



2019 The 12th International Conference on Machine Vision

ICMV

16-18 November, 2019
Amsterdam, The Netherlands

Conference Program

Conference Venue

2019 The 12th International Conference on Machine Vision (ICMV 2019), will be held at **Mercure Hotel Amsterdam City**, during November 16-18, 2019

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<https://www.accorhotels.com/gb/hotel-1244-mercure-hotel-amsterdam-city/index.shtml#section-meetings>

Day 1(Nov. 16): Registration @Lobby

Afternoon: **Meeting Room 1+2**(Opening Remark, Keynote, Plenary, Invite Speeches)

Day 2(Nov. 17): **Meeting Room 10** (Oral Session A-1,2,3), **Meeting Room 11**(Oral Session B-1,2,3),

Meeting Room 12(Poster Session I, II, Oral Session C-2, 3), **Meeting Room 7+8**(Special Session I,II,III)

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Floor Map(1st Floor)

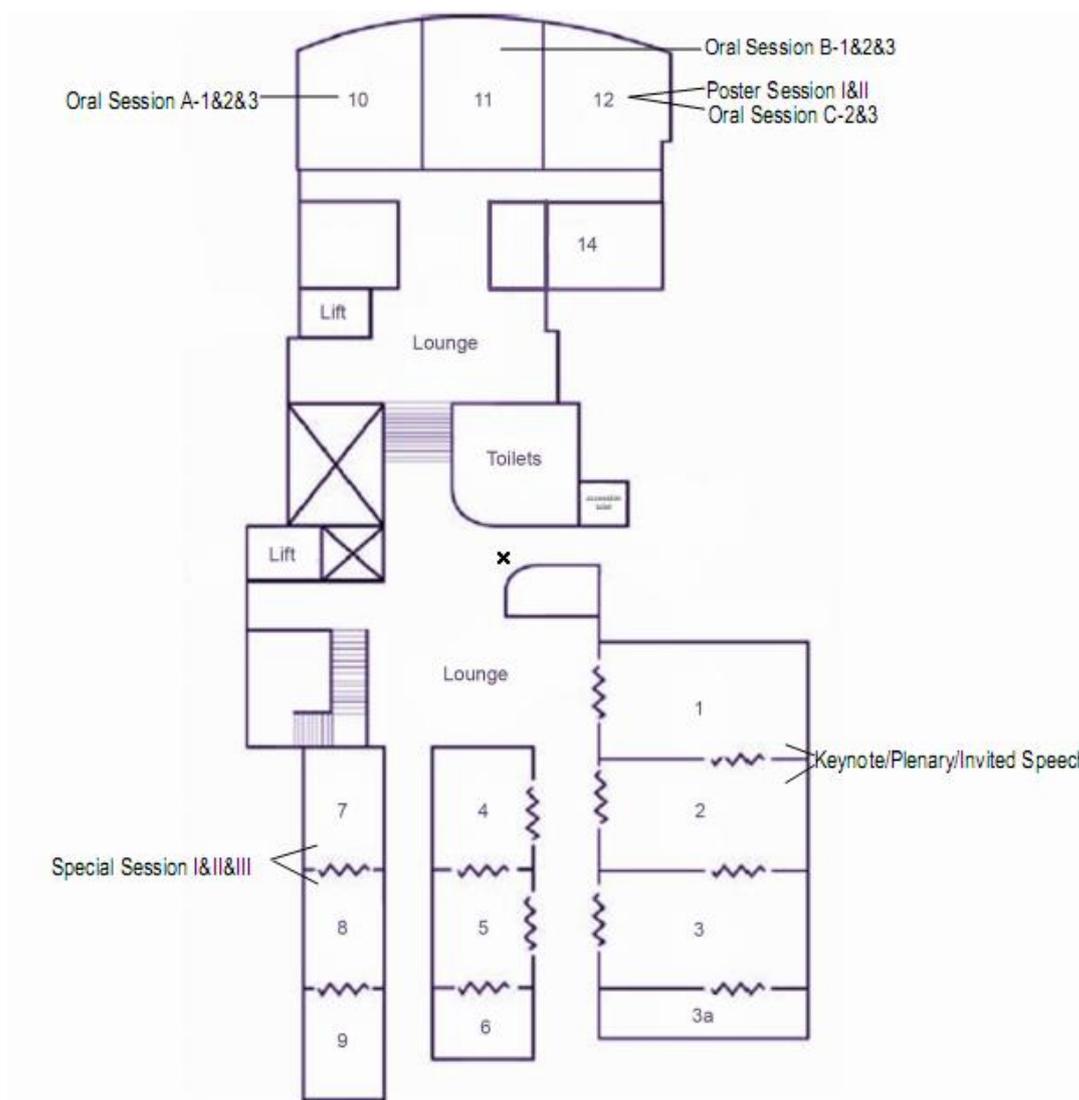


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Welcome Address

Welcome to Amsterdam and 2019 The 12th International Conference on Machine Vision (ICMV 2019), to be held during November 16-18, 2019, in Holland. ICMV 2019 continues to be a showcase for some of the most exciting advances in relevant expertise. With a full slate of keynote speeches, plenary speeches, invited speeches, special sessions, oral presentations, poster sessions, this promise to be a good experience.

After several rounds of review procedure, the program committee accepted those abstracts to be presented on conference, and papers to be published in conference proceedings. We wish to express our sincere appreciation to all the individuals who have contributed to ICMV 2019 conference in various ways. Special thanks are extended to our 3 Special Session Chairs (Prof. Vladimir Arlazarov, Prof. Dmitry P. Nikolaev, Prof. Wolfgang Osten) organized so excellent session with interesting and professional topic, which attracts lots of papers to join, to committee members for their thorough review of all the submissions, which is vital to the success of the conference, and also to the members in the organizing committee and the volunteers who had dedicated their time and efforts in planning, promoting, organizing and helping the conference.

This conference program is highlighted by 2 Keynote Speakers: Prof. Wolfgang Osten, University of Stuttgart, Germany; Prof. Alexander

Reiterer, FhG-IPM Freiburg, Germany; 4 Plenary Speakers: Prof. K.J. Batenburg, Universiteit Leiden, The Netherlands; Prof. Petia Radeva, University of Barcelona, Spain; Prof. Alexander Bernstein, Skolkovo Institute of Science and Technology, Moscow, Russia; Prof. Dorra Sellami, Sfax University, Tunisia. 1 Invited speaker: Prof. Johan Debayle, Ecole Nationale Supérieure des Mines, Saint-Etienne, France.

One best presentation will be selected from each session, evaluated from: originality; applicability; technical Merit; qualities of PPT; English. The best one will be announced at the end of each session and awarded the certificate at the dinner time.

Amsterdam is undoubtedly one of the most well-known cities in the world. This famous Dutch destination is a popular spot for people who want to spend their time unwinding and relaxing within the city. The city attracts people around the world to visit the place because there is a wide variety of clean and fun holiday activities and destinations that can be found here.

See you soon in Amsterdam, and wish you a lovely journey!

ICMV 2019
International Organizing Committee
Amsterdam, the Netherlands
Nov. 2019

Organizing Committee

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Chokri Ben Amar, REGIM, Tunisia
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Y. Benezeth, University of Sciences and Technology Houari Boumediene, Algeria
Olfa Jemai, University of Gabes, Tunisia
Oya Aran, De La Salle University-Manila, Philippines

Guidelines for Presentations

Oral presentations

Standard LCD projector (connected to a local PC) will be provided in each conference room.

Oral presentations have been allocated 15 minutes of effective presentation time, including Q/A time.

Best Presentation of each session is encouraged to award to student author prior. Winner of Best presentation will be announced by Session Chair at the end of each session and awarded winner certificate during the Dinner.

To show respect to other authors, especially to encourage the student authors, we strongly suggest you attend the whole session.

The scheduled time for presentations might be changed due to unexpected situations, please arrive meeting room at least 10 Mins before your Session starts and introduce yourself to the session chairs.

Authors must prepare their oral presentations to be sure to convey their message in clear and sharp manner, including giving outline of the key principles, facts and results. More detailed discussions can continue during the breaks.

A video projector and a PC will be available in all conference rooms. Speakers suggested not use their own laptop, avoiding useless time breaks in between papers.

Bring your presentation on a USB memory stick in MS-PowerPoint or Adobe PDF formats, and upload it in the Session Room computer no later than 10 minutes prior to your session start! You can also bring it earlier, during the coffee/lunch breaks before your presentation. Please upload your presentation in a right place in order to find it easily at the time of presentation.

Please wear formal clothes or national characteristics of clothing for participation.

The certification of Oral presentation will be awarded at the end of each session, and session photo will be taken at the end too and updated online after conference.

PowerPoint Instructions

For MS-PowerPoint presentations, please use the following versions only: PP 97-2003 (*.ppt) or 2007, 2010 to guarantee that it will be opened successfully on the on-site PC

We recommend to the PPT/PPTX format instead of PPS

All videos or animations in the presentation must run automatically!

Pictures/Videos

We cannot provide support for embedded videos in your presentation; please test your presentation with the on-site PC several hours before your presentation.

In case your video is not inserted in MS-PowerPoint, it is possible to have it in other formats – MPEG 2,4, AVI (codecs: DivX, XviD, h264) or WMV. Suggested bitrate for all mpeg4 based codecs is about 1 Mbps with SD PAL resolution (1024x576pix with square pixels, AR: 16/9).

Fonts

Only fonts that are included in the basic installation of MS-Windows will be available (English version of Windows). Use of other fonts

not included in Windows can cause wrong layout/style of your presentation.

Suggested fonts: Arial, Times New Roman.

If you insist on using different fonts, these must be embedded into your presentation by choosing the right option when saving your presentation:

Click on “File”, then “Save As”

Check the “Tools” menu and select “Embed True Type Fonts”

Poster Presentations

Suggested Poster with size of 60cm*80cm (width*height).

Posters are required to be condensed and attractive. The characters should be large enough so that they are visible from 1 meter apart.

During this poster presentation time, the presenter must stand by the display board to answer questions and discuss about the contents of the poster informally. The poster display should include a statement the topic, objectives of the research project, the methodology used to solve the problem or implement the program, the major findings or outcomes and their significance and conclusions. There should be a logical sequence---introduction, development and conclusion---of your display. Each sheet should numbered, a heading should be prepared for your presentation using lettering at least 3 cm high. The heading should include the title of the poster, all author names and institutional affiliations, and with ICMV 2019+Paper ID at right-up corner.

