S&T Office
Activity Report
2015-17

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Embassy of the Republic of South Africa
Tokyo, JAPAN
在日南アフリカ共和国大使館

S&T Office Activities 2015-17

	2015	
グローバルリサーチカウンセルを後援	May	Global Research Council
留学フェアに出展	June	JASSO Study Abroad Fair
日・南ア大学協力円卓会議を開催	August	Roundtable on SA-JP University Collaboration
日・南ア水素社会シンポジウムを開催		SA-JP Symposium: Hydrogen Economy
水素・燃料電池技術チームの来日		SA Hydrogen and Fuel Cell experts visit
地球観測専門家の来日		SA Eearth-Observation experts visit
STS フォーラムにてパンドール科学技術大臣が登壇	October	STS Forum in Kyoto
サイエンスアゴラに出展	November	Science Agora 2015 in Tokyo
SATREPS バイオ燃料チームの来日		SA SATREPS-biofuel team visit
日立 -DST 水処理技術者養成の報告会に出席		Hitachi-DST Scholarship for water treatment
初開催の Science Forum: South Africa に出席	December	Science Forum: South Africa in Pretoria
プレトリアにて第５回合同科学技術協力委員会を開催		5th Joint Committee on S&T in Pretoria
	2016	
SATREPS iDEWS 研究員の来日	May	IDEWS delegation visit to Japan
人工衛星活用の研修のため南アフリカ技術者の来日	June	SANSA technical expert visit to Japan
留学フェアに出展		JASSO Study Abroad Fair
理論物理学研究者の来日	August	NITheP visit to Japan
第６回アフリカ開発会議にて科学技術セッションの開催		Science and Technology Session, TICAD VI in Kenya
南アフリカ科学技術振興庁とサイエンスアゴラに出展	November	Science Agora 2016 with SAASTA
Science Forum: South Africa 2016 に出席	December	Science Forum: South Africa 2016 in Pretoria
	2017	
海洋開発機構の国際シンポジウムにて開幕挨拶	January	JAMSTEC International Symposium 2017
日・南ア 太陽エネルギー水素活用ワークショップの開催	February	SA-SIP Joint Workshop on Solar to Hydrogen
産総研 福島再生可能エネルギー研究所に視察見学	March	Visit to FREA

Foreword

シスール大使より

I am proud to mention that South Africa and Japan enjoy diplomatic relations spanning more than 100 years. 2017 marks the 14th year since South Africa and Japan signed the government-to-government Agreement on Science and Technology Cooperation. Since the signing both countries have collaborated on joint research in various fields, such as life science, biotechnology, climate change, materials science, and more.

South Africa is on a quest to create a knowledge economy in order to address what we have termed as 'the triple challenge' – poverty, inequality and unemployment. Many agree that the challenges facing South Africa today require innovative solutions. We need to use knowledge to advance our goals as a developing country. In this regard, our quest to create a knowledge economy and position South Africa as a strategic partner for major international science and technology advancement requires continued investment in the people, infrastructure, policies and programmes to sustain and nurture a vibrant system of innovation.

Looking back on the year 2016, I am delighted to have supported my President in Kenya on 27-28 August, where Japan, together with the government of Kenya, co-hosted the first ever Heads of States meeting – the sixth Tokyo International Conference on Africa's Development (TICAD) - that took place on the African continent. On the margins of the TICAD VI, the Science and Technology in Society (STS) Forum provided a wider platform as an official side event to gain insights and thoughts of the government, academia, and business leaders of African countries and Japan to find ways in which bilateral and multilateral cooperation in Science, Technology and Innovation could be strengthened.Furthermore, Japan, through the TICAD partnership, is investing in human resource development to create better-skilled workforces. In this regard, a five-year scholarship, the African Business Education (ABE) initiative was established. To this end, South Africa has been awarded 83 scholarships.

I am proud to introduce this booklet, which highlights some of the science and technology activities, and events that the Embassy has embarked on in the 2015/16 and 2016/17 financial years. I want to wish both countries well as the preparation for the upcoming South Africa-Japan University (SAJU) Forum are underway. SAJU is a unique South-North collaboration platform and will assist both countries to elevate and enhance cooperation on mutual grounds. Japan continues to remain South Africa's strategic partner and we strive to find ways in which our relations can be elevated in the field of science and technology.

Arigatou Gozaimasu
Ambassador Beryl Sisulu

Visit to the Earth Simulator - High Pefromance Computer
Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Yokohama

Executive Summary

活動を振り返って

This Report from the Science & Technology Office Tokyo provides an overview of Science, Technology and Innovation (STI) policy issues in Japan, as well as wide range of activities that the Office carried out during the period 2015/16 and 2016/17.

In 2016 Japan launched a major policy for their economy - the 5th Science and Technology Basic Plan, which is a 5-year Plan that will be effective until 2020. This Plan focuses more on innovation policy unlike the past Basic Plans that focused more in science and technology. Furthermore, the plan proposes new actions in preparation for the uncertain future resulting from Japan's aging population. The proposed Plan is termed "Society 5.0", which aims to create a super smart society that is characterised by the integration of cyberspace with physical space in order to create a data-driven innovation and social change.

At an international level, Japan's Minister of Foreign Affairs Mr Fumio Kishida, appointed a Science and Technology Advisory Office whose role is to advise the Minister on issues related to Japan's global positioning with regard to science and technology. The Chief Science Adviser appointed to this position is Dr Teruo Kishi who is a Professor Emeritus from the University of Tokyo and an Advisor to the National Institute for Material Science (NIMS).

Another new aspect of Japan's Science Diplomacy and relevant to Africa is Japan's goal to strengthen science and technology cooperation with emerging and developing countries, using the Tokyo Conference for Africa's Development (TICAD) as a vehicle. The approach aims to establish strategic joint research projects with emphasis on innovation for emerging economies, especially with African countries. In this regard, TICAD 6 hosted in Nairobi, Kenya in August 2016 for the first time in the African continent. During TICAD 6 in Nairobi, the Office together with the Science and Technology in Society (STS) Forum took the opportunity to co-host a side meeting titled "Japan-Africa Workshop for strengthening cooperation in Science, Technology and Innovation".

Furthermore, it is important to note that under the auspice of TICAD, there are currently 83 South Africa studying doing their masters degree programmes in Japan, under the African Business Education (ABE) Initiative.

In May 2015 South Africa and Japan through the National Research Foundation (NRF) together with the Japan Society for the Promotion of Science (JSPS) co-hosted the 4th Global Research Council annual meeting, which took place in Tokyo.

It is worth mentioning that Bilateral relations between South Africa and Japan were reviewed during the 5th Joint Committee meeting on Science and Technology, which took place in December 2015 in Pretoria. During the JC both parties agreed to find more ways in which relations can be elevated by creating a flagship project.

We are pleased to report that relations between South Africa and Japan have begun to take an upward trajectory. During his working visit to Japan in August 2015, Deputy President Cyril Ramaphosa emphasised the important role played by science and technology collaboration between the two countries. Deputy President Ramaphosa pointed out that S&T collaboration provide innovative solutions that can address South Africa's "triple challenge" – being poverty, unemployment and inequality. During the Deputy President's visit to Japan, the Office hosted a Symposium on the Hydrogen Society. The symposium served as a precursor for a dialogue on how South Africa and Japan can collaborate in this field. Following the symposium, a number of site visits took place in the following institutions: Toyota, Honda, Chiyoda and Mitsui Kinzoku – Mining and Smelting.

In February 2017 the Office further organised a technical workshop on "Solar to Hydrogen" between South Africa and Japan under the auspice of the Cross-ministerial Strategic Innovation Promotion Program, abbreviated as SIP in the field of Energy Carriers. The purpose of the workshop was to two-folds:

- To give effect to the areas identified during the Hydrogen Society Symposium that was held on August 2015, and
- To identify specific area of collaboration for producing hydrogen using renewable energy, in this case solar.

