

# Programme



## SA GeoTech 2019

**22 – 23 July 2019**

Emperors Palace, Ekurhuleni, South Africa

**A major technology expo and conference for social, economic, business and infrastructure development and economic growth, now incorporating DesignTech, ArchiTech, MeasureTech, PositionTech, MineTech and ConstrucTech.**

### ***THEME***

***“Geo-tech to drive new business opportunities and economic growth”***

Hosted by:

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**PositionIT**

The geo-informatics, surveying, GIS, BIM, mapping and location services journal of Southern Africa

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YEARS  
**Q-KON**  
Africa



## Day 1: Monday 22 July 2019

|                |   |  |
|----------------|---|--|
| 07h30 to 08h15 | <b>Registration</b>   | E<br>x<br>h<br>i<br>b<br>i<br>t<br>i<br>o<br>n |
| 08h15 to 08h30 | <b>Welcome &amp; housekeeping</b>   |  |
| 08h30 to 09h00 | <b>Data science as the key to the geospatial professional's relevance in the big data age</b><br><i>by Dr Arul Naidoo, Institute for Spatial Data Science</i>   |  |
| 09h00 to 10h20 | <b>GeoTech and 4IR: Disciplines uniting for 21st century mining</b> <i>by Prof. Fred Cawood, Director of the Wits Mining Institute</i>  |  |
|                | <b>Reimagining marginalised spaces: A case study of the Alexandra Township</b> <i>by Sandiswa Sondzaba, Bonolo Mohulatsi and Yashena Naidoo, Researchers at Gauteng City Region Observatory (GCRO)</i>  |  |
|                | <b>Machine learning for road width capture from aerial photography</b> <i>by Kevin Johnson, Aurecon Group Africa: Digital Operations Africa</i>   |  |
|                | <b>Gauteng City Region GIS and Geportal: Integrating government information islands</b><br><i>by Celiwe Kgwedi, Director: GIS at the Office of the Gauteng Premier</i>  |  |
| 10h20 to 10h50 | <b>Morning tea in Exhibition Hall – (Tea-time Tools &amp; Tech)</b>   |  |
| 10h50 to 12h10 | <b>Vaughan Harris, Managing director of The BIM Institute</b><br><b>Jean-Jacques Verhaeghe, SA Convenor Global Mining Guidelines (GMG) Group and SAIM</b><br><b>The Intelligent Transport Society of South Africa (ITSSA)</b><br><b>Peter Newmarch, President of SAGI</b><br><b>Ronnie Siphika, CEO of Construction Management Foundation</b><br><br><b>Panel discussion: Bringing geotech disciplines together</b> |  |
| 12h10 to 13h10 | <b>Lunch in Exhibition Hall</b>   |  |
| 13h10 to 13h40 | <b>An open-access planning support tool in pursuit of climate resilient settlements</b><br><i>by Alize le Roux, CSIR: Spatial Planning Systems</i>  |  |
| 13h40 to 15h00 | <b>Global and South African market and applications of ground penetrating radar (GPR)</b><br><i>by Hennie le Roux, Director of Subscan</i>  |  |
|                | <b>From air pollution to toilet paper, why the megacities of the future require smart location data</b><br><i>by Clint Leander, Here Technologies: Data acquisition and business development</i>  |  |
|                | <b>The National Spatial Planning Data Repository</b> <i>by Matheri Kangethe, Managing director of Agizo Solutions</i>   |  |
|                | <b>An end to getting lost: The local value and viability of mapcodes through practical tools</b><br><i>by Leon Schnell, Director of OverHere</i>  |  |
| 15h00 to 15h30 | <b>Afternoon tea in Exhibition Hall – (Tea-time Tools &amp; Tech)</b>   |  |
| 15h30 to 16h50 | <b>Mobile mapping with simultaneous localisation and mapping (SLAM)</b> <i>by Stephan van der Merwe, Manager of Optron Geospatial</i>   |  |
|                | <b>Evolutionary dead-ends in drones</b> <i>by Franz Fuls, Managing director of Compact Aerial Services</i>  |  |
|                | <b>Spatial temporal modelling and analysis for underground mining</b> <i>by Calvin Opiiti, Wits Mining Institute</i>  |  |
|                | <b>Survival, growth and saving for ones retirement as a geospatial professional</b><br><i>by Biff Lewis, Director of Biff Lewis Geomatics</i>   |  |
| 16h50 to 17h00 | Closing wrap-up   |  |
| 17h00 to 20h00 | <b>Networking cocktail party</b>  |  |