Chow gum will be provided by conference committee to mount your posters on the boards. All materials to be displayed should be prepared before your arrival. Supplies will not be available at the conference site.

The certification will be awarded at the end of each session. Session photo will be taken at the end of each session and updated online after the conference.

Best Presentation of each session is encouraged to award to student author prior. Winner of Best presentation will be announced by Session Chair at the end of each session and awarded winner certificate during the Dinner.

Badge Policy

Access to all ICMV activities will be allowed only to people wearing ICMV 2019 badges.

Considering the personal and property security of all ICMV attendees, please keep track of your badge and make sure you bring it each day, and do NOT borrow to any others or take others into conference area. Our policy is not to reprint badges or replace lost badges.

If you lose your badge, you will be able to purchase a new registration at the current on-site rates.

If you don't need the badge any more, please return it back to our registration desk.

Refund Policy

All refund requests must be made via email to Allen Foster. All cancellations will be subject to a 30% cancellation fee before Oct. 15, 2019, 11:59pm EST. NO REFUNDS will be made after Oct. 20, 2019.

Safety Tips

Please take care of all your personal belongs, the organizing committee or staff onsite will not be responsible for any loss of your valuables.

Keynote Speeches

SATURDAY, 16 November 2019

TIME: 13:05-13:50

ROOM: MEETING ROOM 1+2



APPLICATION OF MACHINE LEARNING FOR INFRASTRUCTURE MONITORING – A SYSTEMATIC REVIEW ON CURRENT STATUS AND FUTURE PROSPECTS

ALEXANDER REITERER

Professor, FhG-IPM Freiburg, Germany

Abstract: Maintenance of large-scale structures is expensive and time consuming. The intelligent use of monitoring systems contributes to the sustainable operation of such structures.

Networked infrastructures extend our environment: They enable global communication, energy supply, goods transport, and human mobility. These infrastructures cover a variety of natural and artificial large-scale structures, like hillsides, forests, roads, railways, power lines or fibre-optic cables. To ensure the reliability and the safety of the infrastructure, it has to be monitored. Furthermore, the aging of the existing structures necessitate monitoring.

The cost for maintaining these systems is immense. However, this cost could be considerably reduced using continuous, comprehensive and precise monitoring. Only monitoring on this scale can guarantee sustainable operation of infrastructures of this size and importance. For this reason, the strategy for the future must be an intelligent and maximally multi-dimensional monitoring that takes the whole lifecycle of these large-scale structures into account.

The presentation will give an overview about typical monitoring concepts (mainly based on optical sensing systems) including the use of machine learning for data analysis.

Bio: Professor Alexander Reiterer: Education: 1994-2001: Studies of Geodesy with specialization in Engineering Geodesy at the Vienna University of Technology, graduation as a Diplomingenieur.

2001-2004: Doctoral Student at the Vienna University of Technology, promotion as a Doctor of Technical Science (Ph.D). 2013: Habilitation in “Applied Geodesy” at Technical University of Munich.

Professional Experience: 2001-2004: Research Member, Department of Applied and Engineering Geodesy, Vienna University of Technology, Austria. Since 2004: University Assistant at the Institute of Geodesy and Geophysics, Research Group of Engineering Geodesy, Vienna University of Technology, Austria. 2006: Guest Researcher at the Institute of Geodesy and Photogrammetry -ETH Zurich, Switzerland. 2008: Guest Researcher at the Department of Geomatics Engineering - University of Calgary, Canada. Since 2012 Head of Research Group “Mobile Terrestrial Scanning MTS” at Fraunhofer Institute for Physical Measurement Techniques. Since 2016 Head of Department “Object and Shape Detection OF” at Fraunhofer Institute for Physical Measurement Techniques. Since 2017 W3-Professor, Department of Sustainable Systems Engineering, University Freiburg, Germany

Honours and Awards: 2019: Joseph-von-Fraunhofer Award for outstanding research. 2011: Fellow of the International Association of Geodesy (IAG). 2010: Humboldt Research Fellowship for Experienced Researchers. 2009: Best Education Award (Vienna University of Technology). 2006: Karl Rinner Award, Austrian Geodetic Commission.

SATURDAY, 16 November 2019

TIME: 13:50-14:35

ROOM: MEETING ROOM 1+2



OPTICAL METROLOGY IN TIMES OF DIGITAL TRANSITION

WOLFGANG OSTEN

Professor, University of Stuttgart, Germany

Abstract: Digitization and digital transition are frequently used terms in modern communication. We are far from underrating these global phenomena that are strongly connected with the worldwide networking between all domains of the public, private, commercial, and industrial life. Facts as the transition of the classical Data-Internet to the Internet of Things IoT, and Industrial Internet, respectively, are more and more influencing all technologies and thus it is quite appropriate to think about the future of metrology in such a changing environment. But it should be noticed that at least since the widespread introduction of computer technology in the 80ths and 90th, optical imaging and metrology have already implemented the transition to digital technologies. Methods such as digital image processing, digital holography, digital microscopy, and digital image correlation are state of the art by now. Manifold worldwide installations like digital/virtual/remote labs and robotic telescopes/microscopes support the position, that not only the simple transition from analog to digital but even more the total networking between complex physical entities and a new quality of data acquisition, processing and evaluation are characteristic features for the new quality of imaging and metrology. In this paper we discuss the state of the art, the challenges, and the perspectives of optical metrology in times of digital transition.

Bio: Professor **Wolfgang Osten** received the MSc/Diploma in Physics from the Friedrich-Schiller-University Jena in 1979. From 1979 to 1984 he was a member of the Institute of Mechanics in Berlin working in the field of experimental stress analysis and optical metrology. In 1983 he received the PhD degree from the Martin-Luther-University Halle-Wittenberg for his thesis in the field of holographic interferometry. From 1984 to 1991 he was employed at the Central Institute of Cybernetics and Information Processes ZKI in Berlin making investigations in digital image processing and computer vision. Between 1988 and 1991 he was heading the Institute for Digital Image Processing at the ZKI. In 1991 he joined the Bremen Institute of Applied Beam Technology (BIAS) to establish and to direct the Department Optical 3D-Metrology till 2002. Since September 2002 he has been a full professor at the University of Stuttgart and director of the Institute for Applied Optics. From 2006 till 2010 he was the vice rector for research and technology transfer of the Stuttgart University where he is currently the vice chair of the university council. His research work is focused on new concepts for industrial inspection and metrology by combining modern principles of optical metrology, sensor technology and image processing. Special attention is directed to the development of resolution enhanced technologies for the investigation of micro and nano structures.

Plenary Speeches

SATURDAY, 16 November 2019

TIME: 14:35-15:05

ROOM: MEETING ROOM 1+2



REAL-TIME 3D TOMOGRAPHY

JOOST BATENBURG

Professor, Universiteit Leiden, The Netherlands

Abstract: This lecture deals with the development of very fast algorithms for 3D image reconstruction in tomography. Recent experimental developments in both X-ray and electron tomography demonstrate that it is feasible to acquire tomographic datasets in the order of a second, opening up fascinating new possibilities for imaging of dynamic processes. What is still lacking, however, is the computational ability to create large-scale 3D images at the same speed as the image acquisition. Even more challenging is the combination of “limited data” (limited number of views, limited angular range) with “big data” (high resolution 3D imaging), for which advanced reconstruction techniques may take days of computing time.

I will discuss the various challenges involved in speeding up the tomography pipeline towards real-time tomography, where the object can already be analyzed during the scan, which requires new types of algorithms that are capable of dealing with limited data, yet fast enough to reconstruct and analyze a volume of 1024^3 voxels in one second.

Successful realization of such a pipeline can dramatically change the way we work with tomographic scanners, as we will create the ability to perform in-situ experiments, immediately observing the results in 3D, and adapting the experimental control to the observations.

Bio: Professor Joost Batenburg published more than 80 journal articles and more than 60 conference papers in the field of tomographic image processing and reconstruction. From 2013 till 2017 he chaired the EU COST Action EXTREMA on advanced X-ray tomography. He pioneered the field of discrete tomography, developing the first large-scale reconstruction methods. His current research focuses on creating a real-time tomography pipeline, funded by an NWO Vici grant. He is responsible for the FleX-Ray lab, where a custom-designed CT system is linked to advanced data processing and reconstruction algorithms.

Professional activities:

Professor: Universiteit Leiden

Chair: International Association for Pattern Recognition - [IAPR] - Technical Committee on Discrete Geometry

Chair: EU COST Action EXTREMA

Editor: Associate Editor of Image Processing Online (IPOL)

Editor: Associate Editor of Journal of Mathematical Imaging and Vision (Springer)

Editor: Associate Editor of IEEE Transactions on Computational Imaging

SATURDAY, 16 November 2019

TIME: 15:45-16:15

ROOM: MEETING ROOM 1+2



UNCERTAINTY MODELING FOR IMPROVED FOOD RECOGNITION

PETIA RADEVA

Professor, University of Barcelona & Computer Vision Center, Spain

Abstract: The recognition of food image is an active research topic, in which its applicability in the creation of nutritional diaries stands out with the aim of improving the quality of life of people with a chronic disease (eg. diabetes, heart disease). For a food recognition system to be useful in real applications, it is necessary to recognize a huge number of different foods. In this talk we will discuss how uncertainty modeling can help to create alternative to the flat convolutional neural network classifiers hierarchical models. Moreover, we will illustrate that uncertainty modeling can be very useful to construct class-conditional data augmentation procedure that allows us to obtain better results and improve robustness of the classification of large amount of food images.

Bio: Professor Petia Radeva completed her undergraduate study on Applied Mathematics at the University of Sofia, Bulgaria, in 1989. In 1996, she received a Ph.D. degree in Computer Vision at UAB. In 2007, she moved as Tenured Associate professor at the Universitat de Barcelona (UB), Department of Mathematics and Informatics, where from 2009 to 2013 she was Director of Computer Science Undergraduate Studies. Petia Radeva is Head of the Consolidated Group Computer Vision at the University of Barcelona (CVUB) at UB (www.ub.edu/cvub) and Head of the Medical Imaging Laboratory of Computer Vision Center (www.cvc.uab.es). Petia Radeva's research interests are on Development of learning-based approaches (specially, deep learning) for computer vision, and their application to health. Currently, she is involved on projects that study the application of wearable cameras and life-logging, to extract visual diary of individuals to be used for memory reinforcement of patients with mental diseases (e.g. Mild cognitive impairment). Moreover, she is exploring how to extract semantically meaningful events that characterize lifestyle and healthy habits of people from egocentric data. She is associate editor of Pattern Recognition journal and International Journal of Visual Communication and Image Representation. She obtained the ICREA award from the Catalanian Government for her scientific merits in 2014, the international award "Aurora Pons Porrata" from CIARP in 2016 and the Prize "Antonio Caparrós" for the best technology transfer project of 2013.