As part of the growing relation, the Office facilitated and organised Japanese delegations to South Africa to participate at the annual Science Forum meeting that is hosted by Minister Naledi Pandor. Besides the Science Forum, a number of other visits between South Africa and Japan were coordinated in order to strengthen cooperation between the two countries, especially with the SATREPS projects.

The office has an active website which has now attracted more than 400 during the 2015/16 and 2016/17 financial years. This attest to the growing interest for science and technology collaboration between the two countries.

We would like to take this opportunity to acknowledge the support of all our stakeholders in the STI fields both in South Africa and Japan.

Arigatou!
Science and Technology Team - Tokyo, JAPAN

Topics 01

JC: S&T

5th Joint Committee: S&T

第５回　科学技術協力合同委員会

11 December 2015
Pretoria, South Africa

The Fifth Science and Technology Joint Committee Meeting between South Africa and Japan was held in Pretoria, South Africa on 11 December 2015.

This Committee meeting marks 11 years of STI cooperation between the two countries. Daan du Toit, the Deputy-Director General: International Cooperation and Resources from the Department of Science and Technology (DST), led the South African delegation. H.E Makoto Katsura, Ambassador for Science and Technology Cooperation from the Ministry of Foreign Affairs (MOFA) Japan, led the Japanese delegation.

１２月１１日に南アフリカのプレトリアにて第５回日本・南アフリカ 科学技術合同委員会（JC）が開催されました。

南アフリカ科学技術省のダン・ドゥトイ国際協力資源副局次長と桂 誠 外務省科学技術協力担当大使が共同議長として議論を行いました。今回のこの合同委員会で両国の科学技術協力は１１年を迎え、より一層の協力が望まれています。

委員会では、両国より最新の科学技術イノベーション関連の動向が発表され、二国間協力を推進する科技政策の重要課題や研究体制、並びに研究成果も報告されました。

南アフリカの科学技術省からは、貧困や不平等をなくすための科学技術協力体制が提案され、また南アフリカでの教育や産業人材育成の質の向上も取り上げられました。

日本からは、戦略的イノベーション創造プログラム (SIP) が紹介されました。

The delegations each presented information on their respective new science, technology, and innovation (STI) developments, highlighting their national priorities, achievements, and research schemes that could assist in promoting cooperation between the two countries.

The DST outlined its current science and technology priority areas which included:

- human capital development
- hydrogen economy
- mining and raw materials and
- raw and advanced materials.

By targeting these areas, the DST anticipates that this will reduce inequality and poverty, and increase the level of education and skills in South Africa.

The three main STI developments in South Africa that were presented at the meeting were:

- The Sector Innovation Fund, which aims to incorporate the involvement of the private sector in research and development (R&D) investment.
- Innovation for Inclusive Development, which focuses on grassroots innovation.
- The Square Kilometre Array (SKA) telescope, which is expected to begin construction in 2018. The International Treaty is currently being negotiated involving 20 committed countries. It was noted at the meeting that Japan is a world-leader in astronomy and that the South African government would like Japan to consider being a part of the SKA organisation in the future.

The Japanese representatives presented their priority areas to the committee. Through their Cross-Ministerial Strategic Innovation Promotion Programme (SIP), the Japanese prioritised the following policy issues:

- Improving the fuel efficiency of automobile engines.
- Developing new transportation systems including accident prevention technologies and alleviating congestion.

Establishing new styles of innovations arising from regions using new technologies such as additive manufacturing.

Japan - South Africa Bilateral Cooperation

The current research programmes that were established through the bilateral cooperation were also discussed. These are: the JICA programmes, the NRF-JSPS, and the NRF-JST. Possible programmes for future cooperation such as flagships on specific research areas were also explored.

Both parties shared the same sentiment that cooperation needs to be takes to another level through investing in bigger projects that have more impact.

The fifth Joint Committee Meeting was a scucess and it is expected that the sixth Joint Committee Meeting will take place in Japan in2017.

現在実施されている二国間の科学技術協力は、JICA 主導による科学技術協力プログラム、人材育成プログラム、NRF-JSPS 二国間プログラム（研究者交流）、NRF-JST 二国間プログラム（ライフサイエンスにおける共同研究）があります。

JICA 主導による科学技術プログラムでは、南アフリカの科学館へのボランティア派遣、地球規模課題対応国際科学技術協力プログラム（SATREPS ＝サトレプス）、リモートセンシング技術者養成プログラムなどが挙げられます。また、アフリカの若者のための産業人材育成イニシアティブ（ABE イニシアチブ＝修士課程と産業界でのインターシップのパッケージプログラム）により、アフリカ各国より１００名の若手社会人が日本に留学しています。２０１５年度は南アフリカから３５名が選出されました。

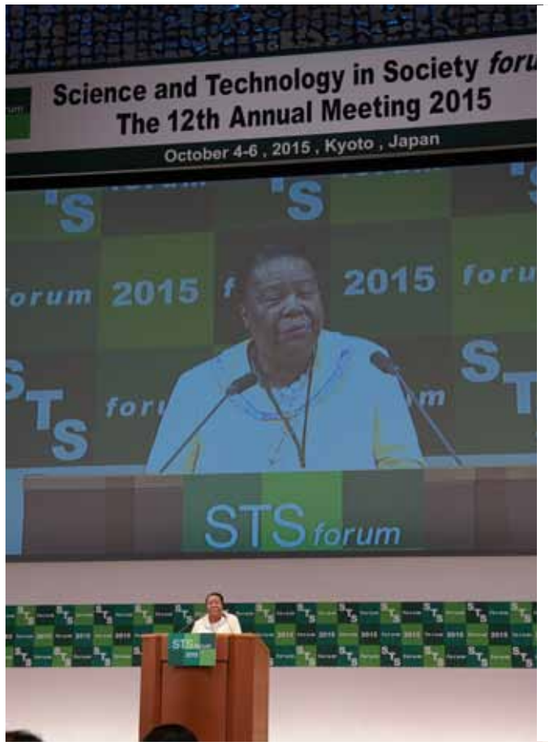
また、共同研究の重点テーマとして、南アフリカ側より、社会人間科学、水処理、農業バイオ工学が提案されました。今後、両国で協議が進められて行く予定です。

科学技術投資の観点では、南アフリカ側から同国への科学技術投資の機会が紹介されました。日本側は科学技術分野の産業界も含めた形で南アフリカへの投資機会に賛同を示し、2016 年 2 月に予定されている日本の産業界の特使団の南アフリカ訪問時に、産業界での協力体制を協議するための、パンドール科学技術大臣と会合が提案されました。

Topics 02 STS

STS FORUM
STS フォーラム

04-06 October 2015
International Conference Center, Kyoto



S&T Minister Pandor delivers speech on the Closing Plenary Session

Above: &ST Ministers from 26 countries turns out in Kyoto during the Forum
Bottom: S&T Minister Pandor meets Japan's S&T Minister Mr Shimomura

On 04-06 October, Minister Naledi Pandor visited Kyoto to attend and deliver closing remarks at the annual meeting of Science and Technology in Society (STS) Forum hosted by Mr Koji Omi.

On 06 October, Minister Pandor delivered her closing speech titled "How do we move forward to maintain sustainability for the future of humankind". In it, she suggested three key action points that will assist in maintaining sustainability for the future of humankind, especilly with regards to Africa.

1. Africa must close the research gab on the African continent.
2. African governments must take the lead in strengthening its STI through co-owned and co-determined partnerships with the rest of the world.
3. Africa needs to invest in a robust human capital development programme that will attract major research projects into the African continent."

