8th International Conference on Smart Data and Smart Cities (SDSC2024)

ΠΑΝΕΠΙΣΤΗΜΙΟ ΔΥΤΙΚΗΣ ΑΤΤΙΚΗΣ
UNIVERSITY OF WEST ATTICA

Tuesday, June 4th, 2024

START TIME	END TIME	WORKSHOPS
15:00	20:00	**Workshop 1 by Beniamino Murgante (Room 1)**
6:00	20:00	**Workshop 2 by Alenka Poplin (Room 2)**
16:00	20:00	**Workshop 3 by Marathon Data Systems (Room 3)**

Wednesday, June 5th, 2024

START TIME	END TIME		
9:00	10:00	**REGISTRATION**	
10:00	10:30	**OPENING (Auditorium)**	
10:30	11:30	**KEYNOTE by Robert Laurini (Auditorium)**	
11:30	11:50	BREAK	
11:50	12:50	**SD 1 (Room 1)**	**SCn (Room 2)**
12:50	13:50	**SD 2 (Room 1)**	**SCs 1 (Room 2)**
13:50	14:50	LUNCH	
14:50	15:50	**SUM (Room 1)**	**SCs 2 (Room 2)**
15:50	17:20	**SGn (Room 1)**	**SCs 3 (Room 2)**
18:00	19:00	**Welcome Party**	

Thursday, June 6th, 2024

START TIME	END TIME		
9:00	10:00	**REGISTRATION**	
10:00	11:00	**KEYNOTE by Beniamino Murgante (Auditorium)**	
11:00	11:20	BREAK	
11:20	12:20	**SP 1 (Room 1)**	**SDPT 1 (Room 2)**
12:20	13:40	**SP 2 (Room 1)**	**SDPT 2 (Room 2)**
13:40	14:40	LUNCH	
14:40	15:40	**SGe 1 (Room 1)**	**SDPT 3 (Room 2)**
15:40	17:00	**SGe 2 (Room 1)**	**SDPT 4 (Room 2)**
20:00	0:00	**Gala & Awards 1**	

Friday, June 7th, 2024

START TIME	END TIME		
9:00	10:00	**REGISTRATION**	
10:00	11:00	**KEYNOTE by Alenka Poplin (Auditorium)**	
11:00	11:20	BREAK	
11:20	12:20	**SCs 4 (Room 1)**	**SDPT 5 (Room 2)**
12:20	13:40	**SCs 5 (Room 1)**	**SDPT 6 (Room 2)**
13:40	14:40	LUNCH	
14:40	16:00	**SCs 6 (Room 1)**	**SDPT 7 (Room 2)**
16:00	17:00	**CLOSING & Awards 2 (Auditorium)**	
17:30	18:30	**Farewell Party**	

Saturday, June 8th, 2024

Smart excursion in Poros island

SESSION ACRONYMS

SCs	Smart Cities
SCn	Smart Construction
SD	Smart Data
SDPT	Smart Digital Planning Tools
SGe	Smart Governance
SGn	Smart Green
SP	Smart People
SUM	Smart Urban Mobility

