



**6<sup>th</sup> International FIG Workshop on 3D Cadastres**  
**2-4 October 2018, Delft, the Netherlands**

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**Technical Programme and Proceedings**

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**Tuesday 2 October 2018**

13:30 - 15:00 **Session 1 (Slot 7): Plenary keynotes / 3D Cadastres opening - Mila Koeva/Jantien Stoter**

*Claus Nagel*

[Use cases of 3D City Information Models](#)

*Rod Thompson*

[3D Cadastres: 30 years back, 30 years ahead](#)

*Peter van Oosterom, chair FIG Working Group on 3D Cadastres*

[Best paper award FIG 3D Cadastres 2018](#)

15:30 - 17:00 **Session 2 (Slot 8): 3D Data Acquisition and Process Models - Efi Dimopoulou**

*Matthew Smart and Russell Priebbenow*

[Designing a 3D Cadastral System Demonstrator: A Case Study](#)

*Maria Gkeli, Chryssy Potsiou and Charalabos Ioannidis*

[LADM-based Crowdsourced 3D Cadastral Surveying – Potential and Perspectives](#)

*Dubravka Sladic, Aleksandra Radulovic and Miro Govedarica*

[Processes in Cadastre: Process Model for Serbian 3D Cadastre](#)

*Mario Mader, Nikola Vucic, Saša Vranic and Miodrag Roic*

[Initial 3D Cadastre Registration in the Republic of Croatia by Cadastral Resurvey](#)

*Karolina Larsson, Jesper Paasch and Jenny Paulsson*

[Conversion of 2D Analogue Cadastral Boundary Plans into 3D Digital Information – problems and challenges illustrated by a Swedish case](#)

**Wednesday 3 October 2018**

9:00 - 10:30 **Session 3 (Slot 9): Infrastructure and Utilities 3D Legal Spaces - Rod Thompson**

*Aleksandra Radulovic, Dubravka Sladic, Miro Govedarica, Aleksandar Ristic and Dušan Jovanovic*

[Towards 3D Utility Network Cadastre: Extended Serbian LADM Country Profile](#)

*Marcin Karabin, Dimitrios Kitsakis, Mila Koeva, Gerhard Navratil, Jesper Paasch, Jenny Paulsson, Nikola Vucic, Karel Janecka and Anka Liseć*

[Layer approach to ownership in 3D cadastre – a subway case](#)

*Rigoberto Moreno Vázquez and Diego Erba*

[Aerial power line 3D cadaster](#)

*Rachel Adi, Anna Shnaidman and Shimon Barazani*

[Implementation of the 3D Cadastre in Israel](#)

*Eftychia Kalogianni, Efi Dimopoulou, Rod Thompson, Christiaan Lemmen and Peter van Oosterom*

[Investigating 3D spatial unit's as basis for refined 3D spatial profiles in the context of LADM revision](#)

11:00 - 12:30 **Session 4 (Slot 10): Legal Spaces, 3D Buildings and Indoor - Alias Abdul Rahman**

