ICC 2019 Tokyo Tentative Program: Oral Session (as of 31 May 2019)

Tue 16th July

T01-1 Art, History & Design
Room: Saturn (Miraikan)
Datetime: Tue 16th July 8:30-10:20
Chair: Sharon Hayashi (York University)
T01-1-1 Procedural Knowledge of Graphic Design for Analysing Graphic Elements in Historical Urban Maps
Chenyang Xie
T01-1-2 Who were cartographers of manuscript topographic maps in the Enlightenment?
Beata Medynska-Gulij
T01-1-3 3D art cartography in Belarus: The historical development and achievements in the modern period
Anna German
T01-1-4 City maps: Dreams, Art, Cartography, Planning
Cosimo Palagiano

T02-1 Atlases – Theory and Principles
Room: Innovation Hall (Miraikan)
Datetime: Tue 16th July 8:30-10:20
Chair: Francis Harvey (Leibniz-Institute for Regional Geography)
T02-1-1 National atlases - an atlas type reconsidered
Eric H Losang
T02-1-2 Atlases and Systems Theory within Systematic Cartography
Vit Vozenilek
T02-1-3 3D Carto-Graphics – Principles, Methods and Examples for Interactive Atlases
René Sieber, Remo Eichenberger, Lorenz Humi

T12-1 Location Based Services I
Room: Uranus (Miraikan)
Datetime: Tue 16th July 8:30-10:20
Chair: Haosheng Huang (University of Zurich)
T12-1-1 Incorporating directional signs into indoor navigation systems
Wangshu Wang, Haosheng Huang, Hao Lyu, Georg Gartner
T12-1-2 The development of a cognitive indoor route planning algorithm: which aspects to include?
Nina Vanhaeren, Kristien Ooms, Nico Van De Weghe, Philippe De Maeyer
T12-1-3 Linking perception to decision point complexity for adaptive indoor wayfinding support
Laure De Cock, Kristien Ooms, Nico Van De Weghe, Philippe De Maeyer
T12-1-4 Positioning Locality Based on Cognitive Directions and Context in Indoor Landmark Reference System
Yankun Wang, Weixi Wang, Xiaoming Li, Shengjun Tang, You Li

T25-1 Ubiquitous Mapping
Room: Mars (Miraikan)
Datetime: Tue 16th July 8:30-10:20
Chair: Masatoshi Arikawa (Akita University)
T25-1-1 Intergenerational differences in the use of maps: results from an online survey
Yoshiki Wakabayashi
T25-1-2 Visual-Inertial Odometer-Based Global High Precision Indoor Human Navigation in a University Library
Akinori Takahashi, Shinpei Ito, Masatoshi Arikawa, Ruochen Si
T25-1-3 Virtual Circular Geofences for Points and Regions of Interests with Spatial Context
Masatoshi Arikawa, Hoshito Tokita, Ruochen Si, Ren Sato, Ryodai Tayama, Akinori Takahashi

T36-1 The transition to contemporary mappings
Room: Conference Room 1 (Plaza Heisei)
Datetime: Tue 16th July 9:20-10:20
Chair: Kam Wing Fung (The University of Hong Kong)
T36-1-1 The gradual reinforcement of Japanese mapping in pre-colonial Taiwan and Korea
Shigeru Kobayashi
T36-1-2 Development and Publication of Volcanic Base Map Data
Gen Nagano, Hironobu Tsuchihashi, Katsuhiro Okamoto, Yoshinori Numata
T36-1-3 Mapping time-distance
Feng Qi, Seth Docherty
T01-2 Journey as Method
Room: Saturn (Miraikan)
Datetime: Tue 16th July 10:50-12:10
Chair: Cristina M. Iosifescu Enescu (ETH Zurich, Switzerland)

T01-2-1 "A journey as a flow": A personal spatio-temporal projection of the world.
Aleksandra Stanczak, Antoni Moore

T01-2-2 Drawing North America by Hand
Anton Thomas

T01-2-3 Maps of Literary Trails in Thessaloniki
Alexandra Koussoulakou, Yiannis Mitzias, Konstantinos Ntovas, Symeon Simeonidis, Michail Bakoyannis

T01-2-4 Borderknots – cartography experiences of crossing borders
Katrin Gattinger

T02-2 Atlases – Processes and Tools
Room: Innovation Hall (Miraikan)
Datetime: Tue 16th July 10:50-12:10
Chair: Eric Losang (Leibniz-Institute for Regional Geography)

T02-2-1 The automation of processes of atlas mapping
Sergey Anatolyevich Krylov, Gleb Igorevich Zagrebin, Anton Viktorovich Dvornikov, Dmitriy Sergeyevich Loginov, Ivan Evgenyevich Fokin

T02-2-2 Graphical modeling with the choromatic method. A case study on Saudi Arabia.
Mohsen Dhieb

T02-2-3 Extending Exploration and Navigation Capabilities of the Atlas of Switzerland
Michael Schmuki, René Sieber, Lorenz Humi

T02-2-4 Maps under the global condition: a new tool to study the evolution of cartographic language
Pierre Cherrier, Sebastian Lentz, Jana Moser, Laura Pflug

T04-1 Cartography and Children 1
Room: Mars (Miraikan)
Datetime: Tue 16th July 10:50-12:10
Chair: CARLA CRISTINA SENA (UNESP)

T04-1-1 Teaching basic map concepts in three countries: Azerbaijan, Hungary and United Arab Emirates
José Jesús Reyes Nunez, Naema Al Hosani, Nargiz Safaraliyeva

T04-1-2 Spatial Thinking in Children's Education: The relationship between Geography and Cartography
Paula Strina Juliasz, Sonia Vanzella Castellar

T04-1-3 Initiative aiming to introduce children to maps in Kenya
Catherine Mugure Njore, Bartholomew Kuria Thiong'O, Charles Mwangi Kimari

T04-1-4 School Atlas with Augmented Reality
Nikola Petrov Yonov

T05-1 Cartography in Early Warning and Crisis Management 1
Room: Venus (Miraikan)
Datetime: Tue 16th July 10:50-12:10
Chair: TBD (TBD)

T05-1-1 Using GIS and cartography as part of the whole-of-society approach to determine coercion into marine wildlife poaching and piracy.
Peter Schmitz, Duarte Gonçalves

T05-1-2 Role of geospatial information for disaster risk management as exemplified in recent large earthquakes in Japan
Hiroshi Ume, Takayuki Nakano

T05-1-3 Evaluating earthquake-related ground failure mapping by combined traditional and modern methods
Takayuki Nakano, Hiroshi Ume, Kazuki Yoshida, Satoshi Fujiwara, Tomokazu Kobayashi

T05-1-4 The Integrated Disaster Reduction Intelligent Service System and its Application
Jiping Liu, Jiping Liu, Yong Wang, Mengmeng Liu, Shenghua Xu, Tao Jiang, Yang Gu

T06-1 Cartography in the Mind
Room: Conference Room 2 (Plaza Heisei)
Datetime: Tue 16th July 10:50-12:10
Chair: Sara Irina Fabrikant (University of Zürich)

T06-1-1 Representations of Place in the Human Brain
Amy Lobben, Megan McNally Lawrence, P. William Limpisathan

T06-1-2 Using fMRI to Explore the Influence of Road Network Patterns on Geospatial Cognition
Bing Liu, Weihua Dong, Lin Zhu, Huping Liu, Liqiu Meng

T06-1-3 Using Spatial Image Schemata in the characterization of spatial relations
Maria Engracinda Dos Santos Ferreira, Luciene Stamato Delazari

T06-1-4 Our global-scale cognitive map: is it influenced by our place of residence or education?
Lieselot Lapon, Kristien Ooms, Philippe De Maeyer
T12-2 Location Based Services II
Room: Uranus (Miraikan)
Datetime: Tue 16th July 10:50-12:10
Chair: Georg Gartner (TU Wien)
T12-2-1 Location Based Services: Research Trends and Open Challenges
Haosheng Huang, Georg Gartner, Jukka Krisp, Martin Raubal, Nico Van De Weghe
T12-2-2 Trajectory-based POI recommendations for mobile maps
Shane Loeffler
T12-2-3 Collecting reliable training data to extract tourism strolling behaviour from smartphone GPS logs during walking
Hisatoshi Ai, Hideki Kaji
T12-2-4 Classifying complex road features in the context of car driver education
Jukka M. Krisp, Andreas Keler

T24-1 General approaches
Room: Mercury (Miraikan)
Datetime: Tue 16th July 10:50-12:10
Chair: Peter Jordan (Austrian Academy of Sciences)
T24-1-1 Cartographers and geographers as toponym users, creators, and promoters. A linguistic perspective on cartographic and textual dissemination of geographical names
Wojciech Włoskowicz
T24-1-2 On the SCJ report “Challenges for the national standardisation of geographical names in Japan”
Kohei Watanabe, Kohei Okamoto, Akihiko Takagi, Takashi Monta, Shigeko Haruyama, Yoshiyasu Ida, Yumiko Tanizawa, Hiroshi Tanabe, Takashi Todokoro, Yoshiki Wakabayashi
T24-1-3 From Spatial to Platial Information Systems: For a Better Representation of the Sense of Place
Yaïves Ferland, Mir Abolfazl Mostafavi

T32b-1 Urbanization and urban shrinkage
Room: Conference Room 3 (Plaza Heisei)
Datetime: Tue 16th July 10:50-12:10
Chair: Tomoko Kubo (University of Tsukuba)
T32b-1-1 Urban cartography in the morphogenetic analysis of urban spaces: the case of the Boavista axis in the city of Porto
Mário Gonçalves Fernandes, Rui Passos Mealha
T32b-1-2 Housing challenges in shrinking and aging Japanese cities
Tomoko Kubo
T32b-1-3 Housing issue in shrinking Russian cities: mapping the reality
Elena Batunova, Maria Gunko

T36-2 The transition to modern mappings
Room: Conference Room 1 (Plaza Heisei)
Datetime: Tue 16th July 10:50-12:10
Chair: Shigeru Kobayashi (Osaka University)
T36-2-1 Aerial Surveys and Geographic Information in Modern China
Hajime Yamamoto
T36-2-2 Mapping Reality and Virtuality: Paintings, Maps and Hydrographical Surveying about British and American Settlements of the Shanghai Bund, 1845-1860
Kam Wing Fung
T36-2-3 Landscape-style Maps in Traditional Chinese Local Government
Akihiro Osawa
T36-2-4 The changing use-cases of medium and large-scale geological maps in Hungary
Gáspár Albert

T01-3 Mapping the Ephemeral
Room: Saturn (Miraikan)
Datetime: Tue 16th July 14:50-16:10
Chair: Nick Lally (University of Kentucky)
T01-3-1 Cartographic Tools for Mapping Dreams
Cristina M. Iosifescu Enescu, Lorenz Humi
T01-3-2 Sounding out Place and Cultural Memory in Tempelhofer: Human Scale
Elina Lex
T01-3-3 Points Further North: An Acoustemological Cartography of Non-Place
Michael Klaus Trommer, Graham Wakefield
T01-3-4 Mapping Perception of Place through Emotion, Memory, Senses, and the Imaginary
Joanna Gardener, William Cartwright, Lesley Duxbury, Amy Griffin
T02-3 National atlases
Room: Innovation Hall (Miraikan)
Datetime: Tue 16th July 14:50-16:10
Chair: Qingwen Qi (National Atlases Editorial Office of China)

T02-3-1 The new national atlas of Hungary
Károly Kocsis, Zsombor Nemerkényi, László Zentai, Gábor Gercsák

T02-3-2 A new work of the National Atlas of Spain called Spain on Maps. A Geographic Synopsis has been published
Noelia Pérez, Andrés Aristegui, Pilar Sánchez-Ortiz, Alfredo Del Campo

T02-3-3 Topic Selection and Structure in the National Atlas of Switzerland
Raphael Vomsattel, René Sieber, Lorenz Hurni

T02-3-4 Creation of the National Atlas of the Arctic
Andrey Tatarenkov

T04-2 Cartography and Children 2
Room: Mars (Miraikan)
Datetime: Tue 16th July 14:50-16:10
Chair: Yaïves Ferland (Université Laval)

T04-2-1 Cartographical Knowledge and the training of Geography teachers
Carla Cristina Reinaldo Gimenes De Sena, Barbara Gomes Flaire Jordão, Sonia Maria Vanzella Castella

T04-2-2 Liber chronicarum, Carta marina and other mappae mundi
Beata Fijołek-Soska

T04-2-3 Geography education by the combination use of GIS and AR
Koji Ohnishi, Hiroaki Akimoto, Yoshihiro Ugawa, Satoru Itoh

T05-2 Cartography in Early Warning and Crisis Management 2
Room: Venus (Miraikan)
Datetime: Tue 16th July 14:50-16:10
Chair: TBD (TBD)

T05-2-1 Hazard-based images comparison methods for damage assessment in emergency mapping
Jean-François Girres

T05-2-2 Mapping Violent Presence of Armed Actors in Colombia
Javier Osorio, Mohamed Mohamed, Viveca Pavon, Susan Brewer-Osorio

T05-2-3 The Swiss joint information platform for natural hazards
Philipp Angehrn, Sabina Steiner, Christophe Lienert

T05-2-4 Spatial Data modelling to study and improve waste management after hurricanes. The case of French West Indies
Anne Ruas, Serge Lhomme

T06-2 Wayfinding with landmarks: from the world to the map
Room: Conference Room 2 (Plaza Heisei)
Datetime: Tue 16th July 14:50-16:10
Chair: Petr Kubiček (Masaryk University)

