



NEW ZEALAND

**GEOSPATIAL RESEARCH CONFERENCE**

29-30 August // Massey University // Wellington

**2022**



# Conference Programme

MONDAY & TUESDAY, 29-30 AUGUST

Massey University, Wellington

*Finding our way to an open world*

# KEYNOTE SPEAKER



## Kura Moeahu

### Principal Advisor Māori to Parliament

Kura Moeahu has strong mana whenua ties to Te Āti Awa Taranaki Whanganui here in Te Whanganui-a-Tara, Wellington and strong whakapapa connections to the eight tribes of Taranaki and Ngāti Toa. He was born and raised in Wainuiomata and around his marae in Waiwhetū. He is a tribal leader for his people, who is passionately involved with his iwi governance, Chair of Te Rūnanganui o Te Āti Awa, Waiwhetū Marae, Harbour Island Kaitiaki Board, and Waiwhetū Pa Reservation No.4. Kura is the current Tumu Whakarae / Principal Adviser, Māori to Parliament, ensuring that the tikanga of the mana whenua, Te Āti Awa Taranaki Whānui is upheld and promoted throughout the Parliamentary precinct, central and local government, the education sector, private and public sector within the tribal boundaries of Te Āti Awa Taranaki Whānui. A true orator of his people, he is steeped in ancient karakia and whakapapa.

He enjoys playing the guitar, composing songs, and spending time with whānau. “Although people see me in suits – I am a pa boy at heart.”

He aha te kai a te rangatira? He kōrero, he kōrero, he kōrero. (What is the food of chiefs? It is communication, it is listening, it is knowledge.)

# KEYNOTE SPEAKER



## Jasmin Callosa-Tarr

APAC Technical Leader and NZ Spatial Lead for Jacobs

Jasmin is the Asia Pacific Technical Leader and NZ Spatial Lead for Jacobs. She is also the current Spatial Stream Chair for Survey and Spatial NZ, Deputy Chair for the NZ Esri Users Group and Secretary for NZ GIS for Conservation. Jasmin is currently involved in various transport, resilience, climate change, environmental, power and water projects to enable visualisation, create insights, engage with stakeholders, and integrate with other digital solutions.

- Studied Geography at University of the Philippines and Emergency Management at Massey University
- A GIS Professional for 16 years in New Zealand
- A GIS Research Analyst at the International Rice Research Institute
- Involved in Participatory GIS and conservation projects in the Philippines, Southeast Asia, and Southern Africa
- Involved with the “Let’s Get Wellington Moving” project

Curiosity, Strategic, Analytic, Contributive and Creative is Jasmin’s personal and professional brand. She is passionate about sharing her gifts and uniqueness in any part of her life. As a leader, Jasmin believes in inspiring and mentoring innovative and curious people who can freely and effectively use their knowledge and talent to create better communities.

# CONFERENCE PROGRAMME

## DAY 1

Time	Programme	Location
09:00 - 09:25	<b>Conference Registration</b> Please register in time and gather outside Te Rau Karamu Marae for the welcoming session.	Pyramid
09:30 - 10:15	<b>Whakatau (Welcome) and Morning Tea</b> Due to the orange traffic light under Covid restrictions, there will be no hongiri or hariru (formal physical greetings).	Te Rau Karamu Marae
10:15 - 10:25	<b>Welcome by the Conference Chair</b> Kristin Stock	
10:25 - 11:15	<b>Keynote: Moteatea - Traditional GPS Methodology: Practices That Inform Place, Space and Narratives</b> Speaker: Kura Moeahu	
11:15 - 12:05	<b>Session 1: Representation of Geography in Indigenous Languages</b> <i>Session Chair: Mairéad de Róiste</i>	
11:15 - 11:40	<b>Mā Te Kupu Te Whenua E Ora Ai: The Challenges of Geospatial Natural Language Processing With New Zealand Māori (LP)</b> Niloofer Aflaki, Kierin Mackenzie, Hone Morris, Hans W. Guesgen, Jonathan Procter and Kristin Stock	
11:40 - 12:05	<b>Spatial Navigation in Western Arnhem Land: A Novel Approach to Contextualize Geospatial and Language Data (LP)</b> Claudia Cialone	
12:05 - 1:00	<b>Lunch</b>	Foyer, Level C, Block 12, Te Ara Hihiko
3:00 - 3:20	<b>Afternoon Tea</b> People attending the He Hikonga Tangata, He Ara Mātauranga workshop will have packed afternoon tea accessible during the bus tour.	

