



Volume 203 , issue 1, 25 October 2010

ISSN 0032-5910

# POWDER TECHNOLOGY

**AN INTERNATIONAL JOURNAL ON THE SCIENCE AND  
TECHNOLOGY OF WET AND DRY PARTICULATE SYSTEMS**

EDITOR-IN-CHIEF  
J.P.K. Seville (*Coventry, UK*)

REGIONAL EDITORS  
L.-S. Fan (*Columbus, OH, USA*)  
J. Li (*Beijing, China*)

Special Issue  
Selected Papers from the 2009 NETL  
Multiphase Flow Workshop

Guest Editor  
Ronald W. Breault

Online Access via:  
[www.elsevier.com/locate/powtec](http://www.elsevier.com/locate/powtec)



**CONTENTS**

*Abstracting Services*

This journal is cited by the following Abstracting Services: Analytical Abstracts, Cambridge Scientific Abstracts, Chemical Abstracts, Chemical Engineering Abstracts, Compendex Plus, Current Contents, MFIZ Karlsruhe, Fluid Abstracts, Metals Abstracts, Metal Powder Report, PASCAL/CNRS, Physikalische Berichte, Science Citation Index, World Aluminium Abstracts, World Surface Coatings Abstracts. Also covered in the abstract and citation database SCOPUS®. Full text available on ScienceDirect®.

**SPECIAL ISSUE: SELECTED PAPERS FROM THE 2009 NETL MULTIPHASE FLOW WORKSHOP**

**Edited by: Ronald W. Breault**

Preface . . . . .	1
R.W. Breault	
Particle clusters in and above fluidized beds . . . . .	3
R. Cocco, F. Shaffer, R. Hays, S.B. Reddy Karri and T. Knowlton	
Measuring the voidage of a CFB through image analysis . . . . .	12
D.K. Casleton, L.J. Shadle and A.A. Ross	
Transmission of stresses in static and sheared granular beds: The influence of particle size, shearing rate, layer thickness and sensor size. . . . .	23
M.K. Langroudi, J. Sun, S. Sundaresan and G.I. Tardos	
Mass transfer coefficient prediction method for CFD modeling of riser reactors . . . . .	33
R.W. Breault and C. Guenther	
Computation and measurements of mass transfer and dispersion coefficients in fluidized beds . . . . .	40
M. Kashyap and D. Gidaspow	
Direct numerical simulation of gas–solid suspensions at moderate Reynolds number: Quantifying the coupling between hydrodynamic forces and particle velocity fluctuations . . . . .	57
S. Tenneti, R. Garg, C.M. Hrenya, R.O. Fox and S. Subramaniam	
Quantitative validation of the discrete element method using an annular shear cell . . . . .	70
J.J. McCarthy, V. Jasti, M. Marinack and C.F. Higgs	

(Continued on back page of this issue)

The publisher encourages the submission of articles in electronic form thus saving time and avoiding rekeying errors. A leaflet describing our requirements is available from the publisher upon request

