

## **PHYLOGENETIC WORKSHOPS FACILITATED BY FABI TEAM MEMBERS AT THE UNIVERSITY OF VENDA**

Three students carrying out research in plant pathology (Lovejoy Tembo, Elelwani Ramabulana and Dinah Maeko) at the University of Venda (UNIVEN) and funded by the Centre of Excellence in Tree Health Biotechnology (CTHB), attended two phylogenetic workshops that were facilitated by FABI staff members at UNIVEN in July and August 2015. The first workshop was facilitated by Prof. Jolanda Roux and a postdoctoral fellow, Dr Alistair McTaggart. During the workshop, the students were introduced to the theory of phylogenetic systematics. This gave them the basis for understanding the analyses that were taught to them in a follow-up workshop.



**Dr Alistair McTaggart facilitating a workshop at UNIVEN**

A follow-up workshop was conducted in August by Dr Martin Coetzee and his PhD student, Quentin Santana. The students were taught how to use various programmes for phylogenetic analyses. Students used sequences generated from fungal DNA collected from indigenous trees from the Tshikundamalema area in Limpopo province.



**Students attending phylogenetic workshop**

During the second workshop, the students learnt how to analyse and edit their DNA chromatographs, to align sequences and construct phylogenetic trees. In addition the students were trained in using online public molecular databases. Using the database, the students could extract DNA sequences for closely related species that were used together with their own sequences in subsequent phylogenetic analyses. They were also taught how to integrate the phylogenetic trees that were produced.



**Quentin Santana assisting participants during the workshop**

One of the preliminary phylogenetic trees showed that seven species belonging to the *Botryosphaeriaceae* are infecting marula fruits and leaves. Among these species, one group

of isolates did not show any relationships to sequences available on GenBank (a public molecular database). It is possible that a new species could be present, and this new species is now being investigated further.