

# Programme

Monday 30 September 2019

08:00	Registration		
09:00	<b>Workshop 1</b> Venue: Aitutaki Introduction: Freddy Tshikala	<b>Workshop 2</b> Venue: Palawan Introduction: Jacques Fauré	<b>Workshop 3</b> Venue: Mamanuca Introduction: Dieter Hartmann
	Becoming a PowerPoint Superhero <i>James Carey</i>	Introduction to Six Sigma <i>Karl van der Merwe</i>	Software Robotics and Machine Learning <i>Joke Bührmann</i> <i>Jan-Rudolph Bührmann</i>
10:30	Tea/Coffee		
11:00 – 12:30	Workshop continues	Workshop continues	Workshop continues
12:30	Lunch		
13:30 13:50	<b>WELCOMING &amp; Chair: Dieter Hartmann, SAIIE President</b> Venue: Aitutaki <b>KEYNOTE ADDRESS: Benji Coetzee</b> <i>Dataism: A simpler perspective to pioneer</i>		
15:00	Tea/Coffee		

15:30 – 16:10	<b>Session A1</b> <b>Supply Chains - Lean, green and hi-tech</b> <b>Venue: Aitutaki</b> <b>Chair: Freddy Tshikala</b>		<b>Session A2</b> <b>Simulation modelling and optimisation</b> <b>Venue: Palawan</b> <b>Chair: Corné Schutte</b>		<b>Session A3</b> <b>Building capacity</b> <b>Venue: Mamanuca</b> <b>Chair: Ninett Hesse</b>	
	4206	EVALUATING LEAN IMPLEMENTATION SUCCESS IN SMALL AND MEDIUM MANUFACTURING ENTERPRISES <i>Robin Mabunda</i>	4193	MISSION-READY RESOURCE ALLOCATION AS A DYNAMIC PROBLEM  <i>Bernard Leuvennink</i>	4154	AN INVESTIGATION ON INDUSTRY 4.0 SKILLS REQUIREMENTS  <i>Whisper Maisiri</i>
	4209	A TECHNOLOGY BASED SUPPLY CHAIN MANAGEMENT [AN ENGINEERING TECHNOLOGIST APPROACH TO SCM DESIGN]  <i>Ngaka Mosia</i>	4231	FIBRE NETWORK PLANNING WITH RETRACTABLE CABLE TECHNOLOGIES  <i>Ruan Luies</i>	4259	THE RELEVANCE OF TRADITIONAL INDUSTRIAL ENGINEERING DATA COLLECTION TOOLS & METHODS IN THE MODERN TECHNOLOGICAL AGE: A SURVEY ON THE PERCEPTION OF INDUSTRIAL ENGINEERS <i>Bhanu Jughoo</i>
	4275	THE STATUS OF GREEN SUPPLY CHAIN INITIATIVES IN MANUFACTURING ENGINEERING SMES <i>Bernadette Sunjka</i>	4245	META-MODELS OF MONTE CARLO SIMULATION MODELS  <i>Paul Kruger</i>	4283	A FRAMEWORK TO EMBED INSTITUTIONAL CAPACITY AT AN EARLY CHILDHOOD DEVELOPMENT CENTRE <i>Andreas de Boer</i>
16:15 – 17:00	<b>Session B1</b> <b>The future of supply chains</b> <b>Venue: Aitutaki</b> <b>Chair: Bernadette Sunjka</b>		<b>Session B2</b> <b>Optimising transport</b> <b>Venue: Palawan</b> <b>Chair: Jacques Fauré</b>		<b>Session B3</b> <b>Implementing Lean - The People factor</b> <b>Venue: Mamanuca</b> <b>Chair: Grace Kanakana-Katumba</b>	
	4269	RISK MANAGEMENT IN SUPPLY CHAIN INFORMATION FLOW: A STUDY OF SELECTED FOOD PROCESSING COMPANIES IN SOUTH AFRICA <i>Bruno Emwanu</i>	4202	SIMULATING VARIABLES THAT CAUSE DISTURBANCES IN ARTERIAL ROADS  <i>Zanele Mpanza</i>	4207	AN INVESTIGATION INTO KEY ENABLING FACTORS FOR THE SUCCESSFUL IMPLEMENTATION OF KANBAN SYSTEMS IN SOUTH AFRICA: A CASE STUDY <i>Kemlall Ramdass</i>
	4302	SUPPLY CHAIN RESEARCH IN RETAIL  <i>Louis Stemmet</i>	4263	USING EXCEL SOLVER IN THE OPTIMIZATION OF PREPOSITIONED DISASTER RELIEF SUPPLY CHAIN IN A HUMANITARIAN OPERATION <i>Mendon Dewa</i>	4229	APPLICATION OF LEAN PRINCIPLES IN THE SOUTH AFRICAN CONSTRUCTION INDUSTRY  <i>Isabellah Maradzano</i>
	4306	EVALUATING THE IMPACT OF E-COMMERCE FREIGHT MOVEMENTS IN SOUTH AFRICAN CITIES  <i>Elizna Cilliers</i>	4240	ASSESSMENT OF HIGH SPEED TRAINS CATENARY WIRE FOR MAINTENANCE DECISION MAKING  <i>Mpho Lelala-Mnguni</i>	4290	TOWARDS DESIGNING AN ARTEFACT EVALUATION STRATEGY FOR HUMAN FACTORS ENGINEERING: A LEAN IMPLEMENTATION MODEL CASE STUDY <i>Rojanette Coetzee</i>
18:00	<b>COCKTAIL RECEPTION</b> <b>St Georges Club</b>					