In turn, Minister announced to the meeting, that South Africa will host its first ever public gathering that will bridge science and society on 08-09 December 2015 in Pretoria.

Featured Report

08-09 December 2015
08-09 December 2016
CSIR International Convention Centre
Pretoria, South Africa

Science Forum: South Africa

History was made in Pretoria on 8-9 December 2015. The Science Forum South Africa kicked off at the CSIR International Convention Centre with the aim of stimulating debate about the role of science in addressing societal challenges.

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Under the theme, Igniting Conversations About Science, the two-day conference had over 1,500 registered participants from 45 countries exchanging ideas on the interface between science, technology, and innovation in building a better society.

South Africa utilised the conference as a vehicle to strengthen its strategic international science, technology, and innovation partnerships. There were many international delegates that participated at the Forum either as speakers or had exhibitions

１２月８日、９日にプレトリアのCSIRコンベンションセンターにてアフリカ大陸初となる社会形成のための科学技術の役割を討議する国際会議「サイエンスフォーラム：南アフリカ」（以後、SFSA）が開催されました。

このSFSAには、南アフリカの科学技術省（DST）の呼びかけにより、日本のSTS Forumや科学技術振興機構（JST）が主催するサイエンスアゴラ、ヨーロッパにおける科学のネットワーク（ESOF）やアメリカ科学振興協会（AAAS）の協力を得て、４５カ国から１５００名以上が参加しました。

４回のプレナリーセッションと８つのサブカテゴリーから構成される４回のパラレルセッションを通じて、アフリカの地域開発における科学技術イノベーションの重要性が討議されました。

① Opening Sessions ② Speech by Mr Koji Omi, Chairman of STS Forum ③ Exhibition booth ④ Speakers for the session organised by JST

on how science and society integrate in their respective countries. Among other international dignitaries, the Chairman of the Science and Technology in Society (STS) Forum, Mr Koji Omi, represented Japan.

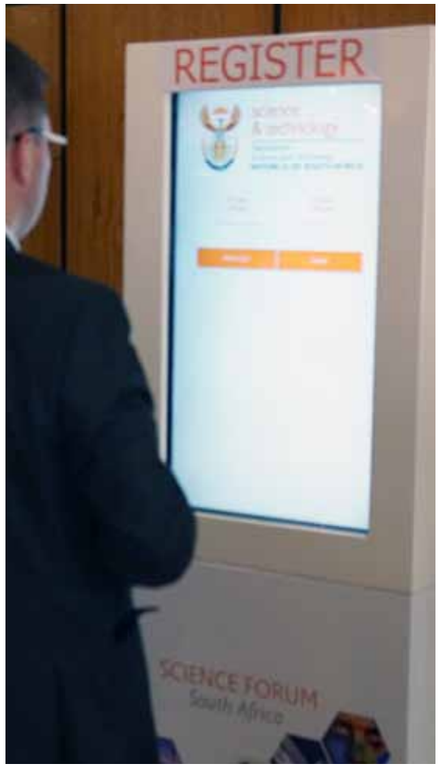
Minister Naledi Pandor of the Department of Science and Technology, a regular guest at the STS Forum meetings, mentioned in her opening remarks at the Science Forum: South Africa that she was inspired by the STS Forum, Science Agora, Euro Science Open Forum (ESOF), American Association for the Advancement of Science (AAAS) and the World Science Forum conferences.

Participants discussed and demonstrated the importance of science, technology and innovation for development, and the crucial role of an African science community. The event gathered international high profile figures such as Mr Koji Omi, Chairmain and Founder of the STS Forum, Dr Peter Tindemans, Secretary General EuroScience, Sir Peter Gluckman, the science adviser to the Prime Minister in New Zealand, Luke Georghiou, co-champion of ESOF2016 in Manchester, and Gordon Bean, the president of ICSU were among them.

Several thematic threads were constantly woven through the fabric of the conference's presentations and discussions. These included inspiration, giving young scientists a platform, stressing the need to attract many more women students and scientists, pointing out the vital importance of integrating social sciences and humanities in tackling the many challenges South Africa, Africa, and the world.

There were many other delegates that presented during the parallel sessions. The Japan Science and Technology Agency (JST) had a sizeable delegation, which was led by Mr Satoru Ohtake, Senior Executive Director at the JST. The JST session was titled "***Preparing for Careers that Do Not Exist Yet***". It focused on bridging human capacity through regional and international partnerships specifically between Africa and Japan.

The participants of this forum learnt that Africa wants and needs to be part of the global science efforts. They also learnt that South Africa leaves no stone unturned to underline that it wants to be a key contributor to and player in this. As this was the inaugural forum for South Africa and the continent at large, and due to its success, it was decided that these kinds of forum are needed. It is expected that the second forum will be hosted in South Africa in 2016.



オープニングセッションでは、パンドール科学技術大臣の他、アフリカ連合委員会（AUC）のズマ委員長と尾身 STS フォーラム会長も登壇しました。

日本からも JST が "*現存しないキャリアへの準備*" というテーマでパラレルセッションの一つを主催しました。アフリカと日本を中心とした国際的・地域的なパートナーシップによる人材開発の仕組みについて、活発な議論がなされました。

初開催となった SFSA では SFSA 科学技術外交表彰も行われ、日本から STS Forum の尾身会長が選出されました。毎年１０月に京都で開催される STS Forum にはパンドール科学技術大臣も参加しており、科学技術の持つ力と社会のつながりについて協議されています。

第２回目となる SFSA が２０１６年１２月に開催され、JST が SDGs の目標を達成するための公共の関与のセッションなど複数のセッションを主催し、また在南アフリカ日本大使館が展示賞を受賞するなど、日本の存在感が大きく示されています。

SFSA2016

① Embassy of Japan won the SFSA Exhition Award　2016
② Speech by Mr Koji Omi, Chairman of STS Forum
③ Speakers for the session organised by JST　④ Exhibition booth

Topics 03

GRC

GLOBAL RESEARCH COUNCIL
グローバル リサーチ カウンシル

26-28 May 2015
Hotel Okura, Tokyo

The worldwide growth of support for research has presented an opportunity for countries, large and small, to work collaboratively across national borders. To ensure a globally consultative process, and to improve communication and cooperation among research funding agencies, the Global Research Council (GRC) holds annual regional and global meetings. It is a voluntary informal organisation of heads of research councils from around the world, who have pledged to find mutually acceptable paths to greater international research collaboration.

The GRC held its fourth annual meeting in Tokyo, Japan from 27 to 28 May 2015. In the interest of expanding the global network of research councils into low and middle income countries, the event was co-hosted by the South African National Research Foundation (NRF) with the Japan Society for the Promotion of Science (JSPS).

More than 60 representatives from research funding agencies, as well as a number of stakeholders who promote research, were in attendance. ‘Research funding for scientific breakthroughs’ was one of the two main thematic areas of discussion. This is an issue of increasing importance to all research funding agencies. Deliberations were focused on the most effective ways of supporting research with high potential for scientific breakthroughs (see Page-12 for details).

The second thematic area of discussion at the meeting was ‘Building research and education capacity’. This is a challenge that affects all nations, especially developing nations. Discussions were aimed at finding ways to strengthen the capacity of researchers, research institutions, and research systems globally (see Page-13 for details).

■ RESEARCH FUNDING FOR SCIENTIFIC BREAKTHROUGHS

Basic science research driven by the free ideas of scientists has been recognised as a primary force of breakthroughs and development for humankind and society. But there is little funding in this type of research as the outputs don’t provide an immediate and tangible impact. Research aimed at scientific breakthroughs often involves entering unknown territory, beyond existing topics and disciplines, where unpredicted and unexpected results may occur. It also involves an element of risk in terms of financial investment.

