



**NCG**

Nederlands Centrum voor Geodesie en Geo-informatica (NCG)

**TU Delft**



**Gemeente Delft**



**Gemeente Rotterdam**



# Theory meets Practice, 5 November 2020

Joint event NCG symposium, **MRDH Geo congress** & **ICA workshop MRGen**

Programme (draft, all times in CET)

09:30	Event website open	
09:40	Opening, Prof. dr. A.K. Bregt, NCG chair	Plenary website A
09:50	Baarda Lecture: Prof. dr. Lars Harrie, Lunds universitet SWE: Integration of geospatial data - a visualisation challenge in a data rich world	Plenary website A (chair: Arnold Bregt)
10:40	Student Award: GIN-NCG-Scriptieprijs 2020	Plenary website A
10:50	Tienstra Research Award (jury chair: Prof. dr. Peter Teunissen) + Lecture by winner	Plenary website A
11:20	Time to change between sessions	
11:30	Regular sessions 1	Parallel websites B1, 2, 3, 4
12:30	Lunch time	
13:20	Opening Geocongres: Welcome by Martina Huijsmans, Alderman of Municipality of Delft Demo laserscanning door gemeente Rotterdam (1:30 min video) Keynote Prof. dr. Henk Scholten, VU: De invloed van de digitalisering op maatschappelijke veranderingen: is er een rol voor de overheid?	Plenary website C (chair: Peter van Oosterom)
13:50	Time to change between sessions	
14:00	Regular sessions 2 and NCG Mini-workshop on Creating Interactive Online Maps (D4) by dr. Dongliang Peng, TUD and Prof. dr. Volker Coors, HfT Stuttgart	Parallel websites D1, 2, 3, 4
15:20	Coffee/tea	
15:50	Regular sessions 3	Parallel websites E1, 2, 3, 4
17:10	End	

## Joint event NCG symposium, MRDH Geo congress & ICA workshop MRGen

NCG and MRDH presentations 12 minutes and question 3 minutes (total 15 minutes)

ICA presentations 10 minutes and discussion 10 minutes (total 20 minutes): session B1 and Friday sessions

Presentations with (\*) have 5 minutes additional for demo

Note mixed language presentation, expect Dutch presentation when title is in Dutch

### 11:30-12:30 Parallel Session B1: Map Generalization

chair: Menno-Jan Kraak

11:30 **Azelle Courtial**, Guillaume Touya and Xiang Zhang: Constraint Based Evaluation of Generalised Images Generated by Deep Learning

11:50 **Willem van Opstal**, Martijn Meijers and Ravi Peters: Rule-based isobath generalisation using the Triangle Region Graph: uniting soundings, isobaths and constraints through a navigational surface

12:10 **Timofey Samsonov**, Olga Yakimova, Olga Guseva and Daniil Potemkin: Adjustment of geometric level of detail characteristics based on landuse/landcover distribution

### 11:30-12:30 Parallel Session B2: Point Cloud Computation/Analysis

chair: George Vosselman

11:30 **Rod Thompson**, Peter van Oosterom and Martijn Meijers: Execution of Queries on nD PointClouds using Convex Polytopes

11:45 **Mutian Deng**: Using Foreign Data Wrapper in PostgreSQL to Expose Point Clouds on File System

12:00 **Liyao Zhang**, Peter van Oosterom and Haicheng Liu: Visualization of Point Cloud Models in Mobile Augmented Reality using Continuous Level of Detail Method

12:15 **Fancong Meng**, Roderik Lindenbergh, Yufu Zang and Julian Kooij: Deep Localization of Static Scans in Mobile Mapping Point Clouds (\*)

### 11:30-12:30 Parallel Session B3: Monitoring Change

chair: Edward Verbree

11:30 **Bas Altena**, Bert Wouters, Francesco Nattino and Ou Ku: Extracting glacier elevation change from time-series of monoscopic satellite imagery

11:45 **Jan Haacker** and Bert Wouters: Remote sensing – mass loss observed on Icelandic glaciers

12:00 **Valeria Di Biase** and Ramon Hanssen: Environmental strain on beach environments retrieved and monitored by space-borne synthetic aperture radar

12:15 **Linh Truong-Hong**: Structural deformation measurement-based laser scanning: Challenges and Lessons

