

**Stress-strain hysteresis shape estimation of different soils using deformation-history integral (DHI) model**  
Vatanshenas, A., Mori, T., Farhadi, M. S. & Länsivaara, T., 10 Jul 2020, In : MATERIALS PHYSICS AND MECHANICS. 44, 2, p. 221-228 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Evaluation of the Preconsolidation Stress and Deformation Characteristics of Finnish Clays based on Piezocone Testing**  
Di Buo, B., 13 Mar 2020, Tampere University. 186 p. (Tampere University Dissertations; vol. 222)  
Research output: Book/Report > Doctoral thesis > Monograph

**3D numerical modelling of thermal shock assisted percussive drilling**  
Saksala, T., 2020, In : Computers and Geotechnics. 128, 13 p., 103849.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Demolition of concrete by thermal shock spallation: a mesoscopic numerical study based on embedded discontinuity finite elements**  
Saksala, T., 2020, In : INTERNATIONAL JOURNAL OF FRACTURE.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Lime treatment of a soft sensitive clay: A sustainable reuse option**  
Di Sante, M., Di Buò, B., Fratalocchi, E. & Länsivaara, T., 2020, In : Geosciences. 10, 5, 17 p., 182.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Methodology to estimate ionospheric scintillation risk maps and their contribution to position dilution of precision on the ground**  
Koulouri, A., Smith, N. D., Vani, B. C., Rimpiläinen, V., Astin, I. & Forte, B., 2020, In : JOURNAL OF GEODESY. 94, 20 p., 22.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Moisture behavior of external insulated precast concrete wall panels**  
Sekki, P., Karvinen, T. & Vinha, J., 2020, In : Journal of Building Physics. 26 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Numerical modeling of the tool-rock penetration process using FEM coupled with SPH technique**  
Mardalizad, A., Saksala, T., Manes, A. & Giglio, M., 2020, In : JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING. 189, 14 p., 107008.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Numerical modelling of pore-fluid-enhanced thermal spallation in granitic rock**  
Saksala, T., 2020, In : Rakenteiden mekaniikka. 53, 2, p. 100-109 10 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Numerical modelling of thermal drilling of rock by heating-cooling cycle**  
Pressacco, M. & Saksala, T., 2020, *Rock Mechanics for Natural Resources and Infrastructure Development - Full Papers: Proceedings of the 14th International Congress on Rock Mechanics and Rock Engineering (ISRM 2019), September 13-18, 2019, Foz do Iguaçu, Brazil*. CRC Press, p. 2547-2553 7 p. (Proceedings in Earth and geosciences; vol. 6).  
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**Thermal shock assisted percussive drilling: A numerical study on the single-bit axisymmetric case**  
Saksala, T., 2020, In : International Journal of Rock Mechanics and Mining Sciences. 132, 18 p., 104365.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Thermal shock weakening of granite rock under dynamic loading: 3D numerical modeling based on embedded discontinuity finite elements**  
Saksala, T. & Ibrahimbegovic, A., 2020, In : International Journal for Numerical and Analytical Methods in Geomechanics. 44, 13, p. 1788-1811 24 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Variation of CPTu-based transformation models for undrained shear strength of Finnish clays**

Knuuti, M. & Länsivaara, T., 2 Oct 2019, In : Georisk. 13, 4, p. 262-270 9 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Temporal variation in indoor transfer of dirt-associated environmental bacteria in agricultural and urban areas**

Hui, N., Parajuli, A., Puhakka, R., Grönroos, M., Roslund, M. I., Vari, H. K., Selonen, V. A. O., Yan, G., Siter, N., Nurminen, N., Oikarinen, S., Laitinen, O., Rajaniemi, J., Hyöty, H. & Sinkkonen, A., 7 Aug 2019, In : Environment International. 132, November 2019, 9 p., 105069.