Note: LP stands for long papers

All abstracts can be accessed here:

<https://geocollaboratory.massey.ac.nz/nzgrc2022-programme-overview/>

All publications can be accessed here:

[https://figshare.com/projects/New\\_Zealand\\_Geospatial\\_Research\\_Conference\\_NZGRC\\_2022/145734](https://figshare.com/projects/New_Zealand_Geospatial_Research_Conference_NZGRC_2022/145734)



Monday 29 August 9am – 7:30pm

Time	Programme	Location
1:00 - 5:00	<b>Workshops (parallel sessions)</b>	
	<b>He Hīkonga Tangata, He Ara Mātauranga: Māori Place Names and Geographical Terms Around Te Whanganui-a-Tara / Wellington</b> Organisers: Kura Moeahu, Hone Morris, Jonathan Procter and Kierin Mackenzie	Assemble outside the marae to board bus
	<b>Digital Twin Foundations</b> Organisers: Kate Williams and Kat Salm	Executive Seminar Suite
	<b>Creating ICSM Compliant ISO19115-3 Metadata</b> Organisers: Byron Cochrane and Liz Kolster	JCDR EOC Room, Building T28
5:30 - 7:30	<b>Poster Session, Snack Dinner, Networking Drinks</b>	
	<b>Spatial-Temporal Road-User Flood Risk Assessment Using GIS and System Dynamic Modelling</b> Shashini Saumya Sanjeevani, John Lowry and Imran Muhammad	
	<b>Assessing Optimal Flight and Capture Parameters for Post- Thinning Quality Control in Radiata Pine Forest Stands Using Unmanned Aerial Vehicles</b> Atman Dhruva, Robin Hartley and Todd Redpath	
	<b>Biowhere: Georeferencing New Zealand's Biota From Texts</b> Kalana Wijegunaratna, Kristin Stock, Christopher Jones, Aaron Wilton, Jonathan Procter, Hone Morris, David Medyckyj-Scott, Fraser Morgan, John Wiecezorek and Brandon Whitehead	Foyer, Level C, Block 12, Te Ara Hihiko
	<b>Spatial and Temporal Segmentation for Modelling Cyclists' Pollution Exposure</b> Sophie Kolston and Katarzyna Sila-Nowicka	
	<b>Crowdsourcing Tsunami and Sound Observations in Aotearoa Following the January 2022 Hunga Eruption, Tonga</b> Rachel Lawson, Sally Potter, Sara Harrison, Mary Anne Thompson Clive, Geoff Kilgour, David Burbidge, Kate Clark, Brad Scott, Christina Magill and Danielle Charlton	

# CONFERENCE PROGRAMME

## DAY 2

Time	Programme	Location
09:00 - 09:45	<b>Keynote: Exploring our Geographic Mindsets</b> Speaker: Jasmin Callosa-Tarr	4B06 Theatrette, Level B, Block 4
09:45 - 10:35	<b>Session 2: Hazards and Their Impact on Society</b> <i>Session Chair: Matt Wilson</i>	
09:45 - 09:55	<b>Post-Disaster Recovery From HIWeather Events in Auckland Communities: Kumeū-Huapai and Henderson Valley's Exposure to High-Impact Weather (HIWeather) Events (LT)</b> Anna-Kay Spaulding-Agbenyegah, Julia Becker, Sr Uma and Suzanne Wilkinson	
09:55 - 10:05	<b>The Matariki Project: 3-D Change Detection With Satellite Photogrammetric Mapping (LT)</b> Pascal Sirguy, Aubrey Miller, Ellorine Carle, Simon C. Cox, Todd Redpath and Nicholas J. Cullen	
10:05 - 10:15	<b>Modelling the Effect of Climate Change: Related Flooding Hazards (CCRFH) on Coastal Residential Property Values (LT)</b> Antoni Moore, Quyen Nguyen, Ivan Diaz-Rainey, Simon Cox, Greg Bodeker and Paul Thorsnes	
10:15 - 10:25	<b>Complementing Air Quality Research With Simple Location Data Collection (LT)</b> Daniel Morrish, Gustavo Olivares and Elizabeth Somerville	
10:25 - 10:35	<b>QuakeText: Mapping Earthquake Impacts From Text (LT)</b> Niloofar Aflaki, Kristin Stock, Raj Prasanna, Christopher Jones, Emma Hudson-Doyle and Nishantha Medagoda	Pyramid
10:35 - 10:55	<b>Morning Tea</b>	