SDSC2024

DETAILED SESSIONS PROGRAM

# Paper	Authors	Title	SESSION ACRONYM
7620	Eliseo Clementini, Roberto Patrizi, Marco Santic and Carlo Villante	A GeoSpatial Information System for Photovoltaic Plants Development and Monitoring	SD 1
1801	Costantino Giaconia, Fulvio Lo Valvo, Karim Ladjery, Francesco Di Puma, Josè Falla, Ioannis T. Christou, John Soldatos, Thanasis Papadakis, Boian Popunkiov, Daniela Alexieva and Dian Raykov	Vibration-based water leakage detection system for public open data platforms	SD 1
5884	Jean-Paul Kasprzyk and Roland Billen	Towards a multi-database CityGML environment adapted to big geodata issues of urban digital twins	SD 1
6875	Boris Kantsepolsky and Itzhak Aviv	QUANTUM SENSING FOR THE CITIES OF THE FUTURE	SCn
1820	Phillip Kim and Junhee Youn	Flight Planning Algorithm for Infrastructure Inspection using Drone	SCn
1958	Manlio Montuori	Bridging past and present: cutting-edge technologies for predictive conservation of built cultural heritage	SCn
5214	Emilia Hattula, Lingli Zhu and Jere Raninen	Building extraction in urban and rural areas with aerial and LiDAR DSM	SD 2
7121	Maria Gourgourini	Smart Cities, G.I.S. and the Phenomenon of Piracy	SD 2
2839	Hyebin Kim and Sugie Lee	POI GPT : Extracting POI Locations from Social Media Text Data	SD 2
194	Claire Ellul, Paul Reynolds and Leonardo Vilardo	(m)App my data! Developing a Map-ability Rating and App to Rapidly Communicate Data Quality and Interoperability Potential of Open Data	SCs 1
2201	Pavel Paulau, Johannes Hurka, Jan Middelberg and Sascha Koch	Centralised monitoring and control of buildings using open standards	SCs 1
6643	Dessislava Petrova-Antonova, Simeon Malinov, Laura Mrosla and Aleksandar Petrov	Towards a Conceptual Model of CityGML 3.0 Vegetation ADE	SCs 1

394	Siqi Wang, He Huang, Junxing Yang, Junyang Bian and Shan Jiang	TRIANGLE DESCRIPTOR LOOP DETECTION METHOD BASED ON FASTER LIO	SUM
1329	Junyang Bian, He Huang, Junxing Yang, Siqi Wang and Xin Zhang	RESEARCH ON HIGH-FREQUENCY ODOMETRY IN LASER SLAM USING POINT-SUBMAP MATCHING	SUM
5227	Xin Zhang, He Huang, Junxing Yang and Shan Jiang	Research on Deep Learning-Based Vehicle and Pedestrian Object Detection Algorithms	SUM
3984	Diego Vinasco-Alvarez, Gilles Gesquiere, Sylvie Servigne and John Samuel	Towards an Automated Transformation of an nD Urban Data Model to a Computational Ontology Network: From UML to OWL, From CityGML 3.0 to “CityOWL”	SCs 2
7944	Klaus Pusacker, Volker Coors, Jφrg-Detlef Eckhardt and Isabel Rupf	A CONCEPT FOR 3D GEOLOGICAL AND URBAN SUBSURFACE MODELING WITH A UNIFIED VOXEL MODEL EXAMINED BY A CASE STUDY FOR THE CITY CENTER OF STUTTGART (BADEN-WάRTTEMBERG), GERMANY	SCs 2
1999	Volker Coors and Rushikesh Padsala	Urban Digital Twins Empowering Energy Transition: Citizen-Driven Sustainable Urban Transformation towards Positive Energy Districts	SCs 2
9642	Christos Petridis and Michael Vassilakopoulos	Detecting Hull Fouling using Machine Learning Algorithms trained on Ship Propulsion Data to Improve Resource Management and Increase Environmental Benefits.	SGn
6253	Ryuji Matsuoka, Takashi Takemoto, Genki Takahashi, Tomoaki Inazawa and Shinichiro Sogo	Estimation of Photovoltaic Potential of Urban Buildings Considering a Solar Panel Arrangement Using a 3D City Model	SGn
9415	Ryuji Matsuoka, Takashi Takemoto, Genki Takahashi, Tomoaki Inazawa and Shinichiro Sogo	A Novel Algorithm to Estimate Solar Irradiance of Urban Buildings for Photovoltaic Potential Estimation System Using a 3D City Model	SGn
2661	Shengchen Yin, Dena Kasraian, Gamze Dane and Pieter van Wesemael	CHILDREN’S INTERACTION WITH URBAN GREEN INFRASTRUCTURE WITH(OUT) A DIGITAL TOOL: RESULTS FROM SPATIAL ANALYSIS AND OBSERVATIONS IN THE NETHERLANDS	SGn
4436	Tong Ye, He Huang, Yucheng Liu and Junxing Yang	Global Structure-from-Motion Enhanced Neural Radiance Fields 3D Reconstruction	SCs 3
4116	Zhenglong Cai, Junxing Yang, Tianjiao Wang, He Huang and Yue Guo	3D Reconstruction of buildings based on 3D Gaussian Splatting	SCs 3
5380	Shan Jiang, He Huang, Junxing Yang, Xin Zhang and Siqi Wang	INNOVATIVE RESEARCH ON SMALL OBJECT DETECTION AND RECOGNITION INREMOTE SENSING IMAGES USING YOLOV5	SCs 3
9370	Tianjiao Wang, He Huang, Zhenglong Cai, Jialin Song and Junxing Yang	360° Panorama Stitching Method with Depth Information: Enhancing Image Quality and Stitching Accuracy	SCs 3

