UAV-g 2013 - Nearly Final program **30.08.2013**

Wednesday 4.9.2013

08:00 -	Delegates Registration		
09:00 - 09:30	Opening Ceremony Prof. Dr. Schareck - Rector of Rostock University Prof. Dr. Christian Heipke, ISPRS Secretary General		
09:30 - 09:40	Awards		
09:40 - 10:30	Keynote I - Prof. Dr. Thomas Kolbe		
10:30 - 11:00	Coffee Break		
11:00 - 12:30	Parallel Sessions		
UAS for Cadastral Applications *11:00 - 12:30* *Audimax* *Session chair: Costas Armenakis*		**Real Time Photogrammetry** *11:00 - 12:30* *Arno-Esch HS I* Session chair: Danilo Schneider	**UAS and direct georeferencing** *11:00 - 12:30* *Arno-Esch HS II* *Session chair: Ismael Colomina*
Michael Cramer *Stuttgart University, Germany* **On the use of RPAS in national mapping - the EuroSDR point of view**		*Florian Burkert, F. Fraundorfer* *Technical University of Munich, Germany* **UAV-based monitoring of pedestrian groups**	*F. Chiabrando, A. Lingua, Marco Piras* *Politecnico di Torino, Italy* **Direct photogrammetry using UAV: tests and first results**
M. Rijsdijk, W.H.M. van Hinsbergh, W. Witteveen, G.H.M. ten Buuren, G.A. Schakelaar, G. Poppinga, Mark van Persie, R. Ladiges *M. Rijsdijk Kadaster, Netherlands* **Unmanned aerial systems in the process of juridical verification of cadastral borders**		*Holger Fritze, S. Walter, T. Prinz* *University of Muenster, Germany* **Facilitating UAS-based oblique imagery to support Urban Search and Rescue Operations**	*Daniel Bender, M. Schikora, J. Sturm, D. Cremers* *Fraunhofer FKIE, Germany* **A Graph Based Bundle Adjustment for INS-Camera Calibration**
Mónica Pérez, Sáiz, J. J. Ruiz, L. Diaz-Mas, A. Viguria *Center for Advanced Aerospace Technologies, Spain* **Low cost surveying using an Unmanned Aerial Vehicle**		*Johannes Schneider, Wolfgang Förstner* *University of Bonn, Germany* **Incremental Real-time Bundle Adjustment for Multi-camera Systems with Points at Infinity**	*M. Bäumker, Heinz-Jürgen Przybilla, A. Zurhorst* *Bochum University of Applied Sciences, Germany* **Enhancements in UAV Flight Control and Sensor Orientation**
Henri Eisenbeiss *Land Surveying Office Winterthur, Switzerland* **Evaluation of UAV-based orthoimages for the use in cadastral mapping**		*Jinling Wang* *University of New South Wales, Australia* **Online Quality Monitoring for Rapid UAV Mapping**	*Martin Rehak, Romain Mabillard, Jan Skaloud* *Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland* **A Micro-UAV with the Capability of Direct Georeferencing**
12:30- 13:30	Lunch Break		

13:30 - 15:00	Parallel Sessions	
UAS for Geosciences *13:30 - 15:00* *Audimax* *Session chair: Charles Toth*	**UAS Imaging Sensors** *13:30 - 15:00* *Arno-Esch HS I* *Session chair: Arko Lucieer*	**UAS navigation and position/ orientation determination** *13:30 - 15:00* *Arno-Esch HS II* *Session chair: Friedrich Fraundorfer*
Dirk Holz, Matthias Nieuwenhuisen, David Droeschel, Sven Behnke *University of Bonn, Germany* ***Towards autonomous 3D navigation of UAVs in restricted spaces***	*Ralf Gehrke, A. Greiwe* *University of Applied Sciences Frankfurt am Main, Germany* **Multispectral Image Capturing with Foveon Sensors**	*Reiner Jäger, Jan Zwiener* *Karlsruhe University of Applied Sciences, Germany* **High precise GNSS/MEMS multisensor navigation of UAV including the georeferencing of cameras and other sensors**
V. Baiocchi, D. Dominici, M.V. Milone, Martina Mormile *Sapienza University of Rome, Italy* **UAV application in post seismic environment**	*Irmgard Runkel* *GEOSYSTEMS GmbH, Germany* **Processing, Cataloguing and Distribution of UAS Images in near real time**	*David Droeschel, Michael Schreiber, Sven Behnke* *University of Bonn, Germany* **Omnidirectional Perception for Lightweight UAVs Using a Continuous Rotating Laser Scanner**
Stefania Amici *Istituto Nazionale di Geofisica e Vulcanologia, Italy* **Volcanic environments monitoring by drones mud volcano case study**	*Antti Mäkeläinen* *MosaicMill, Finland* **2D Hyperspectral Frame Imager Camera Data in Photogrammetric Mosaicking**	*Meng Lun Tsai, K. W. Chiang, C. F. Lo, C. H. Chu* *National Cheng Kung University, Taiwan* **The Performance Analysis of a UAV Based MMS Platform**
Johannes B. Stoll *Mobile Geophysical Technologies, Germany* **Unmanned aircraft systems for rapid near surface geophysical measurements**	*Bavo Delauré* *Vision on Technology, Belgium* **The development of a family of lightweight and wide swath UAV camera systems around an innovative dual-sensor on-single-chip detector**	*Christian Eling, L. Klingbeil, H. Kuhlmann* *University of Bonn, Germany* **A precise position and attitude determination system for lightweight unmanned aerial vehicles**