Research output: Contribution to journal > Article > Scientific > peer-review

**Investigation and geotechnical characterization of Perniö clay, Finland**

Di Buò, B., D'Ignazio, M., Selänpää, J., Haikola, M., Länsivaara, T. & Di Sante, M., 5 Aug 2019, In : AIMS Geosciences. 5 , 3, p. 591–616

Research output: Contribution to journal > Article > Scientific > peer-review

**Vesihuollon instituutiot vaativat taitavaa jalkapallopelää**

Inha, L., Katko, T. S. & Rajala, R., Jun 2019, In : Rakennustekniikka. 75, 3, p. 38-40 3 p.

Research output: Contribution to journal > Article > Professional

**Estimation of preconsolidation stress of clays from piezocone by means of high-quality calibration data**

D'Ignazio, M., Lunne, T., Andersen, K. H., Yang, S., Di Buò, B. & Länsivaara, T., 8 May 2019, In : AIMS Geosciences. 5, 2 , p. 104-116 13 p.

Research output: Contribution to journal > Review Article > Scientific > peer-review

**Vesihuolto yhdyskuntien ympäristön turvaajana: uskomuksia ja todellisuuksesta**

Katko, T. S., Inha, L. & Rajala, R., May 2019, In : Ympäristökasvatus. 2

Research output: Contribution to journal > Article > Professional

**Numerical modeling of rock failure under dynamic loading with polygonal elements**

Saksala, T. & Jabareen, M., 2019, In : International Journal for Numerical and Analytical Methods in Geomechanics. 43, 12, p. 2056-2074

Research output: Contribution to journal > Article > Scientific > peer-review

**Numerical modelling of underground tunnel in rock under seismic loading with polygonal finite elements**

Saksala, T., 2019, *Earthquake Geotechnical Engineering for Protection and Development of Environment and Constructions: Proceedings of the 7th International Conference on Earthquake Geotechnical Engineering, (ICEGE 2019), June 17-20, 2019, Rome, Italy*. CRC Press, p. 4808-4814 7 p. (Proceedings in Earth and geosciences ; vol. 4).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**On the Strain Rate Sensitivity of Coarse-Grained Rock: A Mesoscopic Numerical Study**

Saksala, T., 2019, In : Rock Mechanics and Rock Engineering. 52, 9, p. 3229–3240

Research output: Contribution to journal > Article > Scientific > peer-review

**Tierakenteen rasittuminen yli 76 tonnin HCT-yhdistelmien koekuormituksissa vuosina 2015 - 2017: Liikenneviraston tutkimuksia ja selvityksiä 63/2018**

Vuorimies, N., Kallialainen, A., Rossi, J., Kolisoja, P., Varin, P. & Saarenketo, T., Dec 2018, Liikennevirasto. 115 p.

Research output: Book/Report > Book > Scientific

**Numerical modelling of thermal spallation of rock**

Saksala, T., Nov 2018, *Proceedings of XII Argentine Congress on Computational Mechanics (MECOM2018)* . p. 1567-1574 8 p. (Mecánica Computacional; vol. 36, no. 48).

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**Nysse tulee - Tampere3 nimittääin**Kolisoja, P., Oct 2018, In : *Geofoor*. 48, p. 27-28 2 p.

Research output: Contribution to journal &gt; Article &gt; Professional

**A High-resolution Coupled Permafrost - Ice Sheet Model**

Zwinger, T., Hartikainen, J. &amp; Cohen, D., 19 Jun 2018, p. 123. 1 p.

Research output: Other conference contribution &gt; Paper, poster or abstract &gt; Scientific

**Thermal Evolution of a Holocene Arctic Environment in Western Greenland**

Hartikainen, J., Claesson Liljedahl, L., Kolisoja, P., Kontula, A., Kouhia, R., Näslund, J-O., van As, D. &amp; Zwinger, T., 19 Jun 2018, p. 122. 1 p.

