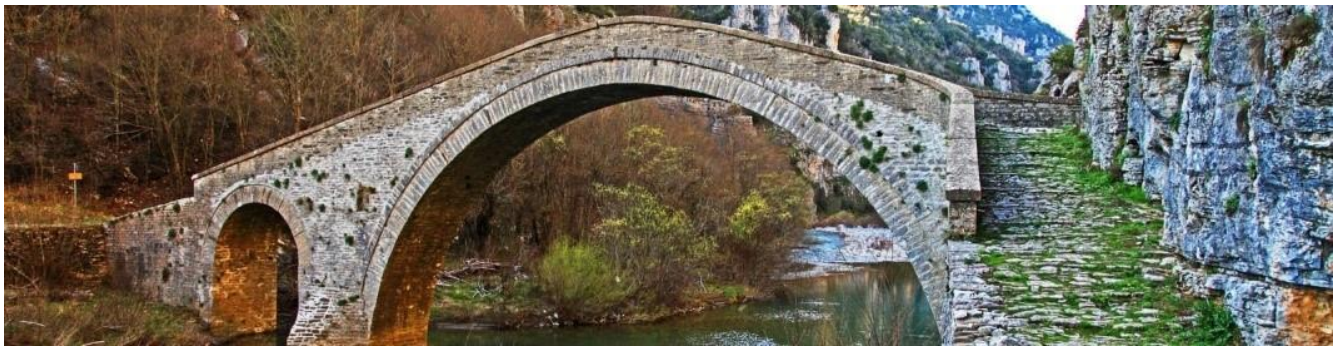


IVMSP 2018

IEEE Image, Video, and Multidimensional Signal Processing Workshop

June 10-12, 2018, Zagori, Aristi Village, Greece

Multimedia Knowledge and Social Media Analytics Laboratory

Sunday, 10 June

09:30 – 10:30	Keynote talk I: Laura Waller *Chair: Thrasyvoulos N. Pappas*
10:30 – 11:00	Coffee break
11:00 – 13:00	Oral 1: CI Algorithms I *Chair: Athanassios Skodras*
11:00 – 11:20	32: A Fast Parallel Algorithm for Convolutional Sparse Coding *Erik Skau and Brendt Wohlberg*
11:20 – 11:40	11: Deep BCD-Net Using Identical Encoding-Decoding CNN Structures for Iterative Image Recovery *Il Yong Chun and Jeff Fessler*
11:40 – 12:00	27: Model complexity trade-offs in non-local video denoising algorithms *Pablo Arias, Gabriele Facciolo and Jean-Michel Morel*
12:00 – 12:20	44: Low Memory Image Reconstruction Algorithm from RAW images *Thibaud Briand*
12:20 – 12:40	48: Improved Solution to the l0 Regularized Optimization Problem via Dictionary-Reduced Initial Guess *Paul Rodriguez*
12:30 – 13:00	23: Empirical Studies on Phase Retrieval Russell Hart, Huibin Chang and Yifei Lou
13:00 – 14:20	Lunch break
14:20 – 15:40	Oral 2: MM retrieval *Chair: Symeon Papadopoulos*
14:20 – 14:40	13: Fully unsupervised optimization of CNN features towards Content Based Image Retrieval *Maria Tzelepi and Anastasios Tefas*

14:40 – 15:00	6: Fusion of Compound Queries with Multiple Modalities for Known Item Video Search *Ilias Gialampoukidis, Anastasia Moumtzidou, Stefanos Vrochidis and Yiannis Kompatsiaris*
15:00 – 15:20	26:Exploring CNN-based architectures for Multimodal Salient Event Detection in Videos *Petros Koutras, Athanasia Zlatintsi and Petros Maragos*
15:20 – 15:40	8: MindCamera: Interactive Image Retrieval and Synthesis *Yu Zhao, Jingyu Wang and Qi Qi*
15:40 – 16:10	Coffee break
16:10 – 17:10	Oral 3: Medical imaging *Chair: Laura Waller*
16:10 – 16:30	31: Functional Connectivity in Parkinson Disease through Mixture Modelling *Vangelis Oikonomou, Konstantinos Blekas and Loukas Astrakas*
16:30 – 16:50	39: Deep Learning-Based Sinogram Completion for Low-Dose CT *Muhammad Usman Ghani and W. Clem Karl*
16:50 – 17:10	42: Tomographic Reconstruction Via 3D Convolutional Dictionary Learning *Erik Skau and Cristina Garcia-Cardona*