Recognising that long-term investment is essential for scientific breakthroughs, it is imperative to ensure the availability of stable and sustainable research funding.

The participants in the fourth GRC Meeting recognise the following principles as the key elements in funding basic research and the need for it to be shared in the global research community.

1. Freedom, flexibility, and risk-taking

Through their funding programmes, participants should:

- Ensure the autonomy of researchers in defining their research projects from topic through to their resource allocations. However, the participants should require integrity, ethical conduct, and accountability from the researchers in their implementation of publicly funded projects.
- Ensure support for research in diverse disciplines, and foster inter- and multidisciplinary collaborations.
- Encourage risk-taking and a tolerance of failure in research outputs.

2. Diverse portfolio of funding approaches

Participants should adopt a diverse and balanced portfolio of approaches and instruments according to their mission, and ensure effective associations between them to maximise their chances of achieving scientific breakthroughs. Support may be included for:

- Researcher-driven and mission-oriented research;
- Basic and applied research;
- Non-thematic and priority areas; and
- Centres of excellence and individual investigators.

3. Review and evaluation

Participants should work together in exploring novel and effective review processes that can identify cutting-edge ideas and creative researchers, with high potential for breakthroughs.
Tracking of research outputs and outcomes is important as this helps ascertain the value of funding and that the evaluation of success differs by programme.

4. Partnership and stakeholders

To achieve their organisational mission, participants should actively interact with stakeholders in government, scholarly community, industry, and civil society. They should also be attentive to their nation’s priority areas, societal needs, and global challenges. Participants should promote investment and engagement in partnership with their stakeholders. They should play a pivotal role in disseminating research outputs and outcomes, which fosters public engagement.

5. International collaboration

Participants should seek opportunities to cooperate in stimulating breakthrough sciences globally through bilateral and multilateral initiatives. These initiatives can be used to exchange good practices, administrative expertise. Workshops on developing diversity initiatives, collaborative funding, facilitating bottom-up researcher networks, and providing access to core research facilities can be established.

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① Dr Beverley Damonse, Acting CEO, National Research Foundation (NRF) delivered the opening remarks
② Roundtable on Building Education and Research Capacity in Africa: How to Support Young Researchers for Sustainable Development
③ The S&T Office promoting Science Forum: South Africa and SARChI ④ Speakers who participated at the Roundtable session

■ Building research and education capacity

Research capacity building, especially in low- and middle-income countries, is an active process that involves the development of national systems that identify the need for research, commissioning and undertaking research, communicating the results of research, and ensuring that the research results have a real-world impact at local and policy level.

Research funding agencies worldwide have the responsibility to actively work towards strengthening research and education capacity. Establishing support for developing young researchers and educational capacity is also an important imperative.

The Education for Sustainable Development in Africa (ESDA), a joint postgraduate programme, was established in order to shape a new generation of professionals to face the challenges of sustainable development in Africa. The three masters programmes are the result of the work done by the United Nations University (UNU) and a group of leading African universities.

The three Masters programmes are on:

- Sustainable Integrated Rural Development in Africa
- Sustainable Urban Development and
- Mining and Mineral Resources.

A curricular feature common to the three programmes is an emphasis on field-based, problem-solving approaches to be used by students. In order to prepare for the implementation of this approach, the African universities taking part in the EDSA have created a Next Generation Researchers (NGR) Team.

The NGR Team will function as the prime mover for integrating education, research, and community outreach for promoting sustainable development. It was also established to conduct research that serves the ESDA's Masters programmes through relevant and useful learning materials for classroom instruction, and provision of substantive support to students for conducting field work. The team also serves as a link between participating universities and the communities being studied.

The NGR Team's research is anchored firmly in not only the African region, but in a wider context of the development reality encompassing other regions such as Asia. This widening of the NGR's mandate, through the support of the University of Tokyo, resulted in the creation of the NGR Asia Team.

The GRC Meeting drew up three key elements for approaches to building research and education capacity:

1. Collaboration, partnerships, and networking

Developing and maintaining equal partnerships with a variety of stakeholders in research and education is a key aspect in strengthening capacity. Working with other agencies and institutions integrates robust capacity building approaches within infrastructures, networks, and centres of excellence, and sets the conditions for better access to, and the sharing of, assets.

2. Sharing of good practice in research management

Research integrity is an essential component of research management practices. Participants should seek effective ways for sharing experiences, and consider establishing platforms for sharing good practice across the full range of research management activities.

3. Funding across the entire research pipeline to ensure the sustainability of research and education capacity

To ensure that a robust and diverse pipeline of researchers and educators is continually being developed, finding sources of funding is an integral part of the process. Participants need to work together to identify and approach suitable funding agencies at both local and global levels. They need to ensure that there are sustainable funding instruments available for education, training, and career development. This will serve to attract and retain researchers at different points in their careers.

Topics 04

JP-SA UNIVERSITY COLLABORATION

ROUNDTABLE MEETING
日・南ア 学術円卓会議

23 August 2015
Imperial Hotel, Tokyo

Japanese participants: Japan Science and Technology Agency (JST), United Nations University (UNU), Hokkaido University, Tohoku University, University of Tsukuba, Sokendai, Tokyo University of Marine Science and Technology, Nagaoka University of Technology, Meikai University, Kanagawa University, and Doshisha University

On the margins of Deputy President Cyril Ramaphosa's visit to Japan, Science and Technology Minister, Naledi Pandor held a roundtable meeting with presidents and vice presidents of selected universities in Japan. In the meeting, Minister Pandor highlighted the two key human capital initiatives of the Department of Science and Technology (DST), namely the South African Research Chairs Initiative (SARChI) and the South African Postdoctoral Fellowships Initiative.

South Africa has a shortage of skills, while Japan has an abundance of skills. This creates opportunities for collaboration between the two countries. Both countries also recognise the importance of science, technology, and innovation for economic growth, as well as the need to address challenges such as health, food, and energy security, especially in the wake of global challenges such as climate change. The countries also value the relevance and the role of science and technology in making an impact on society.

■ Internationalisation of Japanese Universities

Partly as a response to the aging population and stagnating economy, Japan has developed a 'New Growth Strategy' which, amongst other things, aims to increase the number of international students studying in Japan and to send more Japanese students overseas. Increasing the number of Japanese students overseas will help develop what they term 'global-minded resources'. Japan is currently receiving 300 000 international students and is sending 300 000 to other foreign countries each year.

To encourage high quality inter-university exchanges and increase the acceptance of highly-skilled international students and foreign teachers, the Japanese government developed the Global 30 Project. Established in 2009, the project funds 13 universities which are tasked with developing degree programmes conducted entirely in English, to improve international student services, to develop double-degree programmes with foreign universities, and to establish a 'One-stop Overseas Office' for use in advancing the internationalisation of Japan's higher education sector. Offices have already been set-up in Russia, Tunisia, Uzbekistan, Vietnam, Egypt, Germany, and two in India. More that 90% of international students in Japan come from China and Korea. The establishment of these offices is likely to lead to an increasing diversity in foreign students, although the vast majority are still likely to continue to come from Asia.

The Global 30 Plus programme, established in 2012, aims to develop the English language capacity of the staff and students at Japanese universities, and encourage them to study overseas. 11 universities have received funding to develop the capacity of the university. A further 31 have received funding to develop the capacity of one or two faculties.

To support the development of exchange programmes and cooperative education with foreign universities, the Re-Inventing Japan Project was put together. This project has a strong emphasis on Asia with cooperative educational programmes being developed between China, Japan, and Korea.

The Japanese government also has a large number of scholarships designed to attract international students to study in Japan. Universities in Japan charge relatively low fees for international students. The vast majority of international students in Japan currently study courses taught in Japanese, so the planned expansion of undergraduate and postgraduate courses taught in English, coupled with the low fees, is likely to lead to an increase in international students.