Research output: Other conference contribution &gt; Paper, poster or abstract &gt; Scientific

**Vertical profiles of lung deposited surface area (LDSA) concentration measured with a drone in an urban street canyon (MP-17)**

Kuuluvainen, H., Poikkimäki, M., Järvinen, A., Kuula, J., Irlala, M., Dal Maso, M., Keskinen, J., Timonen, H., Niemi, J. V. &amp; Rönkkö, T., 18 Jun 2018, p. 73.

Research output: Other conference contribution &gt; Paper, poster or abstract &gt; Scientific

**Identifying criteria for environmental risk assessment models at different stage-gates of nano-material/product innovation considering requirements of various stakeholders (TH083)**

Sørensen, S. N., Hansen, S. F., Baun, A., Spurgeon, D., Matzke, M., Schirmer, K., Burkard, M., Dal Maso, M., Poikkimäki, M., Verschoor, A., Quik, J., Peijnenburg, W., Wigger, H. &amp; Nowack, B., 17 May 2018.

Research output: Other conference contribution &gt; Paper, poster or abstract &gt; Scientific

**Numerical modelling of fracture processes in thermal shock weakened rock**Pressacco, M. & Saksala, T., May 2018, *Geomechanics and Geodynamics of Rock Masses, Volume 1 Proceedings of the 2018 European Rock Mechanics Symposium*. Litvinenko, V. (ed.). CRC Press, p. 883-888

Research output: Chapter in Book/Report/Conference proceeding &gt; Conference contribution &gt; Scientific &gt; peer-review

**Numerical modelling of rock fracture with a Hoek-Brown viscoplastic-damage model implemented with polygonal finite elements**Saksala, T., May 2018, *Geomechanics and Geodynamics of Rock Masses, Volume 1: Proceedings of the 2018 European Rock Mechanics Symposium*. Litvinenko, V. (ed.). CRC Press, p. 903-908

Research output: Chapter in Book/Report/Conference proceeding &gt; Conference contribution &gt; Scientific &gt; peer-review

**Vertical profiles of lung deposited surface area concentration of particulate matter measured with a drone in an urban street canyon**

Kuuluvainen, H., Poikkimäki, M., Järvinen, A., Irlala, M., Dal Maso, M., Niemi, J. V., Timonen, H., Keskinen, J. &amp; Rönkkö, T., 13 Mar 2018.

Research output: Other conference contribution &gt; Paper, poster or abstract &gt; Scientific

**3D finite elements modelling of percussive rock drilling: Estimation of rate of penetration based on multiple impact simulations with a commercial drill bit**Saksala, T., Fourneau, M., Kane, P-A. & Hokka, M., 2018, In : *Computers and Geotechnics*. 99, p. 55-63 9 p.

Research output: Contribution to journal &gt; Article &gt; Scientific &gt; peer-review

**Effects of Lime Stabilization on Hydraulic Behavior of Finnish Soft Sensitive Clays: Towards a Sustainable Geoenvironment**Di Sante, M., Giorgetti, F., Di Bu, B., Länsivaara, T. & Pasqualini, E., 2018, *Proceedings of the 8th International Congress on Environmental Geotechnics*. Springer, Vol. 1. p. 226-234 9 p.

Research output: Chapter in Book/Report/Conference proceeding &gt; Conference contribution &gt; Scientific &gt; peer-review

**Evaluation of existing CPTu-based correlations for the undrained shear strength of soft Finnish clays**Selänpää, J., Di Bu, B., Haikola, M., Länsivaara, T. & D'Ignazio, M., 2018, *Cone Penetration Testing 2018: Proceedings of the 4th International Symposium on Cone Penetration Testing (CPT'18)*. CRC Press, p. 571-577 7 p.

Research output: Chapter in Book/Report/Conference proceeding &gt; Conference contribution &gt; Scientific &gt; peer-review

**Evaluation of sample quality from different sampling methods in Finnish soft sensitive clays**

Di Buo, B., Selänpää, J., Länsivaara, T. &amp; D'Ignazio, M., 2018, In : Canadian Geotechnical Journal. 40 p.

