Strategies & structure of research on ICT in South Africa and France
Introduced by the Master of Ceremony

South African challenges in ICT & DST 10 Year ICT RDI Roadmap
Jeanette Morwane, Director: ICT, Department of Science & Technology

French ICT strategy, funding opportunities and research institutions
Dr Pierre Lemonde, Attaché for Science & Technology, French Embassy in South Africa

1993: Graduation (Master) from the Ecole Centrale de Paris.
1993-1997 : PhD thesis, quantum physics specialty. University Paris VI. Supervisor: Christophe Salomon, Laboratoire Kastler - Entitled " PHARAO: a study space clock using laser-cooled atoms, a prototype."
2010 : Habilitation at Université Pierre et Marie Curie Paris VI
1997-1998 ; Post - doctoral LNE- SYRTE
1998-2011: Researcher at LNE-SYRTE (Observatoire de Paris).
2011-2015 Attaché for Science and Technology. Embassy of France in Pretoria

South African ICT universities, industries, research institutes and SKA big challenges
Dr Quentin Williams, Strategic Research Manager, CSIR Meraka Institute

Dr, Quentin Williams, completed his Phd focusing on Medical Image Processing and Pattern Recognition. The thesis concentrated on the use of ultrasound images to detect coronary artery disease. After completing his Phd, Dr Williams started working at the CSIR in March 2006. He was initially involved in setting up a research team and focus for the CSIR Meraka Institute's "Intelligent Environments for Independent Living" group. Here his work concentrated on using machine intelligence techniques in technologies that aid persons with disabilities. In particular, focussing on both the adoption of technology in difficult market neglect areas, as well as the development of intention detection algorithms based on statistically artificial intelligence techniques. In addition he launched the Southern African World Wide Web Consortium (W3C). His love for mentorship and career development took him to the position of Manager: Emerging Research and Human Capital Development. His focus now is in understanding future trends and technologies and ensuring that CSIR Meraka has the right strategies, research and human capital in place to be at the forefront of Information Communication Technology (ICT) Research and Development. In this regard he was a key technical lead in the development of the National ICT research, development and innovation implementation Roadmap for the Department of Science and Technology.

International partnerships
Introduced by the Master of Ceremony

Overview of Africa and EU bilateral collaborations & feedback on FP7 joint research projects
Dr Barend J.E. Taute, Manager: ICT Contract R&D, CSIR Meraka Institute

Barend Taute is an electrical engineer with a PhD in Electromagnetics from the Ohio State University, USA (1988). He has been with the Council for Scientific and Industrial Research (CSIR) in South Africa since 1983 as a researcher and technology manager working on radar, antennas, remote sensing, microwave heating, safety & security, crime combating, border control, cyber security and ICT.
His recent focus has been on African and European collaboration in ICT and security related policy, research, development and innovation, working closely with the Department Science and Technology (DST) and the Department of Telecommunications & Postal Services (DTPS) in South Africa as well as many partners in Europe and Africa. He is the National Contact Point in South Africa for the Secure Societies Theme of the EU Horizon 2020 Framework Programme and also promotes the ICT theme.

Support offered by the Institute of Research for Development (IRD) to scientists in Africa and Indian Ocean Region
Damien Alline, Responsable du service "Informatique en soutien à la Science", Direction du Système d'Information, IRD

Damien graduated from engineering school Telecom ParisTech. His career led him to work for the European Agency Eurocontrol in Brussels where he managed a number of complex international ICT projects. Today Damien is at the head of an IT department at IRD aiming at reducing the digital divide and supporting the scientific missions of IRD. Damien participated to NREN (National Research and Education Networks) related projects like the elaboration of NREN roadmaps in Cameroun and in Benin, and to scientific projects in Africa aiming to ensure interoperability and access to data (e.g. GEOFROAFRI).

