# GEOSPATIAL FOR GOOD

**Enriching Minds, Empowering Lives** 



#### Day 1, Tuesday, 15 Oct 2024

Venue: Lifelong Learning Institute, <u>Level 1, Event Hall 1-2</u> 11 Eunos Road 8, Singapore 408601

Time: 9.05am to 9.10am

Opening Address by Mr Yeoh Oon Jin Chairman Singapore Land Authority (SLA)



Time: 9.10am to 9.15am

Memorandum of Signing Ceremony

Time: 9.15am to 9.35am

AWS – SLA Geospatial Innovation Challenge Award Presentation

Winning Team Project Presentation

Time: 9.35am to 9.45am

Industry Keynote by Mr Scott Simmons Chief Standards Officer Open Geospatial Consortium (OGC)



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Time: 9.45am to 9.55am

Industry Keynote by
Mr David Foo
Assistant Chief Executive (Operations and Ops-Tech) /
Chief Data Officer
Maritime and Port Authority of Singapore (MPA)



Time: 9.55am to 10.15am

Morning Refreshments

Time: 10.15am to 10.30am

#### Harnessing Geospatial Analytics for Social Impact

Over the past two decades, real-world cases have demonstrated the powerful potential of Geospatial Data and Analytics in tackling a wide range of social and environmental challenges, including poverty, inequality, epidemiology and public health, climate change, and human rights. Despite their proven utility, a critical challenge remains: How can we cultivate social awareness and ensure that our geospatial analytics initiatives truly serve the public good and advance social justice? In this presentation, I will share actionable insights and best practices for embedding these values into the mentoring of future management practitioners.



Dr. Kam Tin Seong
Associate Professor of Information
Systems (Practice), School of
Computing and Information
Systems, SMU

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### Leveraging Geospatial Technology to Create a Living Asset Map for Health and Social Care Practitioners

SingHealth Community Hospitals (SCH) has partnered with the Singapore Land Authority (SLA) to harness geospatial technology in mapping out community assets and resources across various neighborhoods. This collaboration has resulted in the creation of an interactive and comprehensive tool that significantly enhances the delivery of integrated care.

By capturing both formal and informal community resources—such as healthcare facilities, social services, and recreational activities—into a single, accessible platform, the dynamic Living Asset Map enables health and social care practitioners to effectively connect seniors to the resources they need.

The Living Asset Map not only facilitates integrated care but also supports ageing in place and strengthens community resilience, all with the goal of improving the quality of life for residents.

In this presentation, SingHealth will provide further insights into the background and context of the Living Asset Map project and how geospatial technology has facilitated its development.



Ms Adeline Kwan
Assistant Director, Office of
Community Engagement
and Education
SingHealth Community Hospitals

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Time: 10.45am to 11.00am

### Leveraging AWS Cloud to Drive Positive Social Impact Through

Geospatial Innovation

The proliferation of satellites and billions of mobile and IoT devices capturing location data continuously resulted in an exponential growth of geospatial data. This data deluge poses a significant challenge for organizations looking to harness the value of this information and create impactful applications for their citizens.

In this session, we will explore how the city of Barcelona combined data from diverse sources, including Geospatial data and leveraged AI/ML technologies on the AWS cloud, to establish Low Emission Zones (LEZs) that improved air quality and achieved a healthier, more sustainable environment for its citizens. We will also showcase how the integration of health data on Geospatial platforms can help detect and prevent the spread of pandemics.



Mr Sapan Kumar

AWS Smart Cities

Leader, ASEAN

Amazon Web Services

(AWS)

Time: 11.00am to 11.15am

## Combating Climate Change with Geospatial Al and Machine Learning

This engaging session introduces what geospatial machine learning and AI is to any technical or non-technical professionals in the GIS and surveyor world. We will explore case studies of how powerful software infrastructure and machine learning is being used today to create models that help us better understand our natural world, finance natural restoration projects and mitigate climate risks.



Mr Johann Wah Co-Founder Nika.eco

Time: 11.15am to 11.30am

Mapping a Better Tomorrow

This session highlights how organizations globally are leveraging GIS technology to address risks and challenges related to climate change and environmental issues. We will explore the impact of the Sustainable Development Goals (SDGs) on various organizations and demonstrate how GIS has been crucial in advancing these goals. Additionally, the session will feature examples of how GIS is being used to foster social good and drive positive change.

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### Day 1, Tuesday, 15 Oct 2024

Venue: Lifelong Learning Institute, <u>Level 1, Event Hall 1-1</u> 11 Eunos Road 8, Singapore 408601

Time: 11.00am to 6.00pm

#### Unlocking Insights with Aerial Mapping: Tools and Techniques

An increasing need for precise geographic information is driving the rapid expansion of aerial imagery and LiDAR data use across various industries. New applications are emerging through a combination of advancements in sensor technology and processing techniques (including AI) to derive information from the datasets. Aerial imagery, captured by drones, planes, or satellites, provides high-resolution visual data, offering detailed insights for applications including urban planning, environmental monitoring, and disaster response. LiDAR (Light Detection and Ranging) technology uses laser pulses to create precise 3D models of the built environment including buildings, terrain, vegetation and the ground underneath.