Research output: Contribution to journal › Review Article › Scientific › peer-review

**Foreword**

Länsivaara, T., 2018, In : HKIE Transactions. 25, 2, 1 p.

Research output: Contribution to journal › Review Article › Scientific

**Mechanical properties of recovered municipal solid waste incineration bottom ash: the influence of aging and changes in moisture content**

Sormunen, L. A. &amp; Kolisoja, P., 2018, In : Road Materials and Pavement Design . 19, 2, p. 252-270

Research output: Contribution to journal › Article › Scientific › peer-review

**Otat näytteen vain kerran**Länsivaara, T. & Korkiala-Tanttu, L., 2018, *Geotekniikan Päivä*. SGY

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

**WC-tilat ja -opasteet vain likana silmissämme?**

Katto, T. S., 2018, In : Kuntateknikka. 72, 4, p. 45 1 p.

Research output: Contribution to journal › Article › Professional

**Artificial neural networks models for rate of penetration prediction in rock drilling**

Fathipour Azar, H., Saksala, T. &amp; Jalali, S-M. E., 21 Aug 2017, In : Rakenteiden mekaniikka. 50, 3, p. 252-255 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Numerical modelling of rock materials with polygonal finite elements**

Saksala, T., 21 Aug 2017, In : Rakenteiden mekaniikka. 50, 3, p. 216-219 4 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Numerical modelling of dynamic spalling test on rock with an emphasis on the influence of pre-existing cracks**

Saksala, T., 7 Aug 2017, In : Rakenteiden mekaniikka. 50, 2, p. 63-76

Research output: Contribution to journal › Article › Scientific › peer-review

**Chasing measurements for real-world emissions of city buses**

Järvinen, A., Karjalainen, P., Bloss, M., Potila, O., Simonen, P., Kuuluvainen, H., Timonen, H., Saarikoski, S., Niemi, J. V., Keskinen, J. &amp; Rönkkö, T., 2017.

Research output: Other conference contribution › Paper, poster or abstract › Scientific

**Continuum modelling of dynamic rock fracture under triaxial confinement**Saksala, T., Hokka, M. & Kuokkala, V-T., 2017, *14th International Conference on Fracture, Proceedings of ICF 14 : Rhodes, Greece, June 18-23, 2017*. 2 p. 822

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

**Determination of remoulding energy of sensitive clays**Thakur, V., Degago, S. A., Selänpää, J. & Länsivaara, T., 2017, *Landslides in Sensitive Clays: From Research to Implementation*. Springer, p. 97-107 11 p. (Advances in Natural and Technological Hazards Research; vol. 46).

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

**Effects of sample disturbance in the determination of soil parameters for advanced finite element modelling of sensitive clays**D'Ignazio, M., Jostad, H. P., Länsivaara, T., Lehtonen, V., Mansikkamäki, J. & Meehan, C., 2017, *Landslides in Sensitive Clays: From Research to Implementation*. Springer, p. 146-154 9 p. (Advances in Natural and Technological Hazards Research; vol. 46).

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

**Failure in anisotropic sensitive clays: a finite element study of the Perniö failure test**

D'Ignazio, M., Länsivaara, T. & Jostad, H. P., 2017, In : Canadian Geotechnical Journal. 54, 7, p. 1013-1033  
Research output: Contribution to journal > Article > Scientific > peer-review

**Numerical 3D modelling of the effects of strain rate and confining pressure on the compressive behavior of Kuru granite**

Saksala, T., Hokka, M. & Kuokkala, V-T., 2017, In : Computers and Geotechnics. 88, p. 1-8 8 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Problems related to field vane testing in soft soil conditions and improved reliability of measurements using an innovative field vane device**

Selänpää, J., Buò, B. D., Länsivaara, T. & D'Ignazio, M., 2017, *Landslides in Sensitive Clays: From Research to Implementation*. Springer, p. 121-131 11 p. (Advances in Natural and Technological Hazards Research; vol. 46).  
Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