# Tuesday 1 October 2019

07:30	<b>Registration</b>					
08:30	<p><b>WELCOMING &amp; CHAIR:</b> Jacques Fauré  <b>Venue:</b> Aitutaki</p> <p><b>KEYNOTE ADDRESS:</b> Carel Snyman  <i>A Better way to Move</i></p>					
09:45	<b>Tea/Coffee</b>					
	<b>POSTER SESSION</b>					
11:00 – 11:40	<b>Session C1</b> <i>Product life cycles and value chains</i> <b>Venue:</b> Aitutaki <b>Chair:</b> Ann Lourens		<b>SESSION C2</b> <i>Environmental alternatives</i> <b>Venue:</b> Palawan <b>Chair:</b> Whisper Maisiri		<b>Session C3</b> <i>Decision making</i> <b>Venue:</b> Mamanuca <b>Chair:</b> Teresa Hattingh	
	4141	A SYSTEMATIC LITERATURE REVIEW ON THE TITANIUM METAL PRODUCT VALUE CHAIN  <i>Nicolene Roux</i>	4158	A GENERAL APPROACH TO DEVELOP AND ASSESS MODELS ESTIMATING COAL ENERGY CONTENT  <i>Chantelle van Aarde</i>	4145	THE USE OF ANALYTICAL HIERARCHY PROCESS (AHP) FOR WELDING PROCESS SELECTION DURING RAIL CAR MANUFACTURING  <i>Ilesanmi Daniyan</i>
	4228	A FRAMEWORK FOR SUCCESSFUL NEW PRODUCT DEVELOPMENT  <i>Lia Pienaar</i>	4262	EVALUATION OF THE EVAPORATOR SYSTEM OF AN ATMOSPHERIC WATER GENERATOR DESIGNED FOR RURAL KWAZULU-NATAL  <i>Daramy Kallon</i>	4152	A SYSTEMS APPROACH TO OPERATIONAL AND BUSINESS DECISION MAKING  <i>Pieter Pretorius</i>
	4288	A STRATEGIC FRAMEWORK FOR START-UP MEDICAL DEVICE MANUFACTURERS IN SOUTH AFRICA  <i>Ishan Maharaj</i>	4299	FLOW PROPERTIES UPON TREATMENT OF ACID MINE DRAINAGE USING PERVIOUS CONCRETE  <i>Daramy Kallon</i>	4264	USING MULTI CRITERIA DECISION MAKING FOR HUMANITARIAN PLANNING DURING A LAST MILES RELIEF SUPPLY IN SADC  <i>Mendon Dewe</i>

