



**African Materials Research Society**



**Samuel Chigome**  
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**Head of Secretariat and President, AMRS**

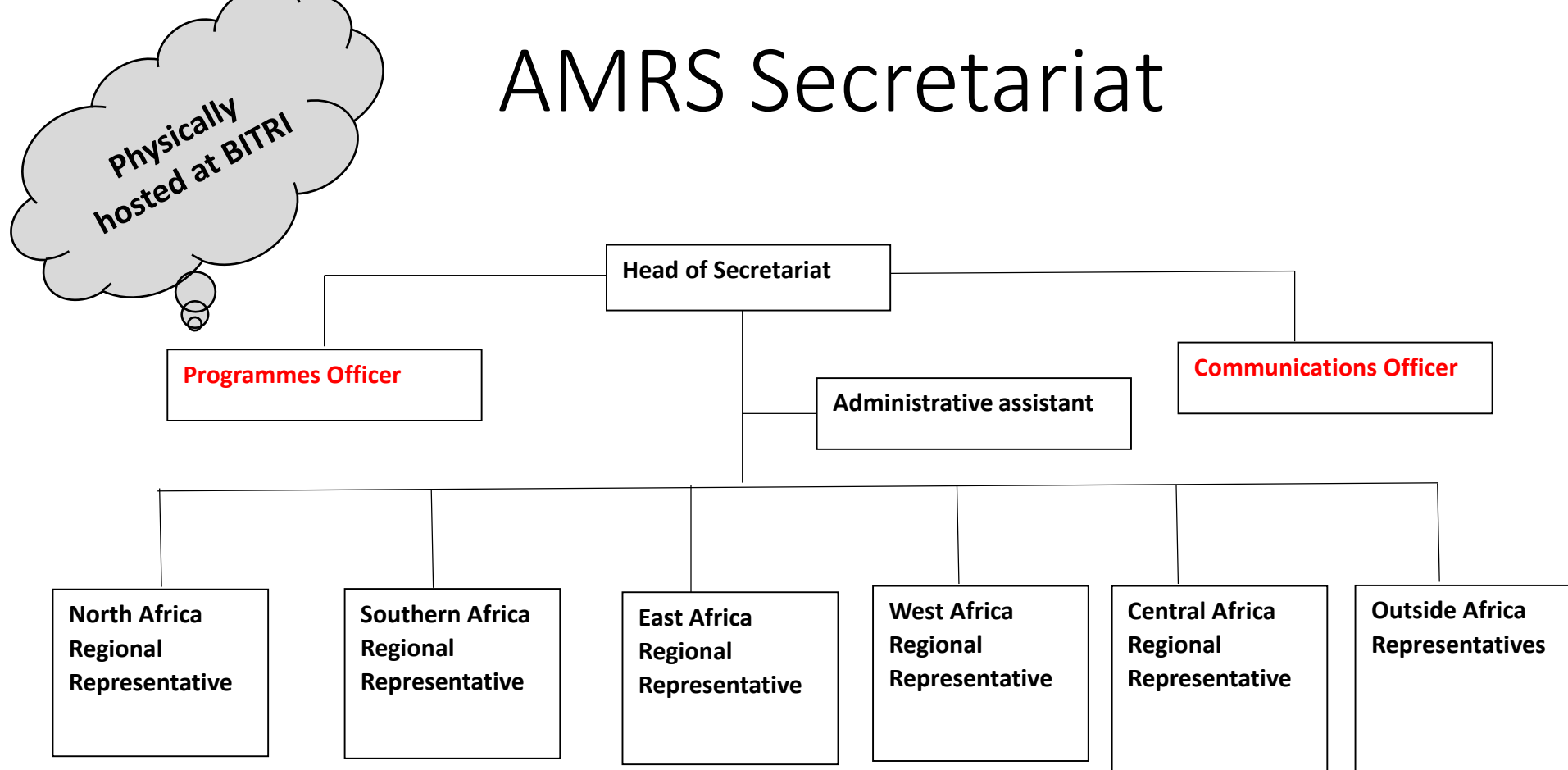


# Main objective

Promote excellence in all aspects of materials research in Africa.



# AMRS Secretariat




## Objectives

1. To ensure involvement and coordinated participation of all 55 countries in the activities of AMRS.
2. To establish a sustainable source of funds for AMRS activities.


<http://africanmrs.net/>




# Biennial AMRS conferences



“SAVE THE DATE”



11<sup>th</sup> International Conference  
of the African Materials Research Society



**AMRS2021**

Preconference workshops: 11 - 12 December 2021  
Main conference: 13 - 16 December 2021  
Dakar - SENEGAL.

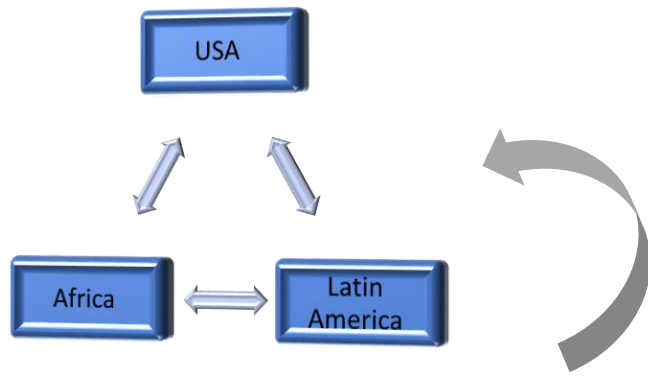
Contact: Prof Balla Diop Ngom  
Email: [balla.ngom@ucad.edu.sn](mailto:balla.ngom@ucad.edu.sn) / Website: <https://africanmrs.net>

- 1<sup>st</sup> - Senegal, 2002
- 2<sup>nd</sup> - South Africa, 2003
- 3<sup>rd</sup> - Morocco, 2005
- 4<sup>th</sup> - Tanzania, 2007
- 5<sup>th</sup> - Nigeria, 2009
- 6<sup>th</sup> - Zimbabwe, 2011
- 7<sup>th</sup> - Ethiopia, 2013
- 8<sup>th</sup> - Ghana, 2015
- 9<sup>th</sup> - Botswana, 2017
- 10<sup>th</sup> – Tanzania, 2019
- **11<sup>th</sup> – Senegal 2021**
- **12<sup>th</sup> – Rwanda 2023**

<https://africanmrs.net/senegal-2021/>



# Collaborations



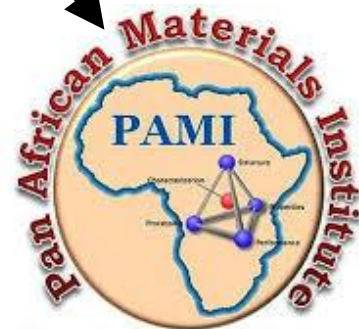
**Integrative Graduate Education and Research Traineeship (IGERT)**  
**Rutgers Energy Institute**

Rutgers Renewable IGERT Graduate Fellowships

**US/AFRICA Materials Institute (USAMI)**



**Funding for Basic Research**



...Materials for African Development  
African University of Science and Technology



# BITRI research areas

**Mandate:** Needs based research leading to product development

## TECHNOLOGIES

1. ICT
2. Electronics
3. Energy

## NATURAL RESOURCES AND MATERIALS

1. **Nanomaterials**
2. Building Materials Science
3. Climate change

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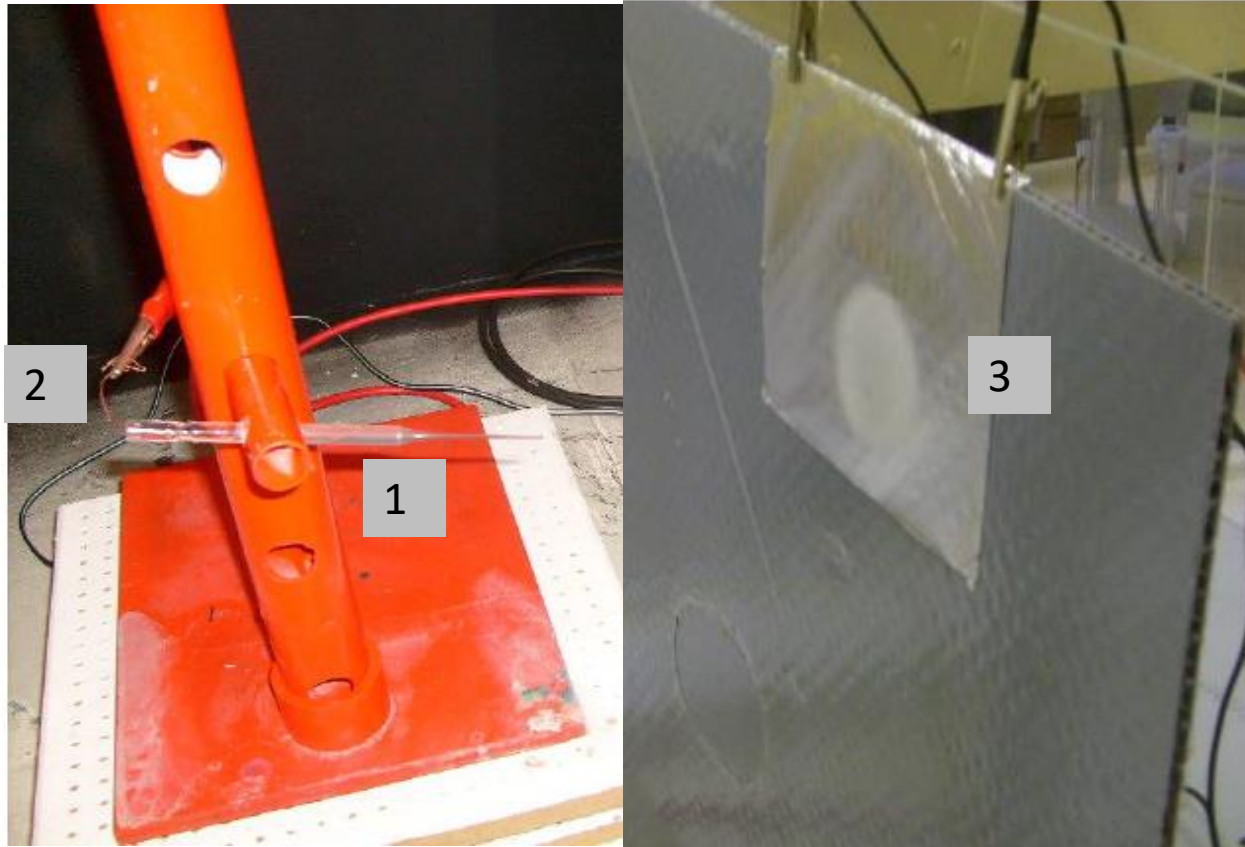


- Instruments Specialists responsible for Centre.
- Funding model for sustaining Centre  
**“RESOURCE CENTRE”**





# Simplest electrospinning set-up

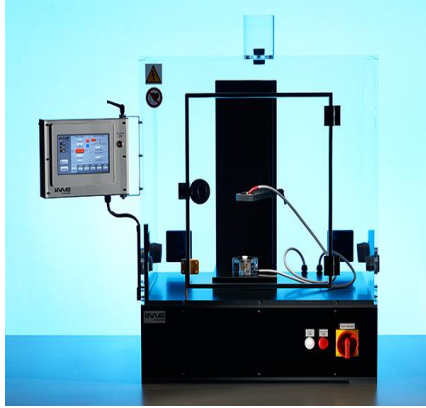


*Chigome et al., Journal of Materials Science, 45: 713-718, 2010*

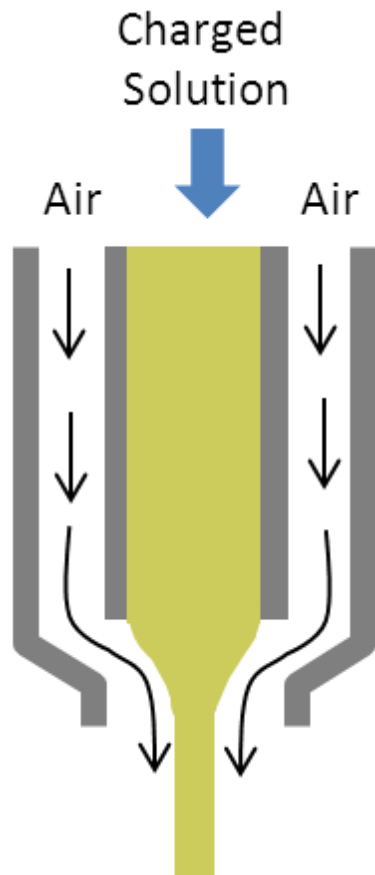
*Chigome et al., International Journal of Polymeric Materials, 59:863–872, 2010*



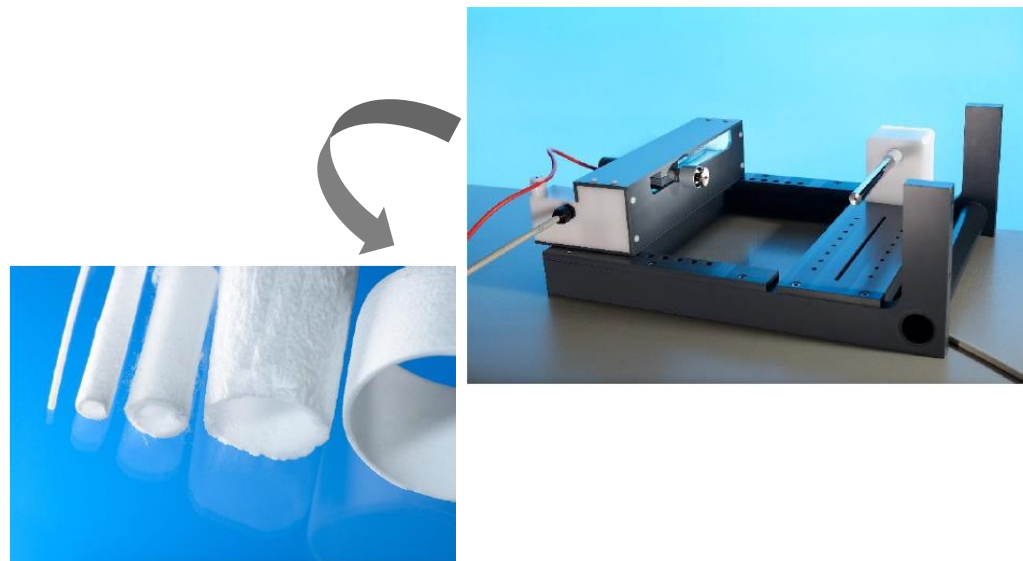
# 5 laboratory scale electrospinning units



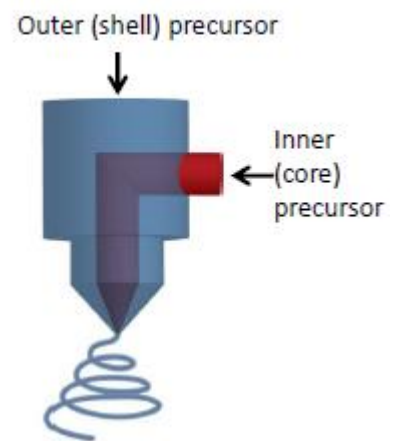
## Electroblowing



## Tubular membranes



## Coaxial mode



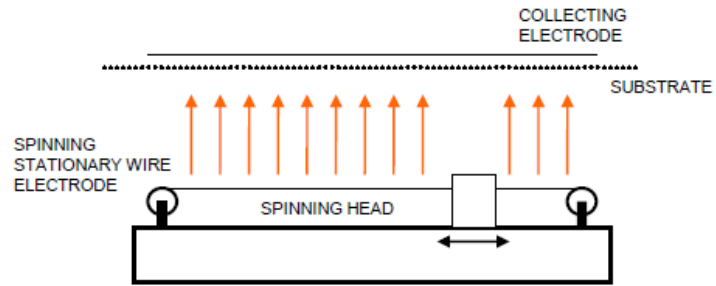
## Real time UV



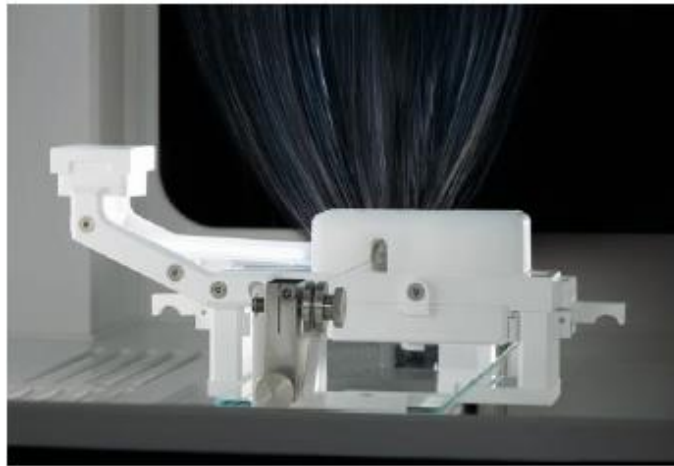
# 2 pilot scale electrospinning units



# Nanofiber membrane fabrication



Needleless electrospinning



Electrospinning head



Nanofiber membrane

# Promoting Electrospinning in Africa



Electrospinning fundamentals



Practical demonstration of the simplest electrospinning set-up



Pilot scale to Industrial Scale Electrospinning

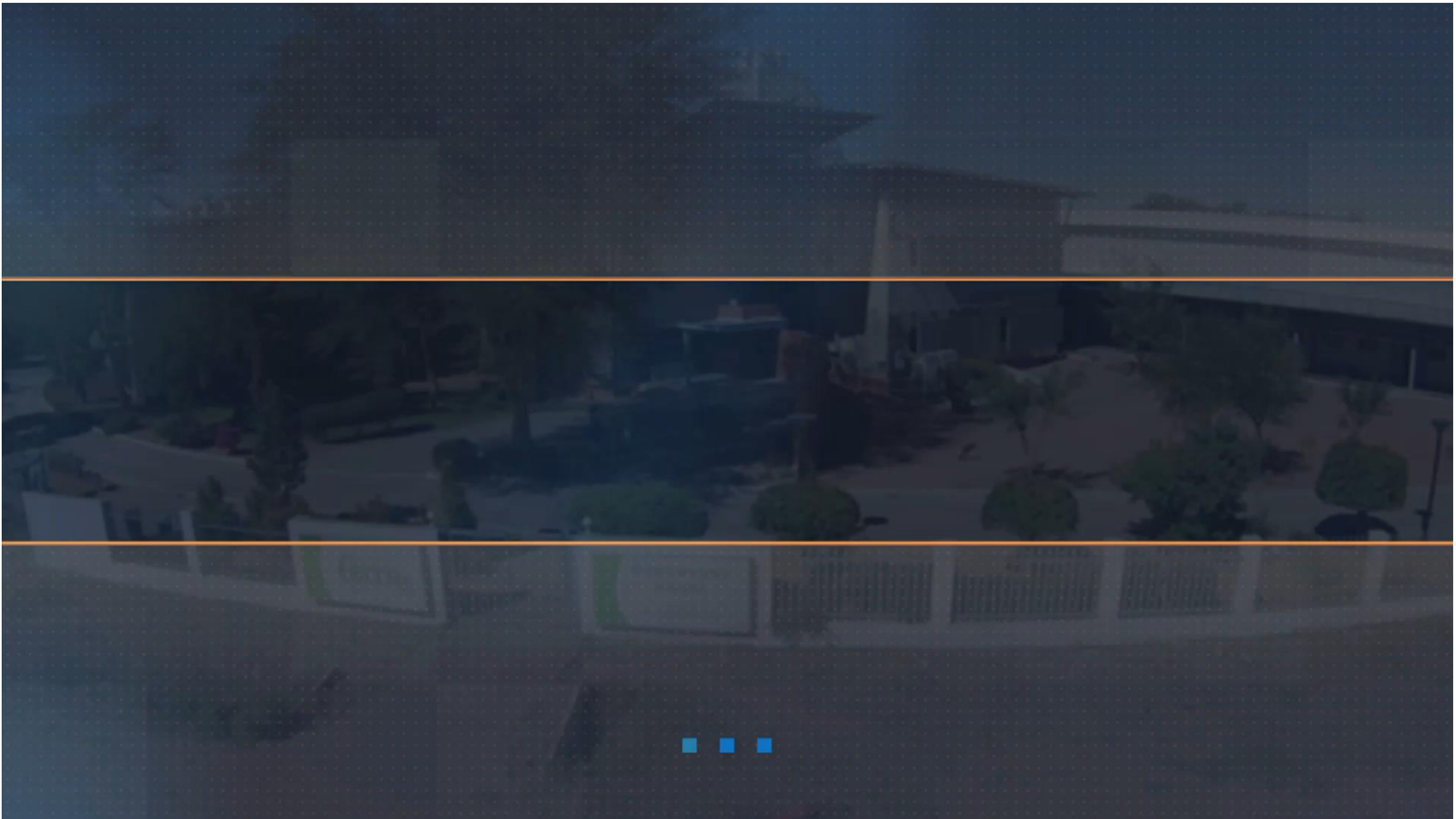


Practical aspects of electrospun fiber based product development



Electrospun fiber based solutions for Africa





# Going forward

1. Biennial conferences
2. Collaborations/Research visits
3. Hands on workshops
4. Theoretical workshops
5. Strategic engagements (Triple helix)



Thank you

