lack of comfortable seating in the LR at one conference was a major



1986: NATO Advanced Studies Institute on Pyramidal Systems for Image Processing and Computer Vision (Maratea, Italy). **Note the presence of family at the institute.**

Also note: IAPR requests your help in identifying the participants. See "[Who's Who](#)" in the news items *From the ExCo*, and/or click [here](#) if you believe you can help. Image credit: Virginio Cantoni.

factor in motivating her to gather scientist-moms to write an article with suggestions for improving LRs. Some further, even more crucial and general points are effectively underlined, the main one being that women who choose to pursue a scientific (and/or academic) career

and have a family are often expected to "work as if family did not exist-- and to parent as if work did not exist. It's the Schrödinger's cat<sup>◆</sup> of being a working mother, which is not only unfair but also destructive on a personal, professional and societal level. [1]"

<sup>◆</sup> Note: In a famous thought experiment from quantum physics, Schrödinger's cat is placed in a hypothetical, sound-proof box that provides everything the cat needs to live. A random subatomic event with a 50% chance of occurring might (or might not) happen inside the box. If it happens, it kills the cat (painlessly, we trust). Until the box is opened to observe the cat, it can be imagined as simultaneously both alive and dead, much as observers who do not "look inside the box" tend to imagine working mothers as both 100% workers and 100% mothers. The metaphor is strengthened by noting that feedback to women's complaints may sometimes feel like it is about the same as the cat would receive.

*...women who choose to pursue a scientific (and/or academic) career and have a family are often expected to “work as if family did not exist—and to parent as if work did not exist...”*

Women from underrepresented and underserved groups often complain about being twice disadvantaged, for their gender and possibly for their social and/or ethnical origin. However, a further breakdown in opportunities for career advancement happens when they become pregnant and even more after children arrive. Many women do, indeed, have certain disadvantages in the career arena when they become pregnant (lack of energy, back pain, lack of sleep, etc.). This situation may have a quite limited duration, but raising children is a much longer affair. The role becomes triple: being a woman, a scientist and a mother is a real challenge in a system that is traditionally shaped around (white) men with stay-at-home partners. Women are forced to “run at double the speed of male colleagues on a career track often clouded by bias [1]”.

A detailed analysis of the problem and its causes and consequences can be found in [2]. The problem is summarized: “Women hold a substantial portion of professorships in the humanities and liberal arts, and they are well represented in the social sciences and some fields of natural science, such as biology. Overall, women make up 33 percent of faculty at doctoral-level institutions. They receive many teaching and service awards and do as well as men in winning grants.

But women are in short supply in math-intensive fields, such as chemistry, physics, mathematics, engineering and computer science. For example, in the top 100 U.S. universities in 2007, women full professors in these fields numbered only 4.4 to 12.3 percent, and women were only 16 to 27 percent of assistant professors.” The authors question some popular explanations, and the competition with motherhood is identified as perhaps one of the most important factors.

The paper dates back to 2012 and the reported statistics are even older, but what has changed since then? Not enough or not everywhere, at least according to a more recent analysis reported in [3] dating back to 2022 and taking into account some Eastern Europe countries.

A recent “World View” article published in Nature [4] explicitly focuses on mothers in academia and proposes that the research system should lose its rigid attitude towards career progression. Quoting from it, “[the reported experience] illuminates the hostility of the academic system towards those who do not follow a direct career path. This harms many in academia, not just mothers: people with caring responsibilities; those with disabilities or chronic illnesses; and the list goes on. Motherhood can also intersect with factors such as ethnicity and race to amplify disparities.”

In this context, at least two international non-profit groups, Mothers in Science (MiS) and Parent in Science are working in partnership to advocate for evidence-based solutions to promote workplace equity and inclusion of caregivers. Such solutions are listed in detail in an open letter published by MiS [5], available [here](#).

In conclusion, as often observed in this column, the single

disadvantageous factors often join to create disparities of several kinds. The only reasonable solution is the joint effort of the whole scientific community, especially at high levels, to devise new strategies and supports to eliminate disparities and assure “Equality, Diversity, and Inclusion.”

~ Maria De Marsico

[1]

Calisi-Rodríguez, R.(2018). The Special Challenges of Being Both a Scientist and a Mom. *Scientific American*. Available at: <https://www.scientificamerican.com/blog/voices/the-special-challenges-of-being-both-a-scientist-and-a-mom/>

[2] Williams, W. M. & Ceci, S. J. (2012). When Scientists Choose Motherhood: A Single Factor Goes a Long Way in Explaining the Dearth of Women in Math-intensive Fields. How Can We Address it?. *American Scientist*, 100(2), 138.

[3] Krause, E., Tomaszecka, R., & Pawlicka, A. (2022). Conflicting ‘Mother-scientist’ Roles. An Innovative Application of Basket Analysis in Social Research. *PLoS One*. 2022 Oct 18;17(10):e0276201. doi: 10.1371/journal.pone.0276201. Erratum in: *PLoS One*. 2024 May 9;19(5):e0303721. doi: 10.1371/journal.pone.0303721. PMID: 36256651; PMCID: PMC9578633.

[4] Staniscuaski, F. (2024). Academia Needs Radical Change—Mothers are Ready to Pave the Way. *Nature*, 626(7997), 9.

[5] Torres, I. L., Collins, R., Hertz, A., & Liukkonen, M. (2023, February 24). Policy proposals to promote inclusion of caregivers in the research funding system: A call for change. <https://doi.org/10.31235/osf.io/n473p>

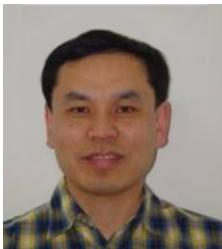


# UPCOMING SPECIAL ISSUE PATTERN RECOGNITION LETTERS

VSI:PRMIA

## *Pattern Recognition in Multimodal Information Analysis: Observation, Extraction, Classification, and Interpretation (VSI:PRMIA)*

### GUEST EDITORS



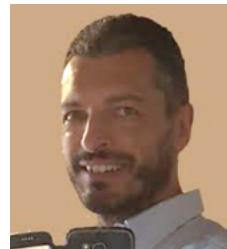
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of Technology*



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*Sapienza  
University of  
Rome, Italy*



KC Santosh  
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South Dakota,  
USA*



Mario Molinara  
*University of  
Cassino and  
Southern Lazio, Italy*



Daniele Salvati  
*University of  
Udine, Italy*

### Important Dates

Submission  
Portal Opens  
Sept 1, 2024

Submission  
Deadline is  
Sept 20, 2024

In the information age, we grapple with a flood of diverse data types like text, images, audio, and video. The challenge lies in efficiently handling massive multimodal data to enhance machines' understanding of the world through pattern recognition. This special issue outlines recent advances in the pattern recognition field, intending to bring together the work of scholars in this multidisciplinary subject.

[Click here  
to learn  
more.](#)

# UPCOMING SPECIAL ISSUE PATTERN RECOGNITION LETTERS

VSI:TRUVI

## *Trusty Visual Intelligence for Industry (VSI:TRUVI)*

Visual intelligence (VI) has revolutionized industries with their remarkable capabilities in image understanding and analysis. In recent years, there are many successful applications of VI technologies in industries, for example, using deep learning to train computers to monitor product quality. However, the trustiness of visual technologies directly affects industrial production efficiency, product quality, safety, and traceability. Trusty VI may make the industrial operations much more efficient, improve

resource utility and energy efficiency, and help economic, environmental, and social sustainability. We invite contributions that explore innovative methodologies and effective applications of visual analytics methods in industries. For more information, click [here](#).