**Reply to the discussion by Mesri and Wang on "Correlations for undrained shear strength of Finnish soft clays"**

D'Ignazio, M., Phoon, K-K., Tan, S. A., Länsivaara, T. & Lacasse, S., 2017, In : Canadian Geotechnical Journal. 5 p.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Valkea kaupunki, mustat vedet**

Juuti, P. & Rajala, R., 2017, In : Vesitalous. 2017, 1, p. 15-17 3 p.  
Research output: Contribution to journal > Review Article > Scientific > peer-review

**Älypölkky, radan monitorointi, kreosoottipölkyn korvaavat vaihtoehdot**

Luomala, H., 29 Nov 2016  
Research output: Other contribution > Scientific

**Ballast bed**

Luomala, H., 24 Nov 2016  
Research output: Other contribution > Scientific

**Näkökulma-kolumni: Putkiremontit kestävät aivan liian kauan**

Saari, A., 24 Nov 2016, Sanoma Talotekniikkajulkaisut Oy.  
Research output: Other contribution > Scientific

**Sleepers**

Luomala, H., 24 Nov 2016  
Research output: Other contribution > Scientific

**Tutkimusohjelma Elinkaaritehokas RAta (TERA): Kokonaisvaltainen ote ratarakennetutkimukseen**

Luomala, H., 15 Nov 2016  
Research output: Other contribution > Scientific

**Editorial to "The best papers from the 32nd International Symposium on Automation and Robotics in Construction and Mining (ISARC 2015)"**

Malaska, M. & Heikkilä, R., 1 Nov 2016, In : Automation in Construction. 71, p. 1 1 p.  
Research output: Contribution to journal > Editorial > Scientific

**Comparison of community managed projects and conventional approaches in rural water supply of Ethiopia**

Behailu, B. M., Suominen, A., Katko, T. S., Mattila, H. & Yayahyirad, G., 30 Sep 2016, In : African Journal of Environmental Science and Technology. 10, 9, p. 292-306 15 p., 04AF23059936.  
Research output: Contribution to journal > Article > Scientific > peer-review

**Undrained shear strength of Finnish clays for stability analyses of embankments**

D'Ignazio, M., 21 Sep 2016, Tampere University of Technology. 178 p. (Tampere University of Technology. Publication; vol. 1412)

Research output: Book/Report > Doctoral thesis > Monograph

**Combining mineral fractions of recovered MSWI bottom ash: improvement for utilization in civil engineering structures**

Sormunen, L. A., Kallialainen, A., Kolisoja, P. & Rantsi, R., 22 Aug 2016, In : Waste and Biomass Valorization. 12 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**A laboratory listening experiment on subjective and objective rating of impact sound insulation of concrete floors**

Kylläinen, M., Hongisto, V., Oliva, D. & Rekola, L., Aug 2016, *Proceedings of the INTER-NOISE 2016, 45th International Congress on Noise Control Engineering : Towards a Quieter Future, August 21-24, 2016, Hamburg, Germany*. Hamburg: German Acoustical Society (DEGA), p. 894-902 9 p. 193

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

**A method for design of sound insulation of glazed balconies against traffic noise**

Kovalainen, V., Kylliäinen, M. & Huhtala, T., Aug 2016, *Proceedings of the INTER-NOISE 2016, 45th International Congress and Exposition on Noise Control Engineering : Towards a Quieter Future, August 21-24, 2016, Hamburg, Germany*. Hamburg: German Acoustical Society (DEGA), p. 3834-3841 8 p. 503

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

**Problems with Railway Track Drainage in Finland**

Latvala, J., Nurmikolu, A. & Luomala, H., 13 Jul 2016, In : Procedia Engineering. 143, p. 1051-1058 7 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**The effect of climate change on freeze-thaw durability of concrete structures in Finland**

Pakkala, T., Lemberg, A-M. & Lahdensivu, J., Jun 2016, p. 53. 1 p.