SATURDAY, 16 November 2019

TIME: 16:15-16:45

ROOM: MEETING ROOM 1+2



TOPOLOGICAL DATA ANALYSIS IN MACHINE VISION

ALEXANDER BERNSTEIN

Professor, Skolkovo Institute of Science and Technology, Russia

Abstract: The general goal of Machine vision is high-level understanding the content of images including recognizing the objects or events, classification of the detected objects, discovering the relations between the objects, etc. To solve these problems, various new technologies based on deep mathematical methods are now effectively used. The speech will introduce a new technology for computer vision and image processing based on mathematical researches

in Algebraic topology and Computational geometry and called Topological Data Analysis.

Many computer vision technologies include a Feature extraction step resulting in the found compact and informative features (signatures, descriptors, biomarkers for biomedical images) of the image with suitable properties that can then be used in solving a computer vision problem under consideration. For example, in the classification problem (attribute given image to one of the defined classes according to its visual content), we search for features that distinguish images from different classes. It's obvious that a quality of classification significantly depends on how much the extracted features distinguish images from different classes.

Given cloud points (edge pixels transformed from light intensities at image pixels using a threshold technique) with pairwise distances (without any scale, coordinates, etc.), Topological Data Analysis allows to quantify hidden structures in big raw noisy data (image pixels) and construct new image features called Topological invariants (homology indices, persistent diagrams, barcodes, topological skeletons, etc.) which have good discriminative properties for distinguishing images from different groups. Found topological features of the cloud of points are then transformed into standard mathematical objects (matrices, vectors, functions, etc.) for subsequent application of data analysis/machine learning classification technique to them.

The speech will provide examples of computer vision tasks in which the Topological Data Analysis gave new effective solutions. Ideas underlying the Topological Data Analysis and its basic methods will be briefly described and illustrated with examples of computer vision problems. To understand the speech, no prior knowledge of Algebraic topology and Computational geometry is required.

Bio: Professor Alexander Bernstein is a full professor in the Skolkovo Institute of Science and Technology (Skoltech), Center for Computational and Data-Intensive Science and Engineering. He received a master's diploma in Mathematics at Moscow State University in 1969. He received a PhD (Candidate of Sciences) degree in Math from Steklov Mathematical Institute of USSR Academy of Sciences in 1973 and the Doctor of Sciences degree in Math in 1987 from the Department of Computational Mathematics and Cybernetics of Moscow State University. In 1991, the USSR Higher Attestation Commission awarded Alexander with the academic rank of Professor in the field of Intelligent Technologies and Systems. Before Skoltech, he worked in the industry research centers and the institutes of the Russian Academy of Sciences and had part-time full professor positions at National Research University Higher School of Economics, Moscow, and Moscow Institute of Physics and technology. His research interests are in Mathematical modeling, Mathematical and Applied statistics, Applied geometrical methods, Intelligent Data Analysis, Machine Learning, Computer vision. He has more than 150 scientific publications.

SATURDAY, 16 November 2019

TIME: 16:45-17:15

ROOM: MEETING ROOM 1+2



SOME ISSUES IN RECENT BIOMETRICS WITH CASE STUDIES ON IRIS AND FINGER VEIN

DORRA SELLAMI

Professor, Sfax University, Tunisia

Abstract:

Diverse bio-modalities allow to establish recognition. They can be fixed such as face, iris, fingerprint, retina, etc and correspond to “something we are”. However, attackers may seek to compromise stored biometric data. Dynamic modalities such as keystroke, gait, leap motion, gesture, dynamics of signature, etc offer a convenient alternative as they consider an evolving knowledge. They are thus less prone to spoof attacks. Any used modality can be either extrinsic such as face or iris or hidden such as veins, electrocardiogram signals or electroencephalogram signals, etc. Hidden biometry offers more privacy insurance in most circumstances and adds security against forgery attacks. Recognition can be in different scenarios such as indoor environments, but can also concern IoT or healthcare-like systems. Next generation biometrics will benefit from the wide spread of sensors and actuators to be included in embedded ubiquitous architectures for either machine to machine, human to machine or human to thing communication. Human in modern ubiquitous systems can be based on more than a password for connecting, he is a further evolved “thing” that can use more than one scheme. Man can be based on a unimodal scheme, that can be cancelable in the way a password can change, as while as a multimodal scheme where different modalities can be fused, insuring further reliability. In cancelable biometrics, for example ECG based biometric schemes have been proposed, proving good reliable performances. With such modality, humans will “connect safety with their hearts”. The main focus of cancelable biometric schemes is to generate disguised identities for protecting the original ones. Accordingly, special pertinent features are used and associated with specific user secret auxiliary key. It offers in this way a high level of privacy, security and revocability to biometrics. Last decade, privacy concept has evolved significantly, leading to the emergence of legislative measures and giving rise to an important increase in the use of some modalities, not disclosing person appearance such as face or other critical modalities. Some biometric modalities, affecting privacy than others, has been also extensively used in soft biometry, which is less critical, since not focusing on divulging one-person identity. Hidden biometry has accordingly gained much interest since it cannot be acquired without person agreement. Recently, biometry has been extended to more than recognition of a person identity. Such schemes, known as soft biometrics focus on determining other user related information, such as its gender, the range of its age. With the new trends of intelligence and information personalization, the age and gender classification are increasingly getting interest in research. In e-commerce platforms, the system can guess the user gender and age and can accordingly adjust advertisement and service recommendation. Moreover, some environments give more advantages to other biometric modalities than others. For example, electrocardiogram signals offer a best modality in a healthcare environment authentication system, where no additive apparatus is needed. The biometric signal offers also the advantage of carrying more information than a simple identity, which

is the set of characteristics of the ECG signal. Two case studies will be considered in this keynote: iris and finger/hand-vein modalities. A review of both biometric proposed systems will be done. Some issues with respect to the biometric system architecture will be highlighted. A comprehensive analysis of image processing and feature extraction blocks will be undertaken. The problem of unbalanced classes will be also discussed. Performances and a comparative study will help drawing some perspectives.

Bio: Professor Dorra Sellami was born in 1969 in Sfax-Tunisia. She obtained her electrical engineering diploma from Sfax University, National Engineering of Sfax in 1994, and got awarded the price of the president of Tunisia. At 1995, she received the DEA in electronics and signal processing from university Bordeaux I at IMS Laboratory. She received her PhD at 1998 from the same university Bordeaux 1. From 2006 and until currently, she is Professor at Sfax University, National Engineering School. Her researches include image and signal analysis, characterization, selection and interpretation. Her interests include medical imaging, biometry identification, hidden biometry, neural networks and neurofuzzy based modeling of image processing, deep learning, ontology based decision making and possibility theory for information modeling. She is responsible of the research group CIELS (Computer, Imaging and ELectronic Systems) at the CEM Lab (Computer and Energy management). Teaching courses: image processing, advanced signal processing, pattern recognition, medical imaging. She presides many recruitment commissions in the High research and teaching ministry of Tunisia. She is author and co-author of hundreds of papers. She supervised about twenty PhD students. She was general chairs of many IEEE conferences in her domain, held in Tunisia.

Invite Speech

SATURDAY, 16 November 2019

TIME: 17:15-17:35

ROOM: MEETING ROOM 1+2



DIGITAL TWINS AND IMAGE ANALYSIS FOR THE MORPHOLOGICAL CHARACTERIZATION OF GRANULAR MEDIA

JOHAN DEBAYLE

Professor, Ecole Nationale Supérieure des Mines, Saint-Etienne, France

Abstract: Industrial processes involving granular media (population of particles: powders, crystals, fibers, etc.) are numerous and present in various industrial contexts (pharmaceuticals, nuclear, materials, agronomy, etc.). The geometric characterization of such particles has always been an issue, either to improve knowledge or to control the process with online property measurement if possible.

For this purpose, the acquisition of 2-D images allows a direct visualization of the projected particles that needs to be exploited. One of the major problems is the superposition of particles, a consequence of the projected view.

From such data, advanced image processing and analysis methods can be used to individualize and characterize particles (size, shape, spatial dispersion, etc.). However, these methods are not very effective when the granular medium is dense enough.

To overcome this limitation, methods based on random (or stochastic) geometry provide digital twins to model and characterize these images of granular media. Synthetic images of granular media are simulated and statistically fitted to real data. The morphological characterization of the particles is then indirectly accessible.

These different advanced methods of image analysis and stochastic geometry therefore provide digital tools for characterizing the morphology of granular media (a task that is generally difficult to perform with conventional methods). Our work should therefore lead to new online characterization tools, based on images processed by new algorithms that provide additional information to traditional methods, including shape factors.

Bio: Professor Johan Debayle: he received his M.Sc., Ph.D. and Habilitation degrees in the field of image processing and analysis, in 2002, 2005 and 2012 respectively. Currently, he is a Full Professor at the Ecole Nationale Supérieure des Mines de Saint-Etienne (ENSM-SE) in France, within the SPIN Center and the LGF Laboratory, UMR CNRS 5307, where he leads the PMDM Department interested in image analysis of granular media. In 2015, he was a Visiting Researcher for 3 months at the ITWM Fraunhofer / University of Kaiserslautern in Germany. In 2017 and 2019, he was invited as Guest Lecturer at the University Gadjah Mada, Yogyakarta, Indonesia. He was also Invited Professor at the University of Puebla in Mexico in 2018 and 2019. He is the Head of the Master of Science in Mathematical Imaging and Spatial Pattern Analysis (MISPA) at the ENSM-SE.

His research interests include image processing and analysis, pattern recognition and stochastic geometry. He published

more than 120 international papers in international journals and conference proceedings and served as Program committee member in several international conferences (IEEE ICIP, MICCAI, ICIAR...). He has been invited to give a keynote talk in several international conferences (SPIE ICMV, IEEE ISIVC, SPIE-IS&T EI, SPIE DCS...)

He is Associate Editor for 3 international journals: Pattern Analysis and Applications (Springer), Journal of Electronic Imaging (SPIE) and Image Analysis and Stereology (ISSIA).

He is a member of the International Society for Optics and Photonics (SPIE), International Association for Pattern Recognition (IAPR), International Society for Stereology and Image Analysis (ISSIA) and Senior Member of the Institute of Electrical and Electronics Engineers (IEEE).