■ Toward SAJU Forum

The Embassy has promted to re-establish the South Africa-Japan University (SAJU) Forum. SAJU is a platform that was created in 2007 with the aims of providing a structured framework for collaboration between the higher education sectors of the two countries. SAJU focused on specific outcomes whose impact will have long-term benefits for both countries. It is expected that this kind of partnership will address some of South Africa's immediate and critical challenges in high level skills development.

It also reflects that the higher education sector is recognised by both countries as a critical strategic partner in socio-economic development and the knowledge economy. Therefore, partnership programmes identified under the auspices of the SAJU Forum need not be confined to skills development programmes, and may focus on research, innovation, and technology transfer.

The priority focus within SAJU is on higher education, but it offers an opportunity to deepen collaboration between higher education, business, and government in both countries. In spite of the marked differences in size, economic development, and some of the challenges faced, the countries share several complimentary areas. These areas provide the strategic foundation for the SAJU Forum.

During the 2015 Joint Committee Meeting in Pretoria, it was agreed that the two countries will hold the third SAJU Forum. From South Africa, the Universities South Africa (USAf) will lead the South African delegation; whilst the Ministry of Education, Culture, Sports, Science and Technology (MEXT) appointed University of Tsukuba and Nagasaki University as a coordination body in order to leverage this globalisation opportunity for Japanese universities.

ラマポーザ副大統領
日本の近未来技術に関心

Deputy President Meets the Future

25-26 August 2015
Miraikan & Toyota Mega Web, Tokyo

The Deputy President of South Africa led a high-powered delegation of ministers and business people on a visit to Japan. The main objective of the visit was to promote South Africa as a preferred investment destination. In order to anchor new trade and investment opportunities, with a focus on leveraging the strength of innovation in both countries, the following ministers accompanied the Deputy President: Minister of Science and Technology Mrs Naledi Grace Pandor; Deputy Minister of Trade and Industry Mr Mzwandile Masina; Deputy Minister of Agriculture, Forestry and Fisheries General Bheki Cele; and Deputy Minister of International Relations and Cooperation Ms Nomaindiya Mfeketo.

平成２７年８月２４日にラマポッサ副大統領が初来日しました。パンドール科学技術大臣を始め、マシナ副貿易産業大臣、セレ副農林水産大臣、ムフェケト副国際関係大臣や産業界のリーダを引き連れ、好環境である南アフリカへの投資機会を促進し、両国の強みを活かす新たな貿易投資の根となる協議が重ねられました。

今回の滞在中、副大統領は安部首相に表敬訪問を行った他、日本の産業界を牽引する経団連との会談、日本貿易振興機構（JETRO）本部にて南アフリカ・ビジネスフォーラムを開催しました。また、日本が誇る科学技術コミュニケーションの場である日本科学未来館を視察し、科学コミュニケーターから未来館の取組みの説明を受けました。また、トヨタ自動車の水素燃料電池車ミライに試乗し、日本が世界を牽引する水素社会を実感しました。

During his visit to Japan, Deputy President Cyril Ramaphosa met the captains of industry (Keidanren) in Japan and visited the National Museum of Emerging Science and Innovation (Miraikan) which is Japan's major science center. He had the opportunity to be driven in the Toyota Mirai fuel cell car.

The Deputy President's experience in the Toyota Mirai was featured in South Africa's *Sunday Times Motoring*, launched on 20 September 2015.

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① Dr Mohri, CEO of Miraikan and a former astronaut, explains Japan's frontier S&T at Miraikan
② S&T Minister Pandor asks about JAMSTEC's R&D Drilling Vessel 'Chikyu' ③ Honda's ASHIMO welcomes Deputy President Ramaphosa
④ Can Toyota's Fuel Cell Vehicle (FCV) 'Mirai' which means future in Japanese ⑤ Mirai's engine room ⑥ Test Ride of Mirai

The Deputy President's Experience

■ What was the driving experience of the Mirai like, as compared to a normal car?

It was exciting to be a passenger on a two-lap trip at Toyota's Mega Web vehicle theme park, which showcases Toyota vehicles through decades of technological development.

The Mirai is a marvel of technology that provides a powerful yet safe driving experience and the knowledge that the only emission from the vehicle is water. So, it is satisfying underfoot and satisfying to one's environmental conscience.

While it's kind to the environment, the vehicle does not compromise on power, with an engine rated at 114kW and torque pitched at 334Nm.

The key difference is that the motor is barely audible from inside the cabin or out on the street, where the wind shear and tyre contact with the road are also barely perceptible, making this a vehicle that also dispenses with the problem of noise pollution.

The interior is comfortable, the exterior daring and innovative and it's good to know that one is sitting aboard cutting-edge technology.

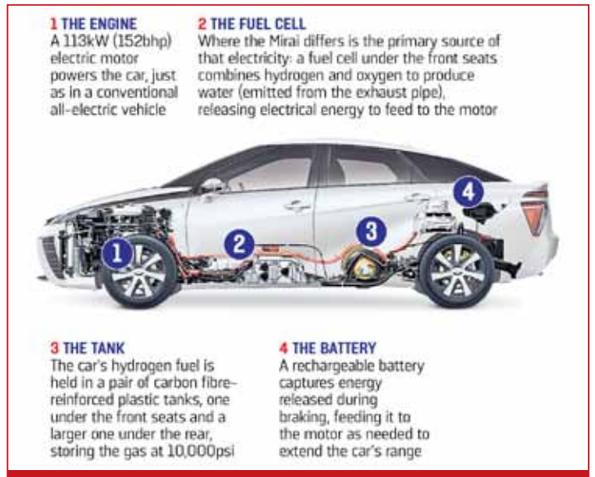
■ How does the future look for South Africa, in terms of adopting hydrogen as an alternative fuel source?

South Africa is at the beginning stages of incorporating hydrogen into a diverse energy mix for the future.

Our Minister of Science Technology recently said that under our hydrogen and fuel cell programme, we have developed novel metal catalysts for fuel cells from the platinum group of metals.

This is a great achievement in terms of beneficiating our natural resources, but we still have a long way to go, and this was part of the reason we wanted to investigate the Japanese experience.

We are looking forward to partnership with Japan in this area, but we are also mindful that even in Japan, the Mirai fuel cell technology project was



Structure of Toyota FCV 'Mirai'

on the drawing boards for 20 years before the first vehicle made it's appearance, so we have to prepare ourselves for a long haul.

Fuel cells have application beyond the automotive sector and as we develop skills and promote science and technology at all levels of our education system, we will become more knowledgeable and confident in this area. Hopefully, we won't just learn or import from our partners, but we will also innovate and invent, and produce new solutions for our continent and the global market.

■ Based on your experience with the Mirai, would government consider hydrogen vehicles for their fleet?

In a sense, this is similar to asking us in 1994 if government would consider using cellphones or wi-fi in the future. Technology is shifting constantly and brings us new opportunities – and challenges – all the time.

We are a technology-savvy government with a clear commitment to preserving our environmental integrity as we industrialise and modernise our economy. Right now, government is setting a clear example to the nation in terms of saving electricity in government office buildings and other amenities.

Based on this, I am sure hydrogen vehicles or hybrids will progressively find their way into public sector fleets, as they should in all fleets in our economy.

■ How soon would we see infrastructure being laid to support hydrogen vehicles in South Africa?

It is hard to state a timeline. This technology is expensive and, most importantly, the technology and infrastructure can only succeed if we have the necessary skills to develop, manage and maintain such infrastructure.

At the same time, we are a very responsive society who adopt new technologies with ease and our educational institutions are increasingly gearing themselves to serve the needs of our economy. Also, the turnover rate in technology development is speeding up at an amazing rate, which means that we may not need to wait 20 years – as Japan did as an innovator – before the Mirai or its potential competitors appear on our streets.

