

Tuesday 28 October 2014 Schedule

07:00 – 08:00	Registration Venue – Graduate Centre, University of Pretoria				
	<i>Lecture Theatre - 56</i>	<i>Lecture Theatre - 64</i>	<i>Lecture Theatre - 68</i>	<i>Lecture Theatre - 70</i>	
08:00 – 10:00	Tt1 Reliability engineering	Tt2 Rethinking our economic model: some lessons on sustainability	Tt3 National Treasury guidelines on asset management	Tt4 ISO55000 and risk-based asset management decision-making	
10:00 – 10:15	Coffee break				
10:15 – 12:15	Tt5 Semantic ontologies in engineering asset management	Tt6 Big data analytics and cyber maintenance systems	Ws1 Prognostics and health monitoring for aerospace and defense assets	Ws2 Managing underground utility assets	
12:15 – 13:00	Lunch				Industry visits S1 – AIDC S2 – Kusile S3 – Joyglobal
13:00 – 15:00	Ws3 Condition assessment of mining assets	Ws4 Rail freight assets management	Ws5 Using GIS in asset management to assess risks	Ws6 Oil and gas assets management	
15:00 – 15:30	Tea break				
15:30 – 16:30	ISEAM Board meeting (Lecture Theatre – 70)				
16:30 – 17:00	Review Panel meeting (Lecture Theatre – 70)				
17:00 – 18:00	ISEAM AGM (Lecture Theatre – 70)				
18:30 – 21:00	ISEAM Braai				

Wednesday 29 October 2014 Outline Schedule

07:00 – 08:50	Registration Venue – CSIR International Convention Centre				
WA-01 08:50 – 09:15	Opening Ceremony : <i>Diamond Theatre</i>				
WB-01 09:15 – 10:00	Plenary : <i>Diamond Theatre</i>				
10:00 – 10:20	Coffee break				
WC-01 10:30 – 11:15	Keynote 1 : <i>Diamond Theatre</i>				
WD-01 11:30 – 12:30	Panel 1: <i>Diamond Theatre</i>				
12:30 – 13:15	Lunch				
WE 13:30 – 15:00	WE-01 <i>Diamond Theatre</i>	WE-02 <i>Ruby Theatre</i>	WE-03 <i>Emerald Room</i>	WE-04 <i>Amethyst</i>	
	EAM Strategies – 1	CRV Assessments – 1	Data/Systems – 1	Case Studies – 1	
15:00 – 15:20	Tea break				
WF 15:30 – 16:30	WF-01 <i>Diamond Theatre</i>	WF-02 <i>Ruby Theatre</i>	WF-03 <i>Emerald Room</i>	WF-04 <i>Amethyst</i>	
	EAM Strategies – 2	CRV Assessments – 2	Data/Systems – 2	Case Studies – 2	
WG 16:35 – 17:35	WG-02 <i>Ruby Theatre</i>		WG-03 <i>Emerald Room</i>		
	Seminar 1		Seminar 2		
19:00 – 21:00	Welcome Reception at Musaiion, University of Pretoria				

Thursday 30 October 2014 Outline Schedule

07:00 – 07:50	Registration Venue – CSIR International Convention Centre				
TA 08:00 – 09:00	TA-01 <i>Diamond Theatre</i>	TA-02 <i>Ruby Theatre</i>	TA-03 <i>Emerald Room</i>	TA-04 <i>Amethyst</i>	
	EAM Strategies – 3	CRV Assessments – 3	Data/Systems – 3	Case Studies – 3	
TB-01 09:00 – 10:00	Keynote 2 : <i>Diamond Theatre</i>				
10:00 – 10:15	Coffee break				
TC-01 10:30 – 11:30	Keynote 3 : <i>Diamond Theatre</i>				
TD-01 11:30 – 12:30	Panel 2: <i>Diamond Theatre</i>				
12:30 – 13:15	Lunch				
TE 13:30 – 14:30	TE-01 <i>Diamond Theatre</i>	TE-02 <i>Ruby Theatre</i>	TE-03 <i>Emerald Room</i>	TE-04 <i>Amethyst</i>	
	EAM Strategies – 4	CRV Assessments – 4	Data/Systems – 4	Case Studies – 4	
TF-02 14:30 – 15:00	Seminar 3: <i>Ruby Theatre</i>				
15:00 – 15:20	Tea break				
TG-02 15:30 – 16:00	Seminar 4: <i>Ruby Theatre</i>				
TH-01 16:00 – 17:00	Panel 3: <i>Diamond Theatre</i>				
TK-01 17:00 – 18:00	Closing Keynote: <i>Diamond Theatre</i>				
19:00 – 22:00	Congress Awards & Banquet - Amber Room, CSIR ICC				

