Curriculum Vitae

**Elena** **Scibilia (Kuznetsova)**

 Birth: 13.05.1985

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**EDUCATION**

2008 – 2011 **PhD in geology with specialization in permafrost engineering**, Department of Geocryology, Faculty of Geology, Lomonosov Moscow State University, Russia

2002 - 2008 – **BSc/MSc** **in geology** with honors, Department of Geocryology, Faculty of Geology, Lomonosov Moscow State University, Russia

**EMPLOYMENT HISTORY**

2017- present **Research scientist,** *NTNU (Norwegian University of Science and Technology)*, Trondheim, Norway

* Investigation of crushed rock materials used in transport infrastructure
* Project manager: “Frost protection of roads and railways” (2015-2019) (financed by the Norwegian Research Council) and “Russian-Norwegian Research-based education in Cold Regions Engineering (RuNoCORE)” (2018-2020) (financed by SIU), also small projects with BaneNOR and Statens Vegvesen
* Supervision of master and PhD students

2014 – 2016 **Postdoctoral fellow**, *NTNU (Norwegian University of Science and Technology)*, Trondheim, Norway

2012– 2013 **Research scientist**, *SINTEF Building and Infrastructure*, Trondheim, Norway

* Project manager in WP6 "Benchmarking, measures, and standardization" of *EU project PANTURA – Low-disturbance sustainable urban construction.*
* Researcher at the *SAMCOT project* (*Sustainable Arctic and Marine technologies*), WP6 - Coastal Technology.

**PhD RESEACH CO-SUPERVISION**

* Karlis Rieksts: Thermal conductivity of coarse crushed rock materials. (2015-2018)
* Benoit Loranger: Frost heave properties of crushed rock materials. Ongoing.
* Marit Fladvad: Optimal utilization of unbound aggregates in road construction. Ongoing
* Hao Gao: Modelling of freezing, frozen and thawing soils considering distinct ice-lenses

**MEMBERSHIP**

**Since 2018** *SN/K 005 Tilslag***, *Standard Norge***

**Since 2017** *Teknisk Byggeråstoffkomite* ***Norsk Bergindustri***

**Since 2016** *Steering committee* ***Frost I Jord*** (Norwegian organization)

**PUBLICATIONS (for the last 5 years)**

***REFEREED JOURNAL ARTICLES AND BOOK CHAPTERS***

1. Loranger, Benoit; Hoff, Inge; **Scibilia, Elena;** Doré, Guy. (2019)
Frost Heave Laboratory Investigation on Crushed Rock Aggregates. I: *Cold Regions Engineering 2019*. American Society of Civil Engineers (ASCE) 2019 ISBN 9780784482599. p. 83-91
2. Loranger, Benoit; Rieksts, Karlis; Hoff, Inge; **Scibilia, Elena.** (2019) Frost Depth and Frost Protection Capacity of Crushed Rock Aggregates Based on Particle Size Distribution. I: Cold Regions Engineering 2019. American Society of Civil Engineers (ASCE) 2019
3. Rieksts, Karlis; Loranger, Benoit; Hoff, Inge; **Scibilia, Elena.** (2019) In Situ Thermal Performance of Lightweight Aggregates Expanded Clay and Foam Glass in Road Structures. I: Cold Regions Engineering 2019. American Society of Civil Engineers (ASCE) 2019
4. Rieksts, Karlis; Hoff, Inge; **Scibilia, Elena**; Côté, Jean. (2019) Laboratory investigations into convective heat transfer in road construction materials. Canadian geotechnical journal (Print) (2019)
5. Rieksts, Karlis; Hoff, Inge; **Scibilia, Elena**; Côté, Jean. (2019) Modelling the Nu-Ra relationship to establish the intrinsic permeability of coarse open-graded materials from natural air convection tests in a 1m3 cell. International Journal of Heat and Mass Transfer 2019
6. **Kuznetsova E.** (2017) Thermal conductivity and unfrozen water content of volcanic ash deposits: a review / Clays and Clay Minerals (2017) 65 (3): 168-183
7. Perez Fortesa A.P., Anastasio S., **Kuznetsova E.,** Danielsen S.W. (2016) Behavior of Crushed Rock Aggregates Used in Asphalt Surface Layer Exposed to Cold Climate Conditions / Environmental Earth Sciences, 75:1414 (10 pages). DOI 10.1007/s12665-016-6191-3
8. Anastasio S., Perez Fortesa A.P., **Kuznetsova E.,** Danielsen S.W. (2016) Relevant Petrological Properties and their Repercussions on the Final use of Aggregates / Energy Procedia, 97, pp. 546 – 553 DOI: 10.1016/j.egypro.2016.10.073
9. **Kuznetsova E**., Hoff I., Danielsen S.V. (2016) FROST – Frost Protection of Roads and Railways // Mineralproduksjon, volume 7
10. Danielsen S. W., **Kuznetsova E.** (2015) Resource management and a Best Available Concept for Aggregate Sustainability / Sustainable Use of Traditional Geomaterials in Construction Practice, 2015. Geological Society, London, Special Publications, vol. 416, issue 1, pp. 59-70. DOI: 10.1144/SP416.7
11. Danielsen S.W., **Kuznetsova E.** (2014) Environmental impact and sustainability in aggregate production and use // Engineering Geology for Society and Territory (G. Lollino et al. (eds.)) - Volume 5: Urban Geology, Sustainable Planning and Landscape Exploitation. Pp. 41-44. DOI: 10.1007/978-3-319-09048-1\_7
12. **Kuznetsova E.,** Motenko R. (2014) Weathering of volcanic ash in the cryogenic zone of Kamchatka, Eastern Russia // Clay minerals, ***49***, pp. 195-212. DOI: 10.1180/claymin.2014.049.2.04

***REFEREED CONFERENCE PROCEEDINGS***

1. K. Rieksts, I. Hoff, **E. Kuznetsova,** J. Côté. Laboratory investigations on heat transfer of coarse crushed rock materials . GeoOttawa 2017 - 70th Canadian Geotechnical Conference and the 12th Joint CGS/IAH-CNC Groundwater Conference. Ottawa, Canada. October 1-4, 2017.
2. B. Loranger, E. **Kuznetsova**, I. Hoff, J. Aksnes, K.A. Skoglund. Evaluation of the Norwegian gradation based regulations for frost susceptibility of aggregates in roads and railways / BