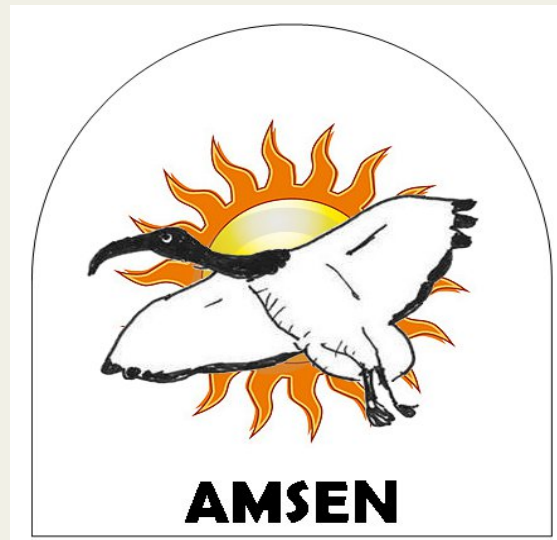
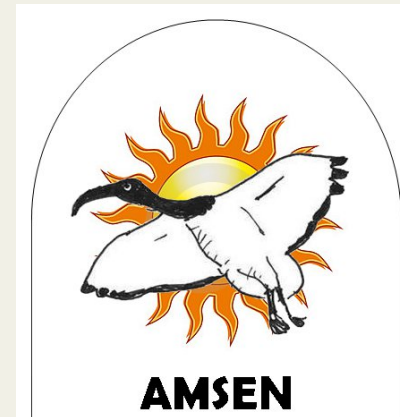
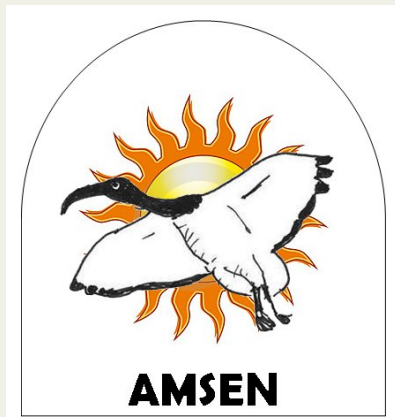


# Update: ups and downs of a RISE network

L.A. Cornish (Director)



So what has AMSEN achieved since  
2009?

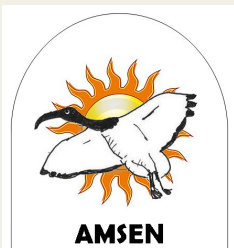




# Students

7 MScs level and 6 PhDs awarded  
Graduates back working in their institutes  
8 PhDs in progress; 3 MSc levels in progress  
More identified





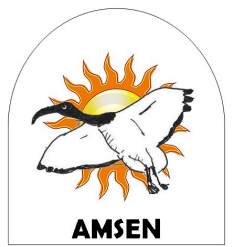
# Students



And.....

We have our 5<sup>th</sup> female student on board!





# Students

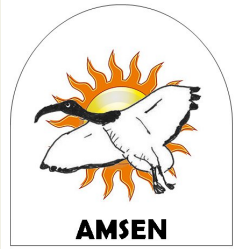
7 MScs level and 6 PhDs awarded  
All AMSEN graduates still in Africa, apart from  
OJ Dada who is undertaking his PhD in Hong Kong!  
8 PhDs in progress; 3 MScs in progress  
More identified



# Students



**1 PhD re-submitted; 1 MSc and 1 PhD awarded**  
7 MScs level and 6 PhDs awarded  
Graduates back working in their institutes  
8 PhDs in progress; 3 MSc levels in progress  
More identified  
**1 PhD still working on corrections**



# Students

4 students did not complete:

Won a prestigious scholarship to study in South Africa

Absconded

Failed proposal

Failed courses after not being accepted on to the research programme

7 MScs level and 6 PhDs awarded

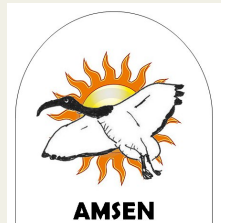
Graduates back working in their institutes

8 PhDs in progress; 3 MSc levels in progress

More identified

# Reasons?

- **Huge variability in student ability**
- **Huge variability in the expected work requirements**







# Personnel....

1 mini post-doc (non AMSEN funds)





# Access to equipment

Access has worked quite well (difficulties in "long access" now at Wits)  
U. Botswana (SEM), Wits (TEM, XRD, DTA)  
Tshwane University of Technology (TUT) (Dr Peter Olubambi)  
Nelson Mandela Metropolitan University (NMMU) and  
National Metrology Institute of South Africa (NMISA)  
have provided facilities to non Node students.