Detailed Schedule of Paper Presentations

WA-01		Wednesday 29 th October 2014
08:50 – 09:15	Opening Ceremony	
Master of Ceremony:	Joe Amadi-Echendu	
	<i>ISEAM welcome address – Professor Joe Mathew</i>	
	<i>University of Pretoria welcome address – Professor CM de la Rey</i>	
	<i>City of Tshwane welcome address - Cllr Kgosientso Ramokgopa</i>	
	Notices	

WB-01		Wednesday 29 th October 2014
09:15 – 10:00	Plenary	
Session Chair:	Joe Mathew, The Asset Institute, Australia	
Title:	<i>Enterprise risk and engineering asset management</i>	
Speaker	Eben Maré, Stanlib Risk Management & Prof of Applied Mathematics, Univ of Pretoria	

10:00 – 10:20

Morning COFFEE/TEA & REFRESHMENTS

WC-01		Wednesday 29 th October 2014
10:30 – 11:15	Keynote - 1	
Session Chair:	David Hood, Blue Australia	
Title:	<i>Sustaining electricity generating capability while having to refurbish old plant expected to deliver at the limits of their capability</i>	
Speaker	Thavapragasen Govender, Generation Executive, Eskom South Africa	

WD-01		Wednesday 29 th October 2014
11:30 – 12:30	Industry Interest Group Panel	
Moderator:	Steve Saladine, MD/CEO Macquarie Generation	
Challenge:	<i>With servitisation as an imperative, what is the future for utility assets across the whole value chain?</i>	
Panelists	Logan Reddy, Eskom Generation South Africa	
	Nazir Ali, SANRAL, South Africa	
	Johan Wannenburg, Anglo American Platinum, South Africa	
	Sibusiso Sibisi, CSIR, South Africa	
	Zirk Jansen, AIDC, South Africa	

12:30 – 13:15

LUNCH

WE-01		Wednesday 29 th October 2014	
13:30 – 15:00	EAM Strategies - 1		Diamond Theatre
Session Chair: Pieter-Jan Vlok			
Paper ID	Paper title	Presenter name, affiliation	
25	Value-based design of industrial services: The impact of lean management	Michael Honné, FIR at RWTH Aachen, Germany	
52	Critical areas for success in physical asset management	Pieter-Jan Vlok, University of Stellenbosch, South Africa	
36	3PL outsourcing and the financial performance of firms in the Nigerian beverage industry	Olufemi Adetunji, University of Pretoria, South Africa	
64	A method for quantifying the effects of IT investments	Mirka Kans, Linnaeus University, Sweden	
62	Effective policy development within the Australian Water Industry	Mary Mcgeoch, The Asset Institute, Australia	
86	Thought and discipline: Orienting engineering towards and eco-friendly philosophy	Chiedozie Okoro, University of Lagos, Nigeria	

WE-02		Wednesday 29 th October 2014	
13:30 – 15:00	Condition, Risk & Vulnerability Assessments -1		Ruby Theatre
Session Chair: Sarma Yadavalli			
Paper ID	Paper title	Presenter name, affiliation	
85	Integrating tacit knowledge for condition assessment of continuous mining machines	Marc de Smit, Triz Engineering Solutions, South Africa	
58	Maintenance method based on risk estimation for 170kV pneumatic type gas insulated switchgear	Young Min Kim, Chang Hee Kim, Myeong Jin Jin and Jea Ryong Jung, Hyosung Corporation, Republic of Korea	
93	The interface challenge of risk-based asset management	Andreas Hartmann, University of Twente, Netherlands	
16	A Case Study of Degradation Mechanisms in Research Reactors	Nneka E Edward, University of Port Harcourt, Nigeria	
50	Lean approaches in asset management in mining industry	Jared Flynn, University of Stellenbosch, South Africa	
97	Maintenance analysis of a system with varying repair rate and vacation period for the repair facility	Sarma Yadavalli, University of Pretoria, South Africa	

