Biodiversity Informatics Curricula

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In South Africa, as in other parts of the world, Biodiversity Informatics is a young field, lies at the nexus of a number of disciplines.

Being such a new and dynamic field, there are enormous challenges in recruitment and retention of BIM personnel.

This demands broad efforts to build human capital in the field.
Holistic Approach to Capacity Development

**SO1. Grow relevant skills**
- University departments
- Students
- UWC – SANBI MoU
- Postgrad research hub
- Bursaries
- Intern programme
- GreenMatter

**SO2. Build a robust team**
- SANBI BIM staff (SABIF)
- Internal learning sessions
- Training
- Recruitment
- Skills matrix and development plan

**SO3. Improve quality and use of information**
- Data providers
- Data users
- Training
  - Providers: Data mobilisation and fitness for use
  - Users: Website use
  - Modeling

**SO4. Grow an inspired coordinated network**
- Current and potential users and providers
- BIMF
  - User needs analysis
  - Communication and marketing
Research Agenda and Curricula Development

- In order to support a holistic approach to BIM, engagements with Institutions of Higher Learning have been identified as the most strategic intervention towards a longer term solution for more sustainable capacity development.

- A partnership with the UWC-SANBI has been formed to further develop a post-graduate research hub in Biodiversity Information Management, to drive towards the establishment of a Southern Africa Centre of Excellence in Biodiversity Informatics.

- A conceptual Framework and 5 year research strategy for advancing the field of biodiversity informatics is being developed. This includes an Honours curricula and the identification of key research questions or areas.

- The work on the curriculum includes reviewing the Biodiversity Information Management (BIM) elements which exist as part of the existing UWC course contents, and proposing an extended BIM curriculum as part of the BCB Honours Course (Some international review).
Process towards a Centre for Biodiversity Information Management

2007: Start of national engagements

2008-2011: BIMF strengthening the idea of building capacity
2009: A skills profile for Biodiversity Information Management was developed

2010: Recommendation from DST to look at dev of a Centre for BIM
2012: Biodiversity Informatics listed as a scarce skill

2012: Secured funding for engaging with UWC
2012: Secured funding for two post-doc students

2013: Curricula development and research Agenda workshop
2013: Funding from JRS – training needs for BI
A phased approach towards developing Biodiversity Informatics in SA

Stage 1
Research Hub established with 2 staff members in place
6 week BI Honours module / elective in place and taught
BCB Students actively participate (12 students)

Stage 2
2 Post-doc appointments
Post Doc Research to be conducted
4 Masters students to be appointed and supervised by Postdocs
Further development and implementation of BI curricula at honours level by Postdocs

Stage 3
Collaborative engagements
Rollout of curricula to other universities in South Africa
Increased involvement by other university academics nationally, willing to co-supervise Masters and PhD student projects
Exchange programmes or co-supervision with academics from other countries in Africa
Exchange programmes or co-supervision with leading international academics from other labs internationally

1st Post doc (October 2014), to support the development of a Biodiversity Informatics Research Strategy and to grow the Postgraduate Hub to a Centre of Excellence.

2nd Post doc – start Aug 2015 – Focus on Content and tools
Research Priority Areas

- Marine data
- Medicinal Plants
- Freshwater and wetland biodiversity
- Native and Endemic species
- Agro-biodiversity
- GMO’s
- Invasive alien species

[Images and titles as shown in the diagram]
Details of the curriculum – what should be included in the extended Honours Course
- How do we implement this (Academic Capacity is key)
- Explore partnerships with academics nationally, regionally and internationally
- Funding opportunities to support research capacity
Thank You