T06-2-1 The Influence of Spatial Familiarity on Landmark Salience Sensibility Based on Eye Tracking
Litoa Zhu, Milan Konečný, Jie Shen, Zdeněk Stachoň, Hana Švedová

T06-2-2 Experiment on People’s Selection of Route Landmarks from Different Types of Geospatial Pictures
Pyry Kettunen

T06-2-3 Influence of Viewing Field on Zoom Levels in Pedestrian Orientation Task Using Smartphones
Bonan Wei, Jochen Schiewe

T06-2-4 Task-Oriented Display of Landmark Pictograms in Maps
Julian Keil, Dennis Edler, Lars Kuchinke, Frank Dickmann

T09-1 GAM Research Agenda
Room: Miraikan Hall (Miraikan)
Datetime: Tue 16th July 14:50-16:10
Chair: X.Angela Yao (University of Georgia)

T09-1-1 New Paradigm in Mapping: A Critique on Cartography and GIS
Bin Jiang

T09-1-2 Is there a paradigm shift for GIS data representation and analysis?
Xiaobao Angela Yao

T09-1-3 Methods for the Geographic Representation of Interpersonal Relationships and Social Life
Clio Andris, Dipto Sarkar
T12-3 Location Based Services III
Room: Uranus (Miraikan)
Datetime: Tue 16th July 14:50-16:10
Chair: Jukka Krisp (University of Augsburg)
T12-3-1 The influence of user characteristics on spatial perception differences in 3D visual environments
Lina Huang, Yanfang Liu, Shen Ying
T12-3-2 Using Cartograms for Visualizing extended Floating Car Data (xFCD)
Christian Röger, Jukka M. Krisp
T12-3-3 Positioning Error in Mobile Phone Tracking Data with Consideration of Geographic Environment Factors
Xiaoping Song, Yi Long, Ling Zhang
T12-3-4 Solution for indoor positioning using WiFi networks
Carolina Aguilar Aravena, Luciene Stamato Delazari

T24-2 Place names and identity
Room: Mercury (Miraikan)
Datetime: Tue 16th July 14:50-16:10
Chair: Sungjae Choo (Kyung Hee University Seoul)
T24-2-1 Toponyms' contribution to identity: The case study of Rabat (Morocco)
Malak Alasli
T24-2-2 Memory and local Identity: the Persistence of Colonial-Era Street Names in Hong kong after 1997
Wenchuan Huang
T24-2-3 Mapping the core and periphery applied to a choronym (the case of Székely Land)
Zsombor Bartos-Elekes
T24-2-4 Unveil the “Lost Toponyms” in the Northern Part of the Menoreh Mountains, Java, Indonesia
Albina Apriadsa, Habib Sidiq Anggoro, An Cahyono, Rossaydiana Apriadna

T32b-2 Behavior and landscape of cities
Room: Conference Room 3 (Plaza Heisei)
Datetime: Tue 16th July 14:50-16:10
Chair: Jun Yamashita (Kyushu University)
T32b-2-1 Spatial Analysis of Tourist Spots in Central Tokyo Using Online Geotagged Photographs from Flickr
Bochra Bettaieb, Yoshiki Wakabayashi
T32b-2-2 Mapping foreign residents in Japan’s major cities
Yoshitaka Ishikawa
T32b-2-3 Spatial-Temporal Landscape Analysis of Kallang-Seletar Transect, Singapore
Tao Wang

T34/35-1 The frontier of crowdsourced geospatial information
Room: Conference Room 1 (Plaza Heisei)
Datetime: Tue 16th July 14:50-16:10
Chair: Yuichiro Nishimura and Toshikazu Seto (Nara Women's University and University of Tokyo)
T34/35-1-1 Mobile Tools for Community Scientists
Maria Antonia Brovelli, Candan Eylul Kilsedar, Francesco Frassinelli
T34/35-1-2 Potential of crowdsourced data for integrating landmarks and routes for rescue in mountain areas
Marie-Dominique Van Damme, Ana-Maria Olteanu-Raimond, Yann Méneroux

T01-4 Alternative Urban Cartographies
Room: Saturn (Miraikan)
Datetime: Tue 16th July 16:40-18:00
Chair: Joanna R Gardener (Swinburne University of Technology and RMIT University)
T01-4-1 “Buoyant Cartographies”: Strata-Mapping the Detroit River Border
Taien Ng-Chan
T01-4-2 Mapping Heterotopias: Port B’s Excavation of Asia in Tokyo
Sharon Hayashi
T01-4-3 To Characterize the Inscrutable City: A Practice of Alternative Mapping for Beirut
Lee Frederix
T02-4 Historical Atlases

Room: Innovation Hall (Miraikan)
Datetime: Tue 16th July 16:40-18:00
Chair: Thomas Schulz (Swiss Federal Statistical Office)

T02-4-1 Historic Atlases of Polish Towns - status at the end of 2018
Zenon Kozieł, Radosław Golba, Agnieszka Pilarska, Roman Czaja

T02-4-2 Unknown Unknowns in Map Preparation for Historical Atlases
Pavel Seemann, Tomas Janata

T02-4-3 Creating a Digital Atlas of French Public Architecture (1795 – 1840)
Lena Krause

T04-3 Cartography and Children 3

Room: Mars (Miraikan)
Datetime: Tue 16th July 16:40-18:00
Chair: José Jesús Reyes Nunez (Eotvos Lorand University)

T04-3-1 The importance of History of Cartography in the Geography teaching
Carla Cristina Sena

T04-3-2 Geoliteracy, Cartology, and a Mobile Serious Game
Yaiyes Ferland, Margot Kaszap

T05-3 Cartography in Early Warning and Crisis Management 3

Room: Venus (Miraikan)
Datetime: Tue 16th July 16:40-18:00
Chair: TBD (TBD)

T05-3-1 Visualization of fire brigade interventions based on statistical data
Łukasz Wielebski

T05-3-2 Online Hazard Maps, Risk Communication, Acceptance and Usage Continuance Intention Model: A Selected Review of Literature
Kartika Puspita Sari, Hidehiko Kanegae

T05-3-3 Cartographies of Genocide
Alberto Giordano

T05-3-4 Mapping refugee litters in the eastern coast of Lesvos using UAS, an emerging marine litter problem.
Apostolos Papakonstantinou, Konstantinos Topouzelis, Michaela Doukari, Olympos Andreadis

T06-3 Maps, mountains and routing

Room: Conference Room 2 (Plaza Heisei)
Datetime: Tue 16th July 16:40-18:00
Chair: Pyry Kettunen (Finnish Geospatial Research Institute (FGI), National Land Survey of Finland)

T06-3-1 Deconstructing the relief inversion illusion: Contributors of the problem and its solutions
Arzu Coltekin, Gianna Hartung, Martina Meyer

T06-3-2 Improving the search for victims in mountain with geovisualization and competing hypotheses management
Matthieu Viry, Marlène Villanova-Oliver, Jacques Gautier, Matthew Sreeves, Paule-Annick Davoine

T06-3-3 Evaluation of Map Signs for Evacuation Purposes
Zdeněk Stachoň, Petr Kubicek, Hana Svedova, Jie Shen, Xinqian Wu, Milan Konecny

T06-3-4 A framework for automatically visualizing and recommending efficient routes
Stefan Fuest, Monika Sester

T09-2 Flood mapping and water system

Room: Miraikan Hall (Miraikan)
Datetime: Tue 16th July 16:40-18:00
Chair: Evgeny Panidi (Saint Petersburg State University)

T09-2-1 A Mid-Axis extraction of heterogeneous river network data with topological consistency
Hai Hu, Lili Song, Zonglin Yin, Min Yang

T09-2-2 A MULTI-CRITERIA DECISION SUPPORT SYSTEM IN THE ANALYSIS OF FLOOD RISK AND VULNERABILITY MAPPING IN SULEJA, NIGER STATE, NIGERIA
Halima Sadiya Abdullahi, Nura Khalief Umar, Ado Usman Kibon

T09-2-3 Modelling and Mapping Elusive Locations of Historic Water-Powered Grist Mills
Michael Edward Hodgson, Silvia Piovan
**T12-4 Location Based Services IV**

Room: Uranus (Miraikan)  
Datetime: Tue 16th July 16:40-18:00  
Chair: Tinghua Ai (Wuhan University)

T12-4-1 **Floating Car Data and Fuzzy Logic for classifying congestion indexes in the city of Shanghai**  
Maja Kalinic, Jukka M. Krisp

T12-4-2 **Combining Location2Vec with LSTM to predict next locations from trajectory data**  
Shanshan Han, Fu Ren, Qingyun Du

T12-4-3 **A Method for extracting multi-scale stay feature of trajectory based on OPTICS**
Minshi Liu, Yi Long

**T24-3 Place names and map design**

Room: Mercury (Miraikan)  
Datetime: Tue 16th July 16:40-18:00  
Chair: Cosimo Palagiano (Sapienza University of Rome)

T24-3-1 **Fifty shades of Roboto: Text Design Choices and Categories in Multi-Scale Maps**  
Sébastien Biniek, Guillaume Touya, Gilles Rouffineau

T24-3-2 **Multilingualization Experiment of Geographical Name Information Using Vector Tile Format**
Masaki Suga, Koji Otsuka, Yoshikazu Honda

T24-3-3 **Point Label Placement on Hexagonal Map Grids**
Tinghua Ai, Yingzhe Lei

T24-3-4 **Geographical names to support monitoring of the regional dynamic in Magelang, Central Java, Indonesia**  
Ari Cahyono, Rossaydiana Apriadna, Yuniarista Setyo Wulandari, Siti Martha Uly Br Sinaga

**T32b-3 Urban governance, development, and mapping platform**

Room: Conference Room 3 (Plaza Heisei)  
Datetime: Tue 16th July 16:40-18:00  
Chair: Jun Tsutsumi (University of Tsukuba)

T32b-3-1 **VGI contributors’ awareness and practice on data quality: A case in Japan**  
Jun Yamashita, Toshikazu Seto, Yuichiro Nishimura, Nobusuke Iwasaki

T32b-3-2 **Challenges in creating a 3D participatory platform for urban development**
Thibaud Chassin, Jens Ingensand, Maryam Loffian, Olivier Ertz, Florent Joerin

T32b-3-3 **UFPR CampusMap: a laboratory for a Smart City developments**
Luciene Stamato Delazari, Leonardo Ercolin Filho, Ana Luiza Stamato Delazari Skroch

T32b-3-4 **Mapping Building Roof over Large Areas with Images of Public Available Map Services: Semantic Segmentation and Footprint Regularization**
Yuchu Qin, Shuai Gao, Miao Liu

**T34/35-2 Geo for all: GIS education and volunteered geographic information**

Room: Conference Room 1 (Plaza Heisei)  
Datetime: Tue 16th July 16:40-18:00  
Chair: Nobusuke Iwasaki (The National Agriculture and Food Research Organization)

T34/35-2-1 **A Climate Event Portal for Citizen Science**
Andreas Divanis, Liqiu Meng

T34/35-2-2 **Web Cartography going public: Developing a Massive Open Online Course (MOOC) for cartographic prosumers**  
Lorenz Hurni, Charalampos Gkonos, Hans Rudolf Baer
Wed 17th July

T01-5 Constructions & Abstractions
Room: Saturn (Miraikan)
Datetime: Wed 17th July 8:30-10:20
Chair: William Cartwright (RMIT)
T01-5-1 Geovisualizing space and time in a science-art exhibit
Javier A. Arce-Nazario
T01-5-2 Project “What connects us to the world?” : Constructions of artistic cartographic representations
Vânia L.C.A. Souza, Maria R.M. Matos
T01-5-3 Projecting emotions from artworks to maps using neural style transfer
Edyta Paulina Bogucka, Liqiu Meng
T01-5-4 Mapping dynamic, non-Euclidean spaces
Nick Lally, Luke Bergmann

T02-5 Educational and Ecological Atlases
Room: Innovation Hall (Miraikan)
Datetime: Wed 17th July 8:30-10:20
Chair: Vit Vozenilek (Palacký University Olomouc)
T02-5-1 The Republic of Indonesia Territorial Atlas as Geoliteration Tools for the Adolescents
Fakhruddin Mustofa, Ellen Suryanegara, Niendyawati Niendyawati, Mulyanto Darmawan
T02-5-2 Swiss World Atlas in Class Room - How to teach with maps
Wenke Zimmermann, Lorenz Hurni
T02-5-3 Rethinking the Place of students intermediated by the Geographic, Historical and Cultural School Atlas of the Federal District, Brasilia, Brazil
Vânia L.C.A. Souza, Cristina M.C. Leite, Miriam A. Bueno
T02-5-4 Fauna on the maps of Russia and its Arctic Region
Tamara Vereshchaka, Olga Kulagina, A.L. Stepanchenko

T07-1 Educational resources
Room: Venus (Miraikan)
Datetime: Wed 17th July 8:30-10:20
Chair: Laszlo Zentai (Secretary-General & Treasurer ICA, Hungary)
T07-1-1 Analysis of the representation of Sustainable Development Goals in textbook maps and atlases in educational contexts
Sandra Sprenger, Carina Peter
T07-1-2 Cartography, A book and a MOOC
Kenneth Field
T07-1-3 The Introduction Chapter of the Swiss World Atlas 2017 – An Innovative Cartographic Education Tool in Switzerland
Christian Haeberling, Katharina Henggeler, Lorenz Hurni

