6th International Workshop on Camera Based Document Image Analysis
http://www.cvc.uab.es/cbdar2015

5th International Workshop on Multilingual OCR
http://www.cubs.buffalo.edu/MOCR/

4th International Workshop on Automated Forensic Handwriting Analysis
http://www.dfki.uni-kl.de/afha2015/

Nancy, France
23 August 2015

Endorsed by the International Association for Pattern Recognition (IAPR)
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<td>Oral Session 3</td>
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<td>15:00</td>
<td>IAPR Keynote Talk</td>
<td>&quot;Text detection in the Wild  A.D. 2015&quot;</td>
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<td>16:00</td>
<td>Oral Session 4</td>
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Welcome from the Workshop Chairs

It is our great pleasure to welcome you to Nancy, France for the 2015 CBDAR, MOCR and AFHA workshops. This is the 6th edition of the series for CBDAR, the 5th for MOCR and the 4th for AFHA. Organization of ICDAR 2015 and its associated workshops faced unprecedented challenges this year due to security concerns regarding the original venue and the subsequent relocation of the conference to Nancy, France. All three workshops received well below the normal numbers of submissions and consequently the number of accepted papers for each workshop was low. To address this situation, we decided to retain the individual identities of the three workshops but combined them functionally to yield a single, full-day joint workshop with identified sessions for CBDAR, MOCR and AFHA.

We are pleased to note that the quality of the papers that were submitted were at a high level despite the poor number of submissions. We wish to express our thanks to all of the reviewers of the individual workshops for allowing us to carry out a thorough peer review of submissions despite a compressed schedule, thereby allowing us to present a compelling program. The program features two sessions on CBDAR, one session each on MOCR and AFHA, a tutorial on AFHA and a keynote talk.

We are very happy to present Jiří Matas as our IAPR Keynote speaker who will be addressing the delegates on the exciting topic of "Text detection in the wild – A.D. 2015". We are grateful that he was able to keep to his commitment to be the keynote speaker despite the change in venue.

We are indebted to the ICDAR organizers and especially Habib Kammoun for his assistance in helping us publish the workshop papers as a section of the main ICDAR proceedings. Logistics for hosting the workshops was also a challenge, and we are grateful to Bart Lamiroj for coordinating the venue and logistics for the workshops and the doctoral consortium. We would like to thank the ICDAR Workshop Chairs, Laurence Likforman-Sulem and Seiichi Uchida, for their organizational assistance.

We would also like to acknowledge IAPR for endorsing the workshops and for their support for the IAPR Best Paper Award and the IAPR Keynote talk, as well as Yooz, France for their financial support.

We look forward to an exciting joint workshop with fruitful academic interactions and wish all participants a wonderful time in Nancy.

Chairs, CBDAR 2015 Chairs, MOCR 2015 Chairs, AFHA 2015
Committees

Chairs - CBDAR
Dimosthenis Karatzas (Computer Vision Centre, Spain)
Faisal Shafait (NUST, Islamabad, Pakistan)

Chairs - MOCR
Venu Govindaraju (University at Buffalo, SUNY, USA)
Santanu Chaudhury (IIT Delhi, India)
Srirangaraj Setlur (University at Buffalo, SUNY, USA)
Prem Natarajan (ISI, University of Southern California, USA)

Chairs - AFHA
Muhammad Imran Malik (DFKI, Germany)
Marcus Liwicki (DFKI, Germany)
Michael Blumenstein (Griffith University, Australia)
Angelo Marcelli (University of Salerno, Italy)
Linda Alewijnse (Netherlands Forensic Institute, The Netherlands)
Charles Berger (Netherlands Forensic Institute, The Netherlands)
Bryan Found (Victoria Police Forensic Services Department, Australia)

Program Committee - CBDAR
A. Bissacco (USA)  J. Kumar (USA)  U. Pal (India)
M. Blumenstein (Australia)  S. Lu (Singapore)  P. Sankar (India)
S. Bukhari (Germany)  M.M. Luqman (France)  R. Smith (USA)
B. Gatos (Greece)  G. Meng (China)  J. Sun (China)
L. Gomez (Spain)  M. Mirmehdi (UK)  S. Uchida (Japan)
M.S. Hanif (Saudi Arabia)  N. Nayef (France)  S. Vajda (USA)
M. Iwamura (Japan)  L. Neumann (Czech Republic)
**Program Committee - MOCR**