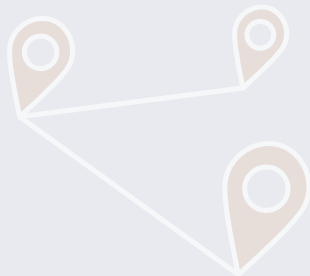


Note: LT stands for lightning talks

Tuesday 30 August 9am – 1:40pm

Time	Programme	Location
10:55 - 11:50	<b>Session 3: Privacy and Confidentiality of Geographic Data</b> <i>Session Chair: Tony Moore</i>	4B06 Theatrette, Level B, Block 4
10:55 - 11:10	<b>Movement Data: Privacy Over Utility?</b> (SP) Maike Gatzlaff, Katarzyna Sila-Nowicka and Mark Gahegan	
11:10 - 11:25	<b>Analysis of Confidentiality Methods for Gridded Population Data</b> (SP) Walter Somerville, Karl Majorhazi, Daniel Exeter and Amalia Wan Ismail	
11:25 - 11:40	<b>Linking Individuals to Areas in the UK: Protecting Confidentiality While Preserving Research Utility</b> (SP) Daniel Exeter, Paul Norman and Jessie Colbert	
11:40 - 11:50	<b>Geographic Profiling: How Using Police Data on Suspects' Activity Locations Might Help Solve Crime</b> (LT) Sophie Curtis-Ham	
11:50 - 1:40	<b>Lunch</b> Please collect your lunch from the Pyramid if you are attending a workshop.	Pyramid
	<b>Workshop: Geospatial Education in Aotearoa New Zealand</b> Organisers: Mairéad de Róiste, John Lowry, Geoff O'Malley	Level H, Block 5
	<b>Postgraduate Lunch</b> Organiser: Ben Adams	Executive Seminar Suite

Note: SP stands for short papers



# CONFERENCE PROGRAMME

## DAY 2

Time	Programme	Location
1:40 - 2:35	<b>Session 4A: Health</b> <i>Session Chair: Dan Exeter</i>	4B06 Theatrette, Level B, Block 4
1:40 - 1:55	<b>The Changing Face of Tourism in New Zealand: Using Mobile Phone Data to Analyse the Impacts of COVID-19 (SP)</b> Jessie Colbert, Anataia Van Leeuwen and Katarzyna Sila-Nowicka	
1:55 - 2:10	<b>The Spatial Characteristics of Modelling Risk and Exposure of the Carcinogenic Fibrous Mineral Erionite (SP)</b> Dacey Zelman-Fahm, Katarzyna Sila-Nowicka and Jennifer Salmond	
2:10 - 2:25	<b>Applying Geographically Weighted Logistic Regression (GWLR) to Find Spatially Varying Relationships Between Active Transport to School (ATS) and ATS Factors (SP)</b> Long Chen, Antoni Moore and Christina Ergler	
2:25 - 2:35	<b>Present and Future Distribution of Bat Hosts of Sarbecoviruses: Implications for Conservation and Public Health (LT)</b> Renata L. Muylaert, Tigga Kingston, Jinhong Luo, Maurício H. Vancine, Nikolas Galli, Reju S. John, Maria C. Rulli and David T. S. Hayman	
2:35 - 3:15	<b>Session 4B: Language and Text</b> <i>Session Chair: Dan Exeter</i>	
2:35 - 2:50	<b>Comparing Measures of Linguistic Diversity Across Social Media Language Data and Census Data at Subnational Geographic Areas (SP)</b> Sidney Wong, Jonathan Dunn and Benjamin Adams	
2:50 - 3:05	<b>Fijian Language GIS Project (SP)</b> John Lowry, Paul Geraghty and Ritsuko Kikusawa	
3:05 - 3:15	<b>Location Reference Extraction From Unstructured Web Text (LT)</b> Nilani Algiriyaage, Raj Prasanna, Kristin Stock, Emma Hudson-Doyle and David Johnston	Pyramid
3:15 - 3:35	<b>Afternoon Tea</b>	