H2020 programme in South Africa & ESASTAP Plus
Mamohloding Tlhagale, Director: Strategic Partnerships, Department of Science & Technology

Using the model of ERAfrica for a panafrican cooperation in ICT?
Jean Albergel & Johan Viljoen, CNRS/IRD representatives

Jean Albergel was appointed on September 1, 2013, the representative for the Institute for Research and Development (IRD) for South Africa, Angola, Botswana, Mozambique, Namibia and Zimbabwe. He is also the Director of the CNRS Sub-Saharan Africa and Indian Ocean Office. Senior scientist in hydrology, he joined IRD in 1979 and spent most of his career in Africa; especially in semi-arid countries on both side of the Sahara, in variable climates with high water deficits and with strongly contrasting seasons. He has focused on three themes in water and soil sciences in arid and semi-arid development areas. Jean Albergel is author of 48 scientific articles, 45 book's chapters, more than sixteen reports and directed the production of 5 scientific journals. Director of the AMBRE Research Unit and then Vice-Director of the LISAH Joint Research Unit in Montpellier, he was in charge of the "*Water and Land* " mission under a department of science before acting as the IRD representative in Kenya and the coordinator of the Eastern and Southern Africa and the Indian Ocean. Jean Albergel was also in charge of the coordination of the "Science, Technology and innovation" experts subgroup under the 8th Africa-EU Partnership which aimed at strengthening African capacities in Science and Technology. He has most recently served as IRD's European Affair coordinator in France.

Theme 1: Big Data and Cloud Computing
Introduction by session moderator

"Data Intensive Research Infrastructure South Africa (DIRISA)"
Dr Anwar Vahed, Research Group Leader, CSIR Meraka Institute

Anwar Vahed is a Principal Research Scientist at the CSIR Meraka Institute and Caretaker Manager of the Data Intensive Research Initiative for South Africa (DIRISA). He is a computer scientist with interests in machine learning, data science and high performance computing. Anwar has led the ICT for Earth Observation Research Group at the CSIR Meraka Institute and he is also developing a business strategy for DIRISA and a national strategic framework for Big Data research.

"The Square Kilometer Array (SKA) and the Big Data Africa project"
Dr Jasper Horrel, SKA

Dr Jasper Horrell has the role of General Manager: Science Computing and Innovation at SKA South Africa where he has worked full-time since 2005. He is part of the management team of the project with specific areas of responsibility in the scientific computing developments for MeerKAT, overall coordination of SKA SA's involvement in the SKA design phase and responsible for a number of the computing research projects including the Big Data Africa initiative. He has training in physics with a PhD in electrical engineering (radar signal processing) and also has experience working in companies involved in commercial software development.

"The CSIR Centre for High Performance Computing"
Dr Happy Sithole, Director: CHPC

"R&D program in Europe and France for HPC"
Jean-François Lavignon, Bull

Jean-François Lavignon joined Bull in 1998 where he is currently responsible for strategic alliances and cooperation. He is also very much involved in the development of the HPC ecosystem in France and in Europe as the Chairman of the European Technology Platform for High Performance Computing (ETP4HPC). During his career at Bull, he was general manager of the HPC business unit, in charge of developing Bull's business in the HPC market. He started at Bull as responsible for Bull's research strategy in the field of software and them was in charge of a business unit developing security solutions.
Before joining Bull he served in several positions related to IT research. He was, among other, in charge of a research laboratory that introduced the use of massively parallel supercomputers for image and signal processing.

"A grammatical Approach to data-centric Collaborative Systems"
Eric Badouel, Responsable scientifique Afrique, International Relations, INRIA

Institution : Inria
Research Domains: Models of concurrency, Petri nets, Artifact-centric collaborative systems
Diplomas (domains, institutions,years)
- PhD in Computer Science, *Interprétations fonctorielles des processus*, university of Rennes I, 26th of february 1990
- Habilitation à diriger des recherches (HDR), *Automates réversibles et réseaux de Petri, dualité et représentation : le problème de la synthèse*, university of Rennes I, 29 avril 1999

