FOCUS ISSUE: 16th International Conference on Biomedical Applications of Electrical Impedance Tomography (Neuchâtel, Switzerland, 2–5 June 2015)

EDITORIAL

E3 EIT2015: promoting electrical impedance tomography as a non-invasive monitoring technology
Richard Bayford and Josep Solà

FOCUS ISSUE PAPERS

Clinical applications of EIT

698 Regional lung function determined by electrical impedance tomography during bronchodilator reversibility testing in patients with asthma
I Frerichs, Z Zhao, T Becher, P Zabel, N Weiler and B Vogt

713 Non-invasive monitoring of pulmonary artery pressure from timing information by EIT: experimental evaluation during induced hypoxia
Martin Proença, Fabian Braun, Josep Solà, Andy Adler, Mathieu Lemay, Jean-Philippe Thiran and Stefano F Rimoldi

727 Detection of small bleeds in the brain with electrical impedance tomography
Gregory Boverman, Tzu-Jen Kao, Xin Wang, Jeffrey M Ashe, David M Davenport and Bruce C Amm

In vivo quantification of intraventricular hemorrhage in a neonatal piglet model using an EEG-layout based electrical impedance tomography array
Te Tang, Michael D Weiss, Peggy Borum, Sergei Turovets, Don Tucker and Rosalind Sadleir

In vivo bioimpedance changes during haemorrhagic and ischaemic stroke in rats: towards 3D stroke imaging using electrical impedance tomography
T Dowrick, C Blochet and D Holder

Image reconstruction

785 3D EIT image reconstruction with GREIT
Bartłomiej Grychtol, Beat Müller and Andy Adler

801 On the influence of spread constant in radial basis networks for electrical impedance tomography
Sébastien Martin and Charles T M Choi

820 A dynamic oppositional biogeography-based optimization approach for time-varying electrical impedance tomography
A Rashid, S Kim, D Liu and K Y Kim

Sparse regularization for EIT reconstruction incorporating structural information derived from medical imaging
Bo Gong, Benjamin Schulcke, Sabine Krueger-Ziolek, Ullrich Mueller-Lisse and Knut Moeller

863 EIT image reconstruction based on a hybrid FE-EFG forward method and the complete-electrode model
M Hadinia, R Jafari and M Soleimani

(Continued on inside back cover)
Validation and compensation

879 Are patient specific meshes required for EIT head imaging?
Markus Jehl, Kirill Aristovich, Mayo Faulkner and David Holder

893 Correction of electrode modelling errors in multi-frequency EIT imaging
Markus Jehl and David Holder

904 Influence of torso and arm positions on chest examinations by electrical impedance
tomography
B Vogt, L Mendes, I Chouvarda, E Perantoni, E Kaimakamis, T Becher, N Weiler, V Tsara,
R P Paiva, N Maglaveras and I Frerichs

922 Electrical impedance tomography in 3D using two electrode planes: characterization and
evaluation
Justin Wagenaar and Andy Adler

938 Comparison of impedance measurements near the skin of newborns and adults
Bruce Amm, Tzu-Jen Kao, Jonathan Newell, David Isaacson, Gary Saulnier, David Shoudy,
Greg Boverman, Rakesh Sahni, Marilyn Weindler, David Chong, David DiBardino,
David Davenport and Jeffrey Ashe

951 Empirical validation of statistical parametric mapping for group imaging of fast neural
activity using electrical impedance tomography
B Packham, G Barnes, G Sato dos Santos, K Aristovich, O Gilad, A Ghosh, T Oh and D Holder