### 11:30-12:30 Parallel Session B4: GNSS and Deformation

chair: Ramon Hanssen

11:30 **Lennard Huisman**: Reference frame validation of GNSS services

11:45 **Hans van der Marel**: Analysis of GNSS processing methodologies for subsidence monitoring

12:00 **Bin Zhang**, Ling Chang and Alfred Stein: On the synergy of Standard and Extra-Fine mode Radarsat-2 data for surface deformation mapping

12:15 **Marc Bruna**, Ramon Hanssen and Freek van Leijen: Attribute-enrichment of satellite InSAR deformation measurements based on contextual information

### **14:00-15:20 Parallel Session D1: Point Cloud, Segmentation, Machine Learning**

chair: Erwin Folmer

14:00 **Sander Oude Elberink**: Smart fusion of mobile laser scanner data with large scale topographic maps

14:15 **Jesus Balado Frias** and Peter van Oosterom: Mobile Laser Scanning point cloud segmentation with LSTM: Preliminary results

14:30 **Qian Bai**: Semantic Segmentation of AHN3 Point Clouds with DGCNN

14:45 **Sriram Natarajan**, Zille Hussnain, Julien Vijverberg and Luuk Spreeuwers: Learned clustering for 3D object segmentation

15:00 **Yustisi Ardhitasari Lumban-Gaol**, Mels Smit, Zhaiyu Chen, Xiaoai Li and Mihai-Alexandru Erbasu: Assessing PointCNN for Semantic Segmentation of Indoor Scene - Case Study: Dutch Railway Station (\*)

### **14:00-15:20 Parallel Session D2: 3D City Models and Applications**

chair: Antoine Gribnau

14:00 Giorgio Aguiaro and **Francisco Gabriel Garcia Gonzalez**: Semantic 3D city models as support for designing new development areas

14:15 **Antoine Gribnau**: Datalabs gemeente Den Haag

14:30 **Clara Garcia-Sanchez**, Stelios Vitalis and Jantien Stoter: Towards realistic urban wind simulations with 3D city models semantics

14:45 **Jin Huang**: City-scale LoD2 building reconstruction from airborne LiDAR data

15:00 **Hugo Ledoux**: Representing and modelling 3D city models with CityJSON (\*)

### **14:00-15:20 Parallel Session D3: Archeology and Sinkholes**

chair: Tatjana Sirovina

14:00 **Joana Martins**, Erik van Linden, Geert de Bruin, Maarten Pluymaekers, Ingrid Kroon: Effects of former coalmining: decreasing the search space of sinkhole formation

14:15 **Max Felius**, Ramon Hanssen and Freek van Leijen: Detection strategies for impending sinkholes based on InSAR data

14:30 **Arjen Brienen**: Archeologische Gegevens op de kaart

14:45 **Steven Jongma**: Geo informatiegebruik Archeologie Delft

15:00 **Michiel Boelhouwer**: Rotterdams WeerWoord

### **14:00-15:20 Parallel Session D4: Mini-workshop on Creating Interactive Online Maps**

14:00 **Volker Coors**: 3D city models on-line

14:40 **Dongliang Peng**: Interactive Vario-scale web maps

### **15:50-17:10 Parallel Session E1: Point Clouds Indoor**

chair: Robin van der Ende

15:50 **Marloes Graaumans**: Een kijkje achter de voordeur

16:05 **Samer Karam**, George Vosselman and Ville Lehtola: Strategies to integrate IMU and LiDAR SLAM for indoor mapping

16:20 **Herman de Haan**: Samen pakken we hittestress aan!

16:35 **Ville Lehtola**: Indoor 3D: overview on scanning and reconstruction methods

16:50 **Jos Feenstra** and Max van Schendel: Point Cloud Deployment for Firefighting Strategy (\*)

### **15:50-17:10 Parallel Session E2: Parcels, Buildings, Bikes and Valuations**

chair: Tanja van Dijk

15:50 **Pieter van der Roest**: Slimme fietshandhaving: het geografische framework

16:05 **Fons van der Ham**: Smart City Innovation Framework Infrastructure (SCIFI) in Delft

16:20 **Anastasia Borovykh**: How can data be used to improve bicycle flows around the city?