11:45 – 12:30	<b>Session D1</b> <b>Industry 4.0 Readiness</b> <b>Venue: Aitutaki</b> <b>Chair: Henk Harmse</b>		<b>Session D2</b> <b>Managing people</b> <b>Venue: Palawan</b> <b>Chair: Rojanette Coetzee</b>		<b>Session D3</b> <b>Data management and reporting</b> <b>Venue: Mamanuca</b> <b>Chair: Anthon Botha</b>	
	4155	INDUSTRY 4.0 READINESS ASSESSMENT FOR SOUTH AFRICAN INDUSTRIES <i>Whisper Maisiri</i>	4142	FRONT-LINE SUPERVISOR EFFECTIVENESS ASSESSMENT ON AN ENGINEERING SHOP-FLOOR <i>Philani Zincume</i>	4176	IMPROVING DATA MANAGEMENT FOR ENVIRONMENTAL REPORTING IN GOLD MINES <i>Maryke Janse van Rensburg</i>
	4180	TOWARDS INDUSTRY 4.0: A ROADMAP FOR THE SOUTH AFRICAN HEAVY INDUSTRY SECTOR <i>Jaco Prinsloo</i>	4162	BALANCING LEADERSHIP STYLES BASED ON PROJECT TYPE AND LIFE CYCLE PHASES: A MODEL <i>Suzaan Pretorius</i>	4222	A FRAMEWORK FOR STANDARDISED INDUSTRIAL PROCESS DATA REPORT STRUCTURING <i>Stéphan Taljaard</i>
	4337	AN ANALYSIS ON THE EXTENT TO WHICH INDUSTRY 4.0 HAS BEEN CONSIDERED WITHIN SUSTAINABILITY OR SOCIOTECHNICAL TRANSITIONS <i>Martha Asimwe</i>	4277	A SKILLS MEASUREMENT MODEL FOR THE SOUTH AFRICAN ENERGY SECTOR: APPLYING THE ANALYTIC HIERARCHY PROCESS TO THE SA ELECTRIC POWER INDUSTRY <i>Bernadette Sunjka</i>	4234	ALTERNATIVE DATA STRUCTURES FOR IMPROVED ENERGY REPORTING AND BUDGETING ON GOLD MINING GROUP OPERATIONS <i>Pieter Peach</i>
<b>Lunch</b>						
12:30 – 13:30 – 14:10	<b>Session E1</b> <b>Managing assets</b> <b>Venue: Aitutaki</b> <b>Chair: Bernard Parschau</b>		<b>Session E2</b> <b>People - Change, Fear and Queues</b> <b>Venue: Palawan</b> <b>Chair: Teresa Hattingh</b>		<b>Session E3</b> <b>Opportunities in the workplace</b> <b>Venue: Mamanuca</b> <b>Chair: Mendon Dewa</b>	
	4146	DEVELOPMENT AND PERFORMANCE EVALUATION OF A HUMIDITY MEASUREMENT BENCH <i>Ilesanmi Daniyan</i>	4135	THE IMPACT OF CHANGE MANAGEMENT STRATEGIES IN ENHANCING ORGANIZATIONAL PERFORMANCE: THE CASE OF NPWP PUBLIC ORGANIZATION <i>Kemlall Ramdass</i>	4153	USE OF SCIENTIFIC ERGONOMIC PROGRAMS TO IMPROVE ORGANISATIONAL PERFORMANCE <i>Riashna Roopnarain</i>
	4147	BUILDING BLOCKS FOR CONTINUOUS IMPROVEMENT: RESULTS OF THE ENERGY MANAGEMENT PILOT PROJECT IN SOUTH AFRICAN FOUNDRIES <i>Dalmari McQueen</i>	4303	FEAR, THE GREAT ENEMY <i>Sabrina Chatur</i>	4313	IMPACT OF A WORK PLACE ORIENTATION WORKSHOP ON ENGINEERING STUDENTS' WORKPLACE READINESS <i>Ann Lourens</i>
	4164	INDUSTRY 4.0 ROLL-OUT STRATEGY FOR DYNAMIC MINE HEAT LOAD MANAGEMENT <i>Diaan Nell</i>	4322	PROACTIVE SERVER ALLOCATIONS IN SINGLE QUEUING SYSTEMS <i>Joke Bührmann</i>	4317	DECODING LINE BALANCING AS A LEAN STRATEGY IN ASSEMBLY LINE BALANCING: A CLOTHING MANUFACTURING PERSPECTIVE <i>Kemlall Ramdass</i>