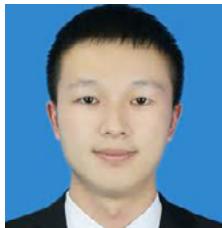
### GUEST EDITORS



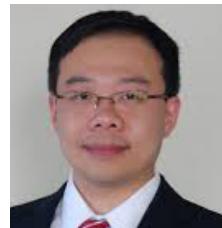
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*Department of  
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University, UK*



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University, China*



Dazhong Wu  
*Dept. of Mechanical  
and Aerospace  
Engineering  
University of  
Central Florida, USA*

### Important Dates

Submission Portal Opens  
**Oct 1, 2024**

Submission Deadline  
**Oct 20, 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. 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., July 2024 for Special Issues in July through Sept, 2025). Decisions are made in the second month of the quarter of the year before (e.g., Aug 2024), and prospective GEs are notified in the third month of the quarter of the year before (e.g., Sept 2024). In this way, our decision can be made by comparing all proposals for the same quarter.

For candidate GEs' convenience, a proposal template with all requested information is available.

More details can be found in the documents available [here](#):

After filling the appropriate template, proposals can be submitted via [Computer Science Journal Special Issues and Conference Proceedings Proposals](#)

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

## ICPR - THEN AND NOW: 10 YEARS



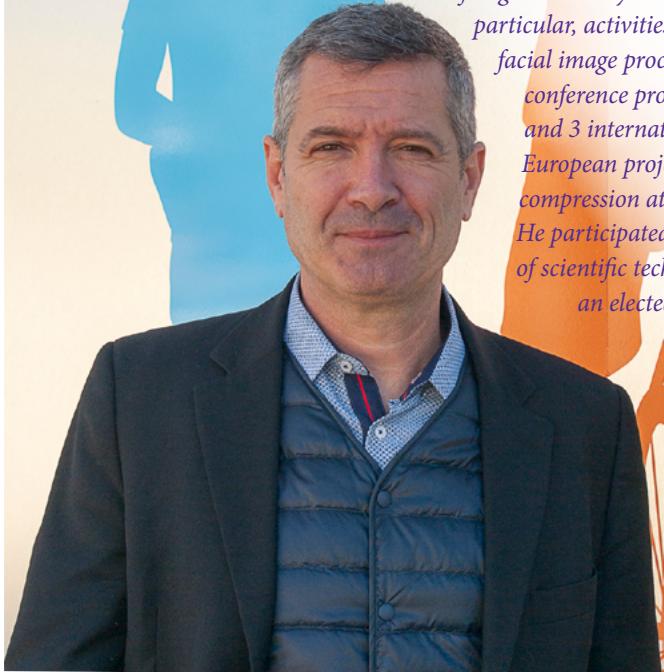
General Chair  
ICPR 2024



Umapada Pal  
Indian Statistical Institute,  
Kolkata  
India

General Chair

with  
Josef Kittler, FIAPR (1998)  
University of Surrey, UK  
and  
Anil Jain, FIAPR (1996)  
Michigan State University,  
USA



### Jean-Luc Dugelay

Jean-Luc Dugelay obtained his PhD in Information Technology from the University of Rennes in 1992. His thesis work was undertaken at CCETT (France Télécom Research) at Rennes between 1989 and 1992. He then joined EURECOM in Sophia Antipolis where he is now a Professor in the Department of Digital Security. His current work focuses on the domain of multimedia image processing, in particular, activities in security (image forensics, biometrics and video surveillance, deepfakes) and facial image processing. He has authored or co-authored over 300 publications in journals and conference proceedings, one book on 3D object processing published by Wiley, 5 book chapters and 3 international patents. His research group is involved in several national projects and European projects. He has delivered several tutorials on digital watermarking, biometrics and compression at major international conferences such as ACM Multimedia and IEEE ICASSP. He participated in numerous scientific events as an invited speaker, session chair, or member of scientific technical committees. He is a fellow member of IEEE, IAPR, and AAIA, and was an elected member of the EURASIP BoG. Jean-Luc Dugelay is (or was) associate editor of two international IEEE Transactions journals (Image Processing and Multimedia) and is the founding Editor-in-Chief of the EURASIP Journal on Image and Video Processing ([SpringerOpen](#)). He is co-author of several conference articles that received IEEE awards in 2011, 2012, 2013 and 2016. He co-organized the 4th IEEE International Conference on Multimedia Signal Processing held in Cannes, 2001, and the Multimodal User Authentication held in Santa Barbara, 2003. In 2015, he served as general co-chair of IEEE ICIP (Québec City) and EURASIP EUSIPCO (Nice).

IAPR Newsletter *EiC*, Heydi Méndez-Vázquez, asked Jean-Luc a few questions, and he kindly provided answers...

#### **What motivated you to pursue a career in computer science, and how did you shape your research interests in face recognition and soft biometrics?**

After a bachelor's degree in mathematics, I did a master's in mathematics applied to computer science with a special interest in digital imaging. I did my PhD at Orange Labs in source coding for stereoscopic television. I then moved to EURECOM, where I started to work on faces within the context of face cloning for teleconferencing in the early 2000s. Then I quickly started some activities on face recognition (first publication in 2002).

Face is a fascinating object in terms of computer vision. Contrary to

many other biometric traits, humans use faces in daily life to recognize each other. At first sight, people can guess many characteristics about someone looking at his/her face; not only the identity, but also what we call soft biometrics, such as gender and age. One relevant question we worked on is to evaluate how much humans and machines differ in terms of performance and methodologies to extract information from faces. Also, many factors may influence results, not only pose, illumination or expressions, but also some manipulations in the real world like plastic surgery or make-up, and/or in the digital world such as beautification.

After about 20 years, our community seemed to have reached a plateau in terms of performance; the

revitalization of artificial intelligence with deep learning created new expectations from 2012. Artificial intelligence now allows machines to beat humans in many tasks, e.g., age estimation, and offers new ways to efficiently modify some facial traits (Figure 1). (Un)fortunately, artificial intelligence also creates new concerns relative to traditional techniques, such as bias and explainability.

Exploring faces beyond the visible spectrum, e.g., thermal, event-based cameras, may also prove very relevant as it can create new opportunities, for example in the detection of micro expressions.