# Access to equipment

Huge problems with electron microscopes in  
Wits had no working SEM for 6 years!

Access has worked quite well (more occasional difficulties in  
long times required now at Wits)

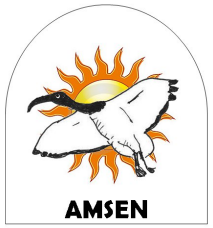
U. Botswana now has no working SEM, TEM XRD since January 2013

U. Botswana (SEM), Wits (TEM, XRD, ETA)  
Tshwane University of Technology (TUT) / Dr Peter Olubambi  
Nelson Mandela Metropolitan University (NMMU) and  
National Metrology Institute of South Africa (NMISA)  
have provided facilities to non NMISA students.

# Access to equipment

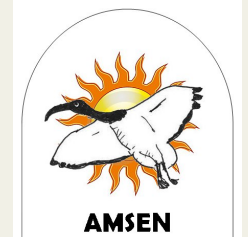


- Another company helping U. Botswana
- Wits now has more X-Ray diffractometers!
- Wits "New" SEMs now working, but restricted to unmounted samples
- Electron back-scatter detector mounted on an 2<sup>nd</sup> hand SEM
- Wits getting an electron micro-probe analyser (EPMA) – May 2014
- Wits Engineering now has its own SEM – pay a small amount



# Publications... at least

16 journals, 33 conferences, 4 conference presentations, 1 provisional patent



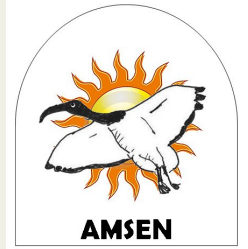


# Publications... at least

1 journal paper rejected; 1 conference nearly rejected; provisional patent "let go"

16 journals, 33 conferences, 4 conference presentations, 1 provisional patent

# Staff development



Several academic promotions, no one leaving?  
Good recognition: awards, fellowships



# Staff development

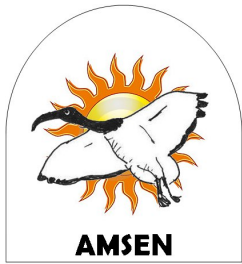
1 academic did not come? 1 moved to South Africa but is still "flying the flag"

Several academic promotions, no one leaving?

Good recognition: awarded fellowships





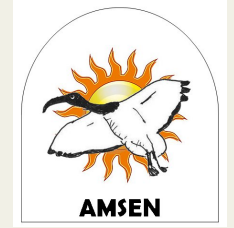


# Legacy so far.....



- Students trained and back in their home institutions (1 in Hong Kong)
- New research
- Network built up → lives on in the students
- Networks larger than 5 original Nodes:
  - + 1 in Kenya; + 1 in Nigeria; + 1 in South Africa
- Recognition! But disappointment when cannot allow other institutions to join

# Bad - tensions



## **Two extremes:**

### **Wits:**

- Pays bursaries
- Pays fees (more expensive)
- Accepted students from 3 other Nodes

### **Some of the other Nodes accept their staff:**

- No bursaries
- No / small fees

## **Location of the Secretariat**

# Sustainability issues...



- Concern regarding funding across borders...
- Each country favours its own...
  - CoE-SM criticised for using AMSEN funds for non-SA students
- South Africa becoming more favorable to funding cross boundaries?
- South Africa expects saleable products more quickly! → ...IP issues....



# Thank you!

A special thanks to the Carnegie-IAS Regional Initiative in Science and Education, African Academy of Sciences (AAS) and Science Initiative Group (SIG)