**PC Chairs:**
- H. Cao (USA)
- S. Wshah (USA)

**PC Members:**
- C. Bhagvati (India)
- A. Bhardwaj (USA)
- T. Breuel (Germany)
- B.B. Chaudhuri (India)
- M. Cheriet (Canada)
- D. Doermann (USA)
- M. Gilloux (France)
- C.V. Jawahar (India)
- F. Kimura (Japan)
- G. Kim (Korea)
- G. Kumar (USA)
- L. Lam (Canada)
- G. S. Lehal (India)
- S. Madhvanath (India)
- I. Nwogu (USA)
- J. Park (Korea)
- S.K. Parui (India)
- X. Peng (USA)
- N. Pokhriyal (USA)
- U. Porwal (USA)
- S. Ramachandrula (India)
- C. Ramaiah (USA)
- Z. Shi (USA)
- A.G. Ramakrishnan (India)
- A. Thomas (USA)
- B. Zhu (Japan)

**Program Committee - AFHA**

- S. Ahmed (Germany)
- X. Chen (China)
- M. Cheriet (Canada)
- M. Diaz (Spain)
- M. Ferrer (Spain)
- J. Fierrez (Spain)
- K. Franke (Norway)
- Z. Geradts (Netherlands)
- S. Ibrahim (Canada)
- T. Matsumoto (Japan)
- L. Nanni (Italy)
- J. Ortega-Garcia (Spain)
- G. Pirlo (Italy)
- R. Plamondon (Canada)
- S.N. Srihari (USA)
Workshop Information

**Venue:** The workshops will take place at the *Brasserie Excelsior*, in Nancy, France.

**Workshop Sessions:** The morning sessions will take place in the function room "Gallé", while the afternoon sessions will take place in the function room "Gambetta".

**Information for Oral Sessions:** All presenters are limited to 20 minutes for both presentation and discussion. The session chair will notify you once 15 minutes have elapsed, at which time you should aim to sum up and close your presentation. All session rooms are equipped with a computer and a projector. Presenters can make use of the conference computer or connect their own laptop. You should aim to copy your presentations over, or connect your laptops before the session begins to avoid any delays.

**IAPR Best Paper Award:** One monetary award, sponsored by IAPR, will be presented to the best paper of the entire track during the closing session.
Abstract. As the field of robust text detection and reading progresses, algorithms attempt to handle more challenging instances of the problem. Many factors like text size, orientation, density, script, font, contrast, background, occlusions and blur influence the complexity of the text detection problem. We will discuss the current state of the art in text detection from the point of view of the robustness to the nuisance factors. Next, we will review recent datasets and their influence on the evaluation of text detection algorithms and mention ongoing work on new challenging datasets. Finally, a recent real-time rotation and scale-invariant text detection method developed in my lab will be presented and its limitations shown in a demo testing its robustness.

Biography. Jiri Matas is a full professor at the Center for Machine Perception, Czech Technical University in Prague. He holds a PhD degree from the University of Surrey, UK (1995). He has published more than 200 papers in refereed journals and conferences. His publications have approximately 6000 citations in the ISI Thomson-Reuters Science Citation Index and about 21000 in Google scholar. His h-index is 28 (Thomson-Reuters Web of Science) and 52 (Google scholar) respectively. He received the best paper prize at the British Machine Vision Conferences in 2002 and 2005 and at the Asian Conference on Computer Vision in 2007. J. Matas has served in various roles at major international computer vision conferences (e.g. ICCV, CVPR, ICPR, NIPS, ECCV), co-chairing ECCV 2004 and CVPR 2007. He is on the editorial board of IJCV and was the Associate Editor-in-Chief of IEEE T. PAMI. His research interests include object recognition, image retrieval, tracking, sequential pattern recognition, invariant feature detection, and Hough Transform and RANSAC-type optimization.
## Technical Programme