140	Weilian Li, Lukas Arzoumanidis, Jannik Matijevic, Daham Mohammed Mustafa, Peter Rottmann, Jan-Henrik Haunert and Youness Dehbi	Safety assessment of cycling routes in urban environments	SP 1
1893	Jiwnath Ghimire, Alenka Poplin and Andrea Wheeler	VOLUNTARISM, INFORMALITY, AND SOCIAL CAPITAL FOR REGENERATIVE RESILIENCE: LESSONS FROM THE 2015 NEPAL EARTHQUAKE, 2023 SLOVENIA FLOOD, AND INTENTIONAL COMMUNITIES IN WALES	SP 1
8354	Elias Grammatikogiannis and Maria Giaoutzi	The Conversion of an IAM into a Web based PIAM: The development of a web based Garbage Footprint Calculator 'GASMOD'	SP 1
1576	Yonghwan Lee, Sunghwan Kim, Philip Kim, Jieun Kim and Junhee Youn	Data Structure Design and Visualization for Creating Dynamic Thematic Maps	SDPT 1
1657	Stuart Barr	Evolutionary Computing for Multi-Objective Sustainable Urban Spatial Planning	SDPT 1
2530	Vasil Dakov and Dessislava Petrova-Antonova	Urban Tree Detection from Remote Sensing Data Based on DeepForest Model	SDPT 1
1900	Alessandro Marceddu, Massimo Micccoli, Alessandro Amicone, Luca Marangoni and Alessandra Risso	Artificial Intelligence for Urban Safety: A Case Study for reducing road accident in Genoa	SP 2
7982	Juho-Pekka Virtanen, Jukka Alander, Heli Ponto, Ville Santala, Renske Martijnse-Hartikka, Andreas Andra and Timo Sillander	Contemporary development directions for urban digital twins	SP 2
6382	Mathieu Livebardon, Valentin Machado, John Samuel, Didier Chanfray, Jean-Yves Toussaint and Gilles Gesquiere	IMUV : A Digital Twin for Mediation to Discover and Exchange on Territories	SP 2
3344	Gabriela Simeonova, Ivan Marinov and Christina Mickrenska	Volunteered Citizen Engagement to Smart Cities	SP 2
5336	Lara Andriessen, Giorgio Agugiaro, Aloys Borgers and Pieter Pauwels	Semantic 3D city models as support for urban flood resilience: experiences from Rotterdam	SDPT 2
5804	Zouhair Ballouch, Imane Jeddoub, Rafika Hajji, Jean-Paul Kasprzyk and Roland Billen	Towards a Digital Twin of Liege: The Core 3D Model based on Semantic Segmentation and Automated Modeling of LiDAR Point Clouds	SDPT 2
9344	Radostin Mitkov, Mariya Pantusheva, Dessislava Petrova-Antonova, Vasilis Naserentin and Anders Logg	The Role of Computational Fluid Dynamics within City Digital Twins: Opportunities and Challenges	SDPT 2
4445	Toshihiro Osaragi, Xianshu Nan and Maki Kishimoto	SPATIOTEMPORAL INTERPOLATION METHOD FOR POPULATION FLOW DATA IN URBAN AREAS	SDPT 2