Special Session Chairs

SPECIAL SESSION I

TIME: 09:00-13:30

ROOM: Meeting Room 7+8



TOPIC: CAMERA BASED AND MOBILE RECOGNITION

CHAIRMAN: VLADIMIR ARLAZAROV

Professor, Federal Research Center "Computer Science and Control" of Russian Academy of Sciences, Russia

Image recognition as a service differs from industrial machine vision in many ways. Not only the environment is uncontrolled, but camera hardware is unknown too. In the case of on-device recognition computational complexity of recognition methods and size of binary data (including CNN models) are critical. Situation is better in the presence of specialized processing hardware, but this implies proper software adaptation. Users cooperativity significantly improves recognition quality. On the other hand, random user can feed system with irrelevant data. These points clearly should not be ignored. We invite to this track specialists both in software and hardware to discuss mentioned problems and their possible solutions.

Bio: Professor Vladimir Arlazarov holds a Ph.D. in technical sciences as a specialist in development, application of recognition systems and data mining. He has worked in the IT fields since 1997, leading and managing more than 70 projects related to creation and embedding of document recognition systems for Pension Funds, Ministries, Banks, Public Transportation and Oil & Gas companies. Under his leadership several generations of industrial OCR and document capture systems were developed, including the industrial system for identity documents recognition. Tremendous visionary entrepreneur, Vladimir is the author of several scientific patents about artificial intelligence and he is focusing on advancing the company R&D leadership in computer vision software. At 2019 he has 50 publications and patents.

SPECIAL SESSION II

TIME: 13:35-16:00

ROOM: Meeting Room 7+8



TOPIC: ADVANCED IMAGING AND TOMOGRAPHY

CHAIRMAN: DMITRY P. NIKOLAEV

Professor, Institute for Information Transmission Problems, RAS (IITP RAS), Russia

Machine vision is one of the most powerful nondestructive methods of object exploration, but it is limited by object surface. For internal structure analysis (in medicine, geology, quality control, etc.) one requires the methods of tomography. Advanced imaging and tomography track will provide a forum

20 to present and discuss the latest advances and state of the art approaches in tomography. We intend to organize a fruitful exchange of opinions and ideas between specialists in machine vision and tomography, as well as encourage and facilitate interdisciplinary communication amongst university researches and industry professionals involved in tomographic software and hardware development.

Bio: Prof. Dmitry Nikolaev was born in Moscow, Russia. He obtained his Master degree (in physics) in 2000 and Ph.D. degree (in computational methods of image processing) in 2004 from Moscow State University. Since 2007 he is a head of the Vision Systems Lab. at the Institute for Information Transmission Problems, RAS. His research activities are in the areas of computer vision with primary application to color image understanding. Since 2005 he gives a course “Image processing” in the Moscow Institute of Physics and Technology, take up an appointment of Assoc. Prof in 2008. At 2015 he has more than 120 publications.

SPECIAL SESSION III

TIME: 16:05-17:35

ROOM: Meeting Room 7+8



TOPIC: MACHINE VISION FOR AUTONOMOUS DRIVEN CARS UNDER HARSH ENVIRONMENTAL CONDITIONS

CHAIRMAN: WOLFGANG OSTEN

Professor, University of Stuttgart, Germany

The development of autonomous driven cars is a hot topic taken up not only by industry but increasingly by research institutions. The topic is not new. Already in the 80th big research projects such as the European EUREKA project "Prometheus" (PROgraMme for a European Traffic of Highest Efficiency and Unprecedented Safety, 1986–1994) were aimed at finding new solutions for increased road safety. However, the key finding gained almost 30 years ago was not so much an increase in autonomy as improved driver assistance, in order to provide more support to the driver in more complex situations. But new algorithms and implementations of Artificial Intelligence, sophisticated sensors and sensor fusion techniques are currently promising a significant improvement in the reliability of autonomous vehicles. In that context a lot of challenging problems are waiting on an answer. To them belong especially questions directed to changing environmental conditions during the autonomous drive such as rain, fog, snow, and in general difficult visibility conditions. If vehicles are to drive fully autonomously in the future, systems are required which scan the environment with high precision, high spatial and temporal resolution and guarantee the necessary reliability even in these difficult situations. Today, a wealth of different sensors are integrated and combined. The sensor and data fusion can be described as inadequate in current configurations, since the individual data streams are processed and interpreted in parallel. A combination of the results takes place very late in the process chain. Inadequate results characterized by latency and blurring are the result. The special session is dedicated to that challenge. Various lectures address new approaches for better dealing with such complex situations. To them belong new ways of machine Learning for infrastructure monitoring, new LiDAR sensors for obstacle recognition, and two new sensors for the improvement of object recognition through scattering media.

Bio: Professor Wolfgang Osten received the MSc/Diploma in Physics from the Friedrich-Schiller-University Jena in 1979. From 1979 to 1984 he was a member of the Institute of Mechanics in Berlin working in the field of experimental stress analysis and optical metrology. In 1983 he received the PhD degree from the Martin-Luther-University Halle-Wittenberg for his thesis in the field of holographic interferometry. From 1984 to 1991 he was employed at the Central Institute of Cybernetics and Information Processes ZKI in Berlin making investigations in digital image processing and computer vision. Between 1988 and 1991 he was heading the Institute for Digital Image Processing at the ZKI. In 1991 he joined the Bremen Institute of Applied Beam Technology (BIAS) to establish and to direct the Department Optical 3D-Metrology till 2002. Since September 2002 he has been a full professor at the University of Stuttgart and director of the Institute for Applied Optics. From 2006 till 2010 he was the vice rector for research and technology transfer of the Stuttgart University where he is currently the vice chair of the university council. His research work is focused on new concepts for industrial inspection and metrology by combining modern principles of optical metrology, sensor technology and image processing. Special attention is directed to the development of resolution enhanced technologies for the investigation of micro and nano structures.

Program Overview

SATURDAY, 16 NOVEMBER

TIME	ACTIVITY	VENUE
09:30-17:00	<p style="text-align: center;">REGISTRATION</p> <p>Note: *Collecting conference materials; * Certificate will be issued at the end of each session;</p>	Lobby
13:00-13:05	OPENING REMARKS	VENUE
	<p style="text-align: center;">Addressed from Conference Chair: <i>Wolfgang Osten</i>, University of Stuttgart, Germany</p>	Meeting Room 1+2
	CHAIR: Dmitry Nikolaev	
13:05-13:50	KEYNOTE SPEECH I	
	<p style="text-align: center;">"Application of Machine Learning for Infrastructure Monitoring – A Systematic Review on Current Status and Future Prospects" <i>Alexander Reiterer</i>, FhG-IPM Freiburg, Germany</p>	
13:50-14:35	KEYNOTE SPEECH II	
	<p style="text-align: center;">"Optical Metrology in Times of Digital Transition" <i>Wolfgang Osten</i>, University of Stuttgart, Germany</p>	
14:35-15:05	PLENARY SPEECH I	
	<p style="text-align: center;">"Real-Time 3D Tomography" <i>Joost Batenburg</i>, University Leiden, The Netherlands</p>	
15:05-15:45	Group Photo& Coffee Break	
	CHAIR: Wolfgang Osten	
15:45-16:15	PLENARY SPEECH II	
	<p style="text-align: center;">"Uncertainty Modeling for Improved Food Recognition" <i>Petia Radeva</i>, Universitat de Barcelona & Computer Vision Center, Spain</p>	
16:15-16:45	PLENARY SPEECH III	
	<p style="text-align: center;">"Topological Data Analysis in Machine Vision" <i>Alexander Bernstein</i>, Skolkovo Institute of Science and Technology, Russia</p>	
16:45-17:15	PLENARY SPEECH IV	
	<p style="text-align: center;">"Some Issues in Recent Biometrics with Case Studies on Iris and Finger Vein" <i>Dorra Sellami</i>, Sfax University, Tunisia</p>	
17:15-17:35	INVITE SPEECH I	
	<p style="text-align: center;">"Digital Twins and Image Analysis for the Morphological Characterization of Granular Media" <i>Johan Debayle</i>, Ecole Nationale Supérieure des Mines, Saint-Etienne, France</p>	
17:50-18:50	DRINK RECEPTION	Bar Lounge

TECHNICAL SESSIONS

SUNDAY, 17 NOVEMBER

	MEETING ROOM 10	MEETING ROOM 11	MEETING ROOM 12	MEETING ROOM 7+8
09:00-10:15	Oral A-1 Image Processing Technology and Method	Oral B-1 Neural Network and Image Processing Applications	Poster I Computer Vision and Image Processing	Special Session I Camera Based and Mobile Recognition (09:00-13:30)
10:30-10:45	Coffee Break			
10:45-12:00	Oral A-1 Image Processing Technology and Method	Oral B-1 Neural Network and Image Processing Applications	Poster II Image Processing Technology and Application	Special Session I Camera Based and Mobile Recognition (09:00-13:30)
12:00-13:00	LUNCH@ L'AMBIANCE			
13:00-15:15	Oral A-2 Target Detection and Tracking	Oral B-2 Image Analysis and Method	Oral C-2 Pattern Recognition	Special Session II Advanced Imaging and Tomography (13:35-16:00)
15:25-15:30	Coffee Break			
15:30-18:00	Oral A-3 Computer Vision and Visualization	Oral B-3 Computer Science and Image Processing	Oral C-3 Image Processing	Special Session III Machine Vision for Autonomous Driven Cars under Harsh Environmental Conditions (16:05-17:35)
18:00-19:00	DINNER & AWARD @ L'AMBIANCE			
MONDAY, 18 NOVEMBER				
09:00-18:00	OPTIONAL ONE DAY VISIT			

*Oral session format (12 min. for presentation +3 min. for Q & A)

*Accommodation is not provided, please make an early reservation.

*Please take care of all your personal belongs, the organizing committee or staff onsite will not be responsible for any loss of your valuables.

