

# CONFERENCE PROGRAM

## - FINAL



### 3D AUSTRALIA 2017

## 3D Cadastre Training

Tuesday 24th October 2017- Room 236 - Alice Hoy Building

8:30 am to 9:00 am	Registration
9:00 am to 10:30 am	Smart cities and the role of 3D digital cadastre
	Pathway towards 3D digital cadastre
10:30 am to 11:00 am	Break
11:00 am to 12:30 pm	Technologies for 3D digital cadastre
	BIM and 3D digital cadastre
	Practical Session 1 on BIM-driven 3D digital Cadastre
12:30 pm to 1:30 pm	Lunch
1:30 pm to 3:00 pm	Practical Session 2 on BIM-driven 3D digital Cadastre

### 3D AUSTRALIA 2017

## Urban Analytics Data Infrastructure (UADI) Launch Event

Tuesday 24th October 2017- Woodward Conference Centre, 10th floor, Melbourne Law School

4:00 pm to 4:30 pm	Registration
4:30 pm to 6:30 pm	Welcome and Introduction
	UADI Architecture and Components
	UADI Demo
	Access to UADI and future work
6:30 pm to 7:30 pm	Networking and Drink

3D AUSTRALIA 2017

# BIM and GIS Integration Workshop

Wednesday 25th October 2017- A1 Theatre - Old Engineering School

7:30 am to 9:00 am Registration and Reception

## OPENING SESSION

9:00 am to 10:30 am  
Welcome  
Mohsen Kalantari, Chair of IAG BIM/GIS working group  
Keynote Address: A Coordinated Vision for GIS, BIM and Digital Engineering  
John Mitchell, Director, buildingSMART Australasia chapter

10:30 am to 11:00 am Break

## SESSION 1: TECHNICAL PERSPECTIVES

Chair : Dr. Craig Hancock

11:00 am to 12:30 pm  
The Automation Challenge of Mapping IFC-BIM Models into CityGML Building Models (2)  
Rudi Stouffs and Patrick Janssen  
Urban Building Heritage Management with LiDAR, BIM and GIS (10)  
Sean William Morrish and Debra Laefer  
Prioritizing Maintenance Plan of Civil Infrastructure Systems through an Integration Framework of BIM and GIS (5)  
Jiawei Chen, Pingbo Tang and Todd E Rakstad  
Comparison of a Smart Mobile Application-Supported Evacuation System and Traditional Evacuation Systems  
Yasin Ortakci, Umit Atila, Emrullah Demiral, Kasim Ozacar and Ismail Rakip Karas

12:30 pm to 1:30 pm Lunch

## SESSION 2: STANDARDS PERSPECTIVES

Chair : Dr. Ihab Hijazi

1:30 pm to 3:00 pm  
Open Information Exchange Standards for the Integrated Digital Built Environment (9)  
Jim Plume  
A Standards Perspective of BIM-GIS Integration  
Chris Body  
Building SMART Alliance and Open Geospatial Consortium Framework for Collaboration on BIM-GIS Interoperability (8)  
Jim Plume, Carsten Roensdorf and Scott Simmons  
Development of BIM/GIS interoperability platform for seamless indoor/outdoor information service(13)  
Chunjoo Yoon and Changhee Hong

3:00 pm to 3:30 pm Break

## SESSION 3: STRATEGIC PERSPECTIVES

Chair : Dr. Behnam Atazadeh

3:30 pm to 5:00 pm  
A Conceptual Framework for Multi-Scale Urban Energy Modelling Using 3D Geospatial Technology (12)  
Soheil Sabri, Behzad Rismanchi and Abbas Rajabifard  
Exploring the Legal and Institutional Implications of Australian Public Policy Perspectives Towards Leveraging BIM-GIS (3)  
Ilsa Kuiper and Colin Duffield  
BIM-GIS Integration as Dedicated and Independent Course for Geoinformatics Students: Merits, Challenges, and Ways Forward (4)  
Ihab Hijazi, Andreas Donaubauer and Thomas Kolbe  
Data Requirement of Public Space in 3D: Physical and Social Dimensions (11)  
Zhixuan Yang and Abbas Rajabifard