Monday, 11 June

09:30 – 10:30	Keynote talk II: Bart Thomee *Chair: Yiannis Kompatsiaris*
10:30 – 11:00	Coffee break
11:00 – 13:00	Oral 4: MM classification and applications *Chair: Francesco G.B. De Natale*
11:00 – 11:20	9: Learning Discriminative Representations for Big Data Clustering using Similarity-based Dimensionality Reduction *Nikolaos Passalis and Anastasios Tefas*
11:20 – 11:40	25: Quantitative Evaluation of Salient Deep Neural Network Features Using Random Forests *Aditya Tewari, Fangsheng Gu, Frederic Grandider and Didier Stricker*
11:40 – 12:00	17: Muscle Type Classification on Ultrasound Imaging using Deep Convolutional Neural Networks *Sofoklis Katakis, Nikolaos Barotsis, Dimitrios Kastaniotis, Christos Theoharatos, Dimitrios Tsourounis, Spiros Fotopoulos and Elias Panagiotopoulos*
12:00 – 12:20	20: Attention-Aware Generative Adversarial Networks (ATA-GANs) *Dimitris Kastaniotis, Ioanna Ntinou, Dimitrios Tsourounis, George Economou and Spiros Fotopoulos*
12:20 – 12:40	22: Aerial-CAM: Salient Structures and Textures in Network Class Activation Maps of Aerial Imagery *Bhavan Vasu, Faiz Rahman and Andreas Savakis*
12:30 – 13:00	29: HEAD POSE ESTIMATION FOR AN OMNIDIRECTIONAL CAMERA USING A CONVOLUTIONAL NEURAL NETWORK *Yusuke Yamaura, Yukihiro Tsuboshita and Takeshi Onishi*
13:00 – 14:20	Lunch break
14:20 – 15:40	Oral 5: Applications I *Chair: Bart Thomee*

14:20 – 14:40	34: A Novel Finger Vein Recognition System based on Enhanced Maximum Curvature Points *Christos Vasilopoulos and Athanassios Skodras*
14:40 – 15:00	54: A 3D-CNN approach for the spatio-temporal modeling of surface deterioration phenomena *Nikolaos Dimitriou, Stavros Papadopoulos, Anastasios Drosou and Dimitrios Tzovaras*
15:00 – 15:20	28: 3D MESH INPAINTING USING MATRIX COMPLETION VIA AUGMENTED LAGRANGE MULTIPLIER METHOD *Gerasimos Arvanitis, Aris Lalos, Konstantinos Moustakas and Nikos Fakotakis*
15:20	Social event

Tuesday, 12 June

09:30 – 10:30	Keynote talk III: Francesco G.B. De Natale *Chair: Vasileios Mezaris*
10:30 – 11:00	Coffee break
11:00 – 13:00	Oral 6: Applications II *Chair: Alessandro Foi*
11:00 – 11:20	53: Modelling of Material Ageing with Generative Adversarial Networks *Stavros Papadopoulos, Anastasios Drosou and Dimitrios Tzovaras*
11:20 – 11:40	16: Handwritten Signature Verification via Deep Sparse Coding Architecture *Dimitrios Tsourounis, Ilias Theodorakopoulos, Elias Zois, George Economou and Spiros Fotopoulos*
11:40 – 12:00	33: Video Deconfounding: Hearing-Aid Inspired Video Enhancement *Andrew Berlin and Rajeev Surati*
12:00 – 12:20	43: A 3D Thermal Model for Real-Time Condition Monitoring of Electrochemical Processes *Dimitra Triantafyllou, Savvas Rogotis, Stelios Krinidis, Dimosthenis Ioannidis and Dimitrios Tzovaras*
12:20 – 12:40	38: Application of Range and Color Imaging Sensors for Spatial Orientation Tracking *Adrian Goral*
13:00 – 14:20	Lunch break
14:20 – 15:40	Oral 7: Social Media *Chair: Anastasios Karakostas*
14:20 – 14:40	30: A Comparative study of Global and Deep Features for the analysis of user-generated natural disaster related images *Kashif Ahmad, Amir Sohail, Nicola Conci and Frances De Natale*
14:40 – 15:00	35: People and vehicles in danger – A fire and flood detection system in social media