Oral Presentations

SUNDAY, NOVEMBER 17th, 09:00-12:00

Format (12 min. for presentation + 3 min. for questions)

Oral Session A-1
“Image Processing Technology and Method”
 Chair: Prof. Yashina Marina Viktorovna (*Moscow Automobile and Road Construction STU(MADI), Russia*)
VENUE: Meeting Room 10

09:00-09:15	Optimization of Mobile Recognition of Car Model in Traffic Flow by Software Architecture Variation Prof. Marina Yashina, Ivan Kuteynikov, Elisey Nosov, Nikita Sarkisov Moscow Automobile and Road Construction STU(MADI), Russia	T136-A
24 09:15-09:30	A Low Computational Approach for Price Tag Recognition Mr. M. A. Aliev, D.A. Bocharov, I.A. Kunina, D.P. Nikolaev Federal Research Center “Computer Science and Control” of Russian Academy of Sciences, Russia	T179
09:30-09:45	Estimation of Extent of Trees’ and Biomass’ Infestation of the Suburban Forest of Thessaloniki (Seich Sou) using UAV Imagery and Combining R-CNNs and Multichannel Texture Analysis Dr. Panagiotis Barmpoutis, Vasiliki Kamperidou, Tania Stathaki Imperial College London, UK	T087
09:45-10:00	Impact of Geometrical Restrictions in RANSAC Sampling on the ID Document Classification Ms. Natalya Skoryukina, Igor Faradjev, Konstantin Bulatov, Vladimir V. Arlazarov Federal Research Center “Computer Science and Control” of Russian Academy of Sciences, Russia	T161
10:00-10:15	Chebyshev Multifractal Signatures and Their Use in Multifractal Interpretation of SAR Images of Ice-Covered Sea Areas Dmitry Uchaev, Assist. Prof. Denis Uchaev, Vasily Malinnikov Moscow State University of Geodesy and Cartography (MIIGAiK), Russia	T175
10:15-10:30	Multi-modal Brain Tumor Segmentation Utilizing Convolutional Neural Networks Mr. Marek Jakab, Marek Stevuliak, Wanda Benesova Slovak University of Technology, Slovakia	T071
10:30-10:45	COFFEE BREAK	
10:45-11:00	Comparison of Single Channel Indices for U-Net Based Segmentation of Vegetation in Satellite Images Dr. Irem Ulku, Panagiotis Barmpoutis, Tania Stathaki, Erdem Akagunduz Imperial College London, UK	T085

11:00-11:15	Retinal Blood Vessel Segmentation in Fundus Images based on Morphological Operators within Entropy Information Ms. Amal Chouchene, Walid Barhoumi, Amr Ahmed University of Beira Interior, Tunisia; University of Beira Interior, Portugal	T045
11:15-11:30	Dense Urban Scene Reconstruction Using Stereo Depth Image Triangulation Mr. Jonas Haeling, Marc Necker, Andreas Schilling Daimler AG, Germany	T075
11:30-11:45	Evaluating CNN Interpretability on Sketch Classification Mr. Abraham Theodorus, Meike Nauta, Christin Seifert University of Twente, The Netherlands	T145
11:45-12:00	GPU paralleled Transformation and Quantization for Wavelet-Based Bitplane Coding of Multiresolution Meshes Dr. Soumaya Hachicha, Akram Elkefi, Chokri Ben Amar, Mourad Zaied ENIS, Tunisia	T128
12:00-13:00	LUNCH @L'AMBIANCE	

SUNDAY, NOVEMBER 17th, 13:00-15:15

Format (12 min. for presentation + 3 min. for questions)

Oral Session A-2

“Target Detection and Tracking”

Chair: Assoc. Prof. Andrey Kuznetsov (*Samara National Research University, Russia*)

VENUE: Meeting Room 10

13:00-13:15	Detecting Pneumonia in Chest Radiographs Using Convolutional Neural Networks Ms. Jennifer Ureta, Oya Aran, Joanna Pauline Rivera De La Salle University, Philippines	T171
13:15-13:30	Monospaced Font Detection Using Character Segmentation and Fourier Transform Ms. Anastasiya Chirvonaya, Alexander Sheshkus, Vladimir Arlazarov National University of Science and Technology “MISIS”, Russia; Smart Engines Service LLC, Russia	T177
13:30-13:45	Mobile Application for Receipt Fraud Detection Based on Optical Character Recognition Mr. Sorin Liviu Jurj, Allen-Jasmin Farcas, Flavius Opritoiu, Mircea Vladutiu Politehnica University of Timisoara, Romania	T007
13:45-14:00	K-nearest Neighbors based Nonlinear Process Monitoring using Kernel EPCA Loubna El FATTAHI, Prof. El Hassan SBAI Moulay Ismail University, Morocco	T056
14:00-14:15	Enhanced Single Shot Detector with Image Sharpening for Detection of Knee Joint Ms. Trupti Chavan, Guda Ramachandra Kaladhara Sarma, Kameshwar Rao HCL Technologies Limited, India	T132
14:15-14:30	A Method of Fluorescent Fibers Detection on Identity Documents under Ultraviolet Light Ms. Kunina I.A, Aliev M.A., Arlazarov N.V., Polevoy D.V. Institute for Information Transmission Problems (Kharkevich Institute) RAS; Smart Engines Service LLC, Russia; Moscow Institute of Physics and Technology, Russia	T144
14:30-14:45	Synthetic Images Generation for Text Detection and Recognition in the Wild Natalia Khanzhina, Natalia Slepikova, Dr. Andrey Filchenkov ITMO University, Russia	T093
14:45-15:00	A Ship Target Tracking Algorithm Based on Deep Learning and Multiple Features Dr. Yongmei Zhang, Jie Shu, Lei Hu, Qi Zhou, Zhirong Du North China University of Technology, China	T114
15:00-15:15	Performance of Bottom Up Visual Attention Models When Compared in Contextless and Context Awareness Scenarios Mr. Juan Anaya-Jaimes, Angie García-Castro, Dr. R.E. Gutiérrez-Carvajal Universidad Militar Nueva Granada, Colombia	T043
15:15-15:30	COFFEE BREAK	

SUNDAY, NOVEMBER 17th, 15:30-18:00

Format (12 min. for presentation + 3 min. for questions)

Oral Session A-3 “Computer Vision and Visualization” Chair: Prof. Dorra Sellami (<i>Sfax University, Tunisia</i>) VENUE: Meeting Room 10		
15:30-15:45	Unsupervised Domain Adaptation for DNN-based Automated Harvesting Mr. Aleksandr Yu. Shkanaev, Dmitry L. Sholomov, Dmitry P. Nikolaev National University of Science and Technology MISIS, Russia	T109
15:45-16:00	Stereo Camera-based Computer Vision System of a Robot Ms. Karina Petrova, Ekaterina Filatova St Petersburg State Electrotechnical University 'LETI', Russia	T022
16:00-16:15	Unsupervised Generation of Artistic Representations Roman Steinberg, Mr. Sergey Kastrulin Southern Federal University, Russia	T025
16:15-16:30	Preliminary Design for Earth Observation Video Satellites to Apply Predictable Trajectory Parameters in Video Compression Techniques Mr. Mohammadreza Bayat, Ladan Arman, Liu Rongke Beihang University, China	T053
16:30-16:45	Theory and Methodology of Multifractal Interpretation of Aerospace Images Assist. Prof. Dmitry Uchaev, Denis Uchaev Moscow State University of Geodesy and Cartography (MIIGAiK), Russia	T086
16:45-17:00	GAIT Analysis: 3D Pose Estimation and Prediction in Defence Applications using Pattern Recognition Dr. Mohammad Farukh Hashmi, B Kiran Kumar Ashish, Avinash G. Keskar National Institute of Technology(Nit), India	T137
17:00-17:15	Adversarial Computer Vision: A Current Snapshot Mr. T. Maliamanis, G.A. Papakostas International Hellenic University, Greece	T089
17:15-17:30	Dense Structure and Motion Recovery from Scanning Electron Microscope Image Sequences based on Factorization Mr. Stefan Töberg, Eduard Reithmeier Leibniz University of Hanover, Germany	T097
17:30-17:45	3D Imaging Endoscopy using Small-Size Prism-based Stereo Systems Dr. Alexander Machikhin, Alexey Gorevoy, Demid Khokhlov, Vladislav Batshev Scientific and Technological Center of Unique Instrumentation, Russia	T2004
18:00-19:00	DINNER & AWARD @L'AMBIANCE	

SUNDAY, NOVEMBER 17th, 09:00-12:00

Format (12 min. for presentation + 3 min. for questions)

Oral Session B-1

“Neural Network and Image Processing Applications”

Chair: Prof. Petia Radeva (University of Barcelona, Spain)

VENUE: Meeting Room 11

09:00-09:15	Real-Time Identification of Animals found in Domestic Areas of Europe Mr. Sorin Liviu Jurj, Flavius Opritoiu, Mircea Vladutiu Politehnica University of Timisoara, Romania	T006
09:15-09:30	Learning Signer-Invariant Representations with Adversarial Training Pedro M. Ferreira, Mr. Diogo Pernes, Ana Rebelo, Jaime S. Cardoso INESC TEC and University of Porto, Portugal	T083
09:30-09:45	An Intelligent Approach to Identify Parasitic Eggs from a Slender-billed 's Nest Wiem Nhidi, Dr. Ridha Ejbali, Hassen Dahmen Research Team in Intelligent Machines, Tunisia	T039
09:45-10:00	Multi-Path Learnable Wavelet Neural Network for Image Classification Mr. D. D. N. De Silva, H.W.M.K. Vithanage, K.S.D. Fernando, I.T.S. Piyatilake. University of Moratuwa, Sri Lanka	T018
10:00-10:15	Classification of Corrosion and Coating Damages on Bridge Constructions from Images using Convolutional Neural Networks Mr. Egil Holm, Aksel A. Transeth, Ole Ø. Knudsen, Annette Stahl Norwegian University of Science and Technology, Norway	T033
10:15-10:30	Interpretable Diagnosis of Breast Cancer from Histological Images Using Siamese Neural Networks Dominik Hradel, Mr. Lukas Hudec, Wanda Benesova Slovak University of Technology, Slovakia	T044
10:30-10:45	COFFEE BREAK	
10:45-11:00	Complexity-Aware Loss Function for Fast Neural Networks with Early Exits Mr. Lev Teplyakov, Sergey Gladilin, Evgeny Shvets IITP RAS, Russia	T148
11:00-11:15	Bipolar Morphological Neural Networks: Convolution without Multiplication Ms. Elena Limonova, Daniil Matveev, Dmitry Nikolaev, Vladimir V. Arlazarov FRC CSC RAS, Smart Engines Service LLC, Russia	T150
11:15-11:30	ICPS-net: An End-to-End RGB-based Indoor Camera Positioning System using Deep Convolutional Neural Networks Ali Ghofrani, Rahil Mahdian Toroghi, Mr. Sayed Mojtaba Tabatabaie Alpha Reality Co, Iran	T170
11:30-11:45	Transfer of a High-Level Knowledge in HoughNet Neural Network. Mr. Alexander Sheshkus, Dmitri Nikolaev Smart Engines Service LLC, Russia	T153