Tuesday 30 August 1:40 – 5pm

Time	Programme	Location
3:35 - 4:50	<b>Session 5: Applications and Education</b> <i>Session Chair: Ashraf Dewan / Pascal Sirguey</i>	4B06 Theatrette, Level B, Block 4
3:35 - 3:50	<b>Current Status of Geospatial Education in New Zealand (SP)</b> Mairead De Roiste, Scott Pool and John Lowry	
3:50 - 4:05	<b>Geolocated Social Media for Understanding Hazards: Using Twitter to Visualise Exposure to Urban Fire Smoke (SP)</b> Rachel Lawson and Katarzyna Sila-Nowicka	
4:05 - 4:20	<b>Interpolation of Financial Time Series Data in a Three-Dimensional Spatialisation (SP)</b> Kambiz Borna and Tony Moore	
4:20 - 4:30	<b>Geospatial Mixed-Method Survey Data to Analyse Stated Preferences for and Satisfaction With Local Green Spaces in Wellington (LT)</b> Mirjam Schindler	
4:30 - 4:40	<b>Dairy Sector Productivity: What is the Value of Geospatial Analysis? (LT)</b> Mark Neal	
4:40 - 4:50	<b>Machine Learning Methods for Detection of Fur Seals Using High Spatial Resolution Imagery (LT)</b> Akbar Ghobakhlou, Roberto Ornaldo Chavez, Rujia Chen and Matias Pérez	
4:50 - 5:00	<b>Best Paper and Poster Announcement</b>	
	<b>Conference Closing</b>	

Hope you enjoy all of the sessions. We also invite you to participate in the People's Choice Award for your favourite CONFERENCE PAPER / PRESENTATION / POSTER! Use the link below or simply scan the QR Code to join!

Link: <https://bit.ly/3bZG7s7>



# MASSEY UNIVERSITY, WELLINGTON CAMPUS MAP



Number	Location Names
1	Pyramid
2	Te Rau Karamu Marae
3	Foyer, Level C, Block 12, Te Ara Hihiko
4	Executive Seminar Suite
5	JCDR EOC Room, Building T28
6	4B06 Theatrette, Level B, Block 4
7	Level H, Block 5

# ORGANISING COMMITTEE



**Dr Kristin Stock**  
Conference Chair

Director of the Massey  
Geoinformatics Collaboratory



**Dr Antoni Moore**  
Programme Chair

Associate Professor in  
School of Surveying,  
University of Otago



**Dr Matt Wilson**  
Workshops Chair

Professor in Spatial Information  
and Director of the Geospatial  
Research Institute Toi Hangarau,  
University of Canterbury



**Dr John Lowry**  
Posters Chair

Senior Lecturer in  
Geography, School of People,  
Environment and Planning,  
Massey University



**Dr Kat Salm**  
Industry Engagement Chair

Digital Solutions Manager in  
Harrison Grierson Consultants,  
the NZ BD Manager for FrontierSI



**Dr Ashraf Dewan**  
Lightning-Talks Co-Chair

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Planetary Sciences,  
Curtin University, Australia



**Dr Mairéad de Róiste**  
Lightning Talks Co-Chair

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Te Herenga Waka –  
Victoria University of Wellington



**Dr Ben Adams**  
Postgrad Event Chair

Associate Professor in  
Computer Science and  
Software Engineering,  
University of Canterbury



**Alicia Cui**  
Marketing Chair

Research officer at  
Joint Centre for Disaster  
Research, Massey University,  
Project Lead of RNC2  
Urban Theme Networks



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