## Day 2: Tuesday 23 July 2019

|                |  |  |  |
|----------------|--|--|--|
| 07h30 to 08h15 | <b>Registration</b>  |  | E<br>x<br>h<br>i<br>b<br>i<br>t<br>i<br>o<br>n |
| 08h15 to 08h30 | <b>Welcome &amp; housekeeping</b>  |  |  |
| 08h30 to 09h00 | <b>Optimising your workflow through the theory of constraints</b> by <i>Arrie van Niekerk, Tavanec</i>   |  |  |
| 09h00 to 10h20 | <b>Satellite-based monitoring for identification of ground subsidence</b> by <i>Andries Botha, Director and remote sensing geologist at Southern Mapping Company</i>   |  |  |
|                | <b>The world of the GIS professional is changing rapidly – are you ready?</b> by <i>Etienne Louw, Director of MapIT</i>  |  |  |
|                | <b>Designing the digital model and project information for digital twins</b> by <i>Nerine Joubert and Richard Matchett, Aurecon: Digital Practice Leaders</i>  |  |  |
|                | <b>Census geography: What constitutes the ideal output area for South Africa?</b> by <i>Helene Verhoef, Director of Geographic Frames at Stats SA</i>  |  |  |
| 10h20 to 10h50 | <b>Morning tea in Exhibition Hall – (Tea-time Tools &amp; Tech)</b>  |  |  |
| 10h50 to 12h10 | <b>GIS and SCADA: When two worlds collide</b> by <i>Dave Wibberly, Managing director of Adroit Technologies</i>  | <b>Vexcel Imaging Workshop</b>                 |  |
|                | <b>Reality modelling: The future of geo-engineering</b> by <i>Heico Kühn, iGlobe Group: Projects and operations manager</i>  |  |  |
| 10h50 to 12h10 | <b>Manage project complexities with accurate and reliable 3D reality capture solutions</b> by <i>Barend Bornman, Terrestrial laser scanning specialist at Leica Geosystems</i>   | <b>Phase One Industrial Solutions Workshop</b> |  |
|                | <b>Using the property register to enable municipal sustainability</b> by <i>Janet Channing, Director of MetGovis and Wynand van der Walt, Geospatial technologist at MetGovis</i>  |  |  |
| 12h10 to 13h10 | <b>Lunch in Exhibition Hall</b>  |  |  |
| 13h10 to 13h40 | <b>The story and the story behind the story: City of Johannesburg heritage and data governance</b> by <i>Marcelle Hattingh, City of Johannesburg Director of Corporate Geo-Informatics and Eric Itzkin, Deputy director Immovable Heritage</i> |  |  |
| 13h40 to 15h00 | <b>Open source web-based GIS for information distribution</b> by <i>Brighton Chamunorwa, University of Fort Hare: Department of GIS and Remote Sensing</i>   |  |  |
|                | <b>Integrated tools for mining modelling, estimation, design, optimisation and scheduling</b> by <i>Kayleigh Cooper, Micromine training and support consultant</i>   |  |  |
|                | <b>Network-based accessibility models enable effective decisions in the fast food industry</b> by <i>Craig Schwabe, Director of AfricaScope</i>  |  |  |
|                | <b>Geospatial as a platform to identify and develop business opportunities in Africa</b> by <i>Laura Goodman, GIS specialist at Market Decisions</i>   |  |  |
| 15h00 to 15h30 | <b>Afternoon tea in Exhibition Hall – (Tea-time Tools &amp; Tech)</b>  |  |  |
| 15h30 to 16h10 | <b>Achieving near real-time volume data for opencast mining</b> by <i>Chris Clarke, Managing director of Rocketmine</i>  |  |  |
|                | <b>Insight driven technology: Putting all fingers on the pulse of your business to radically shift the way your organisation operates</b> by <i>David Slotow, CEO of Trackmatic</i>  |  |  |
| 16h10 to 16h30 | Closing wrap-up  |  |  |