T09-3 Raster Data Analysis
Room: Miraikan Hall (Miraikan)
Datetime: Wed 17th July 8:30-10:20
Chair: Rakesh Kumar (International Institute for Population Sciences Mumbai)
T09-3-1 Run length coding and efficient compression of hexagonal raster data based on Gosper curve
Rui Xin, Tinghua Ai
T09-3-2 Rural Road Extraction using Object Based Image Analysis (OBIA): A case study from Assam, India
Ankita Medhi, Ashis Kumar Saha
T09-3-3 A fast and simple algorithm for calculating flow accumulation matrices from raster digital elevation models
Guiyun Zhou, Wenyan Dong, Hongqiang Wei
T09-3-4 Validating the vertical quality of SRTM digital elevation model of the Mirim Lagoon hydrographic basin
Andrea Lopes Iescheck, Patricia Andréia Paiola Scalco

T13-1 Map Design I: Perception and Cognition
Room: Uranus (Miraikan)
Datetime: Wed 17th July 8:30-10:20
Chair: Kenneth Field (Esri Inc)
T13-1-1 Design, Dissemination, and Disinformation in Viral Maps
Anthony C Robinson
T13-1-2 Emotion maps
William Edward Cartwright
T13-1-3 User Preferences for Bus Map Design: Evidence from a Map Usability Study
Mohd Shahmy Mohd Said, David Forrest
T18-1 Relief representations
Room: Mars (Miraikan)
Datetime: Wed 17th July 8:30-10:20
Chair: Karel Kriz (University of Vienna)

T18-1-1 Standard Elevation Models for Evaluating Terrain Representation
Patrick Kennelly, Tom Patterson, Alexander Tait, Bernhard Jenny, Daniel Huffman, Sarah Bell, Brooke Marston

T18-1-2 Analysis of Relief Shading Tools and Methods for Terrain Representation
Marianna Farmakis-Serebryakova, Lorenz Humi

T18-1-3 Contour Lines Generation in Karstic Plateaus for Topographic Maps
Guillaume Touya, Hugo Boulze, Anouk Schleich, Hervé Quinquenel

T18-1-4 Visualizations of the Doblar Accumulation Basin Based on the UAV Survey
Klemen Kozmus Trajkovski, Gašper Štebe, Dušan Petrović

T19-1 Open source geotechnologies in Cartography
Room: Mercury (Miraikan)
Datetime: Wed 17th July 8:30-10:20
Chair: Claudia Robbi Sluter (Federal University of Rio Grande do Sul - UFRGS (Brazil))

T19-1-1 The advancement of utilizing geospatial information via GSI Maps
Hirosato Mogi

T19-1-2 GIS Maps as Powerful Curriculum Artefacts
Mary Fargher

T19-1-3 Historical map viewer technology that guarantees nonlinear bijective conversion without distortion
Kohei Otsuka

T19-1-4 Reproducible Workflow for Cartography - Migrants Deaths in the Mediterranean sea
Timothée Giraud, Nicolas Lambert

T26-1 User Issues in Representation Design I
Room: Conference Room 2 (Plaza Heisei)
Datetime: Wed 17th July 9:20-10:20
Chair: Robert Roth (University of Wisconsin)

T26-1-1 How does the enumeration unit size influence spatial pattern recognition in choropleth maps? User study
Izabela Karsznia

T26-1-2 Choropleth map - which data type should I use?
Tomasz Nowacki

T42-1 Geospatial web data
Room: Conference Room 3 (Plaza Heisei)
Datetime: Wed 17th July 9:20-10:20
Chair: Hideyuki Fujita (The University of Electro-Communications)

T42-1-1 Research on Deep Web POI Acquisition based on Retrieving Word Optimization and Spatial Adaptive
Yong Wang, Yong Wang, Jiping Liu, An Luo, Yuanhui Cao

T42-1-2 Analysis of Tourists’ Image of Seoul with Geotagged Photos using Convolutional Neural Networks
Dongeun Kim, Youngok Kang, Yeonhui Park, Nayeon Kim, Juyoon Lee, Nahye Cho

T42-1-3 Semantic trajectory inference from geo-tagged tweets
Qunying Huang, Xinyi Liu

T02-6 Statistical and Political Atlases
Room: Innovation Hall (Miraikan)
Datetime: Wed 17th July 10:50-12:10
Chair: René Sieber (ETH Zurich, Switzerland)

T02-6-1 Digital Thematic Mapping Based on Classical Geopolitical Theory
Bertil Häggman

T02-6-2 Statistical Atlas of Poland and statistical atlasses of voivodships
Maciej Zych, Katarzyna Medolińska

T02-6-3 Retro-atlases II: a new edition of the first Statistical Atlas of Switzerland (1897)
Olaf König
T07-2 Cartographic topics for wider audiences
Room: Venus (Miraikan)
Datetime: Wed 17th July 10:50-12:10
Chair: Gertrud Schaab (Deputy Dean for Research, Karlsruhe University of Applied Research, Germany)
T07-2-1 Geospatial Literacy in Africa-Nigeria
Raimi Abidemi Asiyabola
T07-2-2 Digital sketch maps in teaching GIS for law enforcement students
Andrea Pódör, László Zentai, Erika Gal
T07-2-3 Orienteering in Geography Education in Japanese High School
Taketo Kobayashi
T07-2-4 Challenges for First Time GIS User among Student Teachers
Mengieng Ung

T09-4 Network Analysis (I)
Room: Miraikan Hall (Miraikan)
Datetime: Wed 17th July 10:50-12:10
Chair: Bin Jiang (University of Gävle)
T09-4-1 Understanding the integration of buses and metro systems using smart card data
Diao Lin, Ruoxin Zhu
T09-4-2 Uncovering Community Structure in Geospatial Networks: A Case Study of Urban Bus Networks in Hangzhou, China
Yujing Wang, Fu Ren, Qingyun Du
T09-4-3 Shadow analysis of buildings over urban express way by using three-dimensional GIS - To study the distribution of long remained snow cover that made express way close for five days
Daichi Shiroki, Hiroshi Masaharu
T09-4-4 FINDING AN ALTERNATE ACCESS ROUTE FROM IKIRE TO GBONGAN USING GEOSPATIAL TECHNIQUES
Nureni Babatunde Amoo

T13-2 Map Design II: Flows and Schematics
Room: Uranus (Miraikan)
Datetime: Wed 17th July 10:50-12:10
Chair: Ian Muehlenhaus (University of Wisconsin-Madison)
T13-2-1 Methods and tools for automated production of origin-destination flow maps
Daniel M Stephen, Bernhard Jenny
T13-2-2 A comparative analysis of visualization methods of travel time for schematic road map
Xiaotong Hou, Peng Ti
T13-2-3 Cargo flow maps: design principles and automated generation
Timofey Samsonov, Platon Yasev
T13-2-4 Another new design for an old map
Kenneth Field, William Cartwright

T18-2 Mapping mountain and outdoor activities
Room: Mars (Miraikan)
Datetime: Wed 17th July 10:50-12:10
Chair: Dušan Petrovič (University of Ljubljana)
T18-2-1 ALBINA The White Goddess – Mapping and Communicating Avalanche Risk in the European Alps
Karel Kriz
T18-2-2 Proposals for enhancements of topographic maps for high alpine tours
Stephan Wondrak
T18-2-3 Cross-border topographic mapping, cross-border orienteering: the Hungarian overview
László Zentai, Gábor Gercsák

T26-2 User Issues in Representation Design II
Room: Conference Room 2 (Plaza Heisei)
Datetime: Wed 17th July 10:50-12:10
Chair: Zdenek Stachon (Masaryk University)
T26-2-1 Evaluating rainbow colour scheme in social data mapping
Izabela Golębiowska
T26-2-2 How colour palettes in maps are re-coloured by daltonization methods
Anne Kristin Kvitil
T26-2-3 Numbers on maps as a new cartographic technique: helpful or harmful for users? An empirical study
Jolanta Korycka-Skorupa
T26-2-4 The Specifics of Cartographic Semiology in Tactile Maps
Alena Vondráková, Radek Barvír, Jan Brus
T30-1 GIS, Remote Sensing and Cartographic Theory, Methodology and Applications (1)
Room: Saturn (Miraikan)
Datetime: Wed 17th July 10:50-12:10
Chair: Takashi Oguchi and Tzai-Hung Wen (Univ. Tokyo, Japan, National Taiwan Univ.)

T30-1-1 Extraction of knowledge on spatial distribution and spatial relationship from scanned topographic map using Convolutional Neural Networks
Hao Wu, Hongguo Jia

T30-1-2 Displacement and visualization of point symbols based on spatial distribution characteristics
Haipeng Liu, Yi Long, Yi Zheng

T30-1-3 Third dimension of a map
Karel Jedlička

T30-1-4 Image Spectrometry and Copernicus data for Heritage Mapping in the Jarama Valley, Spain
Juan Gregorio Rejas, Francisco Javier Gonzalez, Pilar Sanchez-Ortiz

T31-1 Visualization and Analysis of Geographical Process (1)
Room: Mercury (Miraikan)
Datetime: Wed 17th July 10:50-12:10
Chair: Koichi Tanaka (Ibaraki University)

T31-1-1 Time-space Visualization of Automobile and Airplane Travel Time from Chicago to Various Destination Cities
Stella W. Todd, Alex Yetsko, Claire Hay

T31-1-2 An Analysis of Movement by Visualizing Spatio-Temporal Characteristics of Logdata
Nahye Cho, Youngok Kang

T34/35-3 Analysis of OpenStreetMap contribution and data trustworthiness
Room: Conference Room 1 (Plaza Heisei)
Datetime: Wed 17th July 10:50-12:10
Chair: Maria Antonia Brovelli (Politecnico di Milano)

T34/35-3-1 Temporal-spatial Analysis of Contributors’ Mapping Behavior for Building Data in OpenStreetMap
Jin Xu, Qi Zhou

T34/35-3-2 Spatial-temporal Evolution and Completeness Analysis of OpenStreetMap Building Data in China from 2012 to 2017
Qi Zhou, Yuanjian Tian

T34/35-3-3 Pedestrian Traffic Flow Prediction based on ANN Model and OSM data
Achituv Cohen, Sagi Dalyot

T34/35-3-4 Integrating spatial accessibility estimates derived from crowdsourced, commercial, and authoritative geo-datasets: Case study of mapping accessibility to urban green space in the Tokyo-Yokohama area
Brian Alan Johnson, Rajarshi Dasgupta, Shizuka Hashimoto, Pankaj Kumar, Akio Onishi

T42-2 Designing data driven maps
Room: Conference Room 3 (Plaza Heisei)
Datetime: Wed 17th July 10:50-12:10
Chair: TBD (TBD)

T42-2-1 Designing maps with fictional and real road intersections for the evaluation of countdown timer displays for bicyclists
Andreas Keiler, Georgios Grigoropoulos, Heather Kath, Klaus Krämer, Jakob Kath, Matthias Spangler, Fritz Busch

T42-2-2 Enriching complex road intersections from OSM with traffic-related behavioral information
Andreas Keiler, Georgios Grigoropoulos, Dominik Mussack

T42-2-3 Automatic Generation of Photorealistic Image Fillers for Privacy Enabled Urban Basemaps using Generative Adversarial Networks
Amgad Agoub, Yevgeniya Filipovska, Valentina Schmidt, Martin Kada

T42-2-4 Innovative Geospatial and Cartographic Approaches to Identification, Analysis, and Visualisation of Land Degradation
Tomas Reznik, Milan Konecny, Karel Charvat

T06-4 Map design, emotions and decision-making
Room: Conference Room 2 (Plaza Heisei)
Datetime: Wed 17th July 14:50-16:10
Chair: Amy Griffin (RMIT University)

T06-4-1 The significance of shape in cartographic communication
Silvia Klettner

T06-4-2 Effects of valence on selecting and memorizing spatial information from road maps
Andrea Binn

T06-4-3 Emotional responses to climate change map framing using facial emotion recognition technology
Carolyn S Fish, Amy L Griffin

T06-4-4 How are map-based decisions influenced by uncertainty visualization in risky and time-critical situations?
Michelle Korporaal, Sara Irina Fabrikan
T07-3 Educational concepts
Room: Venus (Miraikan)
Datetime: Wed 17th July 14:50-16:10
Chair: William Cartwright (Professor of Cartography, RMIT University, Australia)
T07-3-1 Strategies for teaching cartography from theory and practice
Jeff T Howarth
T07-3-2 Contemporary challenges in cartographic education
David Fairbairn
T07-3-3 Envisioning the future of academic cartographic education
Georg Gartner, Menno-Jan Kraak, Dirk Burghardt, Liqiu Meng, Juliane Cron, Corne Van Elzakker, Britta Ricker
T07-3-4 ANALYTICAL BACKGROUND FOR DEVELOPING A BODY OF KNOWLEDGE FOR CARTOGRAPHY
Harold Moellering

T09-5 Network Analysis (II)
Room: Miraikan Hall (Miraikan)
Datetime: Wed 17th July 14:50-16:10
Chair: X.Angela Yao (University of Georgia)
T09-5-1 MODELING AND ANALYSIS OF SEMANTICALLY ENRICHED SIMPLIFIED TRAJECTORIES USING GRAPH DATABASES
Rajesh Tamilmani, Emmanuel Stefanakis
T09-5-2 Data Cleansing Method for Sparse Trajectory Data: A Case Study of Shared Electric Bicycles in Tengzhou
Zhaoxin Dai, Weixiang Peng, Chengcheng Zhang
T09-5-3 Analysis on the Riding Characteristics of Mobike Sharing Bicycle in Beijing City, China
Min Cao, Mengxue Huang
T09-5-4 An Improved Algorithms of Stroke Generation Considering Multi-level Information Quantity
Liu Yi, Li Wen Jing, Lin Zhi Yong