WE-03		Wednesday 29 th October 2014	
13:30 – 15:00	EAM Data & Systems -1		Emerald Room
Session Chair: Basim Al-Najjar			
Paper ID	Paper title	Presenter name, affiliation	
8	A signal processing approach to overcome the non-linearity problem of acoustic emission sensors	Andy Tan, Queensland University of Technology, Australia	
27	Factors influencing the quality of manually acquired asset data	Katrine Mahlamäki, Aalto University, Finland	
55	A systemic framework for measuring the performance of asset management activities	Peter W. Tse, City University of Hong Kong	
11	Asset optimization and predictive maintenance for discrete manufacturing industries	Dimitris Kiritsis, EPFL, Switzerland	
96	Implications of cadastral systems on engineering asset management	Anthea Amadi-Echendu, University of South Africa	
51	Innovative DSS utilising available data, experience and skills to enhance producing asset performance cost-effectively: A case study	Basim Al-Najjar, Linnaeus University, Sweden	

WE-04		Wednesday 29 th October 2014	
13:30 – 15:00	Case Studies -1:		Amethyst Room
Session Chair: Marco Garetti			
Paper ID	Paper title	Presenter name, affiliation	
89	Subsea asset maintenance on NCS: On the trends, future innovation, and fitness of life of field	Agus Darmawan, University of Stavanger, Norway	
22	Identifying the critical success factors for engineering asset management services – An empirical study	Wyhan Jooste, University of Stellenbosch, South Africa	
38	The role of maintenance, repair, and overhaul (MRO) knowledge in facilitating service led design: A nozzle guide vane case study	Chris Hockley, Cranfield University, United Kingdom	
66	Application of a performance - driven TCO evaluation model for physical asset management	Irene Roda, Politecnico di Milano, Italy	
13	The effect of total productive maintenance on overall equipment effectiveness: A case of a cement manufacturer.	Corro van Waveren, University of Pretoria, South Africa	
30	Pipe quality information in sewer asset management: use and uncertainty	Wouter van Riel , Nikola Stanić , Jeroen Langeveld and François Clemens , Delft Univ of Technology, Netherlands	

15:00 – 15:20

Afternoon COFFEE/TEA & REFRESHMENTS

WF-01		Wednesday 29 th October 2014	
15:30 – 16:30	EAM Strategies – 2 :		Diamond Theatre
Session Chair: Kyoohong Park			
Paper ID	Paper title	Presenter name, affiliation	
37	The asset management process reference model for infrastructure	Ype Wijnia, Delft University of Technology, Netherlands	
68	Appropriate solutions for operation and maintenance challenges of water services infrastructure in South Africa	Maselaganye Petrus Matji, CSIR, South Africa	
26	Modelling evaluation for the level of sewer service in customers' View	Yu Yu and Kyoohong Park, Chung-Ang University, The Republic of Korea	
88	Cost of quality in EPC projects in oil and gas industry: A case analysis and lessons learned	David Rabinad, General Electric Oil & Gas, Norway	

WF-02		Wednesday 29 th October 2014	
15:30 – 16:30	Condition, Risk & Vulnerability Assessments -2 :		Ruby Theatre
Session Chair: David Mba			
Paper ID	Paper title	Presenter name, affiliation	
7	Bearing replacement interval extension for helicopters	David Mba, London South Bank University, United Kingdom	
19	Feature extraction based on cyclic adaptive filter for gearbox fault diagnosis	Guangming Dong, Jin Chen, Shanghai Jiao Tong University, China	
24	Extraction of principal components from multiple statistical features for slurry pump performance degradation assessment	Dong Wang, City University of Hong Kong	
33	No fault found air safety	Laura Lacey, Cranfield University, United Kingdom	

