



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Denklelers • Leading Minds • Dikgopolo tša Dihlatlefi

25 Mei 2011 • 25 May 2011 • 25 Mopitlo 2011

Die Vise-kanselier en Rektor van die Universiteit van Pretoria

Prof Cheryl de la Rey

nooi u vriendelik uit na die vierde lesing in die

UP-EKSPERT LESINGREEKS

21ste EEU WOLKE BO SINTESE VAN ENKELLADING CHEMIESE PROSESSE

aangebied deur prof Thokozani Majoji

Chemiese nywerhede gebruik prosesse wat oorhoofs verdeel word in enkellading en kontinue chemiese prosesse. Enkellading chemiese prosesse word gewoonlik aangetref in die sektore van die chemiese nywerheid wat lae volume hoë toegevoegde waarde produkte vervaardig. Die farmaseutiese- en landbouchemikalieë en 'n paar voedselproduksiefasiliteite val in hierdie kategorie. Daarteenoor is die kontinue bedryf ideaal vir die grootmaat vervaardigingsektor, bv raffinaderye. Oor die jare, het die wêreldwye verhouding van kontinue tot enkellading bedryf op ongeveer 1:3 gebly. Suid-Afrika is geen uitsondering nie.

Tog is die afgelope 10 jaar gekenmerk deur dramatiese veranderinge in die industriële bedryf wat beteken dat enkellading prosesse 'n groter deel van die chemiese bedryf verkry het. Europa is leiers op hierdie gebied, met 'n paar Europese lande wat feitlik geheel en al op enkellading chemiese bedrywigheede staatmaak. Dié verandering is aangehelp deur wisselvallige wêreldmarkte waarvoor kontinue bedrywigheede fundamenteel nie geskik is nie. Daarteenoor is enkellading bedrywigheede ideaal geskik vir sulke situasies. Suid-Afrika het ook 'n bestendige toename in benutting van enkellading chemiese verwerking vir soortgelyke redes beleef. Daar heers egter steeds baie onsekerheid oor enkelladingsprosesse se lewensvatbaarheid en ekonomiese kenmerke as gevolg van probleme eie aan enkelladingsprosesse. Suid-Afrika is een van die min lande in die wêreld waar 'n tipiese Chemiese Ingenieurswese kurrikulum min enkelladingsprosesse bevat. Gevolglik is 'n Suid-Afrikaanse chemiese ingenieur nie voldoende opgelei vir die ontwerp en sintese van sulke prosesse nie. Hierdie aanbieding delf dieper in die uitdagings wat die navorsingsgemeenskap teëkom in die ontwikkeling van enkellading chemiese prosesse.

Die **UP-EKSPERT LESINGREEKS** het ten doel om 'n openbare platform vir akademië van die Universiteit van Pretoria daar te stel waar 'n algemene gehoor kennis kan neem van belangrike ontwikkelings in hul vakgebiede.

Kom neem deel aan UP se nuwe uurlange **EKSPERT LESINGREEKS** en kry so deel aan die Universiteit se uitmuntende navorsing.

Datum: Woensdag 25 Mei 2011
Tyd: 17:00
Plek: Eeufeesgebou, Hatfieldkampus, Prospectstraat, Pretoria
S 25°45'51"E 28°13'51"
RSVP: Voor of op 20 Mei 2011 aan uprsvp3@up.ac.za

The Vice-Chancellor and Principal of the University of Pretoria

Prof Cheryl de la Rey

cordially invites you to attend the fourth lecture in the

UP EXPERT LECTURE SERIES

21st CENTURY CLOUDS ABOVE SYNTHESIS OF BATCH CHEMICAL PROCESSES

presented by Prof Thokozani Majoji

The chemical industry is broadly categorised into batch and continuous chemical processes. Batch chemical processes are usually encountered in the sector of the chemical industry that capitalises in low volume high value added products. The pharmaceuticals, agrochemicals and some food facilities fall in this category. On the other hand continuous operations are ideal for the bulk manufacturing sector, e.g. refineries. Over the years, the global ratio of continuous to batch sector has remained at about 1:3. South Africa is no exception to this.