T13-3 Map Design III: Thematics
Room: Uranus (Miraikan)
Datetime: Wed 17th July 14:50-16:10
Chair: Ian Muehlenhaus (University of Wisconsin-Madison)
T13-3-1 Image of Excellence – Developing Wine Maps for Austria
Karel Kriz
T13-3-2 Thematic Mapping: This Is My Truth Tell Me Yours
Kenneth Field
T13-3-3 Central Park Squirrel Census Maps
Nathaniel Garnett Slaughter Iv

T23-1 New Approaches in Topographic Mapping
Room: Mars (Miraikan)
Datetime: Wed 17th July 14:50-16:10
Chair: Alexander Kent (Canterbury Christ Church University)
T23-1-1 Towards sustainable topographic mapping
Haico Van Der Vegt, Paula Dijkstra, Ton Van Helvert
T23-1-2 Cartographic support of design, construction and operation of underground gas storage in rock salt
Tamara Vereszhchaka, Marina Bakanova, A.L. Stepanchenko
T23-1-3 Digital processing of old topographical maps for the reference base for quantitative and qualitative studies of landscape changes
Dariusz Lorek, Beata Medynska-Gulij, Pawel Cybulski, Tymoteusz Horbiński
T23-1-4 DEM based Terrain Sketch Mapping in a Loess Landform By Considering visual hierarchy and feature generalization
Cheng Yi Han

T30-2 GIS, Remote Sensing and Cartographic Theory, Methodology and Applications (2)
Room: Saturn (Miraikan)
Datetime: Wed 17th July 14:50-16:10
Chair: Takashi Oguchi and Tzai-Hung Wen (Univ. Tokyo, Japan, National Taiwan Univ.)
T30-2-1 3D Map Visualization Process and Efficiency Analysis of Geographic Information Based on WebGL
Deguo Su, Beibei Tan, Debao Yuan, Yong Wang
T30-2-2 Semantically Enriched Simplification of Trajectories
Rajesh Tamilmani, Emmanuel Stefanakis
T30-2-3 Improvements to Information Entropy for Raster Spatial Data: A Thermodynamic-based Evaluation
Hong Zhang, Peichao Gao, Zhilin Li
T30-2-4 Boltzmann Entropy for the Spatial Information of Raster Data
Peichao Gao, Hong Zhang, Zhilin Li
T31-2 Visualization and Analysis of Geographical Process (2)
Room: Mercury (Miraikan)
Datetime: Wed 17th July 14:50-16:10
Chair: Hao Hou (Hangzhou Normal University)

T31-2-1 The Spatial Relationship between Land Surface Temperature and Land Use/Cover Types in Sapporo City, Japan
Ruci Wang, Yuji Murayama

T31-2-2 Evaluating Bi-temporal Dynamics and Trend of Urbanization-induced Land Cover Temperature in Shanghai, China
Fei Liu, Yuji Murayama

T31-2-3 Geographical Change of the Japanese National Land in the 200 Years Using INÔ’s Map with GIS
Yuji Murayama, Yuki Iwai

T34/35-4 Geomedia studies using volunteered geographic information
Room: Conference Room 1 (Plaza Heisei)
Datetime: Wed 17th July 14:50-16:10
Chair: Holger Jens Kumke (Technical University Munich)

T34/35-4-1 Linking picture with text: tagging flood relevant tweets for rapid flood inundation mapping
Xiao Huang, Cuizhen Wang, Zhenlong Li

T34/35-4-2 Social Media for Sensing: Do Tweets Represent Events at Geo-Tagged Locations?
Morteza Karimzadeh

T34/35-4-3 Finding cultural heritage traces from modern social media
Francisco Porras Borandez, Georg Gartner, Nico Van De Weghe, Steven Verstockt

T39-1 Theoretical Cartography 1
Room: Innovation Hall (Miraikan)
Datetime: Wed 17th July 14:50-16:10
Chair: Georg Gartner (Technical University Vienna)

T39-1-1 Functional Cartography – About the quality of maps from the era of artefacts to the era of services and beyond
Georg Gartner

T39-1-2 Mapping in Cartography
Miljenko Lapaine

T39-1-3 From third-person to first-person cartographies with immersive virtual environments
Florian Hruby

T42-3 Sensing and data analysis
Room: Conference Room 3 (Plaza Heisei)
Datetime: Wed 17th July 14:50-16:10
Chair: TBD (TBD)

T42-3-1 Analysis of Travel Patterns of Seoul Tourists by Trajectory Data Mining
Juyoon Lee, Youngok Kang, Nayeon Kim, Dongeun Kim, Yearim Park

T42-3-2 Air pollution potential hot zone evaluation model based on environmental sensing IoT
Chi-Chieh Peng, Tzai-Hung Wen

T42-3-3 Exploring Urban Dynamics from Bluetooth Tracking Data: A Case Study of Austin, Texas
Yihong Yuan, David Mills

T42-3-4 Extraction of Newly-built Roads Using Probe Data
Shuto Sugai, Sho Takahashi, Mayumi Noguchi, Akira Sasagawa

T06-5 Optimizing map design for end users
Room: Conference Room 2 (Plaza Heisei)
Datetime: Wed 17th July 16:40-18:00
Chair: Sidonie Christophe (Institut Nationale Geographique)

T06-5-1 Creating and evaluating web-based visualizations of multi-dimensional spatiotemporal data
Jan Wilkening, Keni Han, Mathias Jahnke

T06-5-2 Coincident Visualization of Uncertainty and Value for Point Symbols
Petr Kubiček, Milan Konečný, Jie Shen, Zdeněk Štachoň, Xinqian Wu

T06-5-3 Grid overlays reduce bias in mental representations of topographic maps
Lars Kuchinke, Julian Keil, Dennis Eidler, Anne-Kathrin Bestgen, Frank Dickmann

T06-5-4 Using Area Cartograms in Teaching Geography in Secondary Schools
Anna Markowska
T07-4 Cartographic education supporting specific activities
Room: Venus (Miraikan)
Datetime: Wed 17th July 16:40-18:00
Chair: Tao Wang (Associate Dean for Education and International Affairs, Capital Normal University, Beijing, China)

T07-4-1 Educational resources of Cartography and Geography in the IGN of Spain
Ana Velasco-Tirado, Celia Sevilla-Sánchez

T07-4-2 NOAA's Certification program in Marine Cartography
Shachak Peeri, John Nyberg, Neil Weston

T07-4-3 International Cartography Master graduates starting their career
Juliane Cron, Liqiu Meng, Etyta Bogucka, Georg Gartner, Dirk Burghardt, Menno-Jan Kraak, Corné Van Elzakker, Britta Ricker

T09-6 Analysis and modeling of air quality
Room: Miraikan Hall (Miraikan)
Datetime: Wed 17th July 16:40-18:00
Chair: Lei Zou (Texas A&M University)

T09-6-1 Data-driven regionalization for analyzing the spatiotemporal characteristic of air quality in China
Sheng Li, Jiangtao Liu, Chao Wu

T09-6-2 Extracting relationship between air pollution and precipitation using spatio-temporal analysis in Tehran metropolis
Shokouh Dareshiri, Mohammadreza Sahelgozin, Maryam Lotfian, Jens Ingensand

T13-4 Map Design IV: Content
Room: Uranus (Miraikan)
Datetime: Wed 17th July 16:40-18:00
Chair: Kenneth Field (Esri Inc)

T13-4-1 Banal Cartography: A Critique of Quantitative Content Analysis in Contemporary Cartographic Research
Ian Muehlenhaus

T13-4-2 Ten Telltale Signs of Novice Cartography
Aileen R. Buckley

T13-4-3 Quantifying Emotion: Survey Methods and Sentiment Analysis in Cartographic Design Research
Cary Leonard Anderson

T23-2 Topographic Mapping of Urban Environments
Room: Mars (Miraikan)
Datetime: Wed 17th July 16:40-18:00
Chair: Anja Hopfstock (Federal Agency for Geodesy and Cartography)

T23-2-1 Analysing the Symbology of Soviet Military City Plans
Martin Davis, Alexander J Kent

T23-2-2 The Soviet Military Plan of Tokyo (1966)
Alexander James Kent

T23-2-3 A proposal of topographic map symbols for large-scale maps of urban areas in Brazil
Claudia Robbi Sluter, Silvana Philipp Camboim, Andrea Lopes Iescheck, Luciane Borges Pereira

T23-2-4 Measuring user preferences in virtual reality (VR): 2D versus 3D urban geovisualizations of topographic data
Lukasz Halik, Alexander James Kent

T30-3 GIS, Remote Sensing and Cartographic Theory, Methodology and Applications (3)
Room: Saturn (Miraikan)
Datetime: Wed 17th July 16:40-18:00
Chair: Tzai-Hung Wen and Takashi Oguchi (National Taiwan Univ., Univ. Tokyo, Japan)

T30-3-1 Automatic Change Detection Based on Edge Information Using Two Different Types of Ortho Image
Akira Sasagawa, Shuto Sugai, Mayumi Noguchi

T30-3-2 A novel spatial recurrent neural network for hyperspectral imagery classification
Andong Ma, Anthony M. Filippi

T30-3-3 Application of Method for Calculating Sky View Factor Using Google Street View: Relation Between Sky View Factor and Physical Elements in Urban Space
Shoko Nishio, Fumiko Ito

T30-3-4 Practice of a GIS education program for junior and senior high school students
Hiroyuki Yamauchi, Takashi Oguchi, Yasutaka Haneda
T31-3 Visualization and Analysis of Geographical Process (3)
Room: Mercury (Miraikan)
Datetime: Wed 17th July 16:40-18:00
Chair: TBD (National Institute of Environmental Studies)
T31-3-1 Spatial Analysis of Urbanization in Major Asian and African Cities
Manjula Ranagalage, Yuji Murayama
T31-3-2 The Impact of landscape composition for urban heat island intensity in Addis Ababa City using Landsat data (1986-2016)
Dmslb Dissanayake, Takehiro Morimoto, Yuji Murayama, Manjula Ranagalage
T31-3-3 Ground Disasters Visual Representation Based on Multi-Field Geospatial Infographics Spectra in Mining Area
Jin Zhang
T31-3-4 Multiscale assessment of northern forest characteristics based on ultra-high resolution data
Andrey A. Medvedev, Arseny V. Kudikov, Natalia O. Telnova, Olga V. Tutubalina, Elena I. Golubeva, Mihail V. Zimin

T34/35-5 Development and practices of crowdsourced geospatial information
Room: Conference Room 1 (Plaza Heisei)
Datetime: Wed 17th July 16:40-18:00
Chair: Toshikazu Seto (The University of Tokyo)
T34/35-5-1 Action, Emotion, Opinion – A Taxonomy of Human Reactions Expressed in Location-Based Social Media
Eva Hauthal, Dirk Burghardt
T34/35-5-2 Auto-filtering validation in citizen science biodiversity monitoring: a case study
Maryam Lotfian, Jens Engensand, Olivier Ertz, Simon Oulevay, Thibaud Chassin
T34/35-5-3 Feedbacks on VGI in-situ campaign for updating LULC data
Laurence Jolivet, Ana-Maria Olteanu-Raimond, Marie-Dominique Van Damme, Marie Gombert, Simon Fauret, Thierry Saffroy
T34/35-5-4 The Development of Open Source Based Citizen Collaboration Applications for Infrastructure Management: My City Report
Toshikazu Seto, Yoshihide Sekimoto, Hiroshi Omata, Hiroya Maeda, Takehiro Kashiyama, Shusaku Higashi, Masato Fuji, Haruyuki Seki

T39-2 Theoretical Cartography 2
Room: Innovation Hall (Miraikan)
Datetime: Wed 17th July 16:40-18:00
Chair: Jim Thatcher (University of Washington Tacoma)
T39-2-1 Distance Matters: a more than euclidean approach to visualizing gerrymandering
Austin Jennings, Jim Thatcher
T39-2-2 A Choropleth Map Classification Scheme with Control of Robustness for Uncertain Geographical Attributes
Wangshu Mu, Daoqin Tong
T39-2-3 Automatic Geological Map Generalization for special geobody—A Case Study on Dyke
Wenjing Li, Siyi Li, Hongguo Jia

T42-4 Geospatial big data visualization and Data science
Room: Conference Room 3 (Plaza Heisei)
Datetime: Wed 17th July 16:40-18:00
Chair: Ryo Inoue (Tohoku University)
T42-4-1 Towards Spatial Data Science: Bridging the Gap between GIS, Cartography and Data Science
Jan Wilkening
T42-4-2 Comprehensive workflow for automating thematic map geovisualization from univariate big geospatial point data
Larissa Pillay, Gertrud Schaab, Serena Coetzee, Victoria Rautenbach
T42-4-3 Advanced Cartographic Techniques for Making Sense of Big Dynamic Data
Alexandre Sorokine, Stéven Fernandez
T42-4-4 Ethics of Location-Based Data in Crisis Situations
Alan M Maceachren
Thu 18th July

T03-1 Cartographic Heritage 1: Georeferencing, Analysis
Room: Mars (Miraikan)
Datetime: Thu 18th July 8:30-10:20
Chair: Angeliki Tsorlini (Aristotle University of Thessaloniki)

T03-1-1 Fast georeferencing/geocoding tool for old maps with large distortions
Mátyás Gede