Finally, it's also important to consider possible attacks on facial recognition

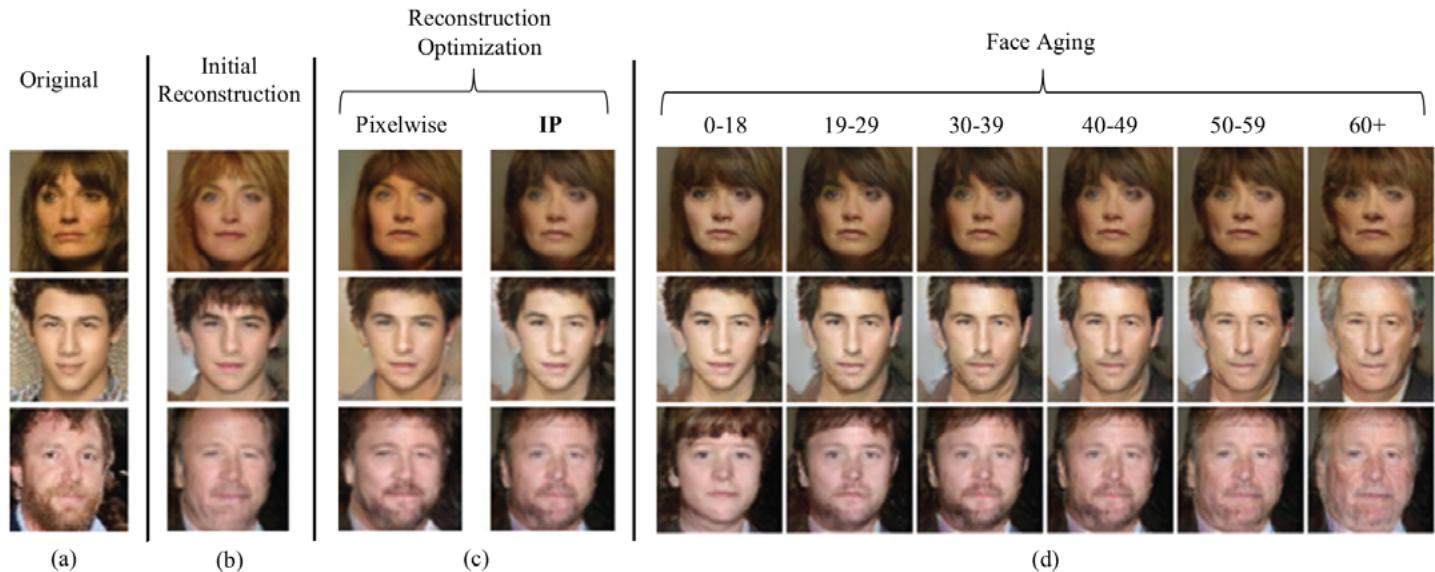


Fig. 1. Examples of face reconstruction and aging. (a) original test images, (b) reconstructed images generated using the initial latent approximations:  $z_0$ , (c) reconstructed images generated using the “Pixelwise” and “Identity-Preserving” optimized latent approximations:  $z^*_{\text{pixel}}$  and  $z^*_{\text{IP}}$ , and (d) aging of the reconstructed images generated using the identity-preserving  $z^*_{\text{IP}}$  latent approximations and conditioned on the respective age categories  $y$  (one per column). (Figure 3 from Antipov, Baccouche, and Dugelay, 2017, used with author permission).

systems, i.e. to work on the security and reliability of the proposed technology, not just its performance. Designing countermeasures against spoofing, i.e. replay attacks, plastic surgery, and masks, is very captivating and rewarding.

**You have participated in several international projects. Do you want to share some insights or memorable experiences from the collaboration with different researchers around the world?**

With my group, I have participated in many collaborative projects both national and European. It's very rewarding. You can exchange with some experts from both academia and industry. You can meet colleagues, organize joint events; and collaborate with some experts on some complementary topics, e.g. voice recognition vs face recognition. Joining efforts allows all to go further, to build some demonstrators that are hard to design by one laboratory only.

So many of these collaborations are memorable. But to keep this article short, I will choose one: The European project entitled *Computer Vision Enabled Multimedia Forensics and People Identification*. The project is described in more detail [here](#). Briefly, the goal was to integrate and

consolidate multimedia forensics under the umbrella of forensic science, to develop technologies that categorize image and video sources and provide information on the integrity of their content. More than 50 peer-reviewed journal articles and conference report (combined) were published by the people involved in this collaboration (see [Results](#)). For me, this project included the opportunity to establish relevant collaborations beyond Europe, in particular Cuba and Malaysia, including visits resulting in several joint publications. For several PhD students, this project provided a unique opportunity to acquire a first international experience, so important to later start a research career.

**What are your thoughts on deepfakes? Do you think we are condemned to lose in the face of technological disinformation?”**

Deepfakes is an exciting topic for me as it combines faces and digital image forensics. In a few years only, progress in the generation of fake videos has been spectacular; things are about to get even faster, and applicable to any scene (not only “head & shoulders” videos). Deepfake artifacts that were detectable by human visual inspection at the beginning of deepfake creation/generation (2017-2020) almost do not exist anymore. Our ability to

detect deepfakes is not completely lost, but is more and more difficult, even for machines. It is important to note that right now, much more energy (e.g. collaborative work) is allocated to generation than detection, though detection is definitely more challenging. We will have to wait to see how much the power relationship will vary in the coming years... Will the “detection gap” continue to increase?

As it has always been the case for text documents, we now have to consider that any audio-video documents can include wrong or fake information. It will for sure revolutionize our way of communicating and exchanging information in the coming years with possibly some negative but also (I hope) positive aspects. For example, one might design and propose to students new attractive education materials by resurrecting historical figures. It will be fascinating to see what the future holds for AI-based audio-video generation, and it is a privilege to contribute to both generation and detection.

~Jean-Luc Dugelay

Antipov, G., Baccouche, M., & Dugelay, J.-L. Face aging with conditional generative adversarial networks. 2017 IEEE International Conference on Image Processing (ICIP), Image Processing (ICIP), 2017 IEEE International Conference on, [s. l], p. 2089–2093. DOI 10.1109/ICIP.2017.8296650.

# TECHNICAL COMMITTEE NEWS

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### IAPR TC4 BIOMETRICS

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

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

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

*Secretary:* Vitomir Štruc (University of Ljubljana, Slovenia)

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.



FOR CONTRIBUTIONS TO  
COMPUTER VISION, PATTERN  
RECOGNITION, AND BIOMETRICS

## Remembering the Enduring Legacy of PROF. JOHN DAUGMAN

FEB. 17, 1954 - JUNE 11, 2024



### A TRIBUTE FROM TECHNICAL COMMITTEE 4

We write to honor and remember a truly remarkable man, John Daugman, whose pioneering work in biometrics has left an indelible mark on the world. John's life was one of extraordinary achievement, profound intellect, and unwavering dedication to advancing the field of biometric technology. His legacy is one that will endure for generations, as his contributions have shaped the very fabric of our modern security systems.

John Daugman was more than just a scientist; he was a visionary whose groundbreaking work on iris recognition revolutionized the way we





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### IAPR TC4 BIOMETRICS

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

#### TC4 NEWS, CONTINUED

think about personal identification and security. His pioneering research laid the foundation for the development of robust, reliable, and highly accurate biometric systems that are now used worldwide. Through his innovative algorithms and deep understanding of the complexities of the human iris, John created a method of identification that is both secure and seamless, enhancing the safety and privacy of countless individuals across the globe.

Born with an insatiable curiosity and a keen mind, John pursued his passion for mathematics and computer science with relentless determination. His journey took him from the halls of Harvard University, where he earned his BS and PhD, to the University of Cambridge, where he became a beloved professor and mentor to many.

His academic achievements were numerous, and his work garnered widespread recognition and accolades. John's contributions to iris recognition technology were nothing short of revolutionary. He developed the first practical algorithms for identifying individuals based on the unique patterns in their irises, which are as distinct as fingerprints. His invention of the Daugman algorithm, which encodes the iris pattern into a compact and mathematically rich representation, was a breakthrough

that transformed the field. This algorithm is capable of comparing iris patterns with extraordinary precision, making it one of the most reliable methods for biometric identification. Its robustness and precision have made iris recognition a preferred method in high-security environments, such as airports, government facilities, and secure access points.

John's innovations did not stop at algorithm development. He played a pivotal role in the implementation and deployment of iris recognition systems in real-world applications. His work enabled secure border crossings, streamlined identity verification processes, and enhanced security measures in multiple sectors. The widespread adoption of iris recognition technology is a testament to the reliability and effectiveness of John's contributions.