Research output: Other conference contribution > Paper, poster or abstract > Scientific

**Deterioration mechanisms and life cycle of concrete monoblock railway sleepers in Finnish conditions**

Kerokoski, O., Rantala, T. & Nurmikolu, A., 31 May 2016, *WCRR 2016 Proceedings: 11th World congress on railway research, 29.5-2.6.2016, Milano*.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Professional

**Betonirakenteiden korjausohjeet 2016, by 41**

Köliö, A., Pakkala, T., Lahdensivu, J. & Pentti, M., May 2016, Suomen Betoniyhdistys r.y. 115 p.

Research output: Book/Report > Book > Professional

**Preliminary results from a study aiming to improve ground investigation data**

Di Buo, B., D'Ignazio, M., Selänpää, J. & Länsivaara, T., May 2016, *Proceedings of the 17th Nordic Geotechnical Meeting: Challenges in Nordic Geotechnic 25th-28th of May*. Reykjavik: Icelandic Geotechnical Society, p. 187-197 11 p.

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**Strength increase below an old test embankment in Finland**

D'Ignazio, M. & Länsivaara, T., May 2016, *The 17th Nordic Geotechnical Meeting: Conference proceedings*. Reykjavik: Icelandic Geotechnical Society, p. 357-366

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

**3D Finite Element Model as a Tool for Analyzing the Structural Behavior of a Railway Track**

Kallialainen, A., Kolisoja, P. & Nurmikolu, A., 2016, In : Procedia Engineering. 143, p. 820-827 8 p.

Research output: Contribution to journal > Article > Scientific > peer-review

**Acceptability of contaminated soils and waste materials in landfill structures**

Leppänen, M. M. & Kuula, P., 2016.

Research output: Other conference contribution > Paper, poster or abstract > Professional

**Back-calculation of the Saint-Alban A test embankment with a new modelling approach in LEM**

Lehtonen, V. & Länsivaara, T., 2016, *Proceedings of the The 17th Nordic Geotechnical Meeting, Reykjavik Iceland: 25th - 28th of May 2016*. p. 691-699 9 p.

**Characterization of fine fraction mined from two Finnish landfills**

Mönkäre, T. J., Palmroth, M. R. T. & Rintala, J. A., 2016, In : Waste Management. 47A, p. 34-39 6 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Commercialising reclaimed materials in earthworks – guidelines for productization and the process of appending these materials in the Finnish national code of practice**

Kovisto, K., Forsman, J., Ronkainen, M., Lahtinen, P., Kolisoja, P. & Kuula, P., 2016, *Proceedings of the 17th Nordic Geotechnical Meeting Reykjavik Iceland: Challenges in Nordic Geotechnic 25th - 28th of May*. Reykjavik: Icelandic Geotechnical Society, 10 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

**Correlations for undrained shear strength of Finnish soft clays**

D'Ignazio, M., Phoon, K. K., Tan, S. A. & Länsivaara, T., 2016, In : Canadian Geotechnical Journal. 53, 10, p. 1628-1645

Research output: Contribution to journal › Article › Scientific › peer-review

**Modelling of plastic culvert and road embankment interaction in 3D**

Kolisoja, P. & Kallialainen, A., 2016, In : Procedia Engineering. 143, p. 427-434 8 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Spatial variability of reed bed spectra in Olkiluoto Island**

Tuominen, J. & Lipping, T., 2016, *2016 IEEE International Geoscience and Remote Sensing Symposium (IGARSS),: July 10-15, Beijing, China*. IEEE, p. 7188-7191 4 p. (IEEE International Geoscience and Remote Sensing Symposium Proceedings).