T03-1-2 Research on Geographical Positioning of Ancient Map
Lili Jiang

T07-5 Cartographic topics for the classroom
Room: Venus (Miraikan)
Datetime: Thu 18th July 8:30-10:20
Chair: David Fairbairn (Chair, ICA Commission on Education & Training, UK)

T07-5-1 Developing Interactive Map Apps for an Exhibition on the Topic ‘Fremdsein’: a Joint Endeavour by Students and Lecturers
Gertrud Schaab, Christian Stern, Jan Jedersberger, Agageldi Samedov

T07-5-2 A New Approach to Teaching C++ Programming for Cartography Students by Means Training Programs with Emphasizing Cartography and Geodesy
Vladimir Zablotskii

T07-5-3 Solar System Cartography for High School Education: A Dual Scale Approach
Stephan Wondrak

T07-5-4 "Demystifying Least Square Adjustments Using Smartphones and Graphic Calculator"
Roberto Magayanes Recamunda

T09-7 Health and emergency analysis
Room: Miraikan Hall (Miraikan)
Datetime: Thu 18th July 8:30-10:20
Chair: Lois A Park (University of Southern California)

T09-7-1 Identifying Heat Health Risks in the Urban Areas of Western Australia (WA) – An Enhanced Heat Vulnerability Assessment
Qian Sun, Grace Yun, Ting Ling

T09-7-2 Subnational estimates of health in low- and middle-income countries: a geospatial approach with interpolation and raster analysis
Lois A Park

T09-7-3 An approach for identifying and analysing reference features and spatial relations used in mountain emergency calls
Mattia Bunel, Cécile Duchêne, Ana-Maria Olteanu-Raimond, Marlène Villanova-Olivier, Grégoire Bonhoure, Tiphaine Jouan

T13-5 Map Design V: Paths
Room: Uranus (Miraikan)
Datetime: Thu 18th July 8:30-10:20
Chair: Ian Muehlenhaus (University of Wisconsin-Madison)

T13-5-1 Marathon Map and its Utilization in City Tourism
Xiaoyan Liu, Cheng Ye, Shuran Zhang

T13-5-2 Indoor path visualization method based on the spatial characteristics of indoor environment
Jiafeng Shi, Jie Shen, Zdeněk Stačoň, Yawei Chen

T21-1 Advances in SDI research
Room: Saturn (Miraikan)
Datetime: Thu 18th July 8:30-10:20
Chair: Serena Coetzee (University of Pretoria)

T21-1-1 Harmonizing National Topographic Data Using an Automated Quality Validation Process
Nils Erik Mesterton, Mari Talvikki Isomäki, Antti Jakobsson, Joonas Jokela

T21-1-2 MODEL OF MANAGEMENT OF THE QUALITY OF THE GEOSPATIAL INFORMATION IN THE AEROPHOTOGAMETRIC SERVICE OF THE AIR FORCE OF CHILE, BASED ON STANDARDS ISO TC/211
Joselyn Robledo Ceballos

T21-1-3 Collaborative Custodianship through Collaborative Cloud Mapping: Challenges and Opportunities
Serena Coetzee, Jacques Du Preez, Franz-Josef Behr, Antony K Cooper, Martijn Odijk, Siegfried Vanlilshout, Raf Buyel, Markus Jobst, Maroale Chauke, Nicolene Fourie, Peter Schmitz

T21-1-4 Expanding the ICA model of stakeholders in a spatial data infrastructure (SDI)
Antony Kyle Cooper, Serena Coetzee, Petr Rapant, Adam, Jan Hjelmager, Harold Moellering, Michel Huet, Kisco Sinvula
T31-4 Visualization and Analysis of Geographical Process (4)
Room: Mercury (Miraikan)
Datetime: Thu 18th July 8:30-10:20
Chair: Manjula Ranagalageoque (Rajarata University of Sri Lanka)
T31-4-1 Detecting Cooling Effect of Landscape Composition and Configuration: An Urban Heat Island Study on Hangzhou
Hao Hou, Ronald Canero Estoque
T31-4-2 Individual level heat stress evaluation using GPS towards smart navigation system
Takahiro Yoshida, Yoshiki Yamagata, Daisuke Murakami
T31-4-3 Visualization and Spatio-temporal Analysis of Tsunami Inundation: A Case of the Great East Japan Earthquake
Yuki Iwai
T31-4-4 Long-term analysis of irrational water use processes based on cartographic materials and remote sensing data
Andrey A. Medvedev, Natalia A. Alekseenko, Natalia O. Telnova, Alexander V. Koshkarev

T17-1 Maps and the Internet 1
Room: Conference Room 1 (Plaza Heisei)
Datetime: Thu 18th July 9:20-10:20
Chair: TBD (TBD)
T17-1-1 Pre-Pottery Neolithic age spatial planning: The typo-morphology of the first urbanisation with reference to three Akarçay Tepe plaques
Şirin Gülcen Eren
T17-1-2 The Application Programmer Interface (API) in Modern Cartography: Development and Prospects
Michael P. Peterson
T17-1-3 go-cart.io: a web application for generating contiguous cartograms
Shi Tingsheng, Ian K Duncan, Michael T Gastner

T29-1 Space-time mapping for Digital Humanities
Room: Conference Room 4+5 (Plaza Heisei)
Datetime: Thu 18th July 9:20-10:20
Chair: Nakaya Tomoki (Tohoku University)
T29-1-1 Changes in the distribution and structure of white-collar workers’ residences in Japan during the period of modernization
Takashi Kimura
T29-1-2 Space-Time Cube and Mixed Reality – New Approaches to Support Understanding Historical Landscape Changes
Mathias Jahnke, Edyta Paulina Bogucka, Maria Turchenko
T29-1-3 Space-time mapping of historical plague epidemics in modern Osaka, Japan
Tomoki Nakaya, Kazumasa Hanaoka, Shohei Nagata

T03-2 Cartographic Heritage 2: Map Libraries
Room: Mars (Miraikan)
Datetime: Thu 18th July 10:50-12:10
Chair: Mátyás Gede (ELTE Eötvös Loránd University, Budapest, Hungary)
T03-2-1 Unlocking the Geospatial Past with Deep Learning – Establishing a Hub for Historical Map Data in Switzerland
Magnus Heitzler, Lorenz Hurni
T03-2-2 Accessibility evaluation of topographic maps in the National Library of Poland
Marta Kuzma, Albina Moscicka
T03-2-3 Documenting, organizing and demonstrating the cartographic wealth of a library, through an information system, to the public
Angeliki Tsorlini

T07-6 Educational approaches for cartography
Room: Venus (Miraikan)
Datetime: Thu 18th July 10:50-12:10
Chair: Ferjan Ormeling (University of Amsterdam Library, Netherlands)
T07-6-1 Cartographic Presentation as the Central Theme for Geospatial Education
Rakesh Malhotra, Terry Mcneill, Carrie Francis, Timothy Mulrooney
T07-6-2 Teaching of geographical space relations for cartography - Academic Outdoor Station in Poznan (Poland)
Beata Medynska-Gujil, Maciej Smaczniski, Dariusz Lorek, Łukasz Halik, Łukasz Wielebiski, Tymoteusz Horbinski, Pawel Cybulski
T07-6-3 New patterns for geography field practice education based on location services
Ling Zhang, Qian Jia, Shaojun Liu, Ling Ruan, Yi Long
T07-6-4 A preliminary study of geographical names research: Review of cartography education & research in Indonesia
Ari Cahyono, Hartono Hartono, Bowo Susilo, Niken Wirasanti
T09-8 Geosimulation, Spatial data assessment and handling

Room: Miraikan Hall (Miraikan)
Datetime: Thu 18th July 10:50-12:10
Chair: Bin Jiang (University of Gävle)

T09-8-1 Using building types and demographic data to improve our understanding and use of urban sprawl simulation
Mojtaba Eslahi, Rani El Meouche, Anne Ruas

T09-8-2 Geospatial and Simulation a Point of Convergence
Christopher Victor Budas

T09-8-3 Spatial data quality in multi-criterial analysis for decision making process
Vaclav Talhofer, Sarka Hošková-Mayerová

T09-8-4 Calculate Accurate 3D Cost Distance Efficiently
Yaqian Chen, Jiangfeng She, Xingong Li

T13-6 Map Design VI: Production

Room: Uranus (Miraikan)
Datetime: Thu 18th July 10:50-12:10
Chair: Ken Field (Esri inc)

T13-6-1 Miura-ori, Basics for Designing its Folding Machines
Koryo Miura

T13-6-2 Designing the Imagery on Image Maps – How far can we take it?
Christian E. Murphy

T13-6-3 Efficiency of Cartographic production for Decision-making
Christine Zanin

T13-6-4 Developing and Evaluating Multi-Scale Map Styles: Creating a Multi-Scale Legend
Mathias Gröbe, Dirk Burghardt

T17-2 Maps and the Internet 2

Room: Conference Room 1 (Plaza Heisei)
Datetime: Thu 18th July 10:50-12:10
Chair: TBD (TBD)

T17-2-1 GSI Maps - Showcase of National Geospatial Data
Kaito Kamimura

T17-2-2 A context-driven geospatial web service approach towards the design of situational awareness maps
Sin Yi Ho, Jung Hong Hong

T17-2-3 Roles of Ontologies in Cartography
Otakar Čerba

T21-2 Standards for geospatial information

Room: Saturn (Miraikan)
Datetime: Thu 18th July 10:50-12:10
Chair: Franz-Josef Behr (Stuttgart University of Applied Sciences)

T21-2-1 Some Considerations to Improve the General Feature Model and General Portrayal Model in Gittok
Morishige Ota

T21-2-2 A Spanish Standard for defining Open Geographic Data
Ana Velasco, Antonio F Rodriguez-Pascual, Celia Sevilla-Sánchez, Juan Manuel Rodriguez-Borreguero

T21-2-3 Selected cartographic products of the Polish Geological Survey in light of the international data standards and OneGeology experience
Katarzyna Jóźwik, Marcin Słodkowski, Urszula Stępień

T21-2-4 Study on multi-source data integrating standard and 3D cartographic visualization of urban flooding based on CityGML
Jiemin Zhou, Jie Shen, Lukáš Herman, Yixian Du

T26-3 User Issues in Interaction Design

Room: Conference Room 2 (Plaza Heisei)
Datetime: Thu 18th July 10:50-12:10
Chair: Luciene Delazaro (Federal University of Parana)

T26-3-1 Interacting with Maps in Virtual and Augmented Reality
Bernhard Jenny, Kadek Ananta Satriadi, Yalong Yang, Christopher R. Austin, Simond Lee, Nian Chan, Maxime Cordeil, Barrett Enns

T26-3-2 Does Interactivity increase map user’s reasoning? A study with environmental map users
Andre Luiz Alencar De Mendonça, Carina Coelho

T26-3-3 Interactive & Multiscale Thematic Maps: A Preliminary Study
Robert E Roth, Meghan Kelly, Nick Underwood, Nick Lally, Kristen Vincent, Carl Sack
T30-4 GIS, Remote Sensing and Cartographic Theory, Methodology and Applications (4)
Room: Innovation Hall (Miraikan)
Datetime: Thu 18th July 10:50-12:10
Chair: Takashi Oguchi and Tzai-Hung Wen (Univ. Tokyo, Japan, National Taiwan Univ.)
T30-4-1 Geomorphological mapping based on DEMs and GIS: A review
Takashi Oguchi
T30-4-2 Toward high resolution mapping of patterned ground with vegetation in Spitsbergen using a UAV
Jaeyong Lee, Takashi Oguchi
T30-4-3 Assess the impact of land use changes on erosion and sedimentation in Dak Uy reservoir
Hoa Thi Viet Le, Lan Thi Huong Pham, Nguyet Minh Le
T30-4-4 Assessing the instability of Dong Nai River in Bien Hoa District using Bank Erosion Hazard Index (BEHI) and Remote Sensing and GIS
Lan Thi Huong Pham, Nguyet Minh Le, Hoa Thi Viet Le

T31-5 Visualization and Analysis of Geographical Process (5)
Room: Mercury (Miraikan)
Datetime: Thu 18th July 10:50-12:10
Chair: Yuji Murayama (University of Tsukuba)
T31-5-1 Validity of using of GIS, SDI, Remote Sensing and Environmental factors for site selection of zones of coffee agriculture localization suitability modeling in Maraba sector, south province of Rwanda
Jean Pierre Hitimana
T31-5-2 Regioviz: a new visualisation tool dedicated to regional comparisons
Ysebaert Ronan, Guérois Marianne
Maher Ben Rebah
T31-5-4 Features of creating multi-time thematic animations of the Arctic environment pollution on the example of Novaya Zemlya
Andrey A. Medvedev, Natalia A. Alekseenko, Maria Arsentyeva

T33-1 Rethinking Bertin Method 1 (framework)
Room: Conference Room 3 (Plaza Heisei)
Datetime: Thu 18th July 10:50-12:10
Chair: Anne-Lyse Renon (University of Strasbourg (ACCRA EA3402), EHESS (LIAS UMR8178))
T33-1-1 Graphic design and research in social sciences: Jacques Bertin and the Laboratoire de Graphique.
Anne-Lyse Renon
T33-1-2 From Semiology of Graphics to Cultural Analytics: flaws in the mathematization of visible
Anthony Masure