15:00 - 15:30	Coffee Break	
UAS for Meteorology *15:30 - 17:00* *Audimax* *Session chair: Rune Storvold*	**UAS-Multispectral/multitemporal imaging** *15:30 - 17:00* *Arno-Esch HS I* *Session chair: Dorata Grejner-Brzezinska*	**Obstacle avoidance and cooperative UAS Systems** *15:30 - 17:00* *Arno-Esch HS II* *Session chair: Jörg Dittrich*
Barbara Altstädter, Astrid Lampert, A. Scholtz, J. Bange, A. Platis, M. Hermann, B. Wehner *Braunschweig University of Technology, Germany* **Aerosol Variability observed with RPAS**	*Katharina Pech, Nadine Stelling, P. Karrasch, H.-G. Maas* *Dresden University of Technology, Germany* **Generation of multitemporal thermal orthophotos from UAV data**	*Jürgen Sturm, E. Bylow, C. Kerl, F. Kahl, D. Cremers* *Technical University of Munich, Germany* **Dense Tracking and Mapping with a Quadrocopter**
Michael Gausa, Torbjørn Houge, Burkhard Wrenger *Andøya Rocket Range, Norway* **The future application of fixed and rotary wing systems in Atmospheric Chemistry. Overview, motivation and plans for first investigations in a pilot project**	*J. Araújo, Tiago Hormigo* *Spin.Works, Portugal* **A Micro-UAV System for Forest Management**	*Matthias Nieuwenhuisen, Mark Schadler, Sven Behnke* *University of Bonn, Germany* **Predictive Potential Field-based Collision Avoidance for Multicopters**
Burkhart Wrenger, Jens Dünnermann, Norman Wildmann, Jens Bange, Torbjørn Houge, Michael Gausa *University of Applied Sciences Ostwestfalen-Lippe, Germany* **Meteorological Data Acquisition System AMOC and Multicopter Applications**	*Teemu Hakala, E. Honkavaara, H. Saari, J. Mäkynen, J. Kaivosoja, L. Pesonen, I. Pölönen, H. Salo* *Department of Remote Sensing and Photogrammetry, Finland* **Stereoscopic spectral imaging from UAVs for environmental remote sensing**	*Stefan Nowak, T. Krüger, J. Matthaei, P. Hecker* *Braunschweig University of Technology, Germany* **Martian Swarm Exploration and Mapping using Laser SLAM**
Norbert Haala, Mathias Rothermel *Stuttgart University, Germany* **Dense Multiple Stereo Matching of Highly Overlapping UAV Imagery**	*Axel Buettner, H.-P. Roeser* *University of Stuttgart, Germany* **Hyperspectral remote sensing with the UAS "Stuttgarter Adler" - challenges, experiences and first results**	*Thomas Krüger, S. Nowak, J. Matthaei, P. Hecker* *Braunschweig University of Technology, Germany* **Single-Layer Laser Scanner for Detection and Localization of Unmanned Swarm Members**
17:00 - 20:30	Poster Session and Icebreaker Party	

