



Contribution ID: 182

Type: **Poster Presentation**

## **An automated temperature control model for a well-mixed biomass reactor**

*Thursday, 14 July 2011 17:00 (2 hours)*

A mathematical model for temperature control in a continuously stirred tank reactor is developed. The strategy used involves a coil immersed in a coolant which proves to provide sufficient heat removal by controlling the coolant flow rate in exponential mode. The approach shows that specific ranges of exponents for the coolant flow rate must be used for the reactor to operate optimally.

**Level (Hons, MSc, <br> &nbsp; PhD, other)?**

PHD

**Consider for a student <br> &nbsp; award (Yes / No)?**

YES

**Would you like to <br> submit a short paper <br> for the Conference <br> Proceedings (Yes / No)?**

YES

**Primary author:** Mr PAGONA, FELIX (PHYSICS DEPARTMENT, UNIVERSITY OF FORT HARE)

**Co-author:** Dr MAKAKA, GOLDEN (PHYSICS DEPARTMENT)

**Presenter:** Mr PAGONA, FELIX (PHYSICS DEPARTMENT, UNIVERSITY OF FORT HARE)

**Session Classification:** Poster2

**Track Classification:** Track F - Applied and Industrial Physics