16:35 **Eftychia Kalogianni** and Peter van Oosterom: Investigation of using IFC files for 3D Land Administration

16:50 **Yue Ying**, Mila Koeva, Monika Kuffer, Kwabena O. Asiama, Xia Li and Jaap Zevenbergen: Towards 3D property valuation: A case study of Xi'an, China (\*)

### **15:50-17:10 Parallel Session E3: Deformations and Subsidence**

chair: Hans van der Marel

15:50 **Freek van Leijen**, Sami Samiei-Esfahany, Hans van der Marel and Ramon Hanssen: Improving the Functional and Stochastic Model of InSAR

16:05 **Thibault Candela**, Joana Martins, Peter Fokker, Aris Lourens, Willem Dabekaussen, Wilfred Visser, Erik Langius, Madelon Molhoek, Matthias Fath, Andrei Bocin-Dumitriu, Kay Koster: Think or Sink: unravelling anthropogenic causes of subsidence with a hybrid AI approach

16:20 **Simon van Diepen**, Floris Heuff, Philip Conroy, Freek van Leijen and Ramon Hanssen: A critical review of subsidence rates for pastures on peat land derived from historical geodetic datasets

16:35 **Sofia Tilon**: Unsupervised and Generalizable Post Disaster Building Damage Detection from Earth Observation Imagery using Anomaly Detecting Generative Adversarial Networks

16:50 **Ramon Hanssen** and Freek van Leijen: NCG Bodemdalingskaart: presenting surface and object deformation for a wide audience: results, experience and future outlook (\*)

### **15:50-17:10 Parallel Session E4: Governance and SDI**

chair: Erwin Folmer

15:50 **Catalina Cirstoiu**: Sherlock Homes in de Metropool

16:05 **Antoine Gribnau**: Crowdsourcing

16:20 **Haicheng Liu**, Peter van Oosterom, Martijn Meijers and Edward Verbree: Flood risk evaluation using a point cloud database

16:35 **Hein Corstens**: Towards a conceptual data model for the physical environment

16:50 **Jaap-Willem Sjoukema**, Arnold Bregt and Joep Crompvoets: Governance Interactions of Spatial Data Infrastructures: An agent-based modelling approach (\*)

## ICA workshop MRGen, part 2

6 November 2020, via Zoom (online)

Presentations 10 minutes and discussion 10 minutes (total 20 minutes)

### 9:45-10:00 Session F: Opening

#### Opening + welcome

### 10:00-11:00 Session G: Generalization within NMAs

chair: Guillaume Touya

10:00-10:20 [Paraskevi Mikeli](#), [Andriani Skopeliti](#) and [Byron Nakos](#): Cadastral data generalization for the creation of large scale maps

10:20-10:40 [Karel Stanek](#) and [Petr Silhak](#): Automated processing of state civil maps of middle scales

10:40-11:00 [Jantien Stoter](#), [Vincent van Altena](#) and [Daniël te Winkel](#): Aligning heterogeneous topographical data to derive multi-scale content for the Dutch nationwide Spatial Data Infrastructure

### 11:00-11:30 Coffee Break

Preparation afternoon demo session

### 11:30-12:10 Session H: Generalised Maps + Ontology

chair: Pia Bereuter

11:30-11:50 [Dongliang Peng](#), [Martijn Meijers](#) and [Peter van Oosterom](#): Multi-layer vario-scale map with dynamic transitions and visual analytical comparer web tool

11:50-12:10 [Guillaume Touya](#): MapGenOnto: A Shared Ontology for Map Generalisation and Multi-Scale Visualisation

### 12:10-13:30 Lunch break

### 13:30-14:30 Session I: Generalization algorithms

chair: Jantien Stoter

13:30-13:50 [Dongliang Peng](#), [Martijn Meijers](#) and [Peter van Oosterom](#): Paralleling generalization operations to support smooth zooming: case study of merging area objects

13:50-14:10 [Mathias Gröbe](#) and [Dirk Burghardt](#): Point selection approaches for zoomable maps

14:10-14:30 [Arthur van Goethem](#), [Wouter Meulemans](#), [Andreas Reimer](#) and [Bettina Speckmann](#): Simplification with Parallelism

### 14:30-15:15 Session J: Discussion Workshop 2021 + Participant demo's

ICA workshop 2021: where (on-site or on-line), who (organizer), what (specific focus), ...

Showing live demo's by various participants

## **15:15-15:30 Closing**

Closing and announcements from Commission chairs (Special Issue)