

PROCEEDINGS OF SPIE

# ***Tenth International Conference on Machine Vision (ICMV 2017)***

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*Editors*

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**Igor Faradjev**, Academy of Sciences, Moscow  
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**Oleg Slavin**, Russian Academy of Sciences, Moscow  
(Russian Federation)  
**Frédéric Morain-Nicolier**, Université de Reims (France)  
**Mohamed Hammami**, Miracl-FS (Tunisia)  
**Luís Nunes**, Instituto Universitário de Lisboa (Portugal)  
**Batouche Mohamed**, University of Constantine 2 (Algeria)  
**Deng Huan**, Sichuan University (China)  
**Chokri Ben Ammar**, National Engineering School of Sfax (Tunisia)  
**M. Iqbal b. Saripan**, University Putra (Malaysia)  
**Henri Nicolas**, Université de Bordeaux (France)  
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**Qing Linbo**, Sichuan University (China)  
**Amir Ghaderi**, University of Texas (United States)  
**Najet Arous**, Enit(Tunisia)  
**Maya Dimitrova** Bulgarian Academy of Sciences (Bulgaria)  
**Henryk Palus**, Silesian University of Technology (Poland)  
**Evgeny Myasnikov**, Samara National Research University  
(Russian Federation)  
**Simon Karpenko**, Institute for Information Transmission Problems of the  
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**Umair Ali Khan**, Quaid-e-Awam University of Engineering,  
Science & Technology (Pakistan)  
**Aleksandar Markoski**, "St Kliment Ohridski" University – Bitola  
(Macedonia)  
**Sei-ichiro Kamata** Waseda University (Japan)  
**Mohamed El-Sayed Farag**, Al-Azhar University (Egypt)  
**Mehmet Cunkas**, Selcuk University (Turkey)  
**Mohamed Rizon**, Universiti Sultan Zainal Abidin (Malaysia)  
**Atsuo Yoshitaka** Advanced Institute of Science and  
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**Jose M. Massa** UNICEN Universidad (Argentina)  
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**Qieshi Zhang**, Waseda University (Japan)  
**Hareesha K. S.**, Manipal University (India)  
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**Seokwon Yeom**, Daegu University Gyeongsan (Korea Republic of)  
**Elena Battini Sonmez**, Istanbul Bilgi University (Turkey)  
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**Olfa Jemai**, University of Gabes (Tunisia)  
**Mounîm A. El-Yacoubi**, Université de Paris Saclay (France)  
**Yassin BenAyed**, Miracl laboratory (Tunisia)





# Introduction

Dear Distinguished Delegates and Guests,

The Organizing Committee warmly welcomes you to the Tenth International Conference on Machine Vision (ICMV 2017), held during November 13-15, 2017, in Vienna, Austria.

The ICMV 2017 aims to present the latest research and results of scientists (Professors, students, PhD Students, engineers, and post-doctoral scientists) related to Machine Vision. The conference provides opportunities for the delegates of different areas to exchange new ideas and application experiences face to face, to establish business or research relations, and to find global partners for future collaboration.

The keynote speeches from leading experts in the field from all around the globe will present the state-of-the-art in all major fields of Machine Vision. The highly selective peer-review process will guarantee the quality of accepted papers that will be published by SPIE.

After the peer-review process, the submitted papers were selected on the basis of originality, significance, and clarity for the purpose of the conference. The selected papers and additional late-breaking contributions presented as lectures will make an exciting technical program.

The proceeding records the papers presented at the conference. The main conference theme and track is Machine Vision. We hope all participants and other interested readers benefit scientifically from the proceedings and find it stimulating in the process.

On behalf of the conference committees, we are glad to have the pleasure to cordially invite you to this outstanding event, to share your latest research findings and/or R&D works with the research community by submitting papers to this conference.

Looking forward to seeing you in Vienna, for ICMV 2017.

With our warmest regards,

**Antanas Verikas**  
**Petia Radeva**  
**Dmitry Nikolaev**