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

**Teräsrumpujen uudet korjausmenetelmät: Halkaistu sisäputki, puolipohjaus ja pohjan betonointi**

Kallialainen, A., Haakana, V., Korhonen, M., Mäkinen, J. & Kolisoja, P., 2016, Liikennevirasto. 70 p. (Liikenneviraston tutkimuksia ja selvityksiä)

Research output: Book/Report › Book › Professional

**The effects of improved energy efficiency on indoor environmental quality in multi-family buildings**

Du, L., Prasauskas, T., Leivo, V., Turunen, M., Kivistö, M., Martuzevicius, D. & Haverinen-Shaughnessy, U., 2016, *Indoor Air 2016: The 14th international conference of Indoor Air Quality and Climate Ghent, Belgium July 3-8 2016*. 737

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

**Vesiuhollon strategisen kehittäminen haltuun: Ydin- ja tukitoiminnon tarpeen hahmottaa selkeästi**

Katko, T. S. & Hukka, J. J., 2016, In : Kuntateknikka. 70, 2, p. 12-13 2 p.

Research output: Contribution to journal › Article › Professional

**Tien ja radan sitomattomissa rakennekerroksissa käytettävien kivialinesten lujuuden ja hienontumisen tutkiminen : kirjallisuusselvitys**

Kuula, P., 18 Nov 2015, 2015 ed. Helsinki: Liikennevirasto. 115 p. (Liikenneviraston tutkimuksia ja selvityksiä; vol. 2015, no. 68)

Research output: Book/Report › Commissioned report › Professional

**Arsenic in bedrock, soil and groundwater - The first arsenic guidelines for aggregate production established in Finland**

Parviainen, A., Loukola-Ruskeeniemi, K., Tarvainen, T., Hatakka, T., Härmä, P., Backman, B., Ketola, T., Kuula, P., Lehtinen, H., Sorvari, J., Pyy, O., Ruskeeniemi, T. & Luoma, S., 1 Nov 2015, In : Earth-Science Reviews. 150, p. 709-723 15 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Kapillaaristen vedenimuoimaisuuksien määritämiseen sopivan vapaan vedenimukoelaitteiston kehittäminen**

Tuominen, E. & Vinha, J., 20 Oct 2015, *Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyväät käytännön ratkaisut. 20.-22.10.2015, Tampere*. Vinha, J. & Ruuska, T. (eds.). Tampere: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka, p. 233-238 6 p.

**Laastien vedenimukertoimen määrittämisen virhelähdekoheet**

Tuominen, E. & Vinha, J., 20 Oct 2015, *Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut. 20.-22.10.2015, Tampere.* Vinha, J. & Ruuska, T. (eds.). Tampere: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka, p. 239-244 6 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

**Laastin ja betonin lämmönjohtavuuden ja ominaislämpökapasiteetin määrittäminen lämpövirtaleylaitteella**

Ruuska, T. & Vinha, J., 20 Oct 2015, *Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut. 20.-22.10.2015, Tampere.* Vinha, J. & Ruuska, T. (eds.). Tampere: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka, p. 227-232 6 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

**Betonisten ratapölkkyjen väsytskuormituskokeet**

Rantala, T., Kerokoski, O. & Nurmikolu, A., 3 Jun 2015, In : *Rakenteiden mekaniikka.* 48, 1, p. 18-33 16 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Test in scala reale su argille sensibili: l'esperienza finlandese**

D'Ignazio, M., May 2015, *5 IAGIG, Incontro Annuale dei Giovani Ingegneri Geotecnici.* Rome

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

**A proposal for some modifications of EN 1997-1 design approaches**

Länsivaara, T. & Knuuti, M., 2015, *Fifth International Symposium on Geotechnical Safety and Risk (ISGSR): Rotterdam, The Netherlands 13-16 October 2015.* IOS Press, p. 486-491 6 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

**Kiviaines- ja luonnonkiviteollisuuden kehitysnäkymät**

Loukola-Ruskeeniemi, K. (ed.), Lonka, H. (ed.), Ehrukainen, E., Gustafsson, J., Honkanen, M., Härmä, P., Jauhainen, P., Kuula, P., Nenonen, K., Pellinen, T., Rintala, J., Selonen, O., Martikainen, M. & Aalto, M., 2015, Helsinki: Työ- ja elinkeinoministeriö. 72 p. (Työ- ja elinkeinoministeriön julkaisuja; vol. 2015, no. 54)