During an illustrious career, John received numerous awards and honors recognizing his exceptional contributions. These include an OBE (Order of the British Empire) for his services to technology, the Information Technology Award from the British Computer Society, and the European Inventor Award. These awards recognize his innovative spirit and the far-reaching implications of his work.

John's work was widely recognized among his peers. He was elected Fellow of the Institute of Mathematics and its Applications, the International Association for Pattern Recognition, the US National Academy of Inventors, the British Computer Society, and the Royal Academy of Engineering. He was inducted into the US National Inventors Hall of Fame. Early in his career, in 1988, he received an NSF Presidential Young Investigator Award.

John Daugman was a true pioneer, a brilliant mind, and a compassionate soul. His legacy is one of innovation, dedication, and unwavering commitment to making the world a better place. Though he may no longer be with us, his spirit and his contributions will continue to inspire and guide us.

Rest in peace, John. Your legacy will endure, and your impact will be felt for generations to come.

*Sincerely,*  
IAPR TC4, Biometrics



Blue Iris Image Credit: Natika (Adobe Stock 41971772)



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## IAPR TC4 BIOMETRICS

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

### TC4 NEWS, CONTINUED

#### IAPR TECHNICAL COMMITTEE ON BIOMETRICS (TC4) AND IEEE BIOMETRICS COUNCIL PRESENT: **A CALL FOR NOMINATIONS FOR THE 2024 IAPR SENIOR BIOMETRICS INVESTIGATOR AWARD**

The importance of Biometrics as an area of interest to the Pattern Recognition and Computer Vision research communities is evident by the large number of conferences and events organized and sponsored by IAPR and/or by TC4 on Biometrics. The number of organizations worldwide that using biometric technologies in diverse application scenarios has grown rapidly. IAPR TC4 has been very active in promoting biometrics at various scientific, technological, educational and policy events.

The 2012 edition of the TC4 flagship event, International Conference on Biometrics (ICB), in New Delhi, India, facilitated the establishment of the "IAPR Senior Biometrics Investigator Award" (SBIA). Presented biennially, the objectives and criteria are similar to the prestigious IAPR King-Sun Fu Award, except that it will be given to outstanding scientists in the biometrics field. The first edition of this award was presented at the 2014 International Joint Conference on Biometrics (IJCB) in Clearwater Beach, Florida, USA.

**IAPR TC4 is pleased to announce the call for nominations for the third edition of the "IAPR Senior Biometrics Investigator Award" (SBIA).**

The recipient of the award will be selected from a pool of nominees, subject to approval by the President of IAPR. The Prize Committee will be appointed by the TC4, and will consist of at least three active members of TC4. One of the committee members will be the most recent recipient of the award.

#### Past Recipients of the Award

2018: Professor John Daugman, University of Cambridge, UK

2016: Professor Anil K. Jain, Michigan State University, USA

#### Selection Criteria and Procedure

The recipient of the SBIA is expected to be an outstanding scholar and researcher in biometrics, who has made a sustained technical contribution of far-reaching significance and impact on the field. Demonstrable leadership in the professional activities promoted by IAPR and its member organizations will be a secondary criterion used in judging the merit of each nomination. The prize consists of a cash amount and a suitably inscribed certificate. The recipient of the award will be expected to give a plenary talk at the International Joint Conference on Biometrics ([IJCB 2024](#)) that will be held in Buffalo, USA in September 2024.

#### Nomination Procedure

The nomination must be made by a member of a national member society of IAPR and endorsed by at least four members, representing at least two IAPR member societies different from that of the nominator. Members of the Prize Committee are ineligible for the prize and may not serve as nominators or endorsers. Completed nomination and endorsement forms must reach the Chair of the Prize Committee, Prof. [Arun Ross](#), no later than **July 31, 2024**.

Click [here](#) for nomination and endorsement forms.

Click on the keynote addresses below to watch on YouTube:

1. [Gaze Analysis and Applications, by Prof. Shiguang Shan \(Chinese Academy of Sciences\)](#).
2. [Linking Body Movement Analysis and Brain Activity, by Prof. Beatrice de Gelder \(Maastricht University\)](#).
3. [Learning to Synthesize 3D Face and Human Interactions, by Prof. Mohamed Daoudi \(IMT Lille Nord Europe\)](#)

fg2024.ieee-biometrics.org/

The 18<sup>th</sup> IEEE International Conference on  
**Automatic Face and Gesture Recognition**

**Keynotes are online @ YouTube**

IEEE FG2024 was successfully held in Istanbul, Turkey, May 27-31. The three keynotes (listed to the right) are now available on the [IEEE YouTube Channel](#). TC12 was also involved in the organization of this conference (see [TC12 News](#))



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**TC4 NEWS, CONTINUED**

## 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 conference calls for:**

[journal presentations \(deadline August 1, 2024\)](#) and [doctoral consortium participants \(deadline July 30, 2024\)](#).

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

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

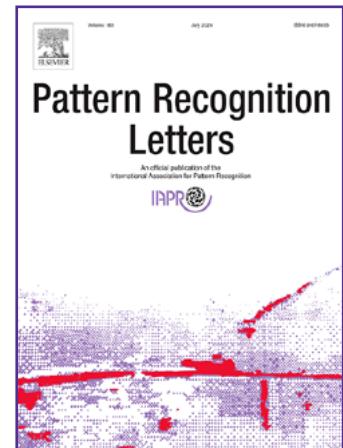
[IAPR TC6](#) aims to further promote research, development, and education in Computational Forensics (CF), and to provide a platform for cooperation and exchange of information among researchers and practitioners from the various disciplines of computational and forensic sciences. CF involves modeling,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

TC6 organizes [hybrid seminars](#) delivered by renowned researchers. The latest seminar was delivered by Dr. Cecilia Pasquini from The Center for Cybersecurity of the Fondazione Bruno Kessler (FBK). Please visit this [webpage](#) for further details and to watch previous seminars.

As part of the dissemination activities of the committee, Prof. Victor Sanchez will deliver a lecture at the [27th BMVA Computer Vision Summer School \(CVSS\)](#) covering the use of natural language processing in several computer vision tasks, including those related to video forensics for security applications.

The special issue of *Pattern Recognition Letters*, "Advances in Disinformation Detection and Media Forensics," co-organized by IAPR TC6 members, Dr. Irene Amerini and Prof Victor Sanchez, is now published and available [online](#).

This issue is a collection of the most recent and advanced methods to detect fake and manipulated multimedia content in complex disinformation scenarios. It includes methods to detect fake images generated by text-to-image diffusion models and methods to detect fake news using natural language processing and graph convolutional networks.



# 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)



RESEARCH  
SCHOLARSHIPS



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### IAPR TC9 PATTERN RECOGNITION IN HUMAN-MACHINE INTERACTION

[iapr.org/tc9](http://iapr.org/tc9)

Chair: Mariofanna Milanova (University of Little Rock, AR, USA)  
Vice Chair: Friedhelm Schwenker (University of Ulm, Germany)

The IAPR TC9 aims at promoting the use of pattern recognition methods in Human-Machine Interaction (HMI), and offers opportunities for interested researchers to gain a better understanding of the many diverse research topics in remote sensing that require contributions from the pattern recognition community. Building intelligent artificial agents or companions capable of interacting with humans in the same way humans interact with each other is a major challenge in HMI. IAPR TC9 mainly focuses on pattern recognition, machine learning and information fusion methods for the perception of the user's affective state, activities and intentions.