11:45-12:00	Convolutional Neural Network for Early Detection of Gastric Cancer by Endoscopic Video Analysis Mr. Anton Lebedev , Vladimir Khryashchev, Anton Stefanidi, Olga Stepanova, Sergey Kashin, Roman Kuvaev P.G. Demidov Yaroslavl State University, Russia	T073
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12:00-13:00	LUNCH@L'AMBIANCE
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SUNDAY, NOVEMBER 17th, 13:00-15:15

Format (12 min. for presentation + 3 min. for questions)

Oral Session B-2

“Image Analysis and Method”

Chair: Prof. Johan Debayle (*Ecole Nationale Supérieure des Mines, France*)

VENUE: Meeting Room 11

13:00-13:15	DPCAE: Denoising Point Cloud Auto-encoder for 6D Object Detection Mr. Haozhe Huang, Dewei Zou, Zilong Zhang, Zizhao Huang, Wei Qin Shanghai Jiao Tong University, China	T004
13:15-13:30	Sparse Representation of Images using Substitution of Wavelet by Patches Salima Hassairi, Intidhar Jemel, Dr. Ridha Ejbali, Mourad Zaeid Research Team in Intelligent Machines, Tunisia	T058
13:30-13:45	A Comparative Analysis of SVM, K-NN and Decision Trees for High Resolution Satellite Image Scene Classification Ms. Samia Bouteldja, Assia Kourgli University of Science and technology Houari Boumedienne, Algeria	T072
13:45-14:00	Comparative Study of Upsampling Methods for Super-Resolution in Remote Sensing Mr. Luis Salgueiro-Romero, Javier Marcello, Verónica Vilaplana Universitat Politècnica de Catalunya, Spain	T074
14:00-14:15	Wavelet Domain Residual Proximity Search for Image Detail Enhancement Dr. Faisal Sahito, Pan Zhiwen, Junaid Ahmed, Fahad Sahito Southeast University, China	T116
14:15-14:30	Dimensionality Reduction of Hyperspectral Images based on the Linear Mixture Model and Dimensionality Estimation Assoc. Prof. Evgeny Myasnikov Samara University, Russia	T152
14:30-14:45	Optical-to-SAR Image Registration Using a Combination of CNN Descriptors and Cross-Correlation Coefficient Shabanov Akhmedkhan, Gladilin Sergey, Dr. Shvets Evgeny IITP RAS, Russia	T164
14:45-15:00	Fast Projective Image Rectification for Planar Objects with Manhattan Structure Ms. J. Shemiakina, I. Konovalenko, D. Tropin, I. Faradjev Federal Research Center “Computer Science and Control” of Russian Academy of Sciences, Russia	T176
15:00-15:15	FMRI Image Segmentation based on Hidden Markov Random Field with Directional Statistics Observation Model O. V. Lukashenko, Mr. S. D. Chernyaev Petrozavodsk State University, Russia	T095
15:15-15:30	COFFEE BREAK	

SUNDAY, NOVEMBER 17th, 15:30-18:00

Format (12 min. for presentation + 3 min. for questions)

Oral Session B-3		
“Image Analysis and Method”		
Chair: Prof. Alexander Bernstein (Skolkovo Institute of Science and Technology, Russia)		
VENUE: Meeting Room 11		
15:30-15:45	Wearable Camera-Based Human Absolute Localization in Large Warehouses Dr. Gaël Écorchard, Karel Košnar, Libor Přeučil Czech Technical University in Prague, Czech	T173
15:45-16:00	Topic Aspects-Based Generative Mixture Model for Movie Recommendation System using Deep Convolutional Network Ms. Maha Alghalibi, Kai Lawonn Koblenz University, Germany	T028
16:00-16:15	Refined Image Colorization Using Capsule Generative Adversarial Networks Raggi Hosni, Dr. Walid Hussein The British University in Egypt, Egypt	T051
16:15-16:30	Deep Learning Self-Calibration from Planes Mr. Hauke Brunken, Clemens Gühmann Technische Universität Berlin, Germany	T064
16:30-16:45	Steganographic Generative Adversarial Networks Mr. Denis Volkhonskiy, Ivan Nazarov, Evgeny Burnaev Skolkovo Institute of Science and Technology, Russia	T184
16:45-17:00	Learning Bag of Spatio-Temporal Features for Human Interaction Recognition Ms. Khadidja Nour El Houda Slimani, Yannick Benezeth, Feryel Souami University of Sciences and Technology Houari Boumediene, Algeria	T174
17:00-17:15	Comparison of Scanned Administrative Document Images Ms. Elena Andreeva, Vladimir V. Arlazarov, Oleg Slavin, Aleksey Mishev Smart Engines Service LLC, Russia	T149
17:15-17:30	M.A.G.E.C - Machine Assisted Geometry Extraction and Creation Kshitij Nikhal, Fuzail Palnak, Mr. Ravi Panchani, Sagar Rohankar, Prakhar Verma TomTom, India	T178
18:00-19:00	DINNER& AWARD@L'AMBIANCE	

SUNDAY, NOVEMBER 17th, 13:00-15:15

Format (12 min. for presentation + 3 min. for questions)

Oral Session C-2 "Pattern Recognition"

Chair: Prof. Vladimir Fursov (Samara University, Russia)

VENUE: Meeting Room 12

13:00-13:15	Machine Vision-based Auxiliary System for Managing Surgical Instruments in the Operating Room Assist. Prof. Nai-Chuan Fang Taichung Veterans General Hospital, Taiwan	T047-A
13:15-13:30	Margin Based Knowledge Distillation For Mobile Face Recognition Dmitry Nekhaev, Dr. Sergey Milyaev, Ivan Laptev VisionLabs, Netherlands	T049
13:30-13:45	The Analysis of Projective Transformation Algorithms for Image Recognition on Mobile Devices Mr. Anton Trusov, Elena Limonova Moscow Institute of Physics and Technology, Russia	T106
13:45-14:00	Human Expression Recognition using Facial Shape Based Fourier Descriptors Fusion Mr. Ali Raza Shahid, Shehryar Khan, Hong Yan City University of Hong Kong, HK	T111
14:00-14:15	Improving Object Recognition of CNNs with Multiple Queries and HMMs László Czúni, Mr. Amr M. Nagy University of Pannonia, Hungary	T125
14:15-14:30	PTLHAR: PoseNet and Transfer Learning for Human Activities Recognition based on Body Articulations Nozha Jlidi, Ahmed Snoun, Tahani Bouchrika, Dr. Olfa Jemai, Mourad Zaied Research Team in Intelligent Machines, Tunisia	T126
14:30-14:45	Recognition of Images of Korean Characters using Embedded Networks Mr. Sergey A. Ilyuhin, Alexander V. Sheshkus, Vladimir L. Arlazarov Moscow Institute of Physics and Technology, Russia	T156
14:45-15:00	Local Optimal Oriented Pattern for Person Independent Facial Expression Recognition Mr. Mukku Nisanth Kartheek, Munaga V N K Prasad, Raju Bhukya IDRBT & NIT Warangal, India	T168
15:00-15:15	Methods of Weighted Combination for Text Field Recognition in a Video Stream Ms. Olga Petrova, Konstantin Bulatov, Vladimir L. Arlazarov Federal Research Center "Computer Science and Control" of Russian Academy of Sciences, Russia	T121
15:15-15:30	COFFEE BREAK	

SUNDAY, NOVEMBER 17th, 15:30-18:00

Format (12 min. for presentation + 3 min. for questions)

Oral Session C-3 "Image Processing"

Chair: Prof. Bogdan Kwolek (AGH University of Science and Technology, Poland)

VENUE: Meeting Room 12

15:30-15:45	Multi-channels CNN-based Temporal Features for Depth-based Action Recognition Jacek Trelinski, Prof. Bogdan Kwolek AGH University of Science and Technology, Poland	T082
15:45-16:00	Digital Video Forgery Detection based on Statistical Features Calculation Assoc. Prof. Andrey Kuznetsov Samara National Research University, Russia	T104
16:00-16:15	A Method of Detecting End-To-End Curves of Limited Curvature Ms. E.I. Panfilova , M.A. Aliev, I.A. Kunina, V.V. Postnikov, D.P. Nikolaev Smart Engines Service LLC Moscow, Russia; V. A. Trapeznikov Institute of Control Sciences of Russian Academy of Sciences, Russia	T3006
16:15-16:30	Deep Stacked Sparse Auto-encoder based on Patches for Image Classification Intidhar Jemel, Salima Hassairi, Ridha Ejbali, Prof. Mourad Zaied University of Gabes, Tunisia	T038
16:30-16:45	Possibilistic Registration based on Unsupervised Classification (BMPURM) Ms. Wissal BEN MARZOUKA , Basel SOLAIMAN, Atef HAMOUDA, Zouhour BEN DHIAF, Khaled BSAIES IMT Atlantique Brest, Tunisia	T020
16:45-17:00	A New Approach of Object Recognition in Encrypted Images using Convolutional Neural Network Zina TAYARI, Nasreddine HNANA, Prof. Mourad Zaied University of Gabes, Tunisia	T157
17:00-17:15	Comparative Study of Feature Detector and Descriptor Methods for Registration Ms. Wissal BEN MARZOUKA , Basel SOLAIMAN, Atef HAMOUDA, Zouhour BEN DHIAF, Khaled BSAIES IMT Atlantique Brest, Tunisia	T2005
17:15-17:30	A Survey on Generative Adversarial Networks and Their Variants Methods Fatma Ben Aissa, Mahmoud Mejdoub, Prof. Mourad Zaied University of Gabes, Tunisia	T078
18:00-19:00	DINNER & AWARD@L'AMBIANCE	

Special Session

SUNDAY, NOVEMBER 17th, 09:00-13:30

Format (12 min. for presentation + 3 min. for questions)

Special Session I

“Camera Based and Mobile Recognition”

Chair: Prof. Vladimir Arlazarov (*Institute for Information Transmission Problems, RAS (IITP RAS), Russia*)