WF-03		Wednesday 29 th October 2014	
15:30 – 16:30	EAM Data & Systems -2 :		Emerald Room
Session Chair: Jing Gao			
Paper ID	Paper title	Presenter name, affiliation	
42	Failure statistics: Budgeting preventative maintenance activities using forecasted work orders	Petrus Swart, University of Stellenbosch, South Africa	
47	Assess data quality in computerized maintenance management systems: A holistic approach	Jing Gao, University of South Australia	
102	Railroad and Transit Integrated Business Management Information	Valerie Marcolongo, Encada, LLC, USA	
54	A decision support framework for prioritization of engineering asset management activities under uncertainty	Michael Cholette, Queensland University of Technology, Australia	

WF-04		Wednesday 29 th October 2014	
15:30 – 16:30	Case Studies – 2		Amethyst Room
Session Chair: Allesandro Silvestri			
Paper ID	Paper title	Presenter name, affiliation	
59	Methods and tools for sustainable manufacturing networks – results of a case study	Teuvo Uusitalo, VTT Technical Research Centre of Finland	
90	On the assurance of environmental quality in a new offshore production platform: A case study from the North Sea	Anette Seldal, University of Stavanger, Norway	
69	Potential for local government entities to use mobile devices to record, assess, maintain, utilize and protect their municipal infrastructure and improve their disaster management capacity	Sarel Jansen van Rensburg, Aurecon, South Africa	
95	A new method for reliability allocation based on critical flow method	Allesandro Silvestri, University of Cassina and Southern Lazio, Italy	

WG-02		Wednesday 29 th October 2014	
16:35 – 17:35		Seminar 1 - Built Environment	Ruby Theatre
Moderator:		Cornelius Ruiters, CSIR BE	
Topic:		Infrastructure development and asset management	
Panelist		Francis Petersen, CSIR, South Africa	
Papers	31	Integrating road and sewer works, risk attitude and costs	Wouter van Riel , Jeroen Langeveld, Paulien Herder and François Clemens, Delft Univ of Technology, Netherlands
	94	Sustainable school infrastructure through effective innovative building technology selection	Cathy Mphahlele, CSIR South Africa

WG-03		Wednesday 29 th October 2014	
16:35 – 17:35		Seminar 2: Healthcare Delivery Assets	Emerald Room
Moderator:		Mladen Poluta, University of Pretoria	
Topic:		<i>Management of healthcare delivery assets</i>	
Panelist		Ms Peta de Jager CSIR, South Africa	
Paper	77	Taking a social franchising path to services maintenance	Kevin Wall, University of Pretoria, South Africa

Wednesday 29 th October 2014		
19:00 – 21:00	Welcome Reception	Musaion at Univ of Pretoria

TA-01		Thursday 30 th October 2014	
08:00 – 09:00	EAM Strategies – 3		Diamond Theatre
Session Chair: Helena Kortelainen			
Paper ID	Paper title	Presenter name, affiliation	
44	THE policy Delphi method : Contribution to policy and strategy within energy organisations : A 2013 Malaysian case study with global implications.	Mary Mcgeoch, The Asset Institute, Australia	
61	Government entity contribution to an effective partnership privatisation	David Mills, Queensland University of Technology, Australia	
91	Project execution process: On the critical Technical and Organizational interface	Kristin Vedoy, University of Stavanger, Norway	
14	<i>A snap review of recent major investments in engineering assets in Nigeria</i>	Ikechukwu Kingsley Uzoma , MOSECON, Lagos, Nigeria	

TA-02		Thursday 30 th October 2014	
08:00 – 09:00	Condition, Risk & Vulnerability Assessments – 3		Ruby Theatre
Session Chair: Jin Chen			
Paper ID	Paper title	Presenter name, affiliation	
41	A comparison between three blade tip timing algorithms for estimating synchronous turbomachine blade vibration	Dawie Diamond, University of Pretoria, South Africa	
43	Non intrusive diagnostic of middle bearing of aircraft engine	Romuald Rzadkowski and Jozef Zurek, Academy of Sciences, Poland	
56	Fault detection of wind turbine drivetrain utilizing power-speed characteristics	Longyan Wang, Queensland University of Technology, Australia	
70	Fault diagnosis and fault data management technique for intelligent asset maintenance	Amer Dheedan, University of Cambridge, United Kingdom	