## 3D GEOINFO CONFERENCE 2017

Thursday 26th October 2017- A1 Theatre - Old Engineering School

## OPENING CEREMONIES

	Welcome by Abbas Rajabifard and Mohsen Kalantari
8:30 am to 10:30 am	Keynote Address 1: 3D Queensland Steven Jacoby, Executive Director Land & Spatial Information - Queensland Department of Natural Resources & Mines
	Keynote Address 2: Smart City Transitions and nD System Challenges and Opportunities Greg Foliente, The University of Melbourne
10:30 am to 11:00 am	Break

## SESSION 1: DRIVERS OF 3D GEOGRAPHIC INFORMATION

Chair : Prof. Jacynthe Pouliot

11:00 am to 12:30 pm	User Requirements Gathering for 3D Geographic Information in the United Kingdom (26) Kelvin Wong and Claire Ellul
	CityGML and the Streets of New York - A Proposal for Detailed Street Space Modelling (9) Christof Beil and Thomas H. Kolbe
	Exploring the Potential of BIM for Operational Integrated Asset Management - a Real World Infrastructure Example (28) Gareth Boyes, Claire Ellul and Daniel Irwin
	Industry Talk: The Cycle of Digital Cadastral Survey Information in New Zealand: Closing the Loop with 3D (40) Trent Gulliver
	Industry Talk: 3D City Heritage, It's Place in a Smart, Sustainable City (23) Sean William Morrish and Debra Laefer
12:30 pm to 1:30 pm	Lunch

## SESSION 2: REASONING AND ORGANISING 3D GEOGRAPHIC INFORMATION

Chair : A/Prof. Clair Ellul

1:30 pm to 3:15 pm	Model for Reasoning from Semantically Rich Point Cloud Data (22) Florent Poux, Romain Neuville, Pierre Hallot and Roland Billen
	Spatio-Semantic Comparison of Large 3D City Models in CityGML using a Graph Database (12) Son H. Nguyen, Zhihang Yao and Thomas H. Kolbe
	Towards a Decision Support Tool for Mapping and Rendering 3D Models: Application to Selectivity Purpose of Single Object in a 3D City Scene (19) Romain Neuville, Jacynthe Pouliot, Florent Poux, Pierre Hallot, Laurent De Rudder and Roland Billen
	Topologically Consistent Models for Efficient Big Geo-Spatial Data Distribution (13) Markus Jahn, Patrick Bradley, Mulhim Al-Doori and Martin Breunig
	Industry Talk: Working with 3D Geoscape Data in ArcGIS (25) Simon Jackson
3:15 pm to 3:45 pm	Break

## SESSION 3: FROM GEOGRAPHIC INFORMATION TO INDOOR INFORMATION

Chair : Prof. Thomas Kolbe

3:45 pm to 5:30 pm	Integration of GIS and BIM Data: What Are the Geometric and Topological Issues? (32) Ken Arroyo Ochori, Filip Biljecki, Abdoulaye Diakité, Thomas Krijnen, Hugo Ledoux and Jantien Stoter
	Stochastic and Geometric Reasoning for Indoor Building Models with Electric Installations -- Bridging the Gap between GIS and BIM (35) Youness Dehbi, Jan-Henrik Haunert and Lutz Plümer
	About the Subdivision of Indoor Spaces in IndoorGML (20) Abdoulaye Abou Diakité, Sisi Zlatanova and Ki-Joune Li
	Industry Talk : Pixel factory and vector factory for 3D image and data creations (46) Seyed Miri

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# 3D GEOINFO CONFERENCE 2017

Friday 27th October 2017- A1 Theatre - Old Engineering School

## WELCOME

Co-chairs Abbas Rajabifard & Mohsen Kalantari

8:30 am to 10:30 am	Keynote Address 1: 3D Cadastre in Augmented / Virtual Reality Craig Sandy, Surveyor General of Victoria
	Keynote Address 2: 3D GeoInfo and the Smart City Approach: A better way to understand and prepare for change David Hasset, Team Leader GIS, Smart City Office, City of Melbourne
	Keynote Address 3: The importance of 3D information for building the cities of tomorrow Mr Joseph Abhayaratna, CTO of PSMA Australia; Co-chair of OGC Smart Cities DWG