VENUE: Meeting Room 7+8

09:00-09:15	Impact of Mobile Device Sensors Errors on SLAM Problem Solution Prof. V. V. Myasnikov Samara National Research University, Russia	T013
09:15-09:30	Two-Step Technology for Improving Details of Images Captured with Mobile Devices Prof. Vladimir Fursov, Yegor Goshin Samara University, Russia	T059
09:30-09:45	Single-sample Augmentation Framework for Training Viola-Jones Classifiers Mr. Daniil P. Matalov, Sergey A. Usilin, Vladimir V. Arlazarov Federal Research Center “Computer Science and Control” of Russian Academy of Sciences, Russia	T115
09:45-10:00	Next Integrated Result Modelling for Stopping the Text Field Recognition Process in a Video Using a Result Model with Per-Character Alternatives Konstantin Bulatov, Mr. Boris Savelyev, Vladimir V. Arlazarov Smart Engines, Russia	T119
10:00-10:15	Training the Convolutional Neural Network with Statistical Dependence of the Response on the Input Data Distortion Mr. Dmitry Slugin, Igor Janiszewski, Vladimir Arlazarov Federal Research Center Computer Science and Control of Russian Academy of Sciences, Russia	T118
10:15-10:30	MIDV-2019: Challenges of the Modern Mobile-Based Document OCR Mr. Konstantin Bulatov, Daniil Matalov, Vladimir V. Arlazarov FRC CSC RAS, Russia	T123
10:30-10:45	COFFEE BREAK	
10:45-11:00	Convolutional Neural Network Weights Regularization via Orthogonalization Mr. Alexander Gayer, Alexander Sheshkus NUST “MISIS”, Russia	T129
11:00-11:15	Obtaining a Noise-Free Image based on an Analysis of an Unstabilized Video Sequence under Conditions of a Probable Optical Flow Failure Dr. Iakov S. Korovin, Maxim Khisamutdinov Southern Federal University, Russia	T138

11:15-11:30	Subjective Assessment of the Quality of Static and Video Images from Mobile Phones Dr. Maria Gracheva , Valentina P. Bozhkova, Anna A. Kazakova, I. P. Nikolaev, Galina I. Rozhkova Institute for Information Transmission Problems (Kharkevich Institute), Russia	T141
11:30-11:45	Localization of Characters Horizontal Bounds in Text Line Images with Fully Convolutional Network Ms. Yulia Chernyshova , Anastasiya Chirvonaya, Alexander Sheshkus FRC "Computer Science and Control" of RAS, Russia	T143
11:45-12:00	Fast Approach for QR Code Localization on Images Using Viola-Jones Method Mr. Sergey A. Usilin , Pavel V. Bezmaternykh, Vladimir V. Arlazarov Federal Research Center "Computer Science and Control" Russian Academy of Sciences, Russia	T146
12:00-13:00	LUNCH@L'AMBIANCE	
13:00-13:15	Aztec Core Symbol Detection Method based on Connected Components Extraction and Contour Signature Analysis Mr. Martynov Stanislav , Pavel Bezmaternykh Smart Engines Service LLC, Russia	T142
13:15-13:30	A Document Skew Detection Method Using Fast Hough Transform Mr. Bezmaternykh P.V. , Nikolaev D.P. Federal Research Center "Computer Science and Control" of Russian Academy of Sciences, Russia	T155
13:30-13:35	BREAK	

SUNDAY, NOVEMBER 17th, 13:35-15:15

Format (12 min. for presentation + 3 min. for questions)

Special Session II

“Advanced Imaging and Tomography”

Chair: Prof. Dmitry P. Nikolaev (*Federal Research Center “Computer Science and Control” of Russian Academy of Sciences, Russia*)

VENUE: Meeting Room 7+8

13:35-13:50	Simultaneous Iterative Reconstruction Method for High Resolution X-ray Phase-Contrast Tomography Dr. Inna Bukreeva, Alessia Cedola, Michela Fratini, Viktor Asadchikov, Alexey Buzmakov, Anastasia Ingacheva, Francesca Palermo, Marina Chukalina 'Sapienza' University, Italy	T084
13:50-14:05	Methods of Increasing Resolution and Sensitivity in Microtomography by using X-ray Optical Elements Prof. Victor Asadchikov, Alexey Buzmakov, Denis Zolotov, Yuri Krivonosov, Irina Dyachkova, Roman Senin FSRC “Crystallography and photonics” RAS, Russia	T065-A
14:05-14:20	Optimal Measurements Strategy in Micro-Tomography: Amount of Data and Representative Elementary Volume Assessment. Application to Porous Media Mr. Anvar Khafizov, Maxim Grigoriev, Anastasia Ingacheva, Dmitriy Bogdanov, Viktor Asadchikov NRNU MEPhI, Russia	T066
14:20-14:35	Iterative Tomography Reconstruction in a Limited Field of View Dr. Alexey Buzmakov, Denis Zolotov, Marina Chukalina, Anastasia Ingacheva, Victor Asadchikov FSRC “Crystallography and photonics” RAS, Russia	T068
14:35-14:50	Orthotropic Artifacts Suppression for THz and X-ray Images Using Guided Filtering Dr. Anastasiya Dolmatova, Elena Berlovskaya, Inna Bukreeva, Alexey Buzmakov, Alessia Cedola, Marina Chukalina, Anastasiya Ingacheva, Bulat Islamov, Elena Kuznetsova, Alexander Makurenkov, Ilya Ozheredov, Alexander Shkurinov, Dmitry Nikolaev Institute for Information Transmission Problems, RAS, Russia	T088
14:50-15:05	Method for Numeric Estimation of Cupping Effect on CT Images Ms. Anastasia Ingacheva, Marina Chukalina, Alexey Buzmakov, Dmitri Nikolaev Institute for Information Transmission Problems (Kharkevich Institute) RAS (IITP RAS), Russia	T107
15:05-15:20	1-point RANSAC for Circular Motion Estimation in Computed Tomography (CT) Mikhail O. Chekanov, Mr. Oleg S. Shipitko, Egor I. Ershov Institute for Information Transmission Problems – IITP RAS, Russia	T130
15:20-15:30	COFFEE BREAK	

15:30-15:45	Segmentation Criteria in the Problem of Porosity Determination based on CT Scans Dr. Vladislav Kokhan , Maxim Grigoriev, Alexey Buzmakov, Valerii Uvarov, Anastasia Ingacheva, Eugenii Shvets, Marina Chukalina Russian Academy of Sciences, Smart Engines Service LLC, Russia	<i>T154</i>
15:45-16:00	Machine Learning Models Reproducibility and Validation for MR Images Recognition Ekaterina Kondrateva, Polina Belozerova, Dr. Maksim Sharaev , Evgeny Burnaev, Alexander Bernstein Skoltech, Russia	<i>T120</i>
16:00-16:05	BREAK	

SUNDAY, NOVEMBER 17th, 16:05-17:35

Format (12 min. for presentation + 3 min. for questions)

Special Session III

“Machine Vision for Autonomous Driven Cars under Harsh Environmental Conditions”

Chair: Prof. Wolfgang Osten (*University of Stuttgart, Germany*)

VENUE: Meeting Room 7+8

16:05-16:20	Development of a Speckle Sensor for Object Recognition in Thick Scattering Media Ms. C. M. Bett, K. Frenner, W. Osten Universität Stuttgart, Germany	T2001-A
16:20-16:35	Adaptive Object Detection in Adverse Environmental Conditions Dr. Daniel Büscher Uni Freiburg, Germany	T2002-A
16:35-16:50	A Novel LiDAR-System for Autonomous Driving under Challenging Weather Conditions Mr. Valentin Vierhub-Lorenz, Christoph S. Werner, Alexander Reiterer Fraunhofer Institute for Physical Measurement Techniques IPM, Freiburg, Germany	T3004-A
16:50-17:05	Macroscopic Optical Coherence Tomography for Object Detection through Scattering Media in Road Traffic Applications Mr. Alexander Gröger, G. Pedrini, D. Claus, W. Osten Institut für Technische Optik, Germany	T2003-A
17:05-17:20	3D Imaging and Metrology with Structured Light Field (SLF) Zewei Cai, Xiaoli Liu, Giancarlo Pedrini, Wolfgang Osten, Xiang Peng Shenzhen University, China	T3001-A
17:20-17:35	Imaging through the Changeable Scattering Media using a Two-Step Deep Learning Strategy Meihua Liao, Giancarlo Pedrini, Wolfgang Osten, Prof. Xiang Peng Shenzhen University, China	T3003-A
18:00-19:00	DINNER& AWARD@L'AMBIANCE	

Poster Sessions

SUNDAY, NOVEMBER 17th, 09:00-10:30

Poster Session I "Computer Vision and Image Processing"

Chair:

VENUE: Meeting Room 12

1	A Two-Phased AOI for Leather Surface Defects Assoc. Prof. Chun-Chin Hsu, Chun-Yuan Cheng, Fang-Chih Tien Chaoyang University of Technology, Taiwan	T015-A
2	Study on Usability Evaluation of Medical Software Interface based on Eye Movement Tracking Technology Meiyu Zhou, Ms. Zhengyu Wang, Yaojie Zheng East China University of Science and Technology, China	T023
3	Non-static Object Reconstruction System based on Multiple RGB-D Cameras Mr. Marco A. Barreto, Joel C. Huegel, Rita Q. Fuentes, Jorge Perez-Gonzalez Instituto Tecnológico de Estudios Superiores de Monterrey, México	T032
4	Teaching a Robot to Draw: Hand Gesture Demonstration based on Human-Robot Interaction Limei Yang, Mr. Zhihao Li, Qujiang Lei, Jie Xu, Yunfu Deng, Yuxin Zhong Changchun University of Technology, China	T054
5	Automated Visual Inspection Algorithm for the Reflection Detection and Removing in Image Sequences R. Sizyakin, Dr. V. Voronin, N. Gapon and A. Zelensky, A. Nadykto Don state technical university, Russia	T094
6	A Calibration Method for Automotive Augmented Reality Head-Up Displays Using a Chessboard and Warping Maps Mr. Xiang Gao, Janis Werner, Marc Necker, Wilhelm Stork Daimler AG; Karlsruhe Institute of Technology, Germany	T101
7	Recovering User Demographics from Anonymized Location Data via Activity Visualization: A Convolutional Neural Network Based Framework Dr. Xiaohui Han Shandong Computer Science Center, China	T102-A
8	Video Player Controlled by Gesture Based on Convolutional Neural Network Ms. Yuxin Zhong, Qujiang Lei, Yunfu Deng, Jingzhou Yang, Zhihao Li, Gen Yang Guangzhou Institute of Advanced Technology, Chinese Academy of Sciences, China	T105
9	CNN-based Leukocyte Detection for Microscopy Imaging at 10× Magnification Objective Lens Dr. Qiwei Wang, Shusheng Bi, Minglei Sun, Shaobao Yang, Lingkun Chen, Jianzhong Wang Beihang University, China	T108