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# BIM for Leaders Master Class Workshop

## Presented by the BIM Academy Africa

This BIM workshop for leadership is an intensive workshop designed to give managers and other interested persons the complete lowdown of building information modelling (BIM) with geographic information systems (GIS). It is a software agnostic workshop, accredited by CanBIM (Canada BIM Council) and White Frog, and is endorsed by the Northumbria University Newcastle.

The workshop will help participants get to grips with the information models, processes and delivery methods required to make an impact in their BIM careers. BIM must speak to everyone's needs, and requires an approach that facilitates learning with a bigger picture of collaborative information models in mind.

Attendees will learn the fundamental concepts of BIM, its different processes, its business benefits and the critical factors for successful BIM implementation on projects.

The workshop starts with the understanding of a BIM strategy and the importance of publishing information into one single "source of the truth" for everyone on the project. They will also learn how to manage the process and the different role players in BIM. Next, delegates will explore the pros and cons of BIM in the various project delivery methods, and by the end of the workshop will have covered critical processes and deliverables necessary for BIM in a project life cycle.

The course comprises a mixture of presentations and practical exercises to introduce participants to:

- *Global trends:* Standards, guidelines, policies and education.
- *Process:* Learn about various stages with the life cycle of a BIM project.
- *Delivery methods:* What to expect with different delivery methods on a project.
- *Management:* How to be a leader and deal with critics and traditional thinkers.
- *BIM maturity:* Assessing BIM competencies within an organisation.

# Redefining 3D reality capture with the UltraCam Panther

**Presented by Engelbert Breg, Vexcel Imaging**

The portable UltraCam Panther is a reality capture system for off-road collection in outdoor and indoor environments. With 172 megapixels per full-spherical image, the camera head provides photogrammetric-grade imagery with exceptional resolution and image dynamic while always on the move.

It allows users to document, extract and model with a ruggedised system that is easy to deploy, operate and maintain for use in areas from mobile mapping and facility and asset management, to natural resources and safety and security.

This workshop will walk you through all steps from introducing the system and its data capture workflow to applications and case studies. You will also get the chance to try the UltraCam Panther first hand.

Can't make it to the workshop? No worries! Stop by at the Vexcel Imaging booth (stand 19) at the SA GeoTech 2019 Exhibition and learn more about the UltraCam Panther's industry-leading capabilities, flexibility and versatility.

Engelbert Breg, the Vexcel Imaging sales director for EMEA & Latin America will be happy to give you a hands-on demo.

No skills level or prior experience is required for the workshop.



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# Redefining UAV inspections using the Phase One iXM series cameras and AF lens

**Presented by James Wardlow, Phase One Industrial Solutions**

This workshop will give you insight into Phase One Industrial Solutions and a run-through of the company's complete portfolio of cameras, hardware and software solutions. The company will introduce its iXM camera along with use cases. A practical demonstration of the camera will follow to showcase the use of the AF lens for inspection purposes, followed by a video of the iXM-100 with RSM 150 mm AF lens on a typical inspection mission.