17:00 - 18:30	Poster Session

Authors	**Affiliation**	**Title**
Till Sieberth, R. Wackrow, J. Chandler	Loughborough University, United Kingdom	Automatic isolation of blurred images from UAV image sequences
Krzysztof Kusnierek, Audun Korsaeth	Norwegian Institute for Agricultural and Environmental Research, Norway	Accuracy of water stress determination in spring wheat based on thermal imaging from a UAV
Ryuji Matsuoka, I. Nagusa, H. Yasuhara, M. Mori	Research and Development Division, Japan	Some Aspects in Height Measurement by UAV Photogrammetry
Nicole Berger, H. Ingensand, H. Eisenbeis, P. Theiler, D. Bäni, D. Lanz, D. Lüdi, B. Streit	Bern University of Applied Sciences, Switzerland	Fawn Rescue
Zhang Chunxiao, Wen Gaojin, Lin Zhaorong, Li Fudong, Yao Yigang	Beijing Institute of Space Mechanics & Electricity, China	A digital-map aided target location in an aerial image
Hongmin Wang, Z. Chunxiao, W. Gaojin, L. Zhaorong	Beijing Institute of Electrical and Mechanical Space, China	A Fast Display System Of Aerial Image Sequence
Katharina Haubeck, Torsten Prinz	Westfälische Wilhelms-University of Münster, Germany	A UAV-based low-cost stereo camera system for archaeological surveys - Experiences from Doliche (Turkey)
Zhang Weiwei, Lin Zhaorong, Chen Shiying, Liu Tao, Yao Yigang	Beijing Institute of Space Mechanics & Electricity, China	Study on safety technology scheme of the unmanned helicopter
Kristina Knoppe, Torsten Prinz	Westfälische Wilhelms-University of Münster, Germany	3D Information from an UAV-based close-range Stereoscopic System for Web Mapping Services (WMS)
Giovanna Sona, Rossana Gini, Daniele Passoni, Livio Pinto, Paolo Dosso	Department of Civil and Environmental Engineering, Italy	UAV photogrammetry: block triangulation comparisons
Philipp Rauneker, G. Lischeid	Leibniz Centre for Agricultural Landscape Research, Germany	Assessing spatial distribution of evapotranspiration using UAV-borne multispectral and thermal imagery
Lee Impyeong, K. Choi, I. Lee, H. Kim	University of Seoul, Korea	A Multi-sensor Small UAV Based Automatic Rapid Mapping System for Damage Assessment in Disaster Areas
Fernando Carvajal, F. Agüera, M. Pérez, P.J. Martínez	University of Almeria, Spain	Comparison of the inclined versus vertical axis photos taken from a rotatory helix UAV for photogrammetric projects
Francisco Agüera-Vega, F. Carvajal, M. Pérez	University of Almeria, Spain	UAV in precision agriculture
Birute Ruzgiene	Vilnius Gediminas Technical University, Lithuania	The Use Of UAV Systems For Mapping Of Built-Up Area
Jing-Jing Ge, Yan Qin, De-Bin Deng	Beijing Institute of Space Mechanics & Electricity, China	Design Of MWIR Continuous Zoom With Light Weight

Thursday 5.9.2013 - UAS Airshow at the Airfield Barth-Stralsund

08:30	Bus Departure to Airfield Barth
09:45 - 10:00	Airfield Visit
10:00 - 12:00	UAS - Air Show
12:00 - 13:00	Lunch Break
13:00 - 16:00	UAS - Air Show
16:15	Bus Departure to Stralsund (Social Event) or Rostock
17:00 - 18:30	Visit and guided tour Ozeaneum Stralsund
18:45 - 19:00	Bus Tansfer to Alte Brauerei Stralsund
19:00 - 22:00	Social Event
22:00 - 23:00	Bus Transfer back to Rostock

UAS-Airshow - Participating Companies and Schedule

	Flight Demonstration		**Data Analysis Demonstration**	
Starting time	Slot 1	Slot 2	Hall 1	Hall 2
10:00 - 10:20	Airrobot	Service-drones	C-Astral	MAVinci UG
10:20 - 10:40	Astec	Geo-Technic	simactive	Larsen, UAS Test Site
10:40 - 11:00	Uni Rostock	Germap	Microdrones	Height Tech
11:00 - 11:20	geo-konzept	MAVinci UG	Airrobot	div-gmbh/Aibotix
11:20 - 11:40	CIS	SenseFly	Astec	Geo-Technic
11:40 - 12:00	Microdrones	Trimble / Gatewing	C-Astral	geo-konzept
		Lunch Break		
13:00 - 13:20	div-gmbh/Aibotix	C-Astral	CIS	Geo-Technic
13:20 - 13:40	Height Tech	Geo-Technic	Trimble / Gatewing	SenseFly
13:40 - 14:00	Uni Rostock	MAVinci UG	Astec	Service-drones
14:00 - 14:20	Airrobot	Microdrones	CIS	Height Tech
14:20 - 14:40	Astec	Service-Drones	Trimble / Gatewing	div-gmbh/Aibotix
14:40 - 15:00	geo-konzept	SenseFly	Larsen, UAS Test Site	MAVinci UG
15:00 - 15:20	Height Tech	C-Astral	Airrobot	Service-drones
15:20 - 15:40	CIS	Trimble / Gatewing	simactive	geo-konzept
15:40 - 16:00	div-gmbh/Aibotix	Germap	Microdrones	SenseFly