T03-3 Cartograpic heritage 3: Applications
Room: Mars (Miraikan)
Datetime: Thu 18th July 14:50-16:10
Chair: Evangelos Livieratos (Aristotle University of Thessaloniki)
T03-3-1 From historical cartography to historical mapping: digital edition of Gaul/Raczynski topographic map of Greater Poland (1807-1812)
Tomasz Pannecki
T03-3-2 3D Model of Historical Vltava River Valley: Combination of Sources
Jiri Cailthaml, Darina Kratochvilova, Tomas Janata
T03-3-3 Transformation of the landscape of pre-industrial space in the multimedia depiction
Dariusz Lorek
T03-3-4 Automated summit spot height generation for modern topographic mapping
Samantha T Arundel, Arthur Chan

T09-9 Accessibility
Room: Miraikan Hall (Miraikan)
Datetime: Thu 18th July 14:50-16:10
Chair: X.Angela Yao (University of Georgia)
T09-9-1 A systematic evaluation of accessibility measures by the two-step floating catchment area (2SFCA) method
Xiang Chen, Pengfei Jia
T09-9-2 Network-based Visualisation of Accessibility for a Public Transport System
Andreas Kefer, Lukas A. Bug, Jukka M. Krisp
T09-9-3 GIS-analysis of ground transport accessibility of fire stations at regional scale
Ekaterina Sergeevna Podolskaia, Dmitriy Vladimirovich Ershov, Konstantin Aleksandrovich Kovganko
T11-1 Near East & Islam Cartography
Room: Saturn (Miraikan)
Datetime: Thu 18th July 14:50-16:10
Chair: TBD (Lomonosov Moscow State University)
T11-1-1 Kitab-ı Bahriye (Book of Navigation), Commemoration of the Pîrî Reis and Understand His World Map of 1513.
Aytac Yurukcu
T11-1-2 Hormuz around 1300. Catalan Atlas and his sources (Marco Polo, Odoric, Ibn Battuta)
Vladimir Liscak
T11-1-3 Ancient Anatolian Grids
Şirin Gülcen Eren

T16-1 Maps for the Disabled
Room: Mercury (Miraikan)
Datetime: Thu 18th July 14:50-16:10
Chair: Andrey A. Medvedev (Institute of Geography, Russian Academy of Sciences)
T16-1-1 Testing Maps for Visually Impaired People in Kurdistan
Ashna Abdulrahman Kareem
T16-1-2 Plain cartography - web maps for visually impaired and elderly people
Juha Oksanen, Pyry Kettunen, Christian Koski
T16-1-3 Toward Accessible Hazard Mapping: Tactile Risk Maps and Disaster Preparedness
Harrison Carlton Cole

T17-3 Maps and the Internet 3
Room: Conference Room 1 (Plaza Heisei)
Datetime: Thu 18th July 14:50-16:10
Chair: TBD (TBD)
T17-3-1 Functionality similarities of global web mapping services in the context of responsive map design
Tymoteusz Horbiński, Paweł Cybulski
T17-3-2 Multimedia Presentation of Spatial Journalistic Content
Zeinab Torabi, Jan Wilkening, Juliane Cron
T17-3-3 Visualisation and analysis of multi-resolution raster geodatasets in the cloud
Lassi Allan Lehto, Jaakko Kähkönen, Juha Oksanen, Tapani Sarjakoski
T17-3-4 Finding hotspots by location-direction-enabled photographs focusing on intersection of lines of sight
Hideyuki Fujita, Shota Sagara, Tadashi Ohmon, Takahiko Shintani

T26-4 Use Case Domain Analyses
Room: Conference Room 2 (Plaza Heisei)
Datetime: Thu 18th July 14:50-16:10
Chair: Alena Vondrakova (Palacky University Olomouc)
T26-4-1 Maps in Citizen Science: A Preliminary Analysis of their Use and User Issues
Artemis Skarlatidou, Marcos Moreu
T26-4-2 Graphic design and placement of map tools in mobile map application
Tymoteusz Horbiński, Beata Medyńska-Gulić, Paweł Cybulski
T26-4-3 Map Use in Transit Control Centers: Mapping geographic information flows
Emily Domanico
T26-4-4 Testing geovisualisations for effective environmental engineering decision-making
Jess Hepburn, David Fairbairn

T28-1 Nautical Charting: Production and Content
Room: Venus (Miraikan)
Datetime: Thu 18th July 14:50-16:10
Chair: Ron Furness (ICA Marine Cartography Chair)
T28-1-1 Validation of the shoal-biased pattern of bathymetric information on nautical charts.
Christos Kastrisios, Brian Calder, Giuseppe Masetti, Peter Holmberg
T28-1-2 History of Japan’s chart production in 150 years
Toru Kajimura
T28-1-3 Adding value to ENCs: Land features
Shachak Peeri, Noel Dyer
T28-1-4 Raster charting products in an ENC-first era
Christie Ence, Shachak Pe’Eri, John Nyberg
T29-2 Mapping the past
Room: Conference Room 4+5 (Plaza Heisei)
Datetime: Thu 18th July 14:50-16:10
Chair: Akihiro Tsukamoto (Tokushima University)

T29-2-1 Transformation of the Vltava Historical Riverine Landscape within the Modern Times
  Jiri Krejci, Jiri Cajthaml

T29-2-2 Digital archiving the space and memory of Kyoto across space and time using GIS
  Naomi Kasumawi, Hirotaka Sato, Shunpei Yamamoto, Keiji Yano

T29-2-3 Premodern City Layouts Drawn on Published Maps: A Comparative Analysis of Edo, Osaka, and Kyoto
  Akihiro Tsukamoto

T30-5 GIS, Remote Sensing and Cartographic Theory, Methodology and Applications (5)
Room: Innovation Hall (Miraikan)
Datetime: Thu 18th July 14:50-16:10
Chair: Takashi Oguchi and Tzai-Hung Wen (Univ. Tokyo, Japan, National Taiwan Univ.)

T30-5-1 Landslide hazard zonation assessment using GIS analysis at the coastal area of Safi (Morocco)
  El Bchari Fatima Fatima, Barbara Theilen Willige, H. Ait Malek

T30-5-2 Three-dimensional desktop morphometric models for the Arctic Ocean floor
  Igor V. Florinsky, Sergei V. Filippov

T30-5-3 Sea ice kinematic features in the Arctic outflow region and their associations with Arctic Northeast Passage accessibility
  Da Wei Gui, Xiaoxing Pang, Rui Bo Lei, Xi Zhao, Xia Wang

T30-5-4 Comparison of Leads Mapping in the Arctic Ocean Between Landsat and MODIS Ice Surface Temperature Products
  Xiaoping Pang, Pei Fan, Xi Zhao, Qing Ji

T33-2 Rethinking Bertin Method 2 (practice)
Room: Conference Room 3 (Plaza Heisei)
Datetime: Thu 18th July 14:50-16:10
Chair: Francis Harvey (Leibniz Institute for Regional Geography)

T33-2-1 A dialectical approach to the systematic analysis of geovisual communication using Bertin’s visual variables
  Francis Harvey

T33-2-2 Reaffirmation of J. Bertin’s Ordinal Matrix for business strategy decision
  Keiichi Ishida

T33-2-3 A practice of information processing by rearranging matrix of Jacques Bertin - application of diagram in environmental color workshop -
  Qifan Huang, Akiyo Kobayashi

T33-2-4 The design of useful graphics in Bertin’s thought. A case study from the Urban Atlas of Jeddah.
  Mohsen Dhieb, Abdulhamid Jamil

T41-1 Maps and Games 1
Room: Uranus (Miraikan)
Datetime: Thu 18th July 14:50-16:10
Chair: Tomoyasu Maruyama (Google LLC)

T41-1-1 How to Play with Maps
  Ross Thorn

T41-1-2 How an augmented reality game (Pokémon GO) affected volunteer contributions to OpenStreetMap
  Brian Alan Johnson

T41-1-3 Location Based Elements into Gaming Industry
  Tomoyasu Maruyama

T03-4 Cartographic Heritage 4: The Data Behind
Room: Mars (Miraikan)
Datetime: Thu 18th July 16:40-18:00
Chair: Jiri Cajthaml (Czech Technical University in Prague)

T03-4-1 Description of Cartographic Heritage in Europeana Data Model
  Albina Kinga Moscioka, Agnieszka Zwirowicz-Rutkowska

T03-4-2 A semi-automated workflow for processing historic aerial photography
  Nathan Piekielek

T03-4-3 Visualizing and Linking Cartographic Resources across Discovery Environments
  Kimberly Durante, Emily Prince

T03-4-4 GeoDataHub: Building centralised repository of authoritative cartographic and geospatial resources
  Igor Drecki
T09-10 Big Data and machine learning (I)
Room: Miraikan Hall (Miraikan)
Datetime: Thu 18th July 16:40-18:00
Chair: Lei Zou (Texas A&M University)
T09-10-1 Analysing tourism movements along the Danube river based on geotagged Flickr photography
Mátyás Gede, Bálint Kádár
T09-10-2 Visualizing and Mining Social Media Data for Smart Emergency Management
Lei Zou
T09-10-3 Estimating the Crowd Size of a Rally by Crowdsourcing-Geocomputation
T. Edwin Chow
T09-10-4 Research on Monitoring Location Model Based on Geo-Video Semantics
Dan Hu, Wenjing Li, Li Siyi

T11-2 Eastern Europe & The Americas
Room: Saturn (Miraikan)
Datetime: Thu 18th July 16:40-18:00
Chair: TBD (TBD)
T11-2-1 From Coast to Coast: The Mapping of the Adriatic Sea by the Joint Forces of the Austro-Hungarian and Italian Hydrographic Offices
Mirela Altic
T11-2-2 Depiction of Line Features on Folded Maps on Example of Old Maps of the Vltava River
Tomas Janata, Jiri Krejci
T11-2-3 Jewish settlement plans in Bohemia from the first half of the 18th century
Jiri Drozda, Sarka Steinova, Filip Paulus
T11-2-4 Mapping a Nation: Daniel Carter Beard's Time as a Surveyor for the Sanborn Map Company
John J. Swab

T16-2 Technology and Multisensory Maps
Room: Mercury (Miraikan)
Datetime: Thu 18th July 16:40-18:00
Chair: Carla Cristina da Sena (Universidade Estadual Paulista (UNESP))
T16-2-1 Tactile thematic maps for the territory of Russia: multivariate representation of geographic information
Andrey A. Medvedev
T16-2-2 TouchIt3D: Technology (not only) for Tactile Maps
Radek Barvir, Alena Vondrakova, Jan Brus
T16-2-3 Mobility routing optimization for physical accessibility and thermoregulation
Jeffrey R Heuwinkel, Matthew T. Rice, Manzhu Yu, Kevin M. Curtin

T17-4 Maps and the Internet 4
Room: Conference Room 1 (Plaza Heisei)
Datetime: Thu 18th July 16:40-18:00
Chair: TBD (TBD)
T17-4-1 Web Maps for Risk Communication: Assessing Availability of Online Disaster Maps on Government Websites in Indonesia
Kartika Puspita Sari, Hidehiko Kanegae
T17-4-2 Cartographic storytelling: 150 years of Swiss Federal Population Census
Olaf König
T17-4-3 Using Internet Streamed Data for Sport Visualization
Rex G Cammack, Paul Hunt
T17-4-4 Sharing Historical Map Collections Online
Aileen R. Buckley

T26-5 User Study Experimental Design Issues
Room: Conference Room 2 (Plaza Heisei)
Datetime: Thu 18th July 16:40-18:00
Chair: Artemis Skarlatidou (University College London)
T26-5-1 A visual approach to creating multivariate geovisualization test data
Thomas Lerch, Susanne Bleisch
T26-5-2 A review of map types used in empirical research in cartography
Katarzyna Slomska
T26-5-3 A note on the Relationship between Spatial Recognition and Behavior while Walking in the City
Kohei Ito, Yusuke Sakurai, Yuri Fujita, Andrew Burgess
T26-5-4 Design of a cartographic eye tracking-EEG user experiment
Merve Keskin, Kristien Ooms, Philippe De Maeyer, Ahmet Ozgur Dogru
T29-3 Web and ICT for Digital Humanities
Room: Conference Room 4+5 (Plaza Heisei)
Datetime: Thu 18th July 16:40-18:00
Chair: Keiji Yano (Ritsumeikan University)

T29-3-1 Defensive Architecture Mapping: a case study in the city of Curitiba, Paraná, Brasil
Debora Raquel Faria, Claudia Robbi Sluter, Alessandro Filla Rosaneli, Silvana Philippi Camboin

T29-3-2 Modern Archeological Mapping: Towards Immersive VR Use in Archeology
Alisa A Pettitt, Sven Fuhrmann

T29-3-3 Mining multiple sources of historical data: The example of a standardized dataset of medieval monasteries and convents in France
Adam Mertel, David Zbiral

T29-3-4 Japanese Map Warper for Spatial Humanities: The Japanese old maps portal site
Keiji Yano, Satoshi Imamura, Ryo Kamata

T30-6 GIS, Remote Sensing and Cartographic Theory, Methodology and Applications (6)
Room: Innovation Hall (Miraikan)
Datetime: Thu 18th July 16:40-18:00
Chair: Takashi Oguchi and Tzai-Hung Wen (Univ. Tokyo, Japan, National Taiwan Univ.)