7678	Dimos Pantazis, Vassilios Moussas, Anna Christina Daverona and Maria Gourgourini	Smart Cities: From Theory to Reality - The Athens Case	SGe 1
4229	Sem Akkers, Aloys Borgers , Gamze Dane	EXPLORING THE EFFECTIVENESS OF IMMERSIVE VIRTUAL REALITY FOR CO-DESIGN OF URBAN PUBLIC SPACE	SGe 1
6244	Alenka Poplin	Community Engagement with AI-enhanced Serious Digital Geogames	SGe 1
6031	Aruscha Kramm, Eric Peukert, Andrı Ludwig and Bogdan Franczyk	Machine learning based mobile capacity estimation for roadside parking	SDPT 3
1052	Athanasios Koukofikis and Volker Coors	A MULTI-FLOW VISUAL ANALYTICS WEB PLATFORM FOR DETECTING HIGH WIND ENERGY POTENTIAL IN URBAN ENVIRONMENTS	SDPT 3
6249	Hozumi Kikuchi, Takuo Inoue, Chie Koga, Ichiro Watanabe, Yerim Yang, Yuta Shin, Hiroki Nakajima and Hideki Koizumi	Evaluating the Reliability of Online Restaurant Review POI Data for Urban Restaurant Analysis: A Case Study of Chiba City, Japan	SDPT 3
932	Anastasia Tsotra	Critical Comparative Analysis of UAS Legislative Developments	SGe 2
6790	Vagia Kalliontzi, Vassilis Voulgarakis and Giacomo Delinavelli	Data-driven policy development of Municipalities: Preparation steps for Integrating AI tools in the policymaking process	SGe 2
9310	Jung Il Shin and Jung Ok Kim	POSSIBILITY OF CROWDSOURCING-BASED METHOD FOR ANALYZING THE FLATNESS OF WALKING SPACES	SGe 2
4494	Tea Duplancic Leder, Nenad Leder and Karlo Leder	Local Climate Zoning Interaction on Land Surface Temperature Determination - City of Split Case Study	SDPT 4
7641	Dionysia Georgia Perperidou and Eleni Balta	Institutional and spatial constraints on locating VoloPorts in Greek metropolitan areas	SDPT 4
1666	Rushikesh Padsala, Thunyathep Santhanavanich, Ursula Eicker and Volker Coors	Conceptualising an Urban Digital Twin Framework for Simulating the Impact of Household Consumption Choices on the Carbon Footprint of Urban Neighborhoods	SDPT 4
8150	Bing-Shiuan Tsai, Lars Huizer, Michele Giampaolo, Sırınic Montı, Sicong Gong, Francisco Gabriel Garcva Gonzɑlez and Giorgio Agugiaro	Integration of GIS and CAD data to perform interactive preliminary environmental analyses at district scale	SDPT4