The Phase One Industrial iXM camera series is a versatile medium-format system developed specifically for UAV mapping and inspection. With both 50 and 100 megapixel options, they also offer a range of lenses to suit both mapping and inspection applications. This high resolution and industrial quality camera provides photogrammetric-grade accuracy with a medium-format footprint for the drone operator. With an increased resolution, and photogrammetric accuracy when compared to typical UAV cameras, the iXM offers increased efficiency, reliability, accuracy and safety in operation.



James Wardlow, the Phase One system sales manager for EMEA, will host the workshop. Wardlow will provide a hands on demonstration of the solution and answer any questions you may have regarding all Phase One Industrial solutions.



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## Spotlight on the convergence and integration of geotechnologies

Construction, mining, statistics and business intelligence have arguably been the greatest benefactors of geotech in recent years, since all are data intensive industries with geographic components. This geotech integration unlocks new potential and value, and geo-professionals have a lot to learn from these sectors to remain relevant – from better statistical practices to streamlined workflows and more. They can also share lessons in new technologies such as machine learning and complex modelling for holistic planning.

Our keynote presenters, all leaders in their fields, will discuss the deep geo-integrations and how to unlock the great value they hold. They have decades of expert experience across the public, private and research spheres, and have unique insights to share.

**Dr Arulsivanathan Naidoo** is editor in chief for the Journal of Spatial Data Science. He is a former university lecturer in Statistics, senior consultant for statistics and data mining for the SAS Institute and in the last ten years was head of data dissemination at Stats SA. He holds a Ph.D in Statistics from the University of Pretoria, a Master in Regional Science from Stellenbosch University and is Honorary Professor at the University of KwaZulu-Natal. He'll be explaining how in the next 25 years spatial data science will help the geographical analysis community remain relevant in the big data world.

**Alize le Roux** is a senior Geo-Informatics scientist at the CSIR with 12 years' experience in creating multidisciplinary planning support solutions and systems for decision makers. She holds a Master's degree in Geographical Sciences from the University of Utrecht, Netherlands with specialisation in multi-hazard risk assessments, land use change modelling and planning support systems. She'll be showcasing The Green Book, a geospatial information tool that integrates multidisciplinary research from 50 scientists, enables resilient, sustainable settlements through climate change adaptation.

**Arrie van Niekerk** was the project leader for the implementation of Theory of Constraints (TOC) in more than 90 mines and 20 manufacturing companies in South Africa and has 20 years practical experience in this field. He develops unique solutions for enhanced production flow in mining, and is a facilitator on TOC and change management. Radical innovation requires a deeper understanding of how to manage a system as a whole, within



*Dr Arul Naidoo*



*Alize le Roux*



*Arrie van Niekerk*



*Marcelle Hattingh*

reality of very high complexity. Very good results have been achieved with TOC by unleashing the collective genius in organisations through rapid results projects on bottlenecks and buffer management.

**Marcelle Hattingh and Eric Itzkin** will be co-presenting on the City of Johannesburg's heritage register and its underlying workings. These sites are flagged on the city's geo-enabled Land Information System, making the Johannesburg City Heritage Register visible at the development application stage already. This spatially-enabled register can be used as a management tool that ensures sound management of Council's heritage assets. In the background, data governance is a critical success factor.

Hattingh is the director of Corporate Geo-Informatics at the City of Johannesburg, with her focus areas including property value chain, data governance, customer focus, innovation, skills transfer and knowledge management. She has been involved in GIS