El Bchah Fatima Fatima, Barbara Theilen Willige, Abdellatif Souhel

T30-6-2 Dynamics of lake area on the Qinghai-Tibet plateau from 2000 to 2015
Xianghong Che, Min Feng, Jiping Liu, Yong Wang, Qing Sun

T30-6-3 GIS-based approach of “natural basis” developing for vegetation cover mapping
Vera Ryzhkova, Michael Korets, Irina Danilova

T33-3 Rethinking Bertin Method 3 (symbology)
Room: Conference Room 3 (Plaza Heisei)
Datetime: Thu 18th July 16:40-18:00
Chair: Takashi Morita (Hosei University)

T33-3-1 Design Issues on Context Based Cartographic Communication using Extended Visual Variables
Takashi Morita

T33-3-2 When marks become graphics. Rediscovering a forgotten Bertin’s fork ?
Gilles Rouffineau

T33-3-3 Effect of Frame Structure on Interpretation of Map Symbols
Zhilin Li

T41-2 Maps and Games 2
Room: Uranus (Miraikan)
Datetime: Thu 18th July 16:40-18:00
Chair: Tomoyasu Maruyama (Google LLC)

T41-2-1 Preparation of the Future with Minecraft® on Demand
François Lecordix, Sivakavi Kumarasamy, Fernando Da Graca, Emmanuel Seguin

T41-2-2 Coupling a collaborative digital map and a dashboard: an optimal starting point for urban project learning in engineer training? The case of the serious game “Urb’Act”
Nathalié Molinet, Carine Henriot
Fri 19th July

T08-1 Generalization Processes
Room: Uranus (Miraikan)
Datetime: Fri 19th July 8:30-10:20
Chair: Anne Ruas (IFSTTAR, France)
T08-1-1 Is Deep Learning the New Agent for Map Generalization?
Guillaume Touya, Xiang Zhang, Imran Lokhat
T08-1-2 Application of Deep Learning for 3D building generalization
Yue Wu, Yevgeniya Filippovska, Valentina Schmidt, Martin Kada
T08-1-3 Automatic Selection Method of Urban Road Network Considering Structural Characteristics
Wei Wu, Zhaoting Ma

T09-11 Big Data and machine learning (II)
Room: Miraikan Hall (Miraikan)
Datetime: Fri 19th July 8:30-10:20
Chair: Bin Jiang (University of Gävle)
T09-11-1 Automatic crater detection by mining existing crater map
Cheng-Zhi Qin, Yan-Wen Wang, Wei-Ming Cheng, A-Xing Zhu
T09-11-2 Lexical variation in Japanese dialects revisited: Geostatistic and dialectometric analysis
Péter Jeszenszky, Yoshinobu Hikosaka, Keiji Yano
T09-11-3 Spatial Component Models with Artificial Neural Networks for Spatially Constrained Regionalization
Michael Govorov, Giedre Beconyte, Gennady Gienko

T10-1 T10 GI for Sustainability
Room: Mars (Miraikan)
Datetime: Fri 19th July 8:30-10:20
Chair: Alexander Panin (Lomonosov Moscow State University)
T10-1-1 Spatio-Temporal Mapping of Water Consumption at Public Institutions: Case of the United Arab Emirates University
M. M. Yagoub
T10-1-2 Spatial Modeling of Disaster Resilience in the Lower Mississippi River Basin
Heng Cai
T10-1-3 Geographic Information and Geo-visualization in support of Disaster Resilience
Edward Kurwakumire, Paul Muchechetere, Shelter Kuzhazha, Guy Blanchard Ikokou

T11-3 Western Europe
Room: Saturn (Miraikan)
Datetime: Fri 19th July 8:30-10:20
Chair: TBD (TBD)
T11-3-1 Kaleidoscope of Swiss Cartography
Stefan Raber, Lorenz Hurni
T11-3-2 Mapping in Belgium in the 19th Century in a wider context
Philippe De Maeyer
T11-3-3 Thematic cartography of Portuguese winegrowing (1850-1952)
Mário Gonçalves Fernandes, Heldre Trigo Marques
T11-3-4 'Heaping Offa upon Pelion, and Olympus upon Offa': An assessment of the role of model making in the development of relief portrayal from 1780 to 1900.
Alastair William Pearson

T38-1 Mapping the Environment 1
Room: Conference Room 4+5 (Plaza Heisei)
Datetime: Fri 19th July 9:20-10:20
Chair: TBD (TBD)
T38-1-1 Mapping of Physical Vulnerability in Tiger Habitat Areas: A Case Study of Tiger Corridor of Rajasthan, India
Bhanwar Vishvendra Raj Singh, Anjan Sen
T38-1-2 The visible impacts of human activities constructing hydropower dam on Vietnamese Mekong Delta and conceptual solutions for responses
Nhan Nguyen Huu, Shigeko Haruyama
T38-1-3 Statistical maps for comparative visualization of landscape changes for industrial centers from different countries
Beata Medynska-Gulij, Paweł Cybulski, Łukasz Wielebski, Dariusz Lorek, Tymoteusz Horbinski
T40-1 AI, Robotics, Autonomous Cars and Mapping 1
Room: Conference Room 1 (Plaza Heisei)
Datetime: Fri 19th July 9:20-10:20
Chair: TBD (TBD)
T40-1-1 Transferring Map Styles based on Generative Adversarial Networks
Yuhao Kang, Song Gao
T40-1-2 A object detection algorithm based on pyramid Convolutional Neural Networks(CNN) and feature map fusion model
Nu Wen
T40-1-3 Towards Storytelling with Animated Pictorial Map Objects – An Experiment with Convolutional Neural Networks
Raimund Schnürer, Cengiz Öztireli, René Sieber, Lorenz Hurni

T43-1 Maps and society
Room: Conference Room 3 (Plaza Heisei)
Datetime: Fri 19th July 9:20-10:20
Chair: Koshiro Suzuki (University of Toyama)
T43-1-1 A city in liquid modernity: a sociological perspective
Edyta Baranska
T43-1-2 Treatment of cartography in official classification of fields of sciences and its misuse by the State Educational Inspectorate and the University of Tetova
Bashkim Idrizi
T43-1-3 Connecting users to trusted geospatial information for Europe
Michael John Cory

T08-2 Shape and multi-scale measures
Room: Uranus (Miraikan)
Datetime: Fri 19th July 10:50-12:10
Chair: Paulo Raposo (University of Tennessee, Knoxville, USA)
T08-2-1 Between the Lines: Measuring Areal Displacement in Line Simplification
Barry J Kronenfeld, Jiaxin Deng
T08-2-2 Building-network: Concept, generation method and centrality analysis
Xiao Wang, Dirk Burghardt
T08-2-3 Exploring essential variables in the settlement selection for small-scale maps using machine learning
Izabela Karsznia, Karolina Sielicka

T09-12 Investigating spatial patterns
Room: Miraikan Hall (Miraikan)
Datetime: Fri 19th July 10:50-12:10
Chair: X.Angela Yao (University of Georgia)
T09-12-1 Research on the Spatial Distribution Pattern of Producer Service Firms in Urban Harbin
Zhao Yang Yang, Liu Ji Ping, Zhang Fu Hao, Liu Meng Meng
T09-12-2 Exploring spatio-temporal hotspots of land price change with housing transaction data in Seoul
Seonga Cho, Gunhak Lee
T09-12-3 Where do taxi trips start and end? Implications For Future Car-sharing For Commuting
Pengyu Zhu, Yong-Hong Kuo, Marlon Ives Tanuihusada, Wei Qiang, Jie Wang
T09-12-4 A spatial analytical approach towards understanding racial residential segregation in Gauteng province (South Africa)
Samy Katumba, Inger Fabris-Rotelli, Alfred Stein, Serena Coetzee

T11-4 Older Japan Cartography
Room: Saturn (Miraikan)
Datetime: Fri 19th July 10:50-12:10
Chair: TBD (TBD)
T11-4-1 The national map of Japan complied by the Tokugawa Shogunate
Hirotada Kawamura
T11-4-2 The Revising Process of ‘Kaisei Nihon Yochirotei Zenzu (Sekisui-zu) ′
Toshikazu Kaida
T11-4-3 Global influence of the map of Japan produced by Japanese cartographer Sekisui Nagakubo
Motohiro Tsujimoto
**T27-1 Social Applications of Geovisual Analytics**

Room: Conference Room 2 (Plaza Heisei)
Datetime: Fri 19th July 10:50-12:10
Chair: Anthony Robinson (The Pennsylvania State University)

**T27-1-1 Visual Analytics for Regional Economic Environment Factors Based on a Dashboard Design**
Chenyu Zuo, Linfang Ding, Liqiu Meng

**T27-1-2 Reasoning about Socio-Economic Data: A Visual Analytics Approach to Bayesian Network**
Ekaterina Chuprikova, Liqiu Meng

**T27-1-3 Geovisual analysis of VGI for understanding people's behaviour in relation to multifaceted context**
Natalia Andrienko, Gennady Andrienko, Siming Chen, Dirk Burghardt, Alexander Dunkel, Ross Purves

---

**T30-7 GIS, Remote Sensing and Cartographic Theory, Methodology and Applications (7)**

Room: Innovation Hall (Miraikan)
Datetime: Fri 19th July 10:50-12:10
Chair: Tzai-Hung Wen and Takashi Ouchi (National Taiwan Univ., Univ. Tokyo, Japan)

**T30-7-1 Ecological Change Analysis of Lanzhou City Based on Remote Sensing Ecological Index**
Huang Yu Han, Yan Hao Wen

**T30-7-2 Mapping Anisotropic Landscape for Understanding Underlying Spatial Structure of Air Pollution**
Chen-Hsuan Tu, Tzai-Hung Wen

**T30-7-3 Remote Sensing and Geospatial Analytics for Sustainable Development Assessment in Urban Areas**
Xiaojun Yang, Di Shi, Feilin Lai, Shijun Jiang, Ran Hao Sun

**T30-7-4 Characterizing Spatial Variations of Urban Growth Patterns in Beijing, China through Spatial Analysis and Geovisualization**
Ting Liu, Xiaojun Yang

---

**T38-2 Mapping the Environment 2**

Room: Conference Room 4+5 (Plaza Heisei)
Datetime: Fri 19th July 10:50-12:10
Chair: TBD (TBD)

**T38-2-1 Potential Groundwater Extraction and Piezometric Surface Fluctuations in Puruliya, West Bengal – A GIS based study**
Devarupa Gupta

**T38-2-2 Wetland Loss in Northeastern Italy Documented by Historical Maps**
Silvia Elena Piovan, Marco Filippini, Michael Edward Hodgson

**T38-2-3 Digital cartography for geoheritage: turning an analogue geotourist map into digital**
Márton Pál, Gáspár Albert

---

**T40-2 AI, Robotics, Autonomous Cars and Mapping 2**

Room: Conference Room 1 (Plaza Heisei)
Datetime: Fri 19th July 10:50-12:10
Chair: TBD (TBD)

**T40-2-1 Demolished building detection from aerial imagery using deep learning**
Shu Su, Takahiko Nawata

**T40-2-2 Possibilities of high precision GPS data in autonomous driving**
Márton Pál, Fanni Vörös, István Elek, Béla Kovács

**T40-2-3 Automated Extraction of Drainage Channels and Roads through Deep Learning**
Lawrence V Stanislawski, Tyler Brockmeyer, Ethan Shavers

**T40-2-4 Scoping a vocabulary for spatial relation properties**
Dalia Elena Varanka

---

**T43-2 Miscellaneous maps (1)**

Room: Conference Room 3 (Plaza Heisei)
Datetime: Fri 19th July 10:50-12:10
Chair: Yoshiki Wakabayashi (Tokyo Metropolitan University)

**T43-2-1 Long term archiving orienteering maps project in Slovenia**
Dušan Petrovič

**T43-2-2 The role of disease maps in influenza epidemiological surveillance in Japan**
Tomohiko Arahori

**T43-2-3 Questionnaire Survey about the Reasons of Young People Migrating to the Tsunami-hit Area**
Kayo Okabe, Mayumi Dan, Chikako Nakayama

**T43-2-4 Seeing the Night Sky**
Colin G. Flynn, Matthew T. Rice
T08-3 Generalization in Practice
Room: Uranus (Miraikan)
Datetime: Fri 19th July 14:50-16:10
Chair: Pia Bereuter (FHNW University of Applied Sciences of Northwestern Switzerland)
T08-3-1 CartAGen: an Open Source Research Platform for Map Generalization
Guillaume Touya, Imran Lokhat, Cécile Duchêne
T08-3-2 Real-time Cartographic Generalisation: Risk Management Maps Case Study
Karel Stanek, Petr Silhak
T08-3-3 A Parallel Method for Accelerating Visualization for Vector Tiles
Wei Hu, Lin Li, Chao Wu, Hang Zhang, Haihong Zhu

T09-13 Terrian / Landscape analysis, modeling, and visualization
Room: Miraikan Hall (Miraikan)
Datetime: Fri 19th July 14:50-16:10
Chair: Lei Zou (Texas A&M University)
T09-13-1 Density maps of geophysical study as a new type of integrated characteristic of geophysical fields in atlases
Dmitriy Sergeevich Loginov, Sergey Anatolyevich Krylov
T09-13-2 Geographical Scene Reconstruction and Application of ancient Site with Fused Multi-source Data
Lin Yang, Jiangwei Shen, Fangzhao Zheng
T09-13-3 Scale Effects on Land Loss Modeling in the Mississippi River Delta
Nina S.-N. Lam, Heng Cai, Lei Zou, Kam-Biu Liu

T11-5 Japan and Korea in 19th Century
Room: Saturn (Miraikan)
Datetime: Fri 19th July 14:50-16:10
Chair: TBD (TBD)
T11-5-1 An Analysis on the Shape Changes of the Korean Peninsula on the British Charts of the 19th Century and Identification of Factors that Influence the Changes
Jong Geun Kim
T11-5-2 Japan's Most Famous Surveyor: Ino Tadataka and His Iconic 1821 Map of Japan
John Francis Brock
T11-5-3 Restoration of the early 19th century's geomagnetic declinations in Japan, from Tadataka Inoh's survey azimuth ledger.
Akitoshi Omotani
T11-5-4 Modernization of Topographic Mapping by Japan Meiji Government - Introduction of French Army Mapping Technology and afterwards -
Shosuke Hosoi