Whatever the timeline may be, it presents exciting opportunities for our economy, and it should inspire learners in our schools and students in our universities of technologies and other institutions of higher learning to be a part of this revolution.

Deputy President meets future industry leaders from South Africa

During his visit to Japan, the Deputy President shared experiences in Japan with South African students studying in Japan under the Master's Degree and Internship Program of African Business Education Initiative for Youth (ABE Initiative). The ABE Initiative programme launched in 2014 as one of achievements of TICAD V 2013.

The ABE Initiative aims to develop effective skills in order for them to contribute to various fields. Beyond the acquisition of skills and knowledge, this program also intends to cultivate excellent personnel, who can recognize and understand the contexts of Japanese society and systems of Japanese enterprises. The expected outcome of the program is a network of potential contributors to the development of African industries, who will also lead Japanese businesses to engage further in economic activities in Africa.

Currently, a group of 16 and 32 South African students are enhancing their academic specialty, selected in 2014 and 2015, respectively. It is expected that more South African students will receive the benefits of learning experiences in Japan.

With SA students studying at universities in Japan unde the ABE Initiative

In the Mirai courtesy of Sunday Times Motoring

Topics 05 H2FC

HYDROGEN ECONOMY VISIT
水素社会テクニカルチーム訪日
24-27 August 2015
26 February - 03 March 2017

HYDROGEN & FUEL CELL

Hydrogen Fuel Cell Technologies (HFCT) is a major contender in the market for cleaner and more environmentally friendly energy. In the bid to develop a global oil-independent industry and society, Japan has already started to create a 'hydrogen economy', an economy that runs on hydrogen fuel. Hydrogen fuel is a particularly attractive innovation in the energy sector because it is more efficient and cleaner than fossil-fuel. The bi-product from burning hydrogen is water.

Research in this field was accelerated in the wake of the 2011 disaster at the Fukushima nuclear power plant.

Japan is now the world leader in the HFCT field. It holds the largest share of patents in this field. However, Japan has a limited supply of natural resources, specifically platinum, for the manufacturing of HFCT products.

Platinum is a key catalytic material used in HFCT. South Africa has a significant competitive advantage in developing HFCT, as South Africa's platinum mining industry has 75% of the world's reserves.

Both governments have realised that collaboration in this field will be mutually beneficial for both of their industries. The development stages, however, are at different levels.

■ SOUTH AFRICA'S HYDROGEN ECONOMY

Though still in its infancy, South Africa's foray into the HFCT field is yielding positive results. 'The commitment to energy security is identified as one of the five priority areas or "grand challenges" in the Department of Science and Technology's (DST) Ten-Year Innovation Plan (TYIP),' said Pandor. In terms of developing policies, the Cabinet has approved the establishment of Hydrogen South Africa (HySA), which was launched in 2008. HySA is the result of the National Hydrogen and Fuel Cell Technologies Research, Development, and Innovation strategy. The strategy aims to drive and optimise local benefits from supplying high value-added hydrogen products to the potentially increasing international markets. The local benefits to South Africa include economic growth through job creation, skills development, and human resources capital.

Three Centres of Competence (CoC) were established by the DST to implement the HySA strategy, which aims to attain the goal of supplying 25% of the global platinum group metals-based (PGM) catalyst demand by 2020.

The three CoCs are:

- HySA Systems CoC on hydrogen systems integration and technology validation. This is hosted by the University of the Western Cape (UWC)
- HySA Catalysis CoC on hydrogen catalysis. This is hosted by the University of Cape Town (UCT) and MINTEK
- HySA Infrastructure CoC on hydrogen generation, storage, and distribution. This is hosted by North West University (NWU) and the Council for Scientific and Industrial Research (CSIR).

Through these CoCs, there have been various potential products that have been identified and developed. These include portable power sources, which are cleaner and quieter than fossil-fuelled generators; combined heating and power (CHP) fuel cells for heating and powering buildings and industries; and fuel cell powered vehicles. The CHP units and vehicles that utilise HFCT are already on the market in Japan with about 120 000 CHP units installed in the residential sector, and the first commercial fuel cell vehicle - the Mirai - was unveiled in 2014.

There have been some developments in the deployment of fuel cells in South Africa. These are, to name a few:

- The Minister Pandor launched a 3x5 kW hydrogen fuel cell at three schools in the Cofimvaba district, Eastern Cape. This was part of the Technology for Rural Education (TECH4RED) Programme.
- HySA Systems installed a 2.5 kW hydrogen fuel cell generator at the UWC Nature Reserve to provide lighting.
- There are 34 homes in the Naledi Trust village in Kroonstad, Free State, that have been fitted with 3x5 kW methanol based fuel cells. These were installed through collaboration between Ballard Power Systems and Anglo American Platinum.

"Issues around the infrastructure required for the storage and distribution of hydrogen also need to be resolved before the technology can be scaled up and commercialised," said the Minister Pandor. Compressed hydrogen seems to be the most feasible method of distributing hydrogen, but the high pressure required for cost effective distribution is a concern from both an energy input and safety perspective.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■ Japan's Hydrogen Economy

"South Africa draws inspiration from Japan's vision of becoming a carbon-neutral, hydrogen-fuelled society by 2040" said Science and Technology Minister Naledi Pandor, in her keynote address at the Symposium on Hydrogen Economy between South Africa and Japan in 2015.

Not only is Japan leading in terms of technological developments, it is also at the global forefront of policy favouring fuel cells and hydrogen. In 2014, the Japanese government released its updated fuel and hydrogen roadmap. The roadmap consists of three long-term phases of development:

- Phase one was launched in 2014. In this phase the Japanese government is targeting residential areas and the automotive industry. They are anticipating an increase in the number of residential fuel cells to rise to 1.4 million in 2020 and 5.3 million in 2030. The number of hydrogen refuelling stations is expected to reach 100 by 2015. Also, fuel cell buses are expected to be launched by 2016. Additionally, the government will be supporting the introduction of fuel cell vehicles with a 2 million Yen (R290 908) subsidy.
- Phase two will be launched in 2025. The main target in this phase is the acquisition of commodity hydrogen from abroad. Japan is also looking to manufacture, transport, and store hydrogen in foreign countries.
- Phase three, which will start in 2040, will focus on establishing a full-scale, carbon-free hydrogen supply system through the development of a national zero carbon hydrogen network, and the securing of zero carbon hydrogen supplies from abroad.