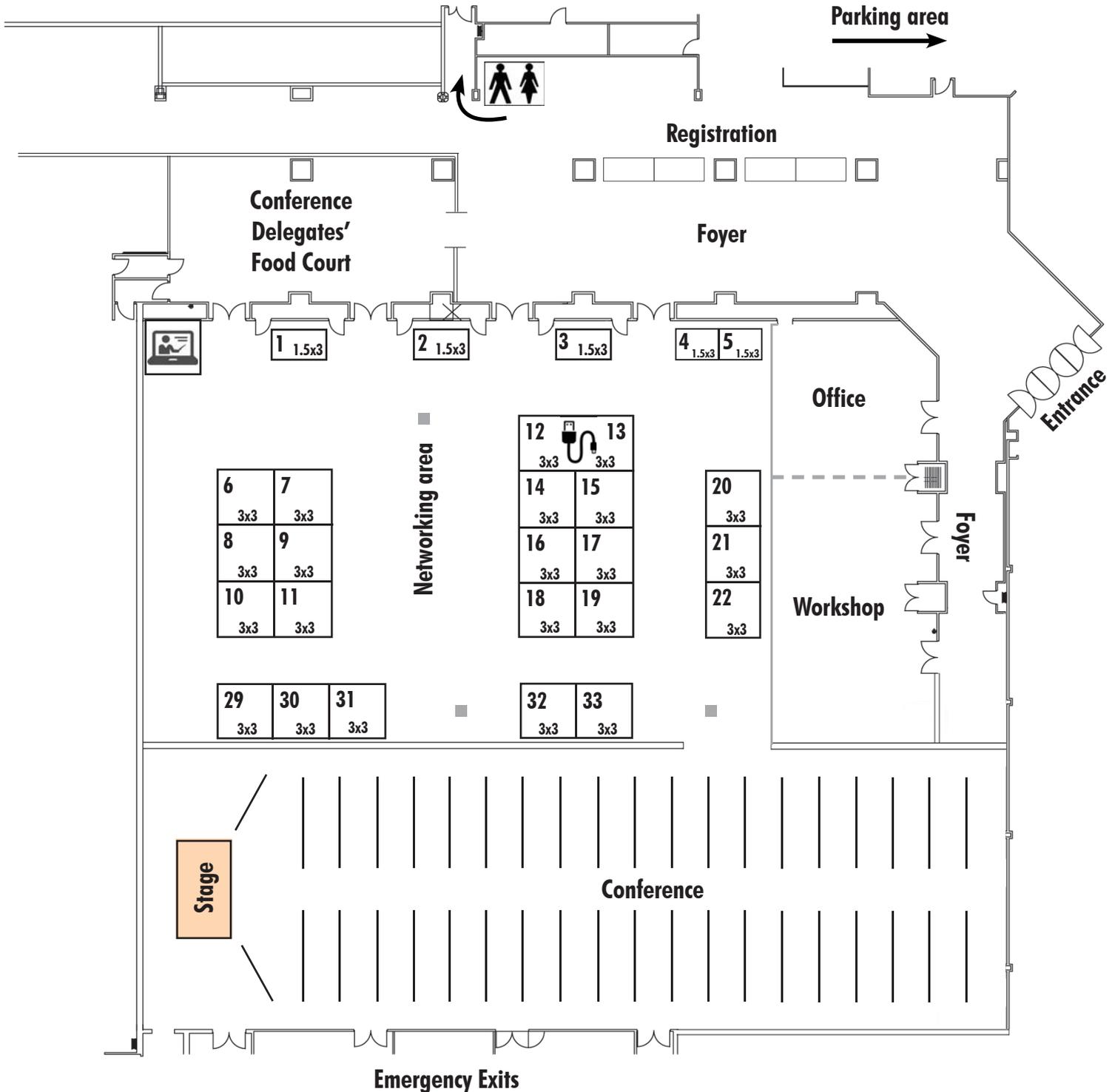
*Eric Itzkin*

for more than 25 years, and has worked in the academic as well as national and local government environments. Itzkin is the head of Immovable Heritage in the City of Johannesburg, and has worked as a teacher, research librarian, museum. A specialist in Johannesburg history, he is the author of "Gandhi's Johannesburg: Birthplace of Satyagraha". ❖

SA GeoTech 2019  
 Provisional conference and exhibition  
 floor plan  
 Assembly Rooms, Emperors Palace  
 Setup: 21 July 2019  
 Exhibition: Monday & Tuesday 22 & 23 July  
 Please note: Floorplan subject to change



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