4065	Christos Kontopoulos, Efthymios Magkoufis, Eirini Baltzi and Vasiliki Charalampopoulou	Introducing a novel Decision Support Platform for Efficient Urban Planning towards Smart Policy-Making	SCs 4
3443	Carlo Zanetti, Lisa Rubert, Massimo De Marchi and Salvatore Eugenio Pappalardo	Bridging the Gap: Matching Data from Low-Cost Mobile Sensors and Satellite for Urban Heat Island Research. A case study in Padua, Italy.	SCs 4
5917	Senqi Yang, Gamze Dane and Theo Arentze	Developing digital twins of citizens in urban public spaces: An agent-based modeling framework	SCs 3
877	Anasua Chakraborty, Ahmed Mustafa and Jacques Teller	Modelling multi-density urban expansion using Cellular Automata for Brussels Metropolitan Development Area	SDPT 5
6136	Chris Pettit and Balamurugan Soundararaj	MapGPT: An AI approach for democratising Geospatial Analysis	SDPT 5
4106	Thunyathep Santhanavanich, Rushikesh Padsala, Matthias Betz and Volker Coors	Dynamic Geospatial Data Integration: A Case Study of Moving Objects in Munakata City, Japan Using OGC API Moving Features and SensorThings API	SDPT 5
9592	Shahoriar Parvaz, Felicia Norma Rebecca Teferle and Abdul Awal Md Nurunnabi	Airborne Cross-Source Point Clouds Fusion by Slice-to-Slice Adjustment	SCs 5
5239	Oktay Eker, Murat Avcı, Selen Çiğdem, Oğuzhan Özdemir, Fatih Nar and Dmitry Kudinov	Integrating SAM and LoRA for DSM-Based Planar Region Extraction in Building Footprints	SCs 5
6960	Gergana Antova	Portable laser scanning solutions for modelling of large buildings	SCs 5
9435	Ali Aboohamzeh, Marco Avena and Antonia Spanò	AUTOMATING BUILT HERITAGE MODELLING FOR THE INTEGRATION INTO 3D CITY MODELS	SCs 5
1947	Dimitrios Kelesakis, Konstantinos Marthoglou, Eleni Tokmaktsi, Emmanouel Tsiros, Apostolos Karteris, Anastasia Stergiadou, Georgios Kolkos, Petros Daras and Nikos Grammalidis	Forest/rural road network detection and condition monitoring based on satellite imagery and deep semantic segmentation	SDPT 6
3545	Mojtaba Eslahi, Mateo Baira and Rani El Meouche	Simulation of Urban Density Scenario according to the Cadastral Map using K-Means unsupervised classification	SDPT 6
4417	Miriam Louise Carnot, Eric Peukert and Bogdan Franczyk	Enhancing Roadway Safety: LiDAR-based Tree-Clearance Analysis	SDPT 6
2280	Jere Raninen, Lingli Zhu and Emilia Hattula	Study on the effect of color space in deep multitask learning neural networks for road segmentation	SDPT 6

1694	Xuan Li and Sugie Lee	Towards a Holistic Urban Space Evaluation and Monitoring Framework: Leveraging Digital Twins and Urban AI for Smart Cities	SCs 6
3296	Per-Ola Olsson, Karolina Pantazatou and Lars Harrie	Land cover data in CityGML	SCs 6
3619	Kyriaki Maria Fameli, Aggelos Kladakis, Chrysanthi Efthymiou, Chrysa Charalampidou, Maria Sotiropoulou, Iro-Maria Antoniou, Dimitra Papadaki, Margarita-Niki Assimakopoulos and Vasiliki Assimakopoulos	Insights from the development of an innovative air quality monitoring system	SCs 6
4930	Lingli Zhu, Jere Raninen and Emilia Hattula	GeoAI for Topographic Data Accuracy Enhancement: the AI4TDB project	SCs 6
9633	Tom Komar and Philip James	Orchestrating Urban Footfall Prediction: Leveraging AI and batch-oriented workflow for Smart City Application	SDPT 7
3656	Murat Kılınç, Can Aydın, Gizem Erdoğan Aydın and Damla Balcı	HeatWatch: Identification of Parameters Influencing the Urban Heat Island Effect through Deep Learning Techniques	SDPT 7
5694	Maitha A A Nuaimi, Eman H Salem, Hala F S Ibrahim, Asma Abdulla A Al Ali, Hussein M Abdulmuttalib, Raja Biswas, Le Haiha, Sandip Banerjee and Abhay S Mittal	DEEP LEARNING-BASED ASSESSMENT OF URBAN AND VEGETATION CHANGES USING HIGH-RESOLUTION KHALIFASAT SATELLITE IMAGERY OVER DUBAI	SDPT 7
1673	Mohammed Alotaibi and Muhammad Tauhidur Rahman	Smarter Together: An integrated Digital Platform for Smart Cities in Saudi Arabia	SDPT 7

The SDSC2024 Program Committee co-Chairs:
Nikitas N. Karanikolas, University of West Attica,
Claire Ellul, University College London,
Michael Vassilakopoulos, University of Thessaly.