

2nd Conference on Forward Modelling of Sedimentary Systems

From Desert to Deep Marine Depositioned
Systems

Trondheim, Norway
25-28 April 2016

ISBN: 978-1-5108-2287-0

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2016) by the European Association of Geoscientists & Engineers (EAGE)
All rights reserved.

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact by the European Association of Geoscientists & Engineers (EAGE)
at the address below.

European Association of Geoscientists & Engineers (EAGE)
PO Box 59
3990 DB Houten
The Netherlands

Phone: +31 88 995 5055
Fax: +31 30 634 3524

eage@eage.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

A Novel Workflow for Building Multiple Point Statistics Training Images from Virtual Outcrops	1
<i>J.R. Mullins, J.A. Howell, S.J. Buckley, C. Kehl</i>	
The Volga-Urals Province - Sedimentary Tunnel-type Geological Model of Reservoir Compaction and Complex Rheology Deformat	6
<i>V.I. Popkov, V.I. Astafiev</i>	
Effect of Harvested Wood Management on the Sediment Production in Natural Forests	11
<i>A. Hashemi, S. Rahimzadeh</i>	
Drawing the Line, When Do We Need Process-based Models?	19
<i>T. Vermaas, A. Forzoni, J.E.A. Storms</i>	
Process-based Modelling of Sediment Distribution in Fluvial Crevasse Splays Validated by Outcrop Data	23
<i>A.B. Sanden, M.E. Donselaar, J.E.A. Storms, K.A. van Tooreneburg, H. van der Vegt, G.J. Weltje</i>	
2D and 3D Synthetic Seismic Modelling of Outcropping Carbonate System of the Maiella Mountain (Central Apennines-Italy)	28
<i>V. Mascolo, G. Rusciadelli, I. Lecomte</i>	
Coupled Stratigraphic and Diagenetic Forward Modelling as Input to Seismic Simulation for a Better Understanding of Carbonate Reservoirs	32
<i>C. Lanteaume, F. Fournier, J. Borgomano, M. Pellerin</i>	
Understanding Glacier-induced Wind-driven Circulation Patterns in Strynevatnet Fjord (Norway) and their Implications for Fjord-infill Patterns	37
<i>J.E.A. Storms, M. Schoenmakers, L. Hansen, N. Waldmann, A. Beylich</i>	
Analysis Tools to Quantify the Variability in Deltaic Geological Models Using Delft3D Simulation Results	42
<i>H. van der Vegt, J.E.A. Storms, D. Walstra, N.C. Howes</i>	
Field Scale Automated Calibration and Sensitivity Analysis of Forward Stratigraphic Models	48
<i>A. Barrois, N. Hawie, E. Marfisi, R. Richet, B. Murat</i>	
A SPH-based Modelling of the BIG'95 Debris Flow	53
<i>R. Silva Jacinto, G. Lastras, M. Canals</i>	
Fuzzy Logic Modelling of Large Scale Sediment Distribution - An Application for Source Rock Modelling	58
<i>G. de Jager, B.U. Emmel, A.E. Lothe</i>	
Keynote Speech - Physical Modelling of Submarine Channel Deposits - Towards First Order Prediction	63
<i>J. Peakall</i>	
Geomodeling of Aeolian Reservoir Analogues - A Virtual-outcrop Based Study of the Jurassic Page Sandstone Formation	67
<i>C.S. Pierce, J. Howell, H. Rieke, D. Healy</i>	
New Modelling Acceleration Technique for Process-based Models in Geological Time-scale	72
<i>L. Li, J.E.A. Storms, D.J.R. Walstra</i>	
Dynamic Modelling of Meandering Fluvial Systems at the Reservoir Scale, FLUMY Software	77
<i>B. Grappe, I. Cojan, F. Ors, J. Rivoirard</i>	
Reservoir Modelling of Paleochannels Based on Seismic Trend	82
<i>T.V. Olneva, E. Milei</i>	
Improved Subsurface Property Prediction in the Netherlands by Integrating Stratigraphic Forward Modelling	87
<i>R.A.F. Dalman, P. Karamitopoulos, Q. Sacchi, G.J. Weltje, H. Verweij, E. Salina Borello</i>	
Towards an Open-source Web-based Delft3D GeoTool	91
<i>J.E.A. Storms, D. Walstra, L. Li, H. van der Vegt, W. de Boer, H. van Putten, A. Forzoni</i>	
Process-based Modelling of Turbidity Currents - From Computational Fluid-dynamics to Depositional Signature	95
<i>A.J. Vellinga, M.J.B. Cartigny, E.W.M. Hansen, P.J. Tallinga, M.A. Clare, E.J. Sumner, J.T. Eggenhuisen</i>	
High-resolution Simulations of Turbidity Currents Interacting with Complex Topography	100
<i>E.M. Meiburg, M.M. Nasr-Azadani, E. Biegert, B. Vowinckel</i>	
Numerical Simulations of Sedimentation and Compaction of Turbiditic Sand at Reservoir Scale in the Peira Cava Sub Basin	105
<i>R. Basani, T.E. Aas, E.W. Hansen, J. Howell</i>	

Particle-laden Gravity Currents in Non-axisymmetric Lock-exchange Configurations	110
<i>L. Espath, E. Francisco, C. Moser, S. Laizet, J. Silvestrini</i>	
New Flow-capacity and Multi-lithology Process-based CATS Model for Low-density Turbidity Currents at Reservoir Scale	115
<i>V. Teles, P. Joseph, B. Chauveau, F. Maktouf, T. Mulder</i>	
Keynote Speech - Validation of Numerically Generated Stratigraphic Architecture	120
<i>N. Mountney, L. Colombero, N. Yan, R.M. Dorrell, W.D. McCaffrey</i>	
Keynote Speech - Taking Physical Modelling of Deepwater Depositional Systems Forwards	125
<i>J.T. Eggenhuisen, J. de Leeuw, F. Pohl, M.J.B. Cartigny</i>	
A Numerical Implementation of Landscape Evolution Models	130
<i>M. Lebrun, J. Darbon, J.M. Morel</i>	
Combining Forward Stratigraphic Modelling with Seismic Reconstruction to Improve Reservoir Characterization	135
<i>H.A. Madhoo, A. Acevedo, D. Tetzlaff, J. Tveiten</i>	
Potential of FLUMY, a Meandering Fluvial Process-based Model, to Simulate Submarine Channels	140
<i>M. Lemay, I. Cojan, F. Ors, J. Rivoirard</i>	
Using a Forward Model as Training Model for 3D Stochastic Multi-well Correlation	145
<i>J. Edwards, F. Lallier, G. Caumon</i>	
Sediment Transport Due to Trawling in La Fonera Submarine Canyon - A Numerical Modelling Approach	150
<i>M. Payo-Payo, R. Silva Jacinto, G. Lastras, M. Rabineau, P. Puig, J. Martin, M. Canals</i>	
Sedimentary Process Modelling for Testing Depositional Hypothesis of the Peregrino Reservoir, Brazil	155
<i>T.H. Hoye, R. Rouzaïrol, R. Basani, E.W.M. Hansen</i>	
Keynote Speech - Modeling of Sediment Transport in the Gulf of Mexico due to the Influence of Hurricanes	160
<i>J.P.M. Syvitski, H.G. Arango, C.K. Harris, E.H. Meiburg, C.J. Jenkins, E.W.H. Hutton, G. Auad, F. Xing</i>	
Modelling 3D Synrift Sediment Infill Patterns of Synthetic Faults	161
<i>J. Cunningham, R. Syahrul, C. Townsend</i>	
Author Index	