Friday 6.9.2013

09:00 - 09:40	Keynote II - Prof. Dr. Christian Wietfeld	
09:50 - 11:10	Parallel Sessions	
UAS for Environmental Sciences *09:50 - 11:10* *Audimax* *Session chair: Hans-Peter Thamm*	**UAS and Photogrammetry** *09:50 - 11:10* *Arno-Esch HS I* *Session chair: Henri Eisenbeiss*	**Sensor Fusion** *09:50 - 11:10* *Arno-Esch HS II* *Session chair: Markus Gerke*
Dimitrios Skarlatos, S. Kiparissi, S. Theodoridou *Cyprus University of Technology, Cyprus* ***The use of UAV for direct orthophoto generation from color point clouds over archaeological sites***	*Steve Harwin* *University of Tasmania, Australia* **An investigation into the contribution of oblique photography inclusion in a UAV-MVS 3D reconstruction**	*Boris Jutzi, M. Weinmann, P. Solbrig, D. Bulatov, P. Wernerus, J. Meidow, S. Hinz* *Karlsruhe Institute of Technology, Germany* **Improved UAV-borne 3D Mapping by Fusing Optical and Laserscanner Data**
Andrew Fletcher *University of Queensland, Australia* **Rehabilitation closure criteria assessment using high resolution photogrammetrically derived surface models**	*Paudie Barry, Ross Coakley, Tony Barry* *Baseline Surveys, Ireland* **Field Accuracy Test of UAV Photogrammetry**	*Klaus-Dieter Kuhnert, L. Kuhnert* *University of Siegen, Germany* **Light weight sensor package for precision 3D measurement with micro UAVs**
Arko Lucieer *University of Tasmania, Australia* **Monitoring Antarctic mosses with a multi-sensor Unmanned Aircraft System (UAS)**	*Frank Niemeyer, R. Schima, G. Grenzdörffer* *Rostock University, Germany* **Relative and absolute calibration of a multihead camera system with oblique and nadir looking cameras for a UAS**	*He Hongyan, Zhou Nan, Yue Chunyu* *Beijing Institute of Space Mechanics and Electricity, China* **POS-supported Automatic Digital Surface Model (DSM) Generation**
Stian Solbø, R. Storvold *Northern Research Institute Tromsø, Norway* **Mapping Svalbard glaciers with the CryoWing UAS**	*Domantas Brucas, J. Suziedelyte-Visockiene, U. Ragauskas, E. Berteska, D. Rudinskas* *Space Science and Technology Institute, Lithuania* **Testing and Implementation of Low Cost UAV Platform for Orthophoto Imaging**	*Youness Dehbi* *University of Bonn, Germany* **Automatic reasoning for UAV supported reconstruction of 3D building models**
11:10- 11:30	Coffee Break	