	Panagiotis Giannakeris, Konstantinos Avgerinakis, Anastasios Karakostas, Stefanos Vrochidis and Yiannis Kompatsiaris
15:00 – 15:20	24: Gender recognition based on social networks for multimedia production *Orestis Giannakopoulos, Nikos Kalatzis, Ioanna Roussaki and Symeon Papavassiliou*
15:20 – 15:40	5: Twitter-based Sensing of City-level Air Quality *Polychronis Charitidis, Eleftherios Spyromitros-Xioufis, Symeon Papadopoulos and Yiannis Kompatsiaris*
15:40 – 16:10	Coffee break
16:10 – 17:10	Oral 8: CI Algorithms II *Chair: Brendt Wohlberg*
16:10 – 16:30	55: Anisotropic spatiotemporal regularization in compressive video recovery by adaptively modeling the residual errors as correlated noise *Nasser Eslahi and Alessandro Foi*
16:30 – 16:50	50: Low-Rank plus Sparse Tensor Models for Light-field Reconstruction from Focal Stack Data *Cameron Blocker, Il Yong Chun and Jeffrey Fessler*
16:50 – 17:10	2: Accelerated Gradient Descent Method for Projections onto the l1-Ball *Paul Rodriguez*

Keynote Speakers

PROF. FRANCESCO G. B. DE NATALE

University of Trento, Italy

"Big social media: organizing, retrieving and trusting contents"

Francesco De Natale (M.Sc. 1990, Ph.D. 1994) is a Professor of Telecommunications at the University of Trento, Italy. He has been the Head of the Department of Information Engineering and Computer Science from 2006 to 2009, and the representative of the University within the Node Steering Committee of the Europan Institute of Technology from 2012 to 2014. He leads the MMLab@DISI research group (mmlab.science.unitn.it), coordinating around 15 people including researchers, post-docs and PhD students.

He was Technical Program Co-Chair of the IEEE International Conference on Multimedia Services Access Networks (MSAN-2003, now MobiMedia), Technical Program Co-Chair of the IEEE Intl. Conf. on Image Processing (ICIP-2005), and General Chair of the ACM Intl. Conf. on Multimedia Retrieval (ICMR-2011). He has been Associate Editor of the IEEE Trans on Multimedia and of the IEEE Trans. on Circuits and Systems for Video Technologies, as well as a member of the IEEE Signal Proc. Society Technical Committee on Multimedia Signal Processing (MMSP), chairing the Technical Directions Subcommittee.

BART THOMEE

Google/YouTube, San Bruno, CA, USA

"The Taming of the Social Media Wilderness"

Bart Thomee is a Software Engineer at Google/YouTube in San Bruno, CA, USA, where he works on detecting anomalous user behavior for anti-fraud purposes. He was previously a Senior Research Scientist at Yahoo Labs and Flickr, where his research focused on the visual and spatiotemporal dimensions of media, in order to better understand how people experience and explore the world, and how to better assist them with doing so. He led the development of the YFCC100M dataset released in 2014, and previously was part of the efforts leading to the creation of both MIRFLICKR datasets. He has furthermore been part of the organization of the ImageCLEF photo annotation tasks 2012–2013, the MediaEval placing tasks 2013–2016, and the ACM MM Yahoo-Flickr Grand Challenges 2015–2016. In addition, he has served on the program committees of, amongst others, ACM MM, ICMR, SIGIR, ICWSM and ECIR.

PROF. LAURA WALLER

UC Berkeley, CA, USA

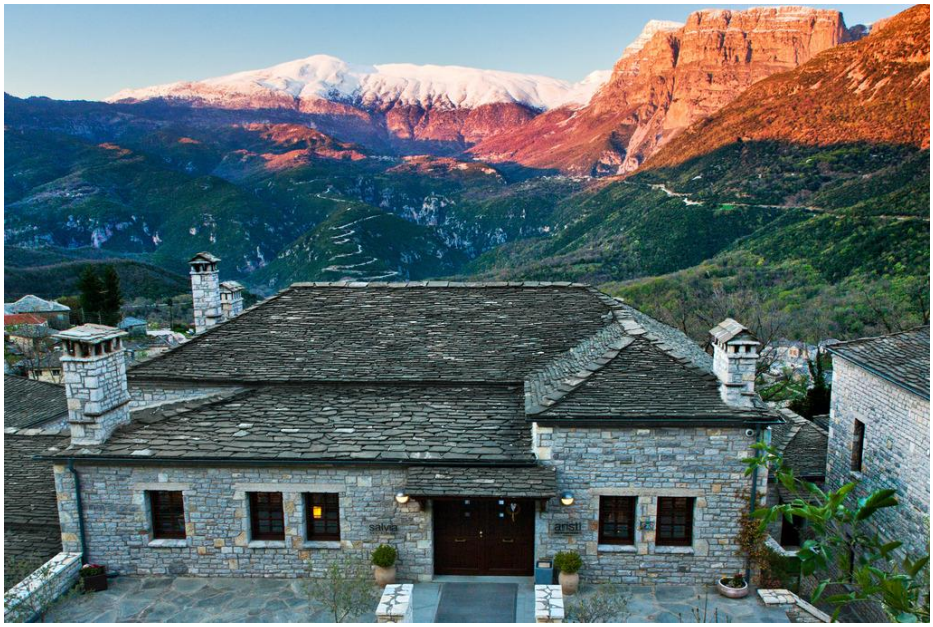
"DiffuserCam: Lensless computational 3D imaging"

