NEW GC-MS SYSTEM IN FABI TO BOOST CHEMICAL ECOLOGY

To strengthen our chemical ecology platform, a new gas chromatography-mass spectrometry (GC-MS) system was installed in FABI. This new system includes an Agilent 7890 gas chromatograph coupled to a 5977B quadrupole mass spectrometer. The system will enhance the analysis capabilities in FABI by providing mass spectral information in the form of fragmentation patterns. These mass fragmentation patterns are like fingerprints that can be used to assign tentative identities to unknown compounds present in natural samples. The system also includes an autosampler, allowing higher analysis throughput.

The new system will be used in both qualitative and quantitative analysis of volatiles and semi-volatile compounds as well as analysis of fatty acids, organic acids, amino acids, sugars and sugar alcohols. This instrument will allow us to get insights into the language used by plants, insects and microbes to communicate with each other and across kingdoms. Apart from revealing fascinating aspects of the basic biology of these organisms, these insights can have powerful applications in pest management by using these volatiles to trap or confuse the insects.

Chemical ecology is a growing field in FABI led by Dr Almuth Hammerbacher, Dr Marc Bouwer (in the photo above) and Prof. Jeremy Allison. A number of other researchers, postdocs and students at FABI, including Prof. Bernard Slippers, Prof. Brenda Wingfield, Dr Gerda Fourie, Dr Kennedy Ugozozie, Quentin Guignard, Christoff Joubert and Luki-Marie Scheepers are linked to the programme.