The [IAPR TC9](#) has been actively engaged in a variety of activities aimed at advancing the field of Human-Machine Interaction (HMI) and fostering collaboration within the IAPR community. One of the primary objectives of TC9 is to bridge the gap between academia and industry in the field of HMI. To achieve this, members of TC9 actively collaborate with the [IAPR Industrial Liaison Committee](#).

TC9 has been organizing discussions and workshops related to starting and managing a business. These discussions draw from SCORE's "[The Startup Roadmap: Your Guide to Successfully Starting a Business](#)" and provide valuable insights to researchers interested in entrepreneurship. By sharing experiences and knowledge, TC9 members aim to empower aspiring entrepreneurs within the HMI community. Members of TC9 have taken on roles as co-advisers for Ph.D. students, both within their own institutions and in collaboration with other TC9 members.

**Conference Organization:** TC 9 representative, Professor Mariofanna Milanova has been promoting IAPR TC9 activity as a Fulbright Scholar and Fulbright Specialist in USA ([ARBIC 2024](#)), Europe (5th International Workshop on New Approaches for Multidimensional Signal Processing, [NAMSP 2024](#)), India, Guatemala, and El Salvador. TC 9 representative Friedhelm Schwenker co-edited the [Proceedings of Second PanAfriCon AI, 2023](#).

**Delivering Free NVIDIA Deep Learning Workshops, Online Classes and Tutorials:** TC9 offers and delivers FREE organized by NVIDIA Deep Learning workshops, online classes and tutorials. Upon completion, participants receive the NVIDIA Certificate. Click [here](#) for more information. To learn more about TC9, visit our [website](#) or contact: [mgmilanova@ualr.edu](mailto:mgmilanova@ualr.edu)



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### IAPR TC10 **GRAPHICS RECOGNITION**

[iapr.org/tc10](http://iapr.org/tc10)

*Chair:* Jean-Christophe Burie (University of La Rochelle, France)  
*Vice Chair:* Miki Ueno (Osaka Institute of Technology, Japan)

**IAPR TC10 on Graphics Recognition** promotes interaction among researchers working in document image analysis in general, and graphics recognition in particular. Graphics Recognition is an exciting field of pattern recognition, whose main relevant topics of interest include, but are not limited to: Analysis and interpretation of graphics and graphical elements in all forms of graphical documentation and heterogeneous documents; Raster-to-vector techniques; Forensics in graphic documents; 3-D models from multiple 2-D views (line drawings; Camera-based graphics recognition; Graphics detection and recognition in real scenes. See our [website](#) for a more comprehensive list of relevant topics.

### Why research Comics?

Comic books are a widespread cultural expression all over the world, including, but not limited to Japanese Mangas, American Comics, and Franco-Belgian “Bandes Dessinées,” and each type of comic has its own graphic style. Comics are attractive targets for pattern recognition research because the structure of a comics page includes a wide variety of elements (panels, speech balloons, captions, leading characters, text, onomatopoeia, and so on). The design of these elements strongly depends on the creativity of the authors and their graphic universe, leading to extreme, meaningful variability. For example, the detection and recognition of the characters in a comics page can involve a human being, an animal, or even an imaginary character. In this context, pattern recognition is a tricky problem. Comics analysis has aroused interest among researchers in document analysis, but is still immature compared with other areas of applied image analysis and pattern recognition. Many fascinating research challenges remain. Original approaches proposed in this area, centering on computer vision, pattern recognition, and machine learning, show that comics analysis and understanding can be a rewarding research topic. Moreover, drawings of some comics are very similar to cartoons, so some approaches can be applied to both media. Learn more and register at

### MANPU 2024

The 6th International Workshop on  
coMics ANalysis, Processing and Understanding

August 30, 2024  
Grand Hyatt Hotel, Athens, Greece

organized in  
conjunction with  
**ICDAR** Athens Greece  
International Conference on Document Analysis and Recognition

### Scope and Topics

Comics  
Analysis and  
Understanding

Reading  
Behavior  
Analysis of  
Comics

Comics  
Recognition

Born-digital  
comics

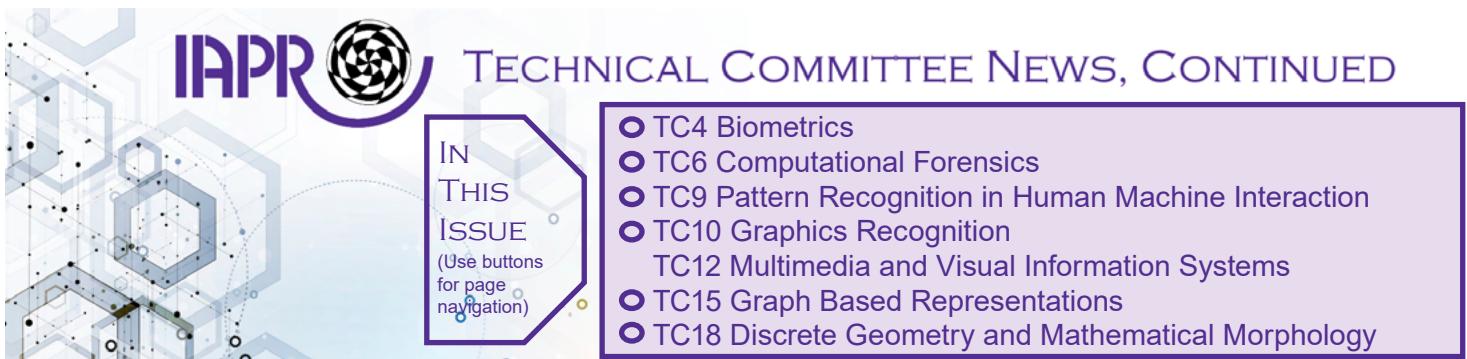
Copy  
protection and  
fraud detection

Comics Image  
Processing

Physical &  
Digital Comics  
Interfaces

[MANPU 2024](#).

Comics  
Retrieval  
and  
Spotting



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## IAPR TC 12 MULTIMEDIA AND VISUAL INFORMATION SYSTEMS

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

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

*Vice Chair:* Sergio 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.**

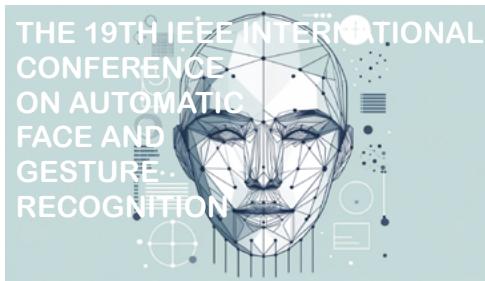
**The Chalearn Looking at People Series...** The [5th Chalearn Face Anti-Spoofing Challenge at CVPR2024](#) focused on general detecting of presentation attacks under two scenarios: a unified setting where physical and digital attacks are considered simultaneously, and another scenario where snapshot hyperspectral imagery was used. The workshop was part of the CVPR program and featured keynote talks and presentations from the top ranked participants. Results can be seen [here](#) and [here](#).



image credit: codab, lisn  
ups.edu/~liscm/competition/10080

The 18th IEEE International Conference on Automatic Face and Gesture Recognition ([FG'24](#)) was successfully held in Istanbul, Turkey, May 27-31, 2024. TC12 was actively involved in its organization, especially in the competitions track, which featured three challenges on 1) generating synthetic data for face recognition, 2) learning brain responses to emotional avatars and 3) generating facial reactions. An associated workshop was held on May 27, where overviews of the challenges were presented and the competition winners were announced.

TC4 was also involved in the organization of this conference. See [TC4 News](#) for a list of keynote speakers, their topics, and direct links to videos on the [YouTube Channel of the IEEE Biometrics Council](#).