Professional Experience (for teaching and research)
- Researcher at Inria since 01st of October 1990.
- 1999-2003: Head of the Computer Engineering Department of *Ecole Nationale Supérieure Polytechnique de Yaoundé* (ENSP) in Cameroon

Academic and Administrative Positions
- Secretary of CARI Permanent Committee (since 2004)
- Editor in Chief of ARIMA Journal (since 2014)
- Scientific manager of the African and Middle-East region at the Direction of International Affairs at Inria (since the 01st of November 2014)

Theme 2: Smart Living
Introduction by session moderator : Yves Blanchard, French Director F'SATI, Tshwane University of Technology

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"Smart Living initiatives and projects in South Africa"
Dr Louis Coetzee / Daan Velthausz, CSIR Meraka Institute

Dr. Coetzee is a CSIR Chief Engineer and research group leader for the Internet of Things in the CSIR Meraka Institute. Through his expertise in technology research and development, implementation he has been instrumental in developing capabilities for smarter solutions applied to resources, assets and the environment using Internet of Things fundamentals; He has strong technical knowledge and experience, specifically in the ICT field, ranging from high level ICT architecture conceptualisation and definition, the implementation of complex systems and contribution to large-scale, multi-disciplinary initiatives; He has substantial knowledge in the areas of Future Internet (Internet of Things). He is currently the South African lead for the FP7 project "Testbeds for Reliable Smart City Machine-to-Machine Communication " (TRESCIMO) funded through a EU-South Africa FP7 joint call on Future Internet Research Experimentation (FIRE).

"Enabled Environment for Assistive Living"
Karim Djouani, Professor F'SATI, Université Paris Est Créteil & Tshwane University of Technology, Chair Holder at TUT

Karim Djouani is professor, scientist and technical group supervisor of soft computing, telecommunication, networking systems and Robotics.
Since January 2011 he is Full professor at University Paris Est-Creteil (UPEC), France and Tshwane University of Technology, Pretoria, South Africa. From July 2008 to December 2010, he was seconded by the French Ministry of Higher Education to the French South African Institute of Technology (F'SATI) at Tshwane University of Technology (TUT), Pretoria, South Africa. Till July is also with the SCTIC team of the LISSI lab, University Paris Est. He was also national and European pro jects manager at the LISSI Lab. His current works focus on the development of novel and highly efficient algorithms for reasoning systems with uncertainty as well as optimization, for distributed systems, networked control systems, wireless ad-hoc network, wireless and mobile communication, and wireless sensors networks as well as Robotics. He has authored/co-authored over 150 articles in archival journals and conference proceedings as well as five chapters in edited books.
Prof. Djouani is a Member of:
• IEEE communication and computer societies,
• Exystenze (European Center of Excellence in Complexity),
• Several National Research task Group (GDR-MACS, GDR-ISIS)

Urban Security: Thalès strategy and solutions"
Kleo Georgiou, Marketing and Sales Director, Thales South Africa Systems

Kleo has 23 years' experience in the South African Information, Communications and Technology (ICT) market. During this time his held various positions within Sales and Marketing having represented several large ICT South African service providers. His experience extended to delivering Software based solutions and services to the Mining, Power Utility, Financial and Telco sectors. These solutions included Enterprise Service Management, Project and portfolio management, Application Performance Testing, Digital Communications and IT Security in conjunction with large multinational organizations. A clear Understanding of Customer information challenges combined with a customer Centric approach has been the foundation for Kleo's established wide network in the industry. In his current role as Marketing and Sales Director for Thales South Africa Systems, his responsibility is across all the market segments that Thales which include, Defence, Ground Transportation, Aeropace and Security.