This workshop presented by SLA, Woolpert, ESRI, Leica and Bentley will describe the differences between imagery and LiDAR sensors, explain how aerial mapping data is collected and processed along with applications and insights that can be gained from the data.



Mr Ricky Thomson

Aerial Mapping

Production Manager

Woolpert



Ms Maziana Muhamad

Mapping Account Manager

Woolpert



Mr Brian Connolly
Senior Solution
Engineer, Reality,
Imagery and
Remote Sensing
Esri - Denver,
Colorado, USA
ESRI



Ms Liezel Dizon

Business Development

Manager – APAC , Reality,
Imagery and Remote Sensing

Esri Inc, Singapore



Ms Maylen Yee-Cabalan Manager, Solution Engineering (SEA) Bentley

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### Day 1, Tuesday, 15 Oct 2024

Venue: Lifelong Learning Institute, <u>Level 1, Training Room 1-1</u> 11 Eunos Road 8, Singapore 408601

Time: 1.30pm to 5.00pm

#### Open Geospatial Consortium (OGC) Singapore Forum: Initial Meeting

The OGC Singapore Forum: Initial Meeting in an opportunity for geospatial, hydrospatial and geomatics users, solutions providers and stakeholders in Singapore to come together for preliminary discussion on key national priorities, with a focus on geospatial standards. This Initial Meeting will be to facilitate open dialogue, increase awareness of geospatial standards and explore potential areas of interest. The outcomes of this session will help guide future engagements, with the goal of establishing a more formal charter in 2025.

This initial gathering will offer insights into the applications of geospatial standards in Singapore, covering land-marine interoperability, digital twins, barrier-free accessibility and indoor mapping. Representatives from SLA, MPA, OGC, academia, and industry will provide perspectives on the evolving geospatial landscape and future development.

#### **Agenda**

Time	Program
1.30pm	Registration
2.00pm	Welcome Remarks
2.10pm	Introduction by Attendees
2.30pm	Introduction to OGC and OGC Forums (Scott Simmons)
2.50pm	Short presentations on the use of Standards in Singapore
3.40pm	Tea and Networking
4.00pm	Discussion on geospatial priorities for Singapore and final thoughts from attendees
5.00pm	Adjourn

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### Day 2, Wednesday, 16 Oct 2024

Venue: <u>Revenue House, Level 13</u> 55 Newton Road, Singapore 307987

Time: 10.00am to 11.00am

Harness the Power of Geospatial Data on the AWS Cloud to Build Inclusive and Climate-Resilient Cities

In this interactive session, we will explore the power of the AWS cloud in automating geospatial data workflows. We will discuss leveraging AWS services to automate geospatial data processing, enrich and analyze data assets, and gain deeper insights. We will dive into the integration of advanced technologies, such as AI and generative AI, into applications to unlock the full potential of Geospatial data.

Government agencies and organizations can harness these cloud-powered capabilities to develop better urban planning solutions, create more inclusive communities, and build climate resilience. We will examine real-world case studies that showcase the transformative impact of cloud-based Geospatial solutions on its citizens.



Mr Sapan Kumar AWS Smart Cities Leader, ASEAN Amazon Web Services (AWS)

Time: 11.30am to 12.30pm

From Blueprint to Greencubes: Role of Geospatial technology in Social Transformation



Mr Faheem Khan
President
Hexagon Geosystems



Mr Daryl Lim
Regional Business Manager
Leica Geosystems

Join this session to explore how geospatial technology is revolutionizing society by leveraging accurate spatial data to enhance decision-making in urban planning, disaster management, and infrastructure development. Discover how geospatial technology promotes sustainability and drives positive change across various industries and sectors!

# GEOSPATIAL FORGOS

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### Day 2, Wednesday, 16 Oct 2024

Venue: <u>Revenue House, Level 13</u> 55 Newton Road, Singapore 307987

Time: 12.30pm to 1.30pm

Lunch Break

Time: 1.30pm to 3.30pm

### Transforming Reality Capture Data Into Actionable Information

Point cloud classification and feature extraction are the critical building blocks of nearly every reality capture solution. Streamlined workflows incorporating artificial intelligence (AI) makes it faster and easier to produce useful, actionable information from large volumes of data to address real-world problems. Various use cases for public safety and risk mitigation will be discussed including AI inspections of road conditions, road asset monitoring, and railway clearance analysis.



Mr Benjamin Lim
Regional Technical
Sales Manager
Trimble

Time: 9.30am to 2.00pm

## GeoAdventure – Navigating the World of Geospatial Intelligence & Technology

This engaging session introduces the fascinating world of geospatial technology to students and new professionals to the geospatial industry. We will explore what is geospatial technology , how it empowers us in our daily lives, as well as the current geospatial industry landscape. There will also be a fun activity where you will use geospatial tools to discover and appreciate how geospatial technology influences the way we navigate and understand our environment.