T14-1 National and Local Mapping Initiatives
Room: Mercury (Miraikan)
Datetime: Fri 19th July 14:50-16:10
Chair: Melissa Ann West (Member of NZ Cartographic Society)
T14-1-1 BDIG: Continuous updating for National Geospatial Information Databases in National Geographic Institute of Spain.
Gonzalo Moreno, Francisco Mariño, Alfonso Marín, Pablo Barreira, Francisco Javier González-Matesanz, Pilar Sánchez Ortiz
T14-1-2 How do the Swiss produce their New National Map Series?
Mark Dominic Wigley
T14-1-3 Mapping New Zealand 2025 – A National Perspective
Karl Baker, Roger Carman

T15-1 Map Projections Knowledge
Room: Mars (Miraikan)
Datetime: Fri 19th July 14:50-16:10
Chair: E. Lynn Usery (U.S. Geological Survey)
T15-1-1 A Semantic Representation of Map Projections Knowledge
E. Lynn Usery
T15-1-2 Map Projection Article on Wikipedia
Miljenko Lapaine
T15-1-3 Harmonization of different type of coordinate systems used for Macedonian official spatial data
Bashkim Idrizi
T27-2 Design & Computation in Geovisualization
Room: Conference Room 2 (Plaza Heisei)
Datetime: Fri 19th July 14:50-16:10
Chair: Arzu Coltekin (University of Applied Sciences and Arts, Northwestern Switzerland)

T27-2-1 On the relevance of cartography — An interaction design perspective
Sebastian Meier, Jordi Tost, Frank Heidmann

T27-2-2 Given the problem of projection, are heat maps an oxymoron?
Daniel Strebe

T27-2-3 The Levenshtein distance as a measure of mirror symmetry and homogeneity for binary digital patterns
Godfried Theodore Toussaint

T30-8 GIS, Remote Sensing and Cartographic Theory, Methodology and Applications (8)
Room: Innovation Hall (Miraikan)
Datetime: Fri 19th July 14:50-16:10
Chair: Tzai-Hung Wen and Takashi Oguchi (National Taiwan Univ., Univ. Tokyo, Japan)

T30-8-1 Delineating urban functional regions by considering interaction cohesiveness and function diversity
Fei-Ying Felix Kuo, Tzai-Hung Wen

T30-8-2 An investigation of geographic object based image analysis (GEOBIA) for human settlement detection in South Africa
Luncedo Ngcofe, Nale Mudau

T30-8-3 Understanding the Process of Geospatial Reasoning: Evidences from an Eye-Tracking Experiment
Tzai-Hung Wen, Hao-Yu Liao

T30-8-4 On the Way to an Information System of Russian Transport Networks
Irina Lurie, Ali Alyautdinov, Elena Prokhorova, Vladimir Semin

T32a-1 Mapping cities (1)
Room: Venus (Miraikan)
Datetime: Fri 19th July 14:50-16:10
Chair: Naoto Yabe (Tokyo Metropolitan University)

T32a-1-1 Visualising a comparison of simulated urban heat islands: a case study of two Slovakian cities
Jan Feranec, Juraj Holec, Pavel Staňný, Daniel Szatmári, Monika Kopecská

T32a-1-2 Interactive 3D Time-Integrated Solar Shadow Maps
Georg Molzer, Florian Ledermann

T32a-1-3 Is the neighbourhood a level suited to the thermal evaluation of energy loss from buildings?
Nathalie Molines, Eduard Antaluca, Fabien Lamarque

T32a-1-4 A history of the city written in a map – cartography as the mirror of socio-political events in Gdańsk in the years of 1918-1939
Agnieszka Bień

T37-1 SDGs and Cartography 1 (concept)
Room: Conference Room 1 (Plaza Heisei)
Datetime: Fri 19th July 14:50-16:10
Chair: Ayako Kagawa (United Nations)

T37-1-1 A Sustainable world with cartography
Ayako Kagawa, Kyoung-Soo Eom

T37-1-2 Seeing the UN Sustainable Development Goals through Maps
Menno-Jan Kraak, Britta Ricker, Rob Roth

T37-1-3 SDG Viz: A Web-based System for Visualizing Sustainable Development Indicators
Xinyu Gong

T38-3 Mapping the Environment 3
Room: Conference Room 4+5 (Plaza Heisei)
Datetime: Fri 19th July 14:50-16:10
Chair: TBD (TBD)

T38-3-1 The transition process of aerosol distribution state with spatio-temporal analysis based on MODIS product
Su Wei Qing, Zhang Hong, Chen Li Lon

T38-3-2 Examination of car navigation systems and UX designs – suggestion for a new interface
Fanni Vörös, Zoltán Tompos, Béla Kovács

T38-3-3 Disease Mapping and Spatial Landscape Characterization of Tuberculosis Ecology in Malaysia
Abdul Rauf Abdul Rasam, Noresah Mohd Shariff

T38-3-4 "Constrained" Cities: The relationship between architectural icons and city growth
Carmelo Ignaccolo, Carmelo Ignaccolo
T43-3 Miscellaneous maps (2)
Room: Conference Room 3 (Plaza Heisei)
Datetime: Fri 19th July 14:50-16:10
Chair: Yoshiki Wakabayashi (Tokyo Metropolitan University)
T43-3-1 Geospatial Distribution and Accessibility of Primary and Secondary Schools: A case of Abbottabad City, Pakistan
Neema Simon Sumari, Hashir Tanveer, Zhenfeng Shao, Ernest Simon Kira
T43-3-2 Bayesian Geographical Multi-Dimensional Scaling
Hayato Nishi, Yasushi Asami
T43-3-3 A missing link in cartographic visualization? A case study of “heat maps” effectiveness
Tomasz Panecki, Wojciech Pokojski
T43-3-4 Exploring Spatiotemporal Characteristics in the Twitter Data Using Topic Modelling Techniques
Young-Hoon Kim, Hyun Jee Woo

T08-4 Scale issues in Visualization
Room: Uranus (Miraikan)
Datetime: Fri 19th July 16:40-18:00
Chair: Guillaume Touya (LASTIG, IGN France)
T08-4-1 Focus+Context Map Labeling with Optimized Clutter Reduction
Benjamin Niedermann, Jan-Henrik Haunert
T08-4-2 Automatic tactile thematic map generation: research agenda and possible solutions
Jakub Wabisinski, Albina Moscicka
T08-4-3 A Self-Adaptive Method of Multi-scale POI Visualization in Indoor Map
Yi Xiao, Tinghua Ai, Mengying Jiang, Chen Weng, Miqi Wang
T08-4-4 Conceptual framework for enhancing visual change point analysis in generalized multi-temporal displays
Jochen Schiewe

T11-6 Surveying and Mapping
Room: Saturn (Miraikan)
Datetime: Fri 19th July 16:40-18:00
Chair: TBD (TBD)
T11-6-1 Advancing Reconnaissance and Valorisation: Map Series of German South West Africa (Namibia), 1892-1918
Imre Demhardt
T11-6-2 The bicycle at the end of the 19th century: An instrument for land surveying and mapping
Tristan Thielmann
T11-6-3 Database of Historical Atlases: An Interactive Web Application
Petra Jílková, Jiří Cajthaml
T11-6-4 Reconstructing the lost contours of Charles Hutton
Karen Rann, David Fairbairn, Ella Southern

T14-2 Map Production Technologies, Management and Certification
Room: Mercury (Miraikan)
Datetime: Fri 19th July 16:40-18:00
Chair: Peter Kunz (Federal Agency for Cartography and Geodesy (BKG))
T14-2-1 Cartographic Challenges in Producing a Web Map Based on Different Open and Free Datasets
Peter Kunz, Joachim Bobrich
T14-2-2 Technology research on Public welfare map adaptively and quickly producing
Zhu Xiu Li, Zhao Yong, Liu Wan Zeng, Wu Chen Chen, Wang Zhongxiang
T14-2-3 Certificates for High-Quality Cartographic Products
Temenoujka Bandrova, Miljenko Lapaine, Silvia Marinova
T14-2-4 An Algorithm of Automatic Administrative Region Index Map Generation for National-level Map Production
Ruolei Wang, Jianjun Liu, Zhao Li, Jun Zhang

T15-2 Map Projections Characteristics
Room: Mars (Miraikan)
Datetime: Fri 19th July 16:40-18:00
Chair: Bojan Šavrič (Esri, Inc.)
T15-2-1 The Equal Earth Projection: Distortion Characteristics, Adoption, and (Social) Media Impact
Bojan Šavrič, Bernhard Jenny, Tom Patterson
T15-2-2 Polar and Equatorial Aspects of Map Projections?
Miljenko Lapaine, Nedjeljko Frangula
**T27-3 Visualizing Flows & 3D Geovisualization**

Room: Conference Room 2 (Plaza Heisei)
Date/time: Fri 19th July 16:40-18:00
Chair: TBD (TBD)

- **T27-3-1 Creating Maps of Artificial Spaces for Exploring Trajectories**
  Gennady Andrienko, Natalia Andrienko

- **T27-3-2 Workflow for 3D geovisualization of the data obtained with the use of Unmanned Aerial Vehicle in Augmented Reality**
  Łukasz Halik, Maciej Smaczyński, Beata Medyńska-Gulij

- **T27-3-3 Geovisualization of complex origin-destination flow maps using Discrete Global Grid Systems**
  Paulo Raposo

- **T27-3-4 Using Focus + Context Techniques to Visualize Building Information Model in virtual Geo-Environment**
  Shen Ying, Chengpeng Li, Weiyang Li, Naibin Chen, Zhigang Zhao

---

**T30-9 GIS, Remote Sensing and Cartographic Theory, Methodology and Applications (9)**

Room: Innovation Hall (Miraikan)
Date/time: Fri 19th July 16:40-18:00
Chair: Tzai-Hung Wen and Takashi Oguchi (National Taiwan Univ., Univ. Tokyo, Japan)

- **T30-9-1 Detecting land cover change using Sentinel-2**
  Koji Osumi

- **T30-9-2 The visualization of the use of land on the basis of the dynamics of the pedestrian movement from the interval UAV imaging**
  Maciej Smaczyński, Beata Medynska-Gulij, Łukasz Halik

- **T30-9-3 Method of Elaboration of Detailed Existing Land Use (ELU) Map of Poland**
  Dariusz Ryszard Dukaczewski

- **T30-9-4 The application of GIS in railway heritage management: the case of Yunnan-Vietnam Railway**
  Kun Sang, Silvia Elena Piovan

---

**T32a-2 Mapping cities (2)**

Room: Venus (Miraikan)
Date/time: Fri 19th July 16:40-18:00
Chair: Naoto Yabe (Tokyo Metropolitan University)

- **T32a-2-1 Automated Generation of Schematic Network Maps with Preservation of Main Structures**
  Tian Lan, Zhilin Li

- **T32a-2-2 Multivariate thematic mapping using fractal glyphs**
  Antoni Moore, Bin Jiang

- **T32a-2-3 Measuring the Street Layout Orientation Entropy of Cities in the Philippines**
  Homer Marquez Pagkalinan

- **T32a-2-4 Cartometric and Participatory Mapping for Regional Boundaries Evaluation in Kaligesing, Purworejo, Indonesia**
  Sudaryatno, Bagus Wiratmoko, Raden Ramadhani Yuda

---

**T37-2 SDGs and Cartography 2 (practice)**

Room: Conference Room 1 (Plaza Heisei)
Date/time: Fri 19th July 16:40-18:00
Chair: Menno-Jan Kraak (University of Twente)

- **T37-2-1 Sustainable Development Goals and Visualizing Small Island Developing States**
  Jessica Gosling-Goldsmith, Britta Ricker, Menno Jan Kraak

- **T37-2-2 Alternate thematic maps to visualize United Nations Sustainable Development Goal indicator data**
  Natasha Pirani, Britta Ricker, Menno Jan Kraak

- **T37-2-3 Employing GIS towards shaping a smart and sustainable future: a brief policy survey of global and Taiwan's efforts**
  Chih-Wei Chen, Ching-Yi Lin, Chine-Hung Tung, Hsiuang-Ming Liao, Jr-Jie Jang, Kun-Chi Lai, Meng-Ying Li, Yin-Ling Huang

---

**T43-4 Mapping geospatial data**

Room: Conference Room 3 (Plaza Heisei)
Date/time: Fri 19th July 16:40-18:00
Chair: Kaori Ito (Tokyo University of Science)

- **T43-4-1 Giving life to the map can save more lives. Wildfire scenario with interoperable simulations.**
  Walter David, Francesco Giannino, Duncan Heathfield, Antony Hubervic, Attila Aknai, Athanasios Sfetsos, Silvia Elena Piovan

- **T43-4-2 GIS-based hillshade representation combined with relative relief as pseudo shade to enhance micro-topography**
  Keiko Suzuki, Go Ishikawa

- **T43-4-3 Towards a new face for Planetary Maps: Design and Web-based Implementation of Planetary Basemaps**
  Andrea Nass, Nicolas Manaud, Stephan Van Gasselt, Trent Hare

- **T43-4-4 Estimation of three dimensional structure of forest and development of roots of trees using LiDAR data**
  Mamoru Koarai, Akane Rarikiyo, Wataru Watanabe