However, the last 10 years have seen dramatic changes in the industrial landscape, with batch processes gaining more share of the chemical industry. Europe, in particular, has been in the forefront in this regard, with some countries running on virtually 100% batch chemical operations. The change is inspired by volatilities in global markets to which continuous operations are fundamentally not amenable. Batch operations, on the contrary, are best suited for such situations. South Africa has also seen a steady increase in batch chemical processing for similar reasons. However, due to idiosyncrasies only particular to batch chemical processes, these still remain largely misunderstood with serious impact on economy and sustainability. As a matter of fact, South Africa is one of the few countries in the world where a typical Chemical Engineering curriculum is very lean on batch processes. Consequently, a South African chemical engineer is not adequately trained to design or synthesise such operations. The presentation will delve into challenges that face the research community working on synthesis of batch chemical processes.

The **UP EXPERT LECTURE SERIES** provides a public platform for researchers of the University of Pretoria to engage with a general audience on significant developments in their fields of expertise that are likely to have an impact in future.

We invite you to share in UP's 60-minute **EXPERT LECTURE SERIES** and become a beneficiary of UP's research excellence.

Date: Wednesday, 25 May 2011
Time: 17:00
Venue: Centenary Building, Hatfield Campus, Prospect Street, Pretoria
S 25°45'51"E 28°13'51"
RSVP: Before or on 20 May 2011 to uprsvp3@up.ac.za

Motlatšamokhanseliri le Hlogo ya Yunibesithi ya Pretoria

Profesa Cheryl de la Rey

O go laletša ka lethabo go ba gona thutong ya bone

MOLOKOLOKONG WA DITHUTO TŠA BOTSEBI WA UP

PHARELA YA NGWAGAKGOLO WA bo21 GODIMO GA KOPANYO YA MEKGWA YA TŠWELETŠO YA KHEMIKHALE KA MOKGOBO

Polelo ka Profesa Thokozani Majoji

Intasteri ya khemikhale e arolwa ke magoro a magalo a mekgwa ya tšweletšo ka mokgobo le ya go se kgaotše. Mekgwa ya tšweletšo ya khemikhale gantši e dirišwa lekaleng la intasteri ya khemikhale yeo e šomišago monyetla wa ditšweletšo tša go ba le bolomo ya fase le tša boleng bja godimo bja go tlaleletšwa. Dikhemikhale tša go dira dihlare tša kalafo, temo le tše dingwe tša dijo di wela ka legorong le. Ka lehlakoreng le lengwe, ditshepedišo tša go se kgaotše di loketše dinolofatsi tša lekala la botšweletši ka bontši, bjalo ka mahlwekišetšo. Mengwaga ye ka moka, rešio ya lefase ka bophara ya lekala la go se kgaotše e be e dutše e le mo go 1:3. Afrika Borwa ke yengwe ya dinaga tše mmalwanyana lefaseng fao kharikhulamo ya tlwaelo ya bointšineere bja khemikhale e sa tsenelelego kudu go mekgwa ya tšweletšo ka mokgobo. Fela, mengwaga ye e fetilego ye lesome Afrika Borwa e bone diphetogo tše kgolo go intasteri ye mo nageng, ka go itemogela kabo ya go oketšega ya mekgwa ya tšweletšo ka mokgobo mo intastering ya khemikhale. Phetogo e tutuetšwa ke go fetogafetoga ga mebaraka ya lefase ka bophara yeo mo go yona ditshepedišo tša go se kgaotše di sa amogelego ga botse. Polelo e tla sekaseka ditlhohlo tše banyakišiši ba lebanego natšo kopanyong ya mekgwa ya tšweletšo ya khemikhale ka mokgobo.

MOLOKOLOKO WA DITHUTO TŠA BOTSEBI o fa banyakišiši ba Yunibesithi ya Pretoria polatefomo ya go boledišana le batheetši ka kakaretšo mabapi le dikgatelopele tša go bonala ka makaleng a bona a botsebi ao a nago le kgonagalo ya go ba le khuetšo ka moso.

E tla, o kgaathe tema ka gare ga **MOLOKOLOKO WA DITHUTO TŠA BOTSEBI** wa metsotso ye 60 wa UP gomme o be moholegi wa bothakga bja UP dinyakišišong.

Tšatšikgwedi: Laboraro, 25 Mopitlo 2011
Nako: 17:00
Lefelo: Centenary Building, Hatfield Campus, Prospect Street, Pretoria
S 25°45'51"E 28°13'51"
Phetolo: Pele ga goba ka di 20 Mopitlo 2011 go uprsvp3@up.ac.za