① with Toyota's IPR and R&D Team
@ Toyota City, Aichi

② Chiyoda's SPERA Hydrogen Generation Facility
@ Yokohama City, Kanagawa

③ Mitsui Kinzoku's Functional Material R&D Centre
@ Ageo City, Saitama

④ Honda's Smart Hydrogen Station
@ Saitama City, Saitama

South Africa – Japan Symposium on Hydrogen Society 2015

日本・南アフリカ 水素社会シンポジウム ２０１５

Embassy of the Republic of South Africa
Tokyo, JAPAN
在日南アフリカ共和国大使館

South Africa
Inspiring new ways

South Africa / Japan Symposium on Hydrogen Society

08:30 –	Registration
09:00 – 09:05	Welcome by *Dr Velaphi Msimang*, Mistra
09:05 – 09:20	Keynote Address by Minister of Science and Technology, *H.E. Mrs Grace Naledi Pandor*
09:20 – 09:30	Opening Remarks by Ministry of Economy, Trade and Industry *Mr Masashi Hoshino*
Presentations (09:30 – 11:45)	
09:30 – 09:45	"Activities Towards a Hydrogen Society – Past and Future" *Mr Eiji Ohira*, New Energy and Industrial Technology Development Organisation (NEDO)
09:45 – 10:00	"Activities for Commercialisation" *Mr Tetsufumi Ikeda*, Research Association of Hydrogen Supply Utilisation Technology (HySUT)
10:00 – 10:15	"Latest Challenge of Electrocatalyst" *Mr Fumiaki Ogura*, Tanaka Kikinzoku Kogyo K.K.
10:15 – 10:30	"Energy Carrier" from the Cross-Ministerial Strategic Innovation Promotion Programme (SIP) *Dr Shigeru Muraki*, Tokyo Gas
10:30 – 10:45	Break ~ Break ~ Break
10:45 – 11:00	"Strategic Role of South Africa's PGM's in the Hydrogen Society" *Mr Alfred Tau*, Department of Trade and Industry
11:00 – 11:15	"HySA: A National Initiative towards a Knowledge Economy" *Dr Cosmas Chiteme*, Department of Science and Technology
11:15 – 11:30	"Fuel Cell Research & Technology Development within HySA" *Dr Cordellia Sita*, Hydrogen South Africa (HySA)
Discussion (11:35 – 12:35)	
11:35 – 12:35	How can South Africa and Japan create platforms for collaboration with regards Hydrogen Society? Discussion by all presenters and participants
12:35 – 12:40	Closing Remarks by *Mr Jun Shiomitsu*, Ideologie
12:40 – 12:50	Group Photo
12:50 – 14:00	Lunch Reception

On 25 August 2015, Japanese and South African delegates met at the symposium in Tokyo to exchange ideas and opinions. Science and Technology Minister Naledi Pandor said there was a global movement towards developing sustainable energy systems and reducing greenhouse gas emissions. "For this reason, the use of hydrogen as an energy carrier, combined with fuel cell technology, has attracted considerable interest from governments, international bodies, and commercial companies worldwide."

"This creates an opportunity for local energy storage that could play a significant role in on-grid and off-grid applications. In this regard, energy is the critical area that needs to be consolidated and strengthened in terms of security of supply and access, as well as for environmental protection," said Minister Pandor.

South Africa needed to reduce its dependence on imported oil and increase the percentage of alternative energy sources in the system. For broad-based economic development to take place in the country, access to affordable, safe, clean, and reliable energy is crucial.

South Africa – SIP Workshop on Solar to Hydrogen 2017

ＳＩＰ・南アフリカ　太陽熱利用水素製造ワークショップ

A joint workshop on "Solar to Hydrogen" was held between South Africa and the The Cross-ministerial Strategic Innovation Promotion Program (SIP) Energy Carrier Programme from Japan on 27 February 2017. The purpose of this full-day workshop was to exchange technical information on research activities and possible collaborative areas between South Africa and Japan.

Hydrogen is the most abundant element in the universe. As an energy carrier, it can be a zero-emission fuel from creation to consumption. South Africa has an abundance of solar radiation which could be used to produce hydrogen gas. Currently, the infrastructure does not exist to produce and store clean hydrogen at large scale, making it too expensive to be a viable option. With Japan's commitment to integrate hydrogen as a key fuel, there is a growing demand and political will to develop commercial-scale hydrogen infrastructure, which provides an opportunity for collaboration between the two countries.

Workshop on

"Solar to Hydrogen"

Between South Africa and SIP Energy Carriers-Japan
27 February 2017

PLENARY SESSION

10:30-10:35	**Welcoming Remarks** Ms. Eudy Mabuza Minister Counsellor : Science & Technology
Moderator:	Dr. Kenichi Aika Program Sub-director, SIP Energy Carrier Program
10:35-10:45	**Opening Remarks** Mr. Eizo Matsumoto Deputy Director General, Science, Technology and Innovation, Cabinet Office
10:45-10:55	**Opening Remarks** Mr. Mmboneni Muofhe Deputy Director-General: Technology Innovation Department of Science and Technology (DST)

KEYNOTE ADDRESS

10:55-11:25	**R&D on Hydrogen and Energy Carriers in Japan** Mr. Shigeru Muraki Program Director, SIP Energy Carrier Program
11:25-11:55	**Energy RDI activities in the Republic of South Africa** Dr. Rebecca Maserumule Chief Director: Hydrogen and Energy Department of Science and Technology (DST)

TECHNICAL SESSION

11:55-13:00	**Lunch Meeting (at each group)**
13:00-14:30	**SOLAR THERMAL ENERGY**
15:00-16:30	**HYDROGEN PRODUCTION**

■ South Africa and Japan – the way forward

Considering Japan's goal of establishing a foreign hydrogen network, South Africa and Japan stand to gain through this partnership: Japan providing the skills, knowledge, and experience, and South Africa providing the resources and developing workforce. Engagement with Japan will therefore focus on:

- catalyst development
- materials for hydrogen storage
- fuel reforming
- hydrogen safety
- infrastructure
- renewable hydrogen production

In closing her keynote address, the Minister of Science and Technology said of the South Africa-Japan collaboration: "Against this background, South Africa is very interested to learn more and find ways in which the two countries can collaborate regarding the support and deployment of emerging technologies."

Fukushima Renewable Energy Institute (FREA) was established in 2014 to promote renewable energy research and development in the wake of the March 11 'triple disaster' (earthquake, tsunami and nuclear meltdown) that took place in Fukushima.

Honda's Smart Hydrogen Station (SHS) is a compact hydrogen refilling station with self-hydrogen generator from solar, biomass or other renewable energy. In a time of disaster, this SHS can provide electricity to community through the power unit in their fuel cell vehicle.

SCIENCE AGORA
サイエンスアゴラ

14-15 November 2015
03-06 November 2016
Miraikan, Tokyo

Above: Ministers Counsellor with JST and Euroscience at our booth
Bottom: Kids built the Meerkat paper craft

Ambassador Pheko addressed the past and the future of Science Agora at the Agora Closing Session

The South Afriacn Embassy in Tokyo, through the Science and Technology Office, participated for the second time-around at the Science Agora 2015. Science

Agora is a public square where people can interact through science. It is a multi-event where the public can all enjoy, share, and talk about what is interesting about science, what they are curious about, and its future throughout experiment classes, shows, talk, sessions, and more.

The aim of the Science Agora event is to link science and society through science communication. The word ‘agora’ is Greek for ‘gathering place’, and therefore the Japan Science and Technology Agency (JST) invites the Japanese public, researchers, media, industries, policymakers, and any other stakeholders to ‘gather in one place to have a conversation about science’.

South Africa was the first country to participate in 2014 by exhibiting South Africa’s science under the theme 'The Living Laboratory'. We observed interest from other countries like the European Union, United States, and Israel who participated for the first time in the 2015 Science Agora. Ambassador Mohau Pheko represented South Africa as a participant at the Keynote address titled: ‘Open Science: How science is socialized in each country and region?’ and at the Closing Plenary session.

Through the collaboration with Science Agora, cooperation between South Africa and Japan in science communication has been elevated. Furthermore, after the Science Agora, the JST reciprocated South Africa's participation by attending the Science Forum, which was held on 8 and 9 December 2015 in South Africa.

The Embassy and the South African Agency for Science and Technolgoy Advancement (SAASTA) jointly participated at the Science Agora 2016 from 03 to 06 November 2016.

This year with the themes were:

(1) new medical care, food, and life that will be created by advanced science

(2) collaboration between education, culture, art and sports, and science

(3) the future role of science, looking at lessons learnt from the 11 March, the tripple disaster reconstruction.

This year's Science Agora attracted over 9,000 people over the period of four days.

SAASTA recieved the Japan Student Services Organization (JASSO) Tokyo International Exchange Award.

Topics 07

JASSO

JASSO STUDY ABROAD FAIR
留学フェア

27 June 2015, Tokyo International Exchange Centre
25 June 2016, UDx Akihabara

Can South Africa be one of destinations for Japanese students for their study abroad experiences?