TA-03		Thursday 30 th October 2014	
08:00 – 09:00	Data & Systems – 3	Emerald Room	
Session Chair: Petri Helo			
Paper ID	Paper title	Presenter name, affiliation	
57	Design considerations for engineering asset management systems	Florian Urmetzer, University of Cambridge, United Kingdom	
48	Different approaches of applying single-objective binary genetic algorithm on the wind farm design	Andy Tan, Queensland University of Technology, Australia	
67	Cloud platforms for service business and remote monitoring	Petri Helo, University of Vaasa, Finland	
6	Measurement of two-phase slug velocity in pipes based on acoustic emission	David Mba, London South Bank University, United Kingdom	

TA-04		Thursday 30 th October 2014	
08:00 – 09:00	Case Studies – 3	Amethyst Room	
Session Chair: Lin Ma			
Paper ID	Paper title	Presenter name, affiliation	
49	Human resources within ISO 55000 – The hidden backbone to the asset management system	Lara Kriege, University of Stellenbosch, South Africa	
21	Increasing human asset availability by employing a <i>just-in-time</i> and <i>drum-buffer-rope</i> on-site patient scheduling system	Carel Zastron, University of Stellenbosch, South Africa	
35	Net overseas migration and its impact on home availability and affordability: An Australian Perspective	Diaswati Mardiasmo-Povis, PRDnationwide/Colliers International, Australia	
78	Incorporation of training and skills development in the execution of the South African National Infrastructure Plan	Sihle Dlungwana, CSIR, South Africa	

TB-01		Thursday 30 th October 2014	
09:00 – 10:00	Keynote – 2	Diamond Theatre	
Session Chair:	Roger Willet, University of Tasmania, Australia		
Title:	<i>Capital planning: Closing the gap between engineering plans and funding/financing realities</i>		
Speaker	Andre Kruger, VP PPP Financing, ABSA Capital, South Africa		

10:00 – 10:20

Morning COFFEE/TEA & REFRESHMENTS

TC-01		Thursday 30 th October 2014
10:30 – 11:30	Keynote – 3	
		Diamond Theatre
Session Chair:	Hester Hermus, National Treasury, South Africa	
Title:	<i>Implementing asset management: Lessons from Queensland, Australia</i>	
Speaker	Andrew Greaves, Auditor-General, Queensland Australia	

TD-01		Thursday 30 th October 2014
11:30 – 12:30	EAM Guidelines and Standards Panel	
		Diamond Theatre
Moderator:	Sadhvir Bissoon, SABS	
Challenge:	<i>Should international standards take precedence over local guidelines and national standards?</i>	
Panel	Antony Booyzen, SAAMA	
	Praneel Ruplal, ICASA	
	Craig Henry, SABS	
	John Woodhouse, TWPL UK	
	Charl Harding, CSIR	

12:30 – 13:15

Lunch

TE-01		Thursday 30 th October 2014
13:30 – 14:30	EAM Strategies – 4	
		Diamond Theatre
Session Chair: Ype Wijnia		
Paper ID	Paper title	Presenter name, affiliation
74	Indigenous culture and public sector assets management in Nigeria	Lucky Nwosa, University of Port Harcourt, Nigeria
104	Supply chain: a key enabler to effective physical asset management	Cillia Mphephu, Sasol Technology, South Africa
23	Planning rehabilitation strategy of sewer asset using fast messy genetic algorithm	Kyoo-Hong Park, Chung-Ang University, The Republic of Korea
46	Physical asset management adjustments in line with mining on the coastal regions of Southern Africa	Wilandri Basson, University of Stellenbosch, South Africa