Research output: Book/Report › Commissioned report › Professional

**Konvektiivinen lämmönsiirtyminen ratapenkereessä**

Latvala, J., 2015, Liikennevirasto. 115 p. (Liikenneviraston tutkimuksia ja selvityksiä)

Research output: Book/Report › Commissioned report › Professional

**Selvitys UUMA-materiaalien teknisen kelvoisuuden arviointiin liittyvistä testausstandardeista ja -menetelmistä (1. vaihe), 29.12.2014**

Kuula, P., Kolisoja, P., Sjöberg, M., Ketola, T., Koivisto, K., Forsman, J., Dettenborn, T. & Jyväřä, H., 2015, Ramboll. (UUMA 2, Uusiomateriaalit maarakentamisessa ohjelma 2013-2015)

Research output: Book/Report › Commissioned report › Professional

**Shear bands in soft clays: strain-softening behavior in finite element method**

D'Ignazio, M. & Länsivaara, T., 2015, In : *Rakenteiden mekaniikka.* 48, 1, p. 83-98 16 p.

Research output: Contribution to journal › Article › Scientific › peer-review

**Varmuuden kohdentaminen geotekniikassa, miten Eurokodeja voisi kehittää?**

Länsivaara, T., 2015, *Geotekniikan päivä 2015. SGY*

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

**Anisotropic total and effective stress stability analysis of the Perniö failure test**

D'Ignazio, M., Mansikkamäki, J. & Länsivaara, T., 2014, *Numerical Methods in Geotechnical Engineering : Proceedings of the 8th European Conference on Numerical Methods in Geotechnical Engineering NUMGE2014, Delft, The Netherlands, 18-20 June 2014.* Hicks, M. A. ., Brinkgreve, R. B. . J. . & Rohe, A. (eds.). CRC Press Taylor & Francis Group; A Balkema book, p. 609-614 6 p.

**ASROCKS-Hankkeen heikkouuttomenetelmien vertailu**

Tarvainen, T., Hatakka, T., Backman, B., Ketola, T. & Härmä, P., 2014, GEOLOGIAN TUTKIMUSKESKUS. 13 p.

Research output: Book/Report › Commissioned report › Professional

**Condition-Based Track Maintenance and Rehabilitation Design Using Combined Data Analysis**

Silvast, M., Nurmikolu, A., Wiljanen, B. & Mäkelä, E., 2014, *GEORAIL 2014 : 2nd International symposium - Railway geotechnical engineering, 6-7 November 2014, France*. Ranska: IFSTTAR, p. 649-656 8 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

**Finnish mine waste disposal areas**

Leppänen, M., Laasonen, J. & Välisalo, T., 2014, *Geosynthetics Mining Solutions 2014*. Infomine

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

**Kivainesten otto arseenialueilla - opas kivainesten tuottajille, maarakentajille ja viranomaisille.**

Härmä, P., Tarvainen, T., Backman, B., Hatakka, T., Ketola, T., Kuula, P., Luoma, S., Pyy, O., Sorvari, J. & Loukola-Ruskeeniemi, K., 2014, Espoo: GEOLOGIAN TUTKIMUSKESKUS. 71 p.

Research output: Book/Report › Commissioned report › Professional

**Liite 6: Yleistä kaivannaisjätealueista ja patoturvallisuudesta**

Leppänen, M., Välisalo, T. (ed.) & Laasonen, J., 2014, *Kaivosten stressitesti 2013*. Ympäristöministeriö, (Ympäristöministeriön raportteja).

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Professional

**Stiffmaster - A continuous track stiffness measurement device**

Luomala, H., Peltokangas, O. & Nurmikolu, A., 2014, *GEORAIL 2014 : 2nd International symposium - Railway geotechnical engineering, 6-7 November 2014, France*. IFSTTAR, p. 109-118 10 p.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review