Above: Seminr by Minister Counsellor
Bottom: Counselling at the booth 2016, UDX Akihabara

The Embassy encouraged Japanese students to go outside Japan, especially to the "*living laboratory*" and "*rainbow*" nation — South Africa. The government of Japan has been encouraging the youth of Japan to go aboard. It has, therefore, established a scholarship programme named *Tobitate! Study Abroad from Japan*, in collaboration with the industry since 2013.

For many Japanese, the popular destinations to study abroad are the United States, United Kingdom, Canada, Australia, and New Zealand. The Science and Technology Office therefore participates every year at the JASSO Study Abroad Fair in order to promote South Africa as a preferred destination since South Africa is also an English-speaking country that provides high-level university courses. The JASSO's Study Abroad Fair is a great opportunity for the Office to meet new stakeholders, especially teens and their parents, and learn more about their concerns and interests in South Africa as a destination.

日本学生支援機構（JASSO）が主催する留学フェアに参加しました。４度目の出展となる今年は通年のブースでの説明だけでなく、南アフリカ留学セミナーを開催したり、南アフリカへの留学経験者による体験談ブースを用意するなど、留学先としての南アフリカをプロモーションしました。この留学フェア以外にも、留学先として南アフリカの知名度を向上させるため、また海外姉妹校制度を利用した交換留学も含めての南アフリカへの留学者数を増やすべく年間を通じて活動しました。

Topics 08

TICAD

STI WORKSHOP: TICAD VI
科学技術イノベーションセッション
第６回 アフリカ開発会議 in ケニア
25 August 2016, Kenya

In 1993, Japan launched its Tokyo International Conference on African Development (TICAD). The 2016 Summit was hosted by the Japanese Prime Minister Shinzo Abe where Japan invited all Heads of States from the African continent and engaged on African issues and areas for collaboration between Africa and Japan. Last year, the first TICAD took place on African soil. This was a highlight for Japan and the African continent at large. The TICAD model, based on the principles of African ownership and international partnership, has since been echoed by various other forums and has even become the philosophical foundation of the New Partnership for Africa's Development (NEPAD).

The Science and Technology in Society (STS) forum provided a wider platform as an official side event to gain insights and thoughts of the government, academia, and business leaders of African countries and Japan for ways in which bilateral and multilateral cooperation in science, technology, and innovation could be strengthened. The event was graced with high-powered speakers such as Prime Minister Shinzo Abe, Minister Naledi Pandor from South Africa, the Presidents of the African Development Bank (AfDB), funding agencies, and Presidents from several universities and multinational companies from Japan.

Japan's Primie Minister Shinzo Abe delivered openig remarks on this session

The event provided policy statements on the 'Future Horizon of Research and Innovation Cooperation between Japan and African countries' and 'Fostering Future Human Potentials in Science, Technology and Innovation as basis for economic leap and sustainable development for us all'. The event was co-hosted by the Departments of Science and Technology from South Africa, Ministry of Education, Science and Technology from Kenya, and Ministry of Education, Culture, Sports, Science and Technology from Japan.

During Prime Minister Abe's speech, he emphasized "the important role that science and technology played in the history of Japan's modernisation" and expressed his conviction that "science and technology are now literally brining quantum leaps to Africa's development". He concluded by mentioning that Japan is happy to share its hard-won experience of making their Land of the Rising Sun an economic reality.

Right: Pandor S&T Minister co-hosted this STI workshop with the STS Froum
Bottom: Participants of the Workshop Sesion

Topics 09 VISITORS FROM SA

SANSA Trainees
衛星活用技術習得

31 August 2015

Trainees from the South African National Space Agency (SANSA), Eskom, and Council for GeoScience attended a training workshop on how to analyze the data from ALOS 2 for remote sensing purposes. Seminars and workshops were held at the Japan Aerospace Exploration Agency (JAXA), Remote Sensing Technology Centre of Japan (RESTEC), and Japan's leading universities.

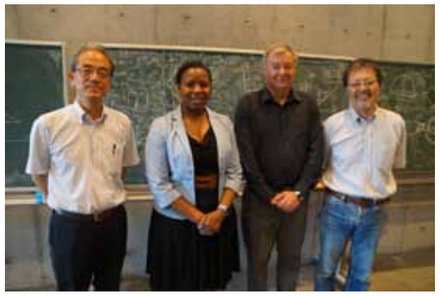
ABE Initiative
若手アフリカ人のための産業人材育成

16 September 2015

83 young South Africans are currently attending graduate schools in Japan under the African Business Education Initiative for Youth (ABE) launched by Prime Minister of Japan, Shinzo Abe, during the TICAD V in 2013. The scholarship will also provide the students with the opportunity to do internships at Japanese companies.

NITheP
理論物理学研究所

04-05 August 2016



Professor Frederik Scholtz, the Director at South Africa's National Institute for Theoretical Physics (NITheP), visited the High Energy Accelerator Research Organization (KEK), the Kavli Institute for the Physics and Mathematics of the Universe (Kavli IPMU) and the Institute for Solid State Physics (ISSP) of the University of Tokyo, and Keio University to explore collaboration possibilities in August 2016.

Global Knowledge Partnership
若手アフリカ人のためのキャリア形成プログラム

20 November 2016

South African post-graduate students in Japan gave their reviews of their programme to Dr Luthando Dziba from the Council for Scientific and Industrial Research (CSIR). The South African students are Mr Makondo (doctoral course in robotics at Tokyo Institute of Technology), Ms Nkablnde (ABE Initiative at Tokyo University of Marine Science and Technology), and Ms Manosa (ABE Initiative at Toyo University).

HITACHI-DST Scholarship
日立製作所 - 科学技術省 技術者養成プログラム

16 November 2015

The partnership between the Department of Science and Technology (DST) and Hitachi supports to nurture young South African engineers. In 2015, Mr Buthelezi (Ethekwini Municipality), Mr. Drummond (Ethekwini Municipality), Ms. Dunstan (City of Cape Town), Ms. Maduray (Umgeni Water), and Ms. Mzamane (Ethekwini Municipality) were taught abouth Hitachi's water treatment technology and water treatment facilities in Japan.

SATREPS: Micro Algae
藻利用によるバイオエネルギー産業創出

20 November 2015

Nagoya University and the Durban University of Technology (DUT) started a new joint research and development project titled the "*Production of Biofuels Using Algal Biomass*" under Science and Technology Research Partnership for Sustainable Development (SATREPS) by JICA and JST. South Africa's researchers visited Nagoya University, Tokyo University of Agriculture and Technology, and Hitachi in order to finalise the focus on the joint project.

SATREPS: IDEWS
気候予測モデルを用いた感染症早期警戒システム

24 November 2016

The 'Establishment of an Early-warning System for Infectious Diseases in Southern African Incorporating Climate Prediction (IDEWS)' is developing an infectious disease outbreak prediction model that incorporates the influences of a variety of environmental factors into the climate change models in order to predict the outbreaks of malaria, pneumonia, and diarrheal diseases such as cholera that are predominantly affected by climate conditions.

HITACHI-DST Scholarship
日立製作所 - 科学技術省 技術者養成プログラム

28 November 2016

In 2016, Ms. Goliath (City of Cape Town), Mr. Gqweta (Amathole District Municipality), Ms. Joseph (Ethekwini Municipality), Mr. Maneli (East Rand Water Care Company), and Ms. Molatodi (Umgeni Water) learnt about Hitachi's water treatment technology in their treatment facilities in Japan. The Department of Science and Technology (DST) and Hitachi have provided South Africa's young engineers training opportunities in Japan since 2009.

Embassy of the Republic of South Africa
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S&T Office Activity Report 2015-17

▲ National Day Reception 2015

▼ National Day Reception 2016

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