TE-02		Thursday 30 th October 2014	
13:30 – 14:30	Condition, Risk & Vulnerability Assessments – 4	Ruby Theatre	
Session Chair: Krige Visser			
Paper ID	Paper title	Presenter name, affiliation	
72	Risk-based approach to maintenance management applied on power transformers	Ravish Mehairjan, Delft University of Technology, Netherlands	
79	An investigation into technology advancement for switchgear at a processing plant	Krige Visser, University of Pretoria, South Africa	
81	Analysis of the aircraft operational reliability research series: From statistical models to avionics data monitoring	Jouko Laitinen, Tampere University of Technology, Finland	
15/87	A novel clustering method of rolling bearing fault based on compensation distance evaluation technique and wavelet kernel principal component analysis	Hongchao Wang, Jin Chen and Guangming Dong, Shanghai Jiao Tong University, China	

TE-03		Thursday 30 th October 2014	
13:30 – 14:30	Data & Systems – 4	Emerald Room	
Session Chair: Stephan Heyns			
Paper ID	Paper title	Presenter name, affiliation	
28	Coating evaluation by EIS using a μ LPR sensor	Nicholas Waters, Analatom, Inc., USA	
75	Cyber-physical systems in future maintenance	Jay Lee, University of Cincinnati, USA	
34	Scheduled shutdowns as an incubator for inefficiencies	Emma Walker, University of Stellenbosch, South Africa	
71	Quantitative maintenance effect modelling in the framework of financial mathematics	Muhammad Rahiman, University of Pretoria, South Africa	

TE-04		Thursday 30 th October 2014	
13:30 – 14:30	Case Studies – 4	Amethyst Room	
Session Chair: Hannes Grabe			
Paper ID	Paper title	Presenter name, affiliation	
40	Research and development: Driving innovation in a declining mining Industry	Elizna Theron, University of Stellenbosch, South Africa	
82	Funding Power: The case of the South African Higher Education	Winnie Dlamini, University of South Africa	
65	Development of LCC-connected module of Sewer asset management system	Kyoo-Hung Park, Chung-Ang University, Republic of Korea	
39	Development and implementation of postgraduate nuclear engineering education in Nigeria	Ayoade Kuye, University of Port Harcourt, Nigeria	

TF-02		Thursday 30 th October 2014	
14:30 – 15:00	Seminar: Recognition/Endorsement of EAM Programmes	Ruby Theatre	
Moderator:	Peter Tse, City Univ, Hong Kong		
Topic:	<i>Content, delivery modes and qualification level</i>		
Panel	Joe Amadi-Echendu, Univ of Pretoria, South Africa		
	J P Liyanage, Univ of Stavanger, Norway		
	J Woodhouse, TWPL, UK		
	Johan J Smit, TUT Delft, Netherlands		
	David Mba, LSBU, UK		

15:00 – 15:20

Afternoon COFFEE/TEA & REFRESHMENTS

TG-02		Thursday 30 th October 2014	
15:30 – 16:00	Seminar: EAM Research Agenda	Ruby Theatre	
Moderator:	Joe Mathew, The Asset Institute, Australia		
Topic:	<i>Assuming EAMBoK, what should be research agenda for next 5 years?</i>		
Panel	PJ Vlok, Stellenbosch Univ, South Africa		
	Jay Lee, Univ of Cincinnati, USA		
	David Mba, London Southbank University, UK		
	Johan J Smit, TUT Delft, Netherlands		
	Pumza Zweni, CSIR South Africa		

TH-01		Thursday 30 th October 2014	
16:00 – 17:00	Panel: Public Sector Action Group		Diamond Theatre
Moderator:	Dhaya Govender, Dept of Public Works, South Africa		
Challenge:	<i>How do we ensure that implementing national guidelines improves service delivery?</i>		
Panel	Kwai Cheung Lai, Drainage Services Department, Hong Kong		
	David Mills, Queensland Audit Office, Australia		
	Hester Hermus, National Treasury South Africa		
	Cornelius Ruiters, Council for Scientific and Industrial Research (CSIR), South Africa		
	Virginia Mkhabela, Department of Water Affairs, South Africa		

TK-01		Thursday 30 th October 2014	
17:00 – 18:00	Closing Keynote		Diamond Theatre
Session Chair:	City Manager, Tshwane		
Title:	<i>Asset management challenges for Department of Public Works</i>		
Speaker	Honourable Minister, Department of Public Works, South Africa		

Thursday 30 th October 2014		
19:00 – 22:00	Congress Awards & Banquet	Amber Room CSIR ICC