10	Valid Depth Data Extraction and Correction for Time-of-Flight Camera Mr. Xin Qiao, Chenyang Ge Xi'an Jiaotong University, China	T122
11	Multiple Light Source Dataset for Colour Research Mrs. Anna Smagina, Egor Ershov, Anton Grigoryev IITP RAS, Russia	T147
12	Depth Perception Tendencies on a Widescreen Display: An Experimental Study Mr. Miroslav Laco, Patrik Polatsek, Wanda Benesova Slovak University of Technology in Bratislava, Slovakia	T151
13	Font-to-Font generation with Generative Adversarial Network Yalin Miao, Ms. Huanhuan Jia, Yang Zhang, Xuemin Liu, Yichun Ji Xi'an University of Technology, China	T163
14	Content based Video Retrieval using Histogram of Gradients and Frame Fusion Ms. Reddy Mounika Bommisetty, Ashish Khare University of Allahabad, India	T062
15	Monocular Visual Odometry Based on Hybrid Parameterization Mr. Sherif A. S. Mohamed, Mohammad-Hashem Haghbayan, Jukka Heikkonen, Hannu Tenhunen and Juha Plosila University of Turku, Finland	T046
16	Where to Drive? Free Space Detection with one Fisheye Camera Mr. Tobias Scheck, Adarsh Mallandur, Christian Wiede, Gangolf Hirtz Chemnitz University of Technology, Germany	T031
17	The Algorithm for Reconstruction Piecewise Constant Image Distorted by a Linear Transformation Mikheev N.G., Prof. Chulichkov A. I., Antonyuk V.A. Lomonosov Moscow State University, Russia	T034
18	Image Selection based on Low Level Properties for Lifelog Moment Retrieval Ms. Ricardo Ribeiro, António J. R. Neves, José Luis Oliveira University of Aveiro, Portugal	T042
19	User Preferences in the Personalized Recommender System for Public Transport Passengers Mr. A. A. Borodinov, V. V. Myasnikov Samara National Research University, Russia	T069
COFFEE BREAK		

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Poster Session II
“Image Processing Technology and Application”
Chair:

VENUE: Meeting Room 12

1	Learning to Validate the Quality of Detected Landmarks Dr. Wolfgang Fuhl, Enkelejda Kasneci Eberhard Karls Universität Tübingen, Germany	<i>T012</i>
2	Improved Non-Maximum Suppression for Detecting Overlapping Objects Dr. Yanan Song, Xinyu Li, Liang Gao Huazhong University of Science & Technology, China	<i>T016</i>
3	Large Scale Stencil Registration Method Based on Two-Node Tree Ms. Man Luo, Min Xia, Benxiong Huang Huazhong University of Science and Technology, China	<i>T017</i>
4	Explainable 3D Convolutional Neural Network using GMM Encoding Mr. Martin Stano, Wanda Benesova, Lukas S. Martak Slovak University of Technology in Bratislava, Slovakia	<i>T037</i>
5	Automatic Artery/Vein Classification in Colour Retinal Images Dr. Martinez-Perez, M Elena; Parker, Kim H; Witt, Nick; Hughes, Alun D, Thom, Simon A M Imperial College London & National Autonomous University of Mexico, Mexico	<i>T041</i>
6	Deformable 3D Registration with PWC-Net Optical Flow and Textured Node Correspondences Jhen-Yi Ding, Mr. Junesuk Lee, Soon-Yong Park Kyungpook National University, South Korea	<i>T061</i>
7	Global Evaluate-and-Rescale Network: An Efficient Model for Action Recognition Mr. Jianbang Qin, Shuangjie Hu, Wei Guo Shanghai Jiao Tong University, China	<i>T070</i>
8	A Deep Interactive Segmentation Method with User Interaction-based Attention Module and Polar Transformation Ms. Jee-Young Sun, Sang-Won Lee, Ye-Won Kim, Bo-Sang Kim, Sung-Jea Ko Korea University, Republic of Korea	<i>T077</i>
9	Long Short-Term Memory Networks Based Fall Detection Using Unified Pose Estimation Mr. Kripesh Adhikari, Hammadi Nait Charif, Hamid Bouchachia Bournemouth University, UK	<i>T080</i>
10	Depth-map Inpainting Using Learned Patch-Based Propagation Nikolay Gapon, Dr. Viacheslav Voronin, Roman Sizyakin, Marina Zhdanov, Alexander Zelensky Don State Technical University, Russia	<i>T096</i>

11	Image Resizing Enhancement with DCT Coefficients Dr. Ka-Hou Chan, Sio-Kei Im Macao Polytechnic Institute, Macao	T162
12	Integrated Convolutional Neural Network Model with Statistical Moments Layer for Vehicle Classification Amel Tuama, Dr. Hasan Abdulrahman, Baptiste Magnier Northern Technical University, Iraq	T183
13	Conditional GANs For Painting Generation Mr. Adeel Mufti, Biagio Antonelli, Julius Monello The University of Edinburgh, UK	T002
14	Keyframe Extraction Using Binary Robust Invariant Scalable Keypoint Features Dr. Ashish Khare, Mounika B. Reddy, Manish Khare University of Allahabad, India	T011
15	Exploiting Polar Grid Structure and Object Shadows for Fast Object Detection in Point Clouds Mr. Martin Alsfasser, Jan Siegemund, Jittu Kurian, Anton Kummert University of Wuppertal, Germany	T035
16	Semantic Segmentation Networks of 3D Point Clouds for RGB-D Indoor Scenes Ms. Ya Wang, Andreas Zell University of Tuebingen, Germany	T079
17	Synthetic Dataset Generation for Text Recognition with Generative Adversarial Networks Valeria Efimova, Mr. Viacheslav Shalamov, Andrey Filchenkov ITMO University, Russia	T158
18	Improving Open-Set Person Re-Identification by Statistics-Driven Gallery Refinement Mr. Tunc Alkanat, Egor Bondarev, Peter H.N. de With Eindhoven University of Technology, The Netherlands	T172
19	Memorability Based Image to Image Translation Mr. Sathisha Basavaraju, Prasen Kumar Sharma, Arijit Sur Indian Institute of Technology Guwahati, India	T055
20	Extending DeepAugment for Semantic Segmentation Kazimieras Buškus, Dr. Evaldas Vaičiukynas, Antanas Verikas Kaunas University of Technology, Lithuania	T117-A
LUNCH@L'AMBIANCE		

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L003	Mr. Samuel Westlake Cranfield University, UK
L004	Dr. Jae-Young Jung Electronics and Telecommunications Research Institute, Korea
L005	Dr. Hyeon Park Electronics and Telecommunications Research Institute, Korea
L006	Dr. Erdem Akagündüz Çankaya University, Turkey
L007	Mr. Juhwan Lee Kyungpook National University, Korea
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Mourad Zaied	T078	C-3	33	V. V. Myasnikov	T013	S-I	34
Mukku Nisanth Kartheek	T168	C-2	32	V. Voronin	T094	P-I	39
N				Valentin Vierhub-Lorenz	T3004-A	S-III	38
Nai-Chuan Fang	T047-A	C-2	32	Viacheslav Shalamov	T158	P-II	42
Natalya Skoryukina	T161	A-1	24	Viacheslav Voronin	T096	P-II	41
O				Victor Asadchikov	T065-A	S-II	36
Oleg S. Shipitko	T130	S-II	36	Vladimir Fursov	T059	S-I	34
Olfa Jemai	T126	C-2	32	Vladislav Kokhan	T154	S-II	37
Olga Petrova	T121	C-2	32	W			
P				Walid Hussein	T051	B-3	31
Panagiotis Barmpoutis	T087	A-1	24	Wissal BEN MARZOUKA	T020	C-3	33
Q				Wissal BEN MARZOUKA	T2005	C-3	33
Qiwei Wang	T108	P-I	39	Wolfgang Fuhl	T012	P-II	41
R				X			
R.E. Gutiérrez-Carvajal	T043	A-2	26	Xiang Gao	T101	P-I	39
Ravi Panchani	T178	B-3	31	Xiang Peng	T3003-A	S-III	38
Reddy Mounika	T062	P-I	40	Xiaohui Han	T102-A	P-I	39
Bommisetty				Xin Qiao	T122	P-I	40
Ricardo Ribeiro	T042	P-I	40	Y			
Ridha Ejwali	T039	B-1	28	Ya Wang	T079	P-II	42
Ridha Ejwali	T058	B-2	30	Yanan Song	T041	P-II	41
S				Yongmei Zhang	T114	A-2	26
S. D. Chernyaev	T095	B-2	30	Yulia Chernyshova	T143	S-I	35
Samia Bouteldja	T072	B-2	30	Yuxin Zhong	T105	P-I	39
Sathisha Basavaraju	T055	P-II	42	Z			
Sayed Mojtaba Tabatabaie	T170	B-1	28	Zewei Cai	T3001-A	S-III	38
Sergey A. Ilyuhin	T156	C-2	32	Zhengyu Wang	T023	P-I	39
Sergey A. Usilin	T146	S-I	35	Zhihao Li	T054	P-I	39

One Day Visit

Monday, November 18th, 2019

Visit Time: 09:00-18:00

Gathering Time: **08:50 AM**, Gathering spot @ **Mercure Hotel Amsterdam City** Lobby

(No pick-up or drop-off service, please come to the gathering spot by yourself, thanks.)



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Attention:

- This visit will charge **100USD** for each. (Pay to join before **Nov. 4, 2019**);
- or you could choose to enjoy free time on Nov. 18, 2019 to explore Amsterdam city by yourself;
- **08:50 AM**, reach the gathering spot;
- Please be there on time, or you will miss the visit.

Route: Nov. 18: Amsterdam -- Giethoorn -- Afsluitdijk -- Zaanse Schans—Amsterdam

Time	Destination	Play-time
08:50-09:00	Mercure Hotel Amsterdam City	10 min
09:00-10:30	Bus Time(120km)	1.5 hours
10:30-14:30	Giethoorn(Lunch on your own)	4 hours
14:30-15:20	Bus Time(89km)	50 min
15:20-15:50	Afsluitdijk	30 min
15:50-16:40	Bus Time(80km)	50 min
16:40-18:00	Zaanse Schans	80 min
18:00-18:30 back to Amsterdam		

Service includes:

- Bus fee, Fuel, Parking fees, Entrance fees, English speaking tour guide;

Service excludes:

- Lunch, Personal expenses (not mentioned above).

Remarks

- The itinerary / duration to visit may change without advance notice depending unexpected local situation, including but not limited to extreme weather, strike, earthquake, etc.
- The participants should go to the assembly point by themselves, no pick-up service.
- No fee will be returned for no show, or late arrival.

