



## Bio-Energy

11- 16 September 2017

Sustainability Institute, Lynedoch, Stellenbosch

### Synopsis

The course will consider the practical and commercial application of the various technologies for biomass conversion into bio-energy. The production of first and second generation bio-fuels, electricity and heating as the main forms of renewable energy will be covered, with an emphasis on the critical issues of sustainability, energy efficiency and commercial feasibility. The following aspects of bio-energy production will be included:

- Sustainable supply of biomass for bio-energy production
- Electricity production from biomass
- Bio-ethanol production, including substrate preparation, microbial conversion and separations
- Thermo-chemical conversions, including combustion, gasification and pyrolysis, and the use of these for green electricity production
- Biogas production, for example from landfill sites, animal dung and waste water treatment
- Biodiesel production, including process basics, product purification and waste treatment

The selection of the most appropriate technology to combine sustainable biomass supply with energy demands will be a central thread through the course. Sustainability of the value chain for the various biomass sources and conversion technologies, will be an important component of the course. The entire value chain will be considered comprehensively, partly through group work that is a key learning activity in the course.

### Who should attend

Engineers, technologists and technicians active in the energy sector. Government and local authority officials. Architects, planners and developers. Investors.

### Certification

A Certificate of Attendance with an indication of the CPD points and level will be awarded to all participants who attend the full course from Monday morning to Saturday lunchtime.

**No academic credits can be obtained by attending this course.**

### Venue and Time

This course will be presented at the Sustainability Institute, Baden Powell Drive, Lynedoch, and will run Mo-Fri, 11-15 September 2017 from 08:00 to 17:00 and on Saturday 16 September 2017 from 09:00 – 13:00. Directions can be obtained from: [www.sustainabilityinstitute.net](http://www.sustainabilityinstitute.net).

### Travel and Accommodation

Limit accommodation is available at the Sustainability Institute's guesthouse on a full-board basis. This excludes transportation to and from the airport which is for your own account. Please contact the guesthouse at 021 881 3196 or [hospitality.si@sustainabilityinstitute.net](mailto:hospitality.si@sustainabilityinstitute.net) for reservations. The Stellenbosch Information Bureau can be contacted at tel. 021-883 3584 for delegates who want to make their own accommodation arrangements.

### Registration

The course is designed for a restricted number of attendees so as to personalize and maximize the learning experience. Bookings will be taken on a first come first served basis.

### Registration must be done online at :

<http://apps.sun.ac.za/SCD/ApplicationForm.aspx?courseid=2066>

**No registration is final until you have received a confirmation by email from Stellenbosch University.**

**Registrations close on Friday 25 August 2017.**

### Course Fees

- Course fee for the five and a half-day course: R9500
- **Cancellation of enrolment made up to and including Friday, 25 August 2017** will be subject to a 15% handling fee. No refunds will be made after this date; however, substitutions will be accepted. **Attendance without payment will not be permitted.**
- In the case of unforeseen circumstances Stellenbosch University reserves the right to cancel the course, in which case all fees will be reimbursed in full.
- The course fee includes all study material, tea/coffee and lunches.

### Presenters



**Prof Johann Görgens** is a professor at the Department of Process Engineering at Stellenbosch University. He holds a PhD in Biochemical Engineering and has more than 15 years of research experience in biomass processing and bio-energy production, dealing both with technical process development/ optimisation and the commercial viability of various bio-energy options.



**Prof Alan Brent** is a professor in the Department of Industrial Engineering and the associate director of the Centre for Renewable and Sustainable Energy Studies, at Stellenbosch University. He holds a BEng in chemical engineering, a BPhil in sustainable development, a MSc in environmental engineering, a MEng in technology management, and a PhD in engineering management. His interests are the sustainable life cycle management of renewable energy technologies, with an emphasis, over the past five years, on bioenergy value chains.



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