Mr Jonathan Goh
Geospatial Manager,
GeoSpatial Policy & Engagement
Singapore Land Authority (SLA)

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### Day 2, Wednesday, 16 Oct 2024

Venue: <u>SMU Campus, SOE/SCIS2 Seminar Room 4-1 (Level 4)</u> Level 4, 90 Stamford Road, Singapore 178903

Time: 2.00pm to 5.00pm

Building Web-Enabled Geospatial Analytics Applications with Shiny

Web-enabled geospatial analytics applications are increasingly used by geospatial practitioners to democratize data and analytics. These applications extend the usability of existing datasets, allowing even casual analysts to explore data and perform advanced geospatial analyses without writing a single line of code. Traditionally, building a web application required at least intermediate knowledge of HTML, CSS, and JavaScript. However, with Shiny - a tool for creating web applications using R or Python - geospatial analysts can now build web-enabled geospatial analytics apps without prior experience in these languages.

This workshop aims to:

- introduce the fundamental principles and methods of the Shiny package,
- provide hands-on experience in building web-enabled geospatial analytics applications with Shiny, and
- discuss options for offline and online hosting of Shiny apps.

#### Speaker:



Dr. Kam Tin Seong
Associate Professor of Information
Systems (Practice), School of
Computing and Information
Systems, SMU

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### Day 3, Thursday, 17 Oct 2024

Venue: <u>Marina South Pier</u>
For enquiry and registration, please email to <u>geospace-sea@mpa.gov.sg</u>

Time: 9.00am to 12.00pm

#### Field Trip @ Sea

Are you curious about how data is collected below the sea surface to ensure safe vessel navigation? Ever wondered how drones capture images out at sea?

Join us for an exciting field trip where we'll dive into the world of hydrographic surveys and drone operations! You'll get a unique experience and see firsthand how these technologies contribute to Singapore's maritime geospatial capabilities to ensure safety of navigation and marine operations.

Don't miss this opportunity to explore the challenges and innovations in collecting geospatial data at sea!.

Time: 2.00pm to 5.00pm

#### Maritime Geospatial Workshop

At any point in time, there are over 1,000 vessels in Singapore's waters. From maritime trade, tourism and more, our busy waters host a wide range of uses.

Mapping and visualising these activities using geospatial technologies can help support marine and coastal planning, manage the impacts of climate change, and support the protection of the marine environment.

We invite you to join us for an exciting workshop session—where we'll discover how marine geospatial data can help enhance the safety, efficiency, and sustainability of the maritime domain.

Don't miss this opportunity to explore how marine geospatial insights are revolutionising maritime operations and shaping the future of our oceans!

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Day 3, Thursday, 17 Oct 2024

Venue: <u>Revenue House, Level 13</u> 55 Newton Road, Singapore 307987

Time: 4.00pm to 6.00pm

ULI SG – SLA Forum: Unlock the Power of Geospatial for Sustainable Urban Development

The ULI SG – SLA Forum will explore the power of geography and geospatial in fostering an inclusive community and promoting sustainable urban development. Join us for an evening of knowledge-sharing & networking and be updated on the latest geospatial developments.

<u>Inspiring Perspectives from Industry Leaders:</u>



A Geospatial Perspective

Introduction by Mr Colin Low Chief Executive Singapore Land Authority (SLA) Register for the forum via: <a href="https://go.gov.sg/sggf2024-uli-sla-forum">https://go.gov.sg/sggf2024-uli-sla-forum</a>

Moderated by Mr Ng Siau Yong, the panel will also discuss transformative ways to mainstream geospatial for operational efficiencies and promote sustainability in the urban built environment through best practices with geo-enabled solutions.



Ms Ku Geok Boon
Chief Executive Officer,

SG Enable



Prof Chang Chew Hung
NIE Sustainability Officer, and
Professor, Humanities and Social
Studies Education, NIE, NTU



Mr Scott Dunn
Chief Strategy Officer
& Vice President
(Asia), AECOM



Mr Ng Siau Yong
Director, GeoSpatial and Data
& Chief Data Officer
Singapore Land Authority
(SLA)

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### Day 3, Thursday, 17 Oct 2024

Venue: <u>Kallang</u> → Marina

Limit at 20 pax

Registration is confirmed upon organiser's email confirmation.

Time: 5.00pm to 7.30pm

#### Empowering Active Mobility with MOVE&JOY app

#### Join us for a scenic evening bike ride from Kallang to Marina!

Learn how Singapore #1 active mobility lifestyle app utilize OneMap and location-based services to empower active and micro mobility users and local business. Meet the team behind this homegrown startup and experience a scenic ride from Kallang to Marina while utilizing the app. Win a prize at the end of ride in a special pop-quiz.

Time	Program
5.00pm	Safety briefing at Stadium MRT, Exit A (Sign-up required, no walk-ins)
5.30pm	Bike Collection
6.30pm	End at Bayfront with Pop-quiz Group Photo at the Big Chair
7.00pm	End of Activity