|                                |                                                                                                                                                                                                                                                                                                 |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | <i>Behnam Atazadeh, Abbas Rajabifard, Mohsen Kalantari and Jihye Shin</i><br><b>A BIM-Driven Approach to Managing Common Properties within Multi-Owned Developments</b>                                                                                                                         |
|                                | <i>Volkan Çagdas, Erik Stubkjær, Walter Timo de Vries, Cornelius van der Merwe, Jesper Paasch, Jenny Paulsson, Nadja Schwery, Hendrik Ploeger, Ümit Isikdag and Abdullah Kara</i><br><b>Co-ownership shares in condominium – A comparison across jurisdictions and standards (long version)</b> |
|                                | <i>Jernej Tekavec and Anka Lisec</i><br><b>A framework for assessing cadastral data as a source for 3D indoor modelling</b>                                                                                                                                                                     |
|                                | <i>Abdullah Alattas, Peter van Oosterom, Sisi Zlatanova, Abdoulaye A. Diakité and Jinjin Yan</i><br><b>Developing a database for the LADM-IndoorGML model</b>                                                                                                                                   |
|                                | <i>Michael Germann, Jürg Lüthy and Peter van Oosterom</i><br><b>INTERLIS 3 developments with 3D data types and better constraint support for 3D Cadastres</b>                                                                                                                                   |
| 13:30 - 15:00                  | <b>Session 5 (Slot 11): 3D Lifecycle: Spatial planning – Land Administration - Jesper Paasch</b>                                                                                                                                                                                                |
|                                | <i>Dimitrios Kitsakis and Efi Dimopoulou</i><br><b>Determining the “true” environmental impact of Public Law Restrictions</b>                                                                                                                                                                   |
|                                | <i>Tarun Ghawana, Rohan Bennett, Jaap Zevenbergen, Pradeep Khandelwal and Subu Rahman</i><br><b>Exploring 3D Cadastres in India: Evaluating the Potential for Land Planning, Development and Management in Delhi</b>                                                                            |
|                                | <i>Agung Indrajit, Hendrik Ploeger, Bastian van Loenen and Peter van Oosterom</i><br><b>Designing Open Spatial Information Infrastructure To Support 3D Urban Planning In Jakarta Smart City</b>                                                                                                |
|                                | <i>Charisse Griffith-Charles and Michael Sutherland</i><br><b>3D Cadastres for Complex Extra-Legal and Informal Situations</b>                                                                                                                                                                  |
|                                | <i>Kean Huat Soon</i><br><b>Contextualising Ontologies with Image, Number and Rationality</b>                                                                                                                                                                                                   |
| 15:30 - 17:30                  | <b>Session 6 (Slot 12): Developments in Various Countries - Karel Janecka</b>                                                                                                                                                                                                                   |
|                                | <i>Nenad Višnjevac, Rajica Mihajlovic, Mladen Šoškic, Željko Cvijetinovic, Stevan Marošćan and Branislav Bajat</i><br><b>Developing Serbian 3D Cadastre System - Challenges and Directions</b>                                                                                                  |
|                                | <i>Jiyi Zhang, Gang Li, Youzhi Liu, Pengcheng Yin, Jinyu Yu and Zhifeng Shi</i><br><b>The application model of 3D cadastre in practical registration for real estate</b>                                                                                                                        |
|                                | <i>Shen Ying, Renzhong Guo, Lin Li, Naibin Chen and Yizhen Jia</i><br><b>An uniform real-estate registration model for China</b>                                                                                                                                                                |
|                                | <i>Hicret Gursoy Surmeneli and Mehmet Alkan</i><br><b>Design and Determine 3D Cadastral Systems: A Case Study of Turkey</b>                                                                                                                                                                     |
|                                | <i>Davood Shojaei, Hamed Olfat, Abbas Rajabifard, Mohsen Kalantari and Mark Briffa</i><br><b>Moving Towards a Fully Operational 3D Digital Cadastre: Victoria, Australia</b>                                                                                                                    |
|                                | <i>Mohsen Kalantari and Eftychia Kalogianni</i><br><b>Towards LADM Victoria country profile – modelling the spatial information</b>                                                                                                                                                             |
| <b>Thursday 4 October 2018</b> |                                                                                                                                                                                                                                                                                                 |
| 9:00 - 10:30                   | <b>Session 7 (Slot 13): 3D and 4D Model Visualization - Mohsen Kalantari</b>                                                                                                                                                                                                                    |
|                                | <i>Chen Wang and Chang-bin Yu</i><br><b>Digital Cartographic Model of 3D Cadastre: An Initial Design and Implementation</b>                                                                                                                                                                     |
|                                | <i>Gerhard Navratil, Marco Schwai, Stefan Vollnhöfer, Philip Konturek and Ioannis Giannopoulos</i><br><b>From Floor Plans to Condominium Rights Through an Augmented Reality Approach</b>                                                                                                       |
|                                | <i>Barbara Cemellini, Rod Thompson, Peter van Oosterom and Marian de Vries</i><br><b>Usability testing of a web-based 3D Cadastral visualization system</b>                                                                                                                                     |
|                                | <i>Abdullah Kara, Peter van Oosterom Volkan Çagdas, Ümit Isikdag and Christiaan Lemmen</i><br><b>3D Data for Better Property Value Estimation in the context of LADM Valuation Information Model</b>                                                                                            |
|                                | <i>Ramiro Alberdi and Diego Erba</i><br><b>Modeling Legal Land Object for water bodies in the context of n-dimensional cadastre</b>                                                                                                                                                             |
| 11:00 - 12:30                  | <b>Session 8 (Slot 14): Plenary keynotes / 3D Cadastres closing - Volker Coors</b>                                                                                                                                                                                                              |
|                                | <i>Antonio Jara</i><br><b>Smart Destinations: Challenges and opportunities to create sustainable smart cities in the data economy</b>                                                                                                                                                           |
|                                | <i>Ruizhi Chen</i><br><b>Smartphone Positioning and 3D Mapping Indoors</b>                                                                                                                                                                                                                      |