ARUA Centre of Excellence: Energy

Secretariat
Stellenbosch University
ARUA – What is it?

• ARUA – African Research Universities Alliance
• Network of 16 research-focused, African Universities
• Established 2015

• **Goal:** “...expanding and enhancing significantly the quality of research done in Africa by *African researchers*”

• **Mandate:** “ARUA is intended to develop *local research excellence* through collaboration to find solutions to the *development problems of Africa*”
Mandate

This initiative recognises the fact that partnerships and networking have become essential arrangements for universities throughout the world to leverage their resources for greater impact. There are several examples of universities with similar ideals and complementary endowments working together to achieve greater outcomes, and these include the Russell Group of the United Kingdom. It is a group that brings 24 of the leading UK universities together and they “are committed to maintaining the very best research, an outstanding teaching and learning experience and unrivalled links with business and the public sector”. Like the Russell Group, a major motivation for ARUA is to play a key role in the intellectual life of African countries, be it social, economic or cultural.

ARUA is intended to develop local research excellence through collaboration to find solutions to the development problems of Africa. It is set to become a pan-African network for bringing research and academic excellence to the fore throughout the region by developing strong and viable research universities.
ARUA – What is it?

• 2017 – ARUA launches call for members to host Centres of Excellence (CoE’s)

• 13 CoE’s awarded, 7 in social sciences and 6 in ‘hard’ sciences

• Stellenbosch: CoE in Energy

• CoE’s:
  – (i) Focal points for world class research
  – (ii) Provide postgraduate research training
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<tr>
<th>Region</th>
<th>Institution</th>
<th>Country</th>
<th>CoE</th>
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<tr>
<td>Eastern Africa</td>
<td>Addis Ababa University</td>
<td>Ethiopia</td>
<td>Good Governance; Post-conflict Society</td>
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<td>Makerere University</td>
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<td>Notions of Identity</td>
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<td>South(ern) Africa</td>
<td>Rhodes University</td>
<td>RSA</td>
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<td>University of Cape Town</td>
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<td>University of KwaZulu-Natal</td>
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<td>University of Pretoria</td>
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<td>University Cheikh Anta Diop</td>
<td>Senegal</td>
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<td>University of Lagos</td>
<td>Nigeria</td>
<td>Unemployment &amp; Skills Development; Urbanization and Habitable Cities</td>
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ARUA – What is it useful for?

• Networking and collaboration
• Consortium building for research calls
• Identification of excellent researchers in Africa
• Increased visibility in Africa
• Creates multi-disciplinary platform
• Attract talent

• Enables landing large pots of funding
ARUA – collaborators on projects
ARUA CoE: Energy - Key Objectives

• Integrate **renewable and sustainable energy** into systems that address the food, nutrition and water supply challenges of Africa
  – Practical and implementable solutions

• Intensification of **agriculture, postharvest preservation** and **water-supply** critically dependent on energy
  – Nexus of rural development opportunities

• Improve livelihoods of **smallholder farmers** through improved market access
Perspectives on Agriculture

THIS TINY COUNTRY FEEDS THE WORLD
The Netherlands has become an agricultural giant by showing what the future of farming could look like.
AfDB head calls for agriculture technologies to optimize African farmers' output

10th August 2018 BY: AFRICAN NEWS AGENCY

African farms should be given access to technologies that will enhance production, with evidence from countries such as Nigeria demonstrating that technology coupled with strong government backing are yielding positive results, African Development Bank (AfDB) president Akinwumi Adesina has said.

"Technologies to achieve Africa’s green revolution exist, but are mostly just sitting on the shelves. The challenge is a lack of supportive policies to ensure that they are scaled up to reach millions of farmers,” Adesina said in a recent speech delivered to the Agricultural and Applied Economics Association annual meeting in Washington, DC.
ARUA CoE: Energy

Create **interdisciplinary working groups** of researchers from Africa and elsewhere, to work collaboratively to tackle Africa’s most crucial development challenges.
ARUA CoE: Energy – linking to SDG’s

Sustainable Development Goals

1. No Poverty
2. Zero Hunger
3. Good Health and Well-being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequalities
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace, Justice and Strong Institutions
17. Partnerships for the Goals
ARUA CoE:Energy

Acknowledge the **complexity** of achieving sustainable development, and the **interconnectedness** of different aspects thereof; employ **Water-Energy-Food Nexus** approach.
Can’t eat energy!

Complexity and interactions between SDG’s

Agriculture

- Water
- Nutrients
- Soil
- Technology

Affordable and Clean Energy

Zero Hunger
Existing concepts / projects

• Implementation of anaerobic digestion in smallholder farming systems (EcoAfrica project: RSA, Mozambique, Madagascar)

• Biogas to cooling

• Pyrolysis for energy and (bio)char

• Renewable energy for intensive agricultural systems (e.g. aquaponics)
Funding

• ARUA is not a funder

• **Funding drive** to ensure financial viability
  – Number of proposals submitted/in preparation
Pursue partnerships *worldwide* with a view to locking African researchers into continental and global networks that enable them to achieve global competitiveness, and make meaningful contributions to solving developmental challenges.
ARUA – How can you participate?

• Via CoE (i.e., through some angle on energy in food systems)
• Via other CoE’s (collaborative research)
• Ad-hoc meetings, conferences, workshops etc.
• Best way: come and have coffee
• njgoosen@sun.ac.za; K422 (CRSES)