The [Call for Papers](#) for [FG2025](#) is out. The IEEE conference series on Automatic Face and Gesture Recognition is the premier international forum for research in image and video-based face, gesture, and body movement recognition. Its broad scope includes advances in fundamental computer vision, pattern recognition, and computer graphics; machine learning techniques relevant to face, gesture, and body motion; interdisciplinary research on behavioral analysis; and new algorithms and applications. [FG2025](#) will be held in Clearwater, Florida, May 27-29, 2025.

**Call for Participation in CLEF2024:** CLEF has a clear focus on experimental Information Retrieval as carried out within evaluation forums with special attention to the challenges of multimodality, multilinguality, and interactive search, while also considering specific classes of users. It includes presentation of research papers and a series of workshops presenting the results of lab-based comparative evaluation benchmarks. For 2024, the labs in CLEF are BioASQ, CheckThat!, ELOQUENT, eRisk 2024, EXIST, iDPP, ImageCLEF, JOKER Lab, LifeCLEF, LongEval, PAN, qCLEF, SimpleText Lab, Touché, and Monster CLEF. Participate in the CLEF conference, **September 9-12, 2024 in Grenoble, France**, where the results of the ImageCLEF lab with all its tasks will be presented!





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

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

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

*Graph theory is a critically important framework for Pattern Recognition and Image Analysis. In the series of processes from a stimulus to its interpretation, graphs are used for several distinct tasks. Examples include hierarchical graphs for image segmentation and for control of perceptual strategies, graph matching for recognition and image understanding, graph manipulation for clustering, and conceptual graphs for representation of relational and structural knowledge. Graphs are efficient as a processing and representational scheme in pattern recognition and image processing when complex and irregularly sampled data need to be synthesized. The goal of TC15 is to federate and to encourage research works in Pattern Recognition and Image Analysis within the graph theory framework.*

### 14TH IAPR-TC 15 WORKSHOP ON GRAPH-BASED REPRESENTATIONS IN PATTERN RECOGNITION ([GbR2025](#))

#### GbR is a biennial workshop organized by the 15th Technical Committee

This workshop series traditionally provides a forum for presenting and discussing research results and applications at the intersection of pattern recognition and image analysis on one side and graph theory on the other side. Additionally, new emerging topics and approaches in graph representation learning and graph neural networks are becoming increasingly 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.

#### The topics of the workshop are:

- Graph-based methodologies for pattern recognition
- Graph representation of images and shapes
- Graph neural networks
- Graph matching and classification
- Graph distance and similarity measures
- Graph-based learning and clustering
- Graph kernels and graph embeddings
- Graphs in bioinformatics
- Graph representation of images and shapes
- Graph in social network analysis
- Irregular (graph) pyramids
- Data mining on/with graphs
- Other graph-based applications in pattern recognition

**Workshop Chairs:** Luc Brun (ENSICAEN), Benoit Gauzère (INSA ROUEN), Sébastien Bougleux (UNICAEN), Vincenzo Carletti (University of Salerno)

[GbR2025 will be held in Caen \(Normandy, France\)](#)  
at the ENSICAEN in the University Campus, June 25-27, 2025

For more information,  
click [here](#).



Image Source: [ensicaen.fr/student-life/discover-the-campus/?lang=en](#)



# IAPR TECHNICAL COMMITTEE NEWS, CONTINUED

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- TC6 Computational Forensics
- TC9 Pattern Recognition in Human Machine Interaction
- TC10 Graphics Recognition
- TC12 Multimedia and Visual Information Systems
- TC15 Graph Based Representations
- TC18 Discrete Geometry and Mathematical Morphology

**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.

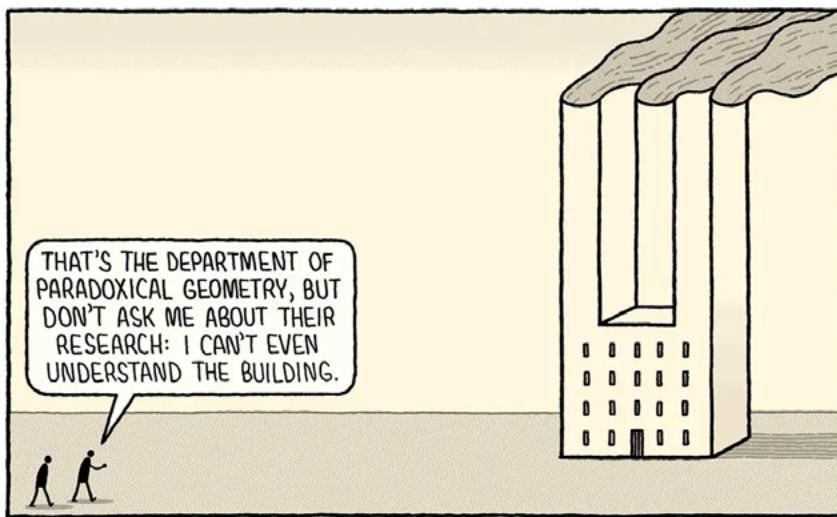


### 3RD INTERNATIONAL CONFERENCE ON DISCRETE GEOMETRY AND MATHEMATICAL MORPHOLOGY

We are happy to report that The Third IAPR International Conference on Discrete Geometry and Mathematical Morphology ([DGMM24](#)) was another successful edition! It was held in Florence, Italy in April. DGMM is the IAPR joined event of 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). The papers accepted at DGMM24 highlight the current trends and advances in discrete geometry and mathematical morphology, encompassing purely theoretical contributions, algorithmic developments, or novel applications in image processing, computer vision, and pattern recognition. A full [report](#) is included in this issue of the *IAPR Newsletter*.

#### A LITTLE “TANGENTIALLY RELATED” HUMOR      *from your friends at IAPR Newsletter*



Source:

[newsientist.com/article/0-tom-gauld-on-the-department-of-paradoxical-geometry/](http://newsientist.com/article/0-tom-gauld-on-the-department-of-paradoxical-geometry/)



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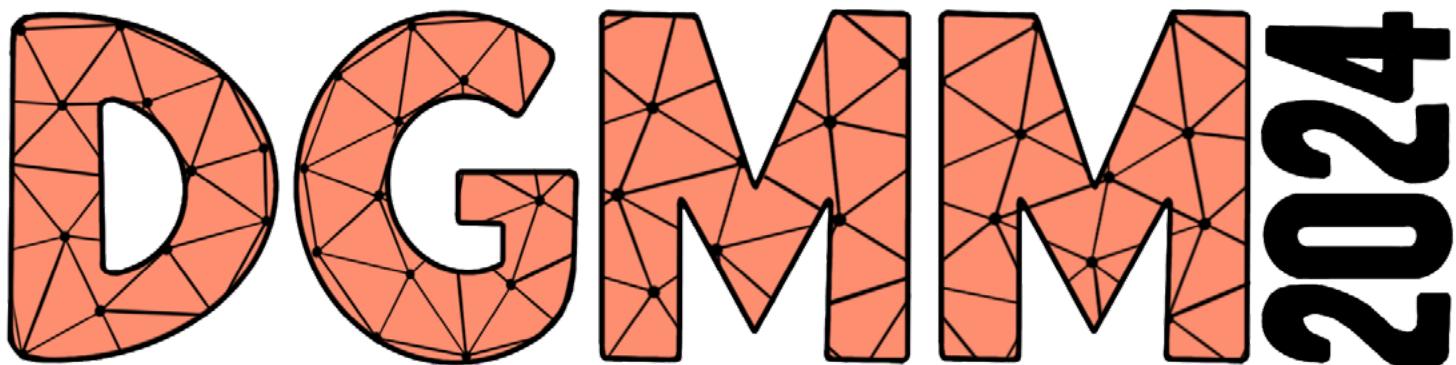
**NOTE:** IAPR is not involved in the sale of this product and does not endorse the seller.  
(We just thought it was funny.)



# MEETING REPORTS

## CONFERENCES, WORKSHOPS, & SUMMER/WINTER SCHOOLS

### IAPR THIRD INTERNATIONAL CONFERENCE ON



### DISCRETE GEOMETRY AND MATHEMATICAL MORPHOLOGY

#### General Chairs

Sara Brunetti (*DIISM, University of Sienna, Italy*)  
Andrea Frosini (*DIMAI, University of Florence, Italy*)  
Simone Rinaldi (*DIISM, University of Sienna, Italy*)

#### For a List of Other

*Organizing Committee Members*  
[CLICK HERE.](#)

The third IAPR International Conference on Discrete Geometry and Mathematical Morphology ([DGMM2024](#)) was held April 15–18, 2024, in Florence, Italy. DGMM is the IAPR-joined event of 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).

Organized jointly by the University of Florence and the University of Siena, DGMM 2024 followed the second successful edition held in 2022, in Strasbourg, France. The DGMM event series is a major forum for researchers, students, and practitioners working in all fields of discrete geometry and mathematical

morphology, including their applications to image processing and image analysis, to share and discuss the latest studies, results and ideas in these areas.

This edition of DGMM gained the sponsorship of the IAPR, as well as the financial sponsorships of academic institutions, namely, University of Florence, and INDAM (National Institute of Higher Mathematics “Francesco Severi”).

Fifty-one papers were submitted from 14 countries (Austria, Brazil, Canada, China, Philippines, France, Germany, Hungary, Italy, Lebanon, Netherlands, Serbia, United Arab Emirates, and USA), and 34 were accepted after a review-and-rebuttal process, 22 of which were selected

for oral presentation and 12 for poster presentation.

The papers accepted at DGMM2024 highlight the current trends and advances in discrete geometry and mathematical morphology, encompassing purely theoretical contributions, algorithmic developments, or novel applications in image processing, computer vision, and pattern recognition.

The review process was managed by the Organizing Committee with the help of the Program Committee including researchers from several countries.

The proceedings of DGMM 2024 gathered the contributions under the format of 12-page articles, [published by Springer](#).

The program offered three invited talks, nine oral sessions, one poster session and three tutorials.

The invited talks were 60 minutes long and were given by distinguished fellow scientists, active in the areas of Digital Geometry, Mathematical Morphology and connected fields:

Dominique Attali (*Gipsa, Grenoble, France*)  
*Shape Reconstruction with Guarantees*

Massimo Caccia (*Insubria University, Italy*)  
*Random Power: In-silico Quantum Generation of Random Bit Streams* (IAPR Invited Speaker)

Laurent Najman (*Gustave Eiffel Paris University, France*)  
*Power-Watershed: A Graph-based Optimization Framework for Image and Data Processing* (IAPR Invited Speaker).

The first day was devoted to meetings with spin-offs and companies and three tutorial lectures: *Connected Morphology: Theory and Practical Applications in Astronomy* by Michael H.F. Wilkinson; *Digital Geometry* by David Coeurjolly and Jacques-Olivier Lachaud ; and *CAT and DT Image Reconstruction Problem* by Paolo Dulio

Accepted papers were presented in 30-minute oral sessions. Posters were introduced in a fast-track session and researchers were given the opportunity to show their preliminary research work in an open session.

Social events included a welcome reception at the roof of Museum Degli Innocenti, a visit to Pitti Palace, and a conference dinner in the Antico Ristoro del Cambi, one of the oldest restaurants in Florence. During this dinner, the Best Student Paper Prize was awarded to Bastien Labourex for his work entitled *Recognition of Arithmetic Line Segments and Hyperplanes Using the Stern-Brocot Tree*.



Seventy-five international scientists and students attended DGMM 2024. We are working on a special issue of the event that will be published in the *Journal of Mathematical Imaging and Vision (JMIV)*: 15 papers have been selected for submission of an extended version. We expect a very valuable and insightful special issue.

We would like to thank all contributors, the keynote speakers, the Program and Steering Committees of DGMM, the Organizing Committee of DGMM 2022, and all those who made this conference happen.

**The future edition of DGMM will be hosted by Groeninger (Netherlands) in November, 2025.**

#### Report Submitted by

Sara Brunetti  
Andrea Frosini  
Simone Rinaldi



# Mexican Conference on Pattern Recognition

June 19 - 22, 2024

Xalapa, Veracruz, Mexico

## General Chairs

Dr. Efren Mezura Montes AIRI, UV

Dr. Hector Gabriel Acosta Mesa AIRI, UV  
Jesus Ariel Carrasco Ochoa INAOE, Mexico

Jose Francisco Martinez Trinidad INAOE, Mexico

## Program Committee Chairs

Dr. Efren Mezura Montes AIRI, UV

Dr. Hector Gabriel Acosta Mesa AIRI, UV  
Jesus Ariel Carrasco Ochoa INAOE, Mexico  
Jose Arturo Olvera Lopez BUAP, Mexico

Jose Francisco Martinez Trinidad INAOE, Mexico

The Mexican Conference on Pattern Recognition, [MCPR2024](#), was the 16th event in the series, this time hosted by the Instituto de Investigaciones en Inteligencia Artificial de la Universidad Veracruzana (Institute for Artificial Intelligence Research, IIIA-UV), and the Computer Science Department of the Instituto Nacional de Astrofísica, Óptica y Electrónica (The National Institute of Astrophysics, Optics, and Electronics, INAOE) of Mexico. MCPR2024 was sponsored by the Mexican Association for Computer Vision, Neural Computing and Robotics (MACVNR) and the International Association for Pattern Recognition (IAPR). MCPR 2024 was held in Xalapa, Veracruz, Mexico, June 19–22, 2024.

MCPR2024 attracted Mexican researchers and worldwide participation. We received 68 manuscripts from authors in 10 countries: Brazil, Canada, Costa Rica, Cuba, France, Mexico, Netherlands, South Africa, Spain, and the USA. Each paper was strictly peer-reviewed by at least

two members of the Program Committee. All members of the Program Committee are experts in many fields of pattern recognition. As a result of a single-blind peer review, 36 papers were accepted for presentation at the conference and inclusion in the volume *Pattern Recognition*, [LNCS 14755](#), published by Springer and edited by Efrén Mezura-Montes, Héctor

Efrén Mezura-Montes  
Héctor Gabriel Acosta-Mesa  
Jesús Ariel Carrasco-Ochoa  
José Francisco Martínez-Trinidad  
José Arturo Olvera-López (Eds.)

## Pattern Recognition

16th Mexican Conference, MCPR 2024  
Xalapa, Mexico, June 19–22, 2024  
Proceedings



IAPR  
MCPR 2024

Springer

Gabriel Acosta-Mesa, Jesus Ariel Carrasco-Ochoa, José Francisco Martínez-Trinidad, and Jose Arturo Olvera-Lopez.

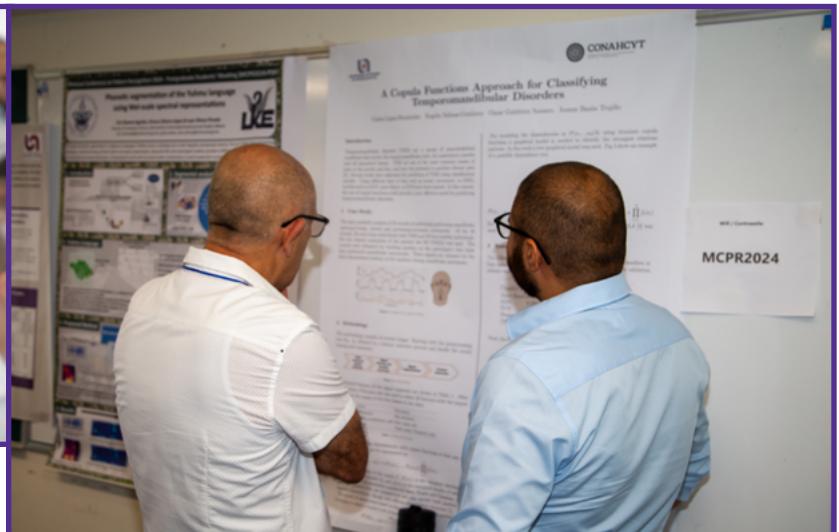
The oral sessions covered the topics: Pattern Recognition and Machine Learning Techniques; Computer Vision; Medical Applications of Pattern Recognition; Language Processing and Recognition; and Deep Learning and Neural Networks.

Three outstanding invited speakers presented keynote addresses on topics in Pattern Recognition:

*Recent Advances in Data Streams Mining*  
**Joao Gama**  
University of Porto, Portugal

*Evolutionary Deep Learning for Image Analysis*  
**Bing Xue**  
University of Wellington, New Zealand

*Conditional Functional Boxplots via Quantile Regression Induced through Copula Dependencies*  
**Graciela Gonzalez Farias**  
CIMAT Monterrey, Mexico



MCPR2024 offered two awards for the best papers accepted and presented at the conference. The award for IAPR Best MCPR Paper went to *Mapping Activities Onto a Two-dimensional Emotions Model for Dog Emotion Recognition Using Inertial Data* by Eliaf Yahir Garcia-Loya, et al.. There was a triple tie for the award for IAPR Best Student MCPR Paper; the winners were *An Exploratory Study on Machine-Learning-Based Hyper-heuristics for the Knapsack Problem* by José Eduardo Zárate Aranda, et al., *A Regression Tree as Acquisition Function for Low-dimensional Optimisation* by Erick G.G. De Paz, et al., and *Shortest Reducts Versus Shortest Constructs* by Yanir Gonzalez Diaz, et al.. Authors of these four papers were invited to send extended papers to the special section devoted to MCPR in the journal *Pattern Recognition Letters*.

We are sure that MCPR 2024 provided a forum for enhancing collaboration between Mexican Pattern Recognition researchers and the broader international Pattern Recognition community.

The steering committee for the MCPR decided that the 17th Mexican Conference on Pattern Recognition (MCPR2025) will be held in Guanajuato, Mexico, in the third week of June, 2025. It will be organized by the Computer Sciences group of the Centro de Investigación en Matemáticas (CIMAT) and Coordinación de Ciencias Computacionales of the Instituto Nacional de Astrofísica Óptica y Electrónica (INAOE). We hope to see you there!

Report Submitted by  
MCPR 2024 Co-chairs:

Efrén Mezura-Montes  
Héctor Gabriel Acosta-Mesa  
Jesús Ariel Carrasco-Ochoa  
José Francisco Martínez-Trinidad  
José Arturo Olvera-López



## IAPR BULLETIN BOARD FOR ITEMS OF GENERAL INTEREST TO PATTERN RECOGNITION FOLKS

REMEMBER!



RE:  
GEOMETRY "HUMOR"  
ON P. 28... GROAN!!  
THEN SEND BETTER JOKES  
TO LAYOUT EDITOR!  
CAROLYN BUCKLEY  
cab@sayitbetterscience  
smiley face

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# MEETING AND EDUCATION PLANNER

Month	Days	Meetings, Workshops & Schools (shaded = Sponsored by IAPR)	Previous ed/link to Report	Venue	Paper/Application Deadline
<b>2 0 2 4</b>					
Aug	30-31	<a href="#">DAS 2024</a> 16th IAPR International Workshop on Document Analysis Systems	<a href="#">2022</a>	Athens Greece	closed
Aug/Sep	30-4	<a href="#">ICDAR 2024</a> 18th International Conference on Document Analysis and Recognition	<a href="#">2021</a>	Athens Greece	closed
Sept	9-11	<a href="#">S+SSPR 2024</a> Joint IAPR International Workshops on Statistical Techniques in Pattern Recognition and Structural and Syntactic Pattern Recognition	<a href="#">2022</a>	Venice Italy	closed
	15-18	<a href="#">IJCB 2024</a> IEEE/IAPR International Joint Conference on Biometrics	<a href="#">2023</a>	Buffalo, NY USA	closed
	25-27	<a href="#">CCIW 2024</a> Computational Color Imaging Workshop 2024	<a href="#">2019</a>	Milan Italy	closed
Oct	10-12	<a href="#">ANNPR 2024</a> 11th TC3 Workshop on Artificial Neural Networks in Pattern Recognition	<a href="#">2022</a>	Montreal Canada	closed
	25-27	<a href="#">ICCP 2024</a> 13th International Conference on Computing and Pattern Recognition	<a href="#">2023</a>	Tianjin China	Aug 25 2024
Nov	25-27	<a href="#">LATAM SSABT 2024</a> 1st IAPR LATAM Summer School on Advanced Biometrics		Talca Chile	Oct 15 2024
	26-29	<a href="#">CIARP 2024</a> 27th Iberoamerican Congress on Pattern Recognition	<a href="#">2023</a>	Talca Chile	closed
	27-29	<a href="#">DICTA 2024</a> International Conference on Digital Image Computing: Techniques and Applications	<a href="#">2021</a>	Perth W. Australia	closed
Dec	1-5	<a href="#">ICPR 2024</a> 27th International Conference on Pattern Recognition	<a href="#">2022</a>	Kolkata India	closed
	19-21	<a href="#">CVIP 2024</a> 9th International Conference on Computer Vision and Image Processing	<a href="#">2023</a>	Chennai India	closed
<b>2 0 2 5</b>					
Feb	23-25	<a href="#">ROBOVIS 2025</a> 5th International Conference on Robotics, Computer Vision and Intelligent Systems		Porto Portugal	Oct 2 2024
	23-35	<a href="#">VISAPP 2025</a> 20th International Conference on Computer Vision Theory and Applications	<a href="#">2023</a>	Porto Portugal	Oct 2 2024
	23-25	<a href="#">ICPRAM 2025</a> 14th International Conference on Pattern Recognition Applications and Methods	<a href="#">2024</a>	Porto Portugal	Oct 2 2024
June-July	30-3	<a href="#">IbPRIA 2025</a> 12th Iberian Conference on Pattern Recognition and Image Analysis	<a href="#">2023</a>	Coimbra Portugal	TBD
Sept	15-19	<a href="#">ICIAP 2025</a> 23rd International Conference on Image Analysis and Processing	<a href="#">2019</a>	Rome Italy	Feb 1 2025
<b>2 0 2 6</b>					
Aug	16-20	<a href="#">ICPR 2026</a> - 28th International Conference on Pattern Recognition	<a href="#">2022</a>	Lyon France	TBD

THE INTERNATIONAL ASSOCIATION FOR PATTERN RECOGNITION



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