11:30 - 13:00	*Parallel Sessions*	
UAS for Agriculture *11:30 - 13:00* *Audimax* *Session chair: Görres Grenzdörffer*	**UAS Data fusion with Laserscanning** *11:30 - 13:00* *Arno-Esch HS I* *Session chair: Wolfgang Förstner*	**Guidance, Navigation and Control** *11:30 - 13:00* *Arno-Esch HS II* *Session chair: Jan Stumpf*
Ferry Bachmann, Verena V. Hafner, Ruprecht Herbst, Robin Gebbers *Humboldt University of Berlin, Germany* **Micro UAV based geo-referenced orthophoto generation in VIS+NIR for precision agriculture**	*Gianpaolo Conte, A. Kleiner, P. Rudol, K. Korwel, M. Wzorek, P. Doherty* *Linköping University, Sweden* **Performance evaluation of a light weight multi-echo LIDAR for unmanned rotorcraft applications**	*Pere Molina, I. Colomina, M. Remy, K.A.C. Macedo, Y.R.C. Zúnigo, E. Vaz, D. Luebeck, J. Moreira, M. Blázquez* *Institute of Geomatics, Spain* **Navigation and remote sensing payloads and methods of the SARVANT unmanned aerial system**
Anette Eltner, C. Mulsow, H.-G. Maas *Dresden University of Technology, Germany* **Quantitative Measurement of Soil Erosion from TLS and UAV data**	*Zhu Lingli, Anttoni Jaakkola, Juha Hyyppä* *Finnish Geodetic Institute, Finland* **Register UAV images to Mobile Laser Scanning for the use of 3D city modeling**	*Julien Li-Chee-Ming, Costas Armenakis* *York University, Canada* **Determination of UAS Trajectory from FPV Video**
Juliane Bendig, M. Willkomm, N. Tilly, M. L. Gnyp, S. Bennertz, C. Qiang, Y. Miao, V. I. S. Lenz-Wiedemann, G. Bareth *University of Cologne, Germany* **Very high resolution crop surface models (CSMs) from UAV-based stereo images for rice growth monitoring In Northeast China**	*Armin Gruen, Huang Xianfeng, Qin Rongjun, Joao Boavida, Adriano Oliveira* *Artescan, Portugal* **Joint Processing of UAV Imagery and Terrestrial Mobile Mapping System Data for Very High Resolution City Modeling**	*Lomme Devriendt, J. Bonne, N. Simoens, M. Thoss, S. Juerss* *Orbit GeoSpatial Technologies, Belgium* **UAV mapping with orbit GT and microdrones: a professional solu-tion for 3D visualisation and mapping**
Hans-Peter Thamm, G. Menz, M. Becker, D.N. Kuria, S. Missana, D. Kohn *Geo-Technic, Germany* **The use of UAS for Assessing Agricultural Systems in an Inland Valley in Tansania in the Dry- and Wet-Season for Sustainable Agriculture and Providing Ground Truth for Terra-SAR X Data**	*Andreas Fritz, Teja Kattenborn, Barbara Koch* *University of Freiburg, Germany* **UAV-based photogrammetric point clouds - tree stem mapping in open stands in comparison to terrestrial laser scanner point clouds**	*Stephan Fick* *div-GmbH, Germany* **UAS for cadastral and environmental appli-cations from a practi-tioners perspective**
13:00 - 14:00	Lunch Break	

14:00 - 15:30	Parallel Sessions	
UAS for Cultural Heritage *14:00 - 15:30* *Audimax* *Session chair: Ralf Bill*	**UAS derived DSM and DEM** *14:00 - 15:30* *Arno-Esch HS I* *Session chair: Jingling Wang*	**Image and data fusion** *14:00 - 15:30* *Arno-Esch HS II* *Session chair: Francesco Nex*
Zhe Li, Y. Li *Tian Jin University, China* **Get Optimal Point Cloud of Eaves of Sino Ancient Buildings with Mini VTOL**	*J. J. Ruiz, L. Diaz-Mas, Francisco Perez, A. Viguria* *Center for Advanced Aerospace Technologies, Spain* **Evaluating the accuracy of DEM generation algorithms from UAV imagery**	*Daniel Stødle, Njål T. Borch, Rune Storvold* *Northern Research Institute Tromsø, Norway* **High-performance fusion of UAS sensor and image data with raster maps and topography in 3D**
Görres Grenzdörffer *Rostock University, Germany* **UAS-based automatic bird count of a common gull colony**	*Ansgar Greiwe, R. Gehrke, V. Spreckels, A. Schlienkamp* *University of Applied Sciences Frankfurt am Main, Germany* **Aspects Of DEM Generation From UAS Imagery**	*Wolfgang Rüther-Kindel, J. Brauchle* *Technical University of Applied Sciences Wildau, Germany* **The Salsa Project high-end aerial 3D camera**
Paolo Fallavollita, M. Balsi, S. Esposito, M. G. Melis, M. Milanese, Luca Zappino *Sapienza University of Rome, Italy* **UAS for archaeology. New perspectives on aerial documentation**	*Janós Treuheit, K. Jütte* *National Forestry Mecklenburg-Western Pomerania, Germany* **Extraction of surface models from low-cost air pictures - A software comparison**	*Senthil Kumar, A.Mohamed Rasheed, R.Krishna Kumar, Mahesh Giridharan, Ganesh* *Anna University, India* **Dhaksha The Unmanned Aircraft System In Its New Avatar Automated Aerial Inspection Of India\'s Tallest Tower**
Stefan Hautz, M. F. Buchroithner, D. A. McFarlane *Dresden University of Technology, Germany* **Gomantong Caves: Combining two different sets of UAV data with subterraneous TLS data for a comprehensive 3D cave model**	*Matthias Naumann* *Rostock University, Germany* **Accuracy comparison of DSM created by UAS and terrestrial laser scanner**	*Christian Eschmann, C.-M. Kuo, C.-H. Kuo, C. Boller* *Fraunhofer Institute for NDT (IZFP), Germany* **High-Resolution Multisensor Infrastructure Inspection with Unmanned Aircraft Systems**
15:30 - 16:00	Closing Session	