10:30 am to 11:00 am Break

## SESSION 4: POTENTIAL APPLICATIONS OF 3D GEOGRAPHIC INFORMATION Chair : Prof. Martin Breunig

11:00 am to 12:45 pm	Estimating Building Age with 3D GIS (16) Filip Biljecki and Maximilian Sindram
	CityBEM: an Open Source Implementation and Validation of Monthly Heating and Cooling Energy Needs for 3D Buildings in Cities (33) Syed Monjur Murshed, Solène Picard and Andreas Koch
	Solar Potential Analysis and Integration of the Time-dependent Simulation Results for Semantic 3D City Models using Dynamizers (14) Kanishk Chaturvedi, Bruno Willenborg, Maximilian Sindram and Thomas H. Kolbe
	Modelling Urban Noise in CityGML ADE: Case of the Netherlands (36) Kavisha Kumar, Hugo Ledoux, Tom Commandeur and Jantien Stoter
	Industry Talk : Multiple Environments for Visualising Spatial Reality: Blurring the Lines between Geospatial Visualisation and Virtual Reality (17) Keri Niven and Cameron Irvine

12:45 pm to 1:30 pm Lunch

## SESSION 5: 3D GEOGRAPHIC INFORMATION IN ACTION Chair : Prof. Alias Abdul Rahman

1:30 pm to 3:15 pm	Capture and Three Dimensional Projection of New South Wales Strata Plans in LandXML Format (5) Brad Harding and Ashleigh Foreman
	3D Digital Cadastre Journey in Victoria, Australia (10) Davood Shojaei, Hamed Olfat, Mark Briffa and Abbas Rajabifard
	Industry Talk Integration of Citizen Information into 3D Cadastral System with Applications (44) Shen Ying, Renzhong Guo, Weiyang Li, Zhigang Zhao and Biao He
	Industry Talk :3D Queensland and the Digital Built Environment (24) Michael Haines
	Industry Talk : 3D Neighbourhood Surveys for Architecture and Planning (30) Simon Cookes

3:15 pm to 3:45 pm Break

3:45 pm to 5:45 pm	Investigating Integration Capabilities between IFC and CityGML LoD3 for 3D City Modelling (37) George Floros, John Pispidikis and Efi Dimopoulou
	CityGML Modelling for Singapore 3D National Mapping (7) Kean Huat Soon and Victor Khoo
	A Comparison of Artificial Neural Network and Homotopy Continuation in 3D Interior Building Modelling (8) Ali Jamali, Francois Anton, Alias Abdul Rahman and Darka Mioc
	Indoor Space Location Model Based on Location Service (34) Yan Zhou, Guixiang Zeng, and Yueying Huang
	A WebGIS to Support GPR 3D Data Acquisition: A First Step for the Integration of Underground Utility Networks in 3D City Models Paulo Guilherme Tabarro, Jacynthe Pouliot, Richard Fortier and Louis-Martin Losier
	High-resolution Urban Greenery Mapping for Micro-Climate Modelling Based on 3-D City Models (41) Jaroslav Hofierka, Michal Gallay, Jan Kanuk, Jozef Supinsky and Jan Sasak
	Acquisition and Processing of High Resolution Hyperspectral Imageries for the 3D Mapping of Urban Heat Islands and Microparticles of Montreal (42) Richard Mongeau, Francois Cavayas and Yves Baudouin
	Multi-Dimensional Pattern Discovery of Trajectories Using Contextual Information (38) Mohammad Sharif and Ali Asghar Alesheikh
	LADM and INTERLIS as a Perfect Match for 3D Cadastre (43) Eftychia Kalogianni, Efi Dimopoulou, Wilko Quak and Peter van Oosterom
Building a 3D model for communicating urban revitalisation, a Local Government experience (45) Alexandar Crothers	

## Closing Ceremony

5:45 pm to 6:00 pm	Remarks by Mohsen Kalantari and Abbas Rajabifard
	Next Conference