CURRICULUM VITAE OF TOPIAS SIREN

TOPIAS.SIREN@GMAIL.COM

Date of birth 29.01.1982, Finland

EDUCATION

DSc (Tech.), 2015, Rock mechanics, eng. geology
- Aalto university, School of Engineering, 2009 - 2015
- Visiting researcher at CSIRO, Brisbane, Australia, Feb. 2013
- Visiting researcher at University of Cardiff, November 2011

MSc (Tech.), Rock engineering, geoenviron. tech., geoinformatics
- Helsinki University of Technology, 2001 - 2008
- Erasmus exchange, Technical University of Wien, Autumn 2005

OCCUPATION

Current position

Post-doctoral researcher, **Aalto University**
Rock Mechanics Expert, **Stress Measurement Company**
Rock Mechanics Consultant, **Rock Mechanics Consulting Finland**

Previous empl.

Rock mechanics project manager, **Posiva Oy**, 2011 – 2015
Coordinating rock mechanics research and modelling. Project manager in Posiva's Olkiluoto Spalling Experiment *in situ* experiment and in international research project funded by Posiva,SKB and NWMO. Chair of Olkiluoto Rock Mechanics model. team.

Lecturer in Rock eng., **Turku Uni. of Applied Sciences**; 2013-2016

Project engineer, **Kalliosuunnittelu Oy Rockplan Ltd**; 2008–2011

ACADEMIC MERITS

Supervisor in 5 Post-graduate thesis, 6 Under-graduate thesis

Best paper award Valli, J., Hakala, M., **Siren, T.** 2016. *Stress-Geology Interaction Modelling At Olkiluoto.* 7th Int. Symp. on In-Situ Rock Stress May 10-12, Tampere,Finland

Best young paper runner-up award Suikkanen, J., Koittola, N., **Siren, T.** 2016. *Methods To Study, Model And Confirm The Existence Of Stress-Induced Excavation Damage Zone*. 7th Int. Symp. on In-Situ Rock Stress May 10-12, 2016 Tampere, Finland.

Committee memberships Member of Steering committee of Tekes Green Mining programme Dynamine project; Member of the organizing committee of 7th International Symposium on In-Situ Rock Stress May 10-12, 2016 Tampere, Finland.

Keynote lectures Keynote on 9 May 2015 in ISRM International Workshop on Rock Mechanics in Nuclear Waste Disposal in Montreal, Canada; Invited lecture on 13 April 2016 in ETH Zurich. Geomechanical Behaviour of Migmatic Gneiss for a Nuclear Waste Repository in Finland.

SELECTED PUBLICATIONS (OF 38 IN TOTAL)

Shen, B., Shi, J., Rinne, M., **Siren, T.**, Suikkanen, J., Saeha Kwon, S., Min K-B. 2016. Two-dimensional displacement discontinuity method for transversely isotropic materials. *Int J Rock Mech Min Sci,2015;218–230*

Siren, T., Hakala, M., Valli, J., Kantia, P., Hudson, J.A., Johansson, E. 2015. In situ strength and failure mechanisms of migmatitic gneiss and pegmatitic granite at the nuclear waste disposal site in Olkiluoto, Western Finland. *Int J Rock Mech Min Sci, 2015;79;135-148. DOI 10.1016/j.ijrmms.2015.08.012*

Siren, T., Rinne, M., Kantia, P. 2015. Considerations and observations of stress-induced and construction-induced excavation damage zone in crystalline rock. *Int J Rock Mech Min Sci,* 2015;73;165-174

Siren, T., Uotinen, L., Rinne, M., Shen, B. 2014. Fracture mechanics modelling of an in situ concrete spalling experiment. *Rock Mechanics and Rock Engineering, 2014;48;1423–1438. DOI 10.1007/s00603-014-0646-1*

Shen, B., **Siren, T.**, & Rinne, M. 2015. Modelling fracture propagation in anisotropic rock mass. *Rock Mechanics and Rock Engineering, 2015;48;1067–1081. DOI 10.1007/s00603-014-0621-x*

Siren, T., Suikkanen, J., Heikkinen, E., Valli, J., Hakala, M. 2015. Determining the in situ Stress with Thermally Induced Borehole Breakout. 13th ISRM Int. Cong. of Rock Mech.. ISRM. Montreal, Canada.

Siren, T. 2013. Spatial distribution of Young's modulus, Poisson's ratio and EDZ around TBM and D&B tunnels in hard crystalline rock. ARMA 2013 Symposium. San Francisco.

Hakala,M., Kemppainen,K., **Siren,T.,** Heine,J., Christiansson,R., Martin,C.D., Koskinen,T. 2012. Experience with a new LVDT-Cell to measure in-situ stress from an existing tunnel. EUROCK 2012. Stock., Sweden.

Siren, T., Shen, B., Rinne, M., Kemppainen, K. 2012. Numerical anisotropic fracture mechanics modelling in crystalline rock. In: Harmonising Rock Eng. & t. Env., Taylor&Francis, pp 535-539. ISBN: 978-0-415-80444-8