Theme 3: Trust and Security
Introduction by session moderator : Dr Barend Taute, CSIR Meraka Institute

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"Cyber Defense research at the CSIR"
Joey Jansen van Vuuren, Research Group Leader: Cyber Defence, CSIR-DPSS

Joey Jansen van Vuuren is the Research Group Leader for Cyber Defence for Scientific Research at the CSIR South Africa. She gives the strategic research direction for the research group that is mainly involved in research for the SANDF and Government sectors on Cyber Defence where the focus of the research group is on network security and forensics, social media, and national security. As Cyber threats became extremely important for the RSA with the recent broadband changes, she focused her research around cyber security, and government policy and frameworks required to ensure national security. This research is already presented on several forums including national and international conferences and has also been invited as keynote speaker at international conferences. She is also actively involved in facilitating Cybersecurity programs in South Africa. Apart from the research she is the Vice President (Academic) of the Higher Education Informations and Communication Technology association and received several accolades for entrepreneurship, contract excellence and community service.

"Information security research at NMMU"
Prof Rossouw von Solms, NMMU

Rossouw von Solms holds a PhD-degree from the ex-Rand Afrikaans University. Rossouw has co-authored more than one hundred and fifty peer-reviewed journal and conference papers, both internationally and nationally. Most of these papers were published and presented in the field of Information Security. More than 2000 citations referenced these publications. He has supervised fifty odd M & D students successfully. He also co-authored a book called; Information Security governance. Rossouw is a member of General Assembly of the International Federation for Information Processing (IFIP). He is also a professional member of the South African Computer Society. Rossouw is also a past-President of the South African Institute for Computer Scientists and Information Technologists (SAICSIT). He is also a Certified Information Security Manager (CISM).

Culture of Cyber Security in South Africa"
Noluxolo Gcaza , PhD Student, NMMU

"Trust and security considerations in the eHealth system"
Karel Matthee, CSIR Meraka

"Cybersecurity Research at MDS - biometrics and smart cards"
Erick Dube, CSIR Modelling and Digital Science

"Cyber security: Thalès strategy and solutions"
Philippe Richer, Thalès

Ingénieur Conservatoire National des Arts et Métiers (software engineering)
10 years (1978-1988, Alcatel) as Commissioning Manager on satellite networks
7 years (1989-1996, various) as Software Development Projects Director in Transportation/Banks/O&G/Defence
9 years (1997-2006, Thales) as Tactical Satcom Department Manager
5 years (2007, 2012, Thales) as Business Development Manager in various networks (Satcom, Tactical, Infrastructure, IT, C2, etc)
2 years (2013-2014, Thales) as Cyber Defense Solutions Manager

Theme 4: Industry applications and Innovation
Introduction by session moderator

"Industry Innovation Programme, promoting innovation in South Africa"
Shafraaz Abdoola, CSIR Meraka Institute

"Collaboration with F'SATI: Smart Water Management System & Distributed Autonomous Energy Management System "
Adnan AbuMahfouz, CSIR Meraka Institute

"M-Lab"
Derrick Kotze, CEO mLab Southern Africa

"Robotics Research at MDS"
Natasha Govender, CSIR Modelling and Digital Science

Natasha Govender is currently the acting centre area manager for the Mobile Intelligent Autonomous Systems Group, which lies in the Modelling and Digital Science unit at the CSIR. The group's primary focus is on field robotics which entails adding 'intelligence' to mobile platforms to be able to interact in human environments. Natasha's area of research is using computer vision techniques to interpret sensor information for mobile platforms for object recognition, scene understanding etc.

"Nano-satellite emerging technologies and ICT applications"
Robert Van Zyl, Director F'SATI, Cape Peninsula University of Technology

Robert is the Director of the French South African Institute of Technology at the Cape Peninsula University of Technology. F'SATI specialises in nanosatellite systems engineering and applications. ZACUBE-1, Africa's first nanosatellite, was developed by the group and launched in 2013. Robert completed his studies at the University of Stellenbosch in the fields of microelectronics and high frequency engineering. His research interest has since extended to the innovative use of nanosatellites for socio-economic development in Africa. Robert is passionate about the establishment of a Pan-African nanosatellite programme and is a regular invited speaker at conferences and symposiums throughout the continent. In his spare time, he enjoys playing the French horn.