Laura Waller is the Ted Van Duzer Associate Professor of Electrical Engineering and Computer Sciences (EECS) at UC Berkeley, a Senior Fellow at the Berkeley Institute of Data Science, and a core member of the UCB/UCSF Bioengineering Graduate Group. She received B.S., M.Eng. and Ph.D. degrees from the Massachusetts Institute of Technology (MIT) in 2004, 2005 and 2010, and was a Postdoctoral Researcher and Lecturer of Physics at Princeton University. She is a Packard Fellow for Science & Engineering, Moore Foundation Data-driven Investigator, Bakar Fellow and Chan-Zuckerberg Biohub Investigator. She has recieved the Carol D. Soc Distinguished Graduate Mentoring Award, Agilent Early Career Profeessor Award (Finalist), NSF CAREER Award and the SPIE Early Career Achievement Award.

Zagori – Aristi

Zagori is a mountain area in the heart of Epirus, with 47 traditional villages and altitude 500m and 2.000m altitude. The mountain range of Timfi covers the largest part of Zagori. Deep valleys, gorges, steep mountain slopes, streams, rivers, alpine lakes, forests and alpine meadows alternate in a landscape of wild and unspoilt beauty.

The stone bridges in Zagori are approximately 60, all built between the 18th and the 19th century and many of these bridges are preserved in excellent condition and are visitable. Vikos Canyon is the most impressive and famous natural monument of Zagori.

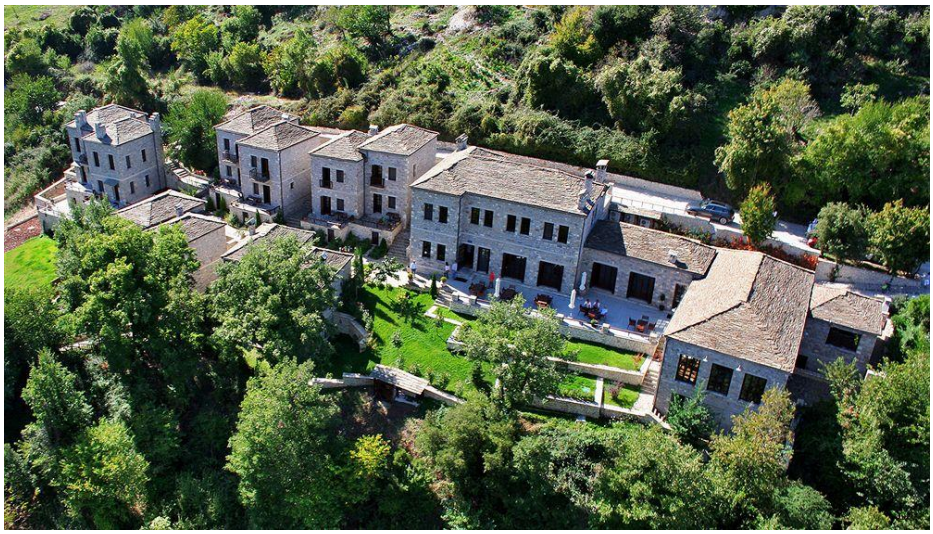


Aristi (the conference venue) is a village in the Western Zagori and is one of the most famous of the entire Zagori area.

Built at a height of 650m above sea level, it is known for its scenic views and rich nature.

It is ideally situated for a visit to the Vikos and Aoos gorges, the Voidomatis river and the villages of Papingo, Ano Pedina, Dilofo, Monodendri, Bourazani and the Mastorochoria group of villages in Konitsa area.

Apart from the excellent architecture someone will be impressed by the imposing church, the picturesque cobbled streets, the old fountain and the traditional coffee house at the main square of the village.



IVMSP 2018

IEEE Image, Video, and Multidimensional Signal Processing Workshop

June 10-12, 2018, Zagori, Aristi Village, Greece