14:15 – 15:00	<p align="center"><b>Session F1</b> <i>Service industries in the spotlight</i> Venue: Aitutaki Chair: Ngaka Mosia</p>	<p align="center"><b>Session F2</b> <i>Educating engineers</i> Venue: Mamanuca Chair: Philani Zincume</p>
	<p>4171 INVESTIGATING THE ROOT CAUSES OF LONG LEAD TIMES IN THE AUTOMOTIVE AFTERSALES INDUSTRY BY MEAN OF THE LEAN PHILOSOPHY: A SOUTH AFRICAN CASE STUDY <i>Mia Mangaroo-Pillay</i></p>	<p>4134 UNDERSTANDING THE IMPACT AND APPLICATIONS OF INDUSTRIAL ENGINEERING PRINCIPLES: A SOUTH AFRICA CASE <i>Kemlall Ramdass</i></p>
	<p>4246 A PATIENT-CENTRIC SIX-SIGMA DECISION SUPPORT SYSTEM FRAMEWORK FOR CONTINUOUS QUALITY IMPROVEMENT IN CLINICS <i>Sanelisiwe Hlongwane</i></p>	<p>4311 FACTORS THAT INFLUENCE THE THROUGHPUT OF ENGINEERING STUDENTS <i>Cobus Joubert</i></p>
	<p>4268 IMPROVING CUSTOMER SERVICE THROUGH FMCG MANUFACTURING FIRMS IN GAUTENG: A SERVICIZATION APPROACH <i>Bruno Emwanu</i></p>	<p>4316 CREATING LEARNING COMMUNITIES FOR FEMALE ENGINEERING STUDENTS THROUGH MENTORING <i>Ruth Connelly</i></p>
15:00	<b>Tea/Coffee</b>	
15:30	<p><b>Chair: Dieter Hartmann</b> <b>Venue: Aitutaki</b> <b>PANEL DISCUSSION</b></p>	
17:00	<b>FUN ON THE BEACH!</b>	

# Wednesday 2 October 2019

07:30

## Registration

08:30

Welcoming & Chair: Corné Schutte  
 Venue: Aitutaki  
**KEYNOTE ADDRESS: James Carey**  
*The evolutionary demography of humans as an industrial engineering problem*

09:45

## Tea/Coffee

10:15

## POSTER SESSION

11:00

**Session G1**  
*Six Sigma and quality*  
 Venue: Aitutaki  
 Chair: Kem Ramdass

**Session G2**  
*Influencing policy*  
 Venue: Palawan  
 Chair: Brian Munsamy

**Session G3**  
*Optimising maintenance*  
 Venue: Mamanuca  
 Chair: Daramy Kallon

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11:40

4183	AN APPLICATION OF THE CONTROL CHART AND FISHBONE DIAGRAM FOR MINIMIZING DEFECTS IN SAND CASTING PROCESS  <i>Cindy Sithole</i>	4161	ADAPTING ACCOUNTING BEST PRACTICES FOR USE IN ENERGY-RELATED REPORTING  <i>Janine Booysen</i>	4185	A CONTROL PROCESSES TO SUSTAIN ELECTRICITY COST SAVINGS ON A MINE WATER RETICULATION SYSTEM IN SPITE OF CRITICAL COMPONENT FAILURES  <i>Bertie Pascoe</i>
4198	EVALUATING THE USE OF SIX SIGMA IN THE IMPLEMENTATION OF IMPROVEMENT PROJECTS IN A FREIGHT RAIL COMPANY  <i>Amukelani Baloyi</i>	4221	INDUSTRIAL ENGINEERING TECHNIQUES AND SERVICE DELIVERY IN MUNICIPALITIES  <i>Rita Steenkamp</i>	4239	INTEGRATION OF CATENARY TRACER TO ASSES TRAIN CATENARY OF HIGH SPEED TRAINS  <i>Mpho Lelala-Mnguni</i>
4267	SOUTH AFRICAN ECONOMY AND THE USE OF DMAIC SIX-SIGMA IN THE CONFLICTS RESOLUTION: CASE STUDY FROM LEADING PACKAGING COMPANY IN SOUTH AFRICA  <i>Mendon Dewa</i>	4340	SYSTEMATIC LITERATURE REVIEW OF SUSTAINABLE URBAN PLANNING CHALLENGES ASSOCIATED WITH DEVELOPING COUNTRIES  <i>Andre Jooste</i>	4252	COMPARISON AND CORRELATION OF NANO-INDENTATION HARDNESS TO MICROHARDNESS IN ALLOYS  <i>Steadyman Chukimba</i>

11:45 – 12:30	<b>Session H1</b> <i>Speeding up services</i> <b>Venue: Aitutaki</b> <b>Chair: Rita Steenkamp</b>		<b>Session H2</b> <i>Saving energy</i> <b>Venue: Palawan</b> <b>Chair: Bruno Emwanu</b>		<b>Session H3</b> <i>Industry 4.0 Opportunities</i> <b>Venue: Mamanuca</b> <b>Chair: Dieter Hartmann</b>	
	4173	REDUCING PARCEL PROCESSING BY MEANS OF THE LEAN METHODOLOGY <i>Meelan Roopa</i>	4167	STRUCTURING UNCERTAINTY MANAGEMENT FOR ENERGY SAVINGS CALCULATIONS <i>Waldt Hamer</i>	4218	INNOVATING FOR MARKET ADOPTION IN THE FOURTH INDUSTRIAL REVOLUTION <i>Anthon Botha</i>
	4321	INVESTIGATING HUMAN BEHAVIOUR IN QUEUES <i>Joke Bührmann</i>	4307	DESIGN AND MANUFACTURE OF SOLAR POWERED GRASS TRIMMER <i>Mothibeli Pita</i>	4323	THE EVOLUTION OF BUSINESS MODELS FROM SUPPLY CHAIN TO AGILE DEMAND NETWORKS THROUGH ADDITIVE MANUFACTURING <i>Henk Harmse</i>
			4314	EFFECT OF DISCHARGE DIAMETER ON CENTRIFUGAL PUMP PERFORMANCE <i>Motsi Matlakala</i>	4375	AN ASSOCIATION FOR PERFORMANT BIG DATA VENTURES BY INDUSTRIAL ENGINEERS <i>Ninett Hesse</i>
12:30	<b>Lunch</b>					
13:30 – 14:10	<b>Session J1</b> <i>Data meets knowledge</i> <b>Venue: Aitutaki</b> <b>Chair: Waldo Viljoen</b>			<b>Session J2</b> <i>Making machines work for us</i> <b>Venue: Palawan</b> <b>Chair: Kemlall Ramdass</b>		
	4168	FINDING THE FOUR QUALITIES TOWARDS INTELLIGENT INDUSTRIAL REPORTING <i>Lee-Ann Botes</i>	4305	SELECTION OF A COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM FOR MECHANICAL AND INDUSTRIAL LAB EQUIPMENT OF UNISA <i>Mothibeli Pita</i>		
	4186	SOCIAL MEDIA: A KNOWLEDGE SHARING TOOL IN ORGANISATIONS <i>Corro van Waveren</i>	4174	DEVELOPMENT OF AN INTEGRATED PROJECT LIFE CYCLE MODEL ON GOLD MINING COMPRESSED AIR SYSTEMS <i>Franco Jansen van Rensburg</i>		
	4254	THE IMPACT OF DESIGN, MANUFACTURING AND END OF LIFE LOGISTICS OF CONSUMER PRODUCTS <i>Steadyman Chikumba</i>	4282	INFLUENCE OF IMPELLER BLADE COUNT ON THE PERFORMANCE CENTRIFUGAL PUMPS <i>Motsi Matlakala</i>		

14:15 – 15:00	<b>Session K1</b> <i>Intelligent decision making</i> Venue: Aitutaki Chair: Joke Bührmann	<b>Session K2</b> <i>Engineering healthy solutions</i> Venue: Palawan Chair: Hanneke Meijer
4175	A FRAMEWORK FOR A DECISION SUPPORT TOOL IN AN AGILE AGRICULTURAL ENVIRONMENT <i>Jolene Wium</i>	4184 A DECISION MODEL TO SUPPORT THEATRE ALLOCATION FOR NON-ELECTIVE PATIENTS IN A PRIVATE HOSPITAL <i>Chantelle du Plessis</i>
4217	DEVELOPMENT OF A FRAMEWORK FOR APPLICATION IN THE SELECTION OF AN APPROPRIATE PRODUCTIVITY IMPROVEMENT TECHNIQUE <i>Ngaka Mosia</i>	4195 HEALTH CARE DATA MANAGEMENT IN DEVELOPING COUNTRIES: A SYSTEMATIC REVIEW <i>Laubscher van der Merwe</i>
4363	QUALITY RESEARCH MANAGEMENT IMPROVES DESIGN RESEARCH EFFECTIVENESS <i>Johann Holm</i>	4247 MEDICINES STOCK VISIBILITY SUPPORT TOOL USING DEMAND-DRIVEN SUPPLY CHAIN MANAGEMENT PRINCIPLES <i>Sanelisiwe Hlongwane</i>

15:00

**Tea**

15:30

**Chair: Dieter Hartmann**  
**Venue: Aitutaki**  
**KEYNOTE ADDRESS: Yanesh Naidoo**  
*4IR, The African Way*

17:15  
18:00

Buses depart from Boardwalk hotel to The Plantation  
**GALA DINNER**  
 The Plantation

*Thursday 3 October 2019*

08:00  
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16:00

**INDUSTRY VISITS**

Departure and drop off from the Boardwalk Conference Centre