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<tr>
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<td>Registration</td>
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<tr>
<td>0900 – 0910</td>
<td>Welcome</td>
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<tr>
<td>0910 – 1030</td>
<td>CBDAR Session 1</td>
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| 0910    | Camera-based Document Image Retrieval System using Local Features - comparing SRIF with LLAH, SIFT, SURF and ORB  
*Q.B. Dang, V.P. Le, M.M. Luqman, M. Coustaty, C.D. Trany and J-M. Ogier*  |
| 0930    | Improving Document Matching Performance by Local Descriptor Filtering  
*Joseph Chazalon, Marcal Rusinol, Jean-Marc Ogier*  |
| 0950    | SmartDoc-QA: A Dataset for Quality Assessment of Smartphone Captured Document Images - Single and Multiple Distortions  
*Nibal Nayef, Muhammad Muzzamil Luqman, Sophea Prum, Sebastien Eskenazi, Joseph Chazalon and Jean-Marc Ogier*  |
| 1010    | Efficient indexing for Query By String text retrieval  
*Suman K. Ghosh, Lluis Gomez, Dimosthenis Karatzas and Ernest Valveny*  |
| 1030 – 1100 | Coffee Break                            |
*Jiří Matas, Czech Technical University, Prague*  |
| 1200 – 1300 | CBDAR Session 2                          |
| 1200    | AMIGO – Automatic Indexing of Lecture Footage  
*Markus Eberts, Adrian Ulges, Ulrich Schwancke*  |
| 1220    | ALIF: A Dataset for Arabic Embedded Text Recognition in TV Broadcast  
*Sonia Yousfi, Sid-Ahmed Berrani, Christophe Garcia*  |
| 1240    | Rectification of Camera Captured Document Images for Camera-Based OCR Technology  
*Mohamed Fawzi, Mohsen. A. Rashwan, Hany Ahmed, shaimaa Samir, Sherif M. Abdou, Hassanin M. Al-Barhamtoshly, and Kamal M. Jambi*  |
1300 – 1400  Lunch

1400 – 1540  MOCR Session

1400  OCR for Bilingual documents using Language Modeling
      *Anupama Ray, Sai Rajeswar and Santanu Chaudhury*

1420  Recognizable Units in Pashto Language for OCR
      *Riaz Ahmad, Muhammad Zeshan Afzal, Sheikh Faisal Rashid, Marcus Liwicki, Andreas Dengel and Thomas Breuel*

1440  Multi-script Iterative Steerable Directional filtering for handwritten text line extraction
      *Wassim Swaileh, Kamel Ait Mohand and Thierry Paquet*

1500  Document Indexing Framework for Retrieval of Degraded Document Images
      *Ritu Garg, Ehtesham Hassan and Santanu Chaudhury*

1520  Script Independent Online Handwriting Recognition
      *Oendrila Samanta, Anandarup Roy, Ujjwal Bhattacharya and Swapan Kr. Parui*

1540 – 1610  Coffee Break

1610 – 1710  AFHA Session

1610  Quantitative Evaluation of Features for Forensic Handwriting Examination
      *Angelo Marcelli, Antonio Parziale and Claudio De Stefano*

1630  Handedness Detection of Online Handwritings based on Horizontal Strokes
      *Erika Griechisch and Erika Bencsik*

1650  Behaviour of Dynamic and Static Feature Dependences in Constrained Signatures
      *Giuseppe Pirlo, Moises Diaz, Miguel Ferrer, Donato Impedovo and Fabrizio Rizzi*

1710 – 1750  AFHA Tutorial

1750 – 1800  Closing Remarks
CBDAR 2015 is supported by:

![Yooz Logo](image1.png)

![CVC Logo](image2.png)

MOCR 2015 is supported by:

![Center for Unified Biometrics and Sensors](image3.png)

This CBDAR 2015, MOCR 2015 and AFHA 2015 joint workshop is endorsed by the International Association for Pattern Recognition (IAPR) and the organizers are bound by the IAPR Statement of Ethics. By submitting a paper to these Workshops, all authors implicitly agree to be bound by the IAPR Ethical Requirements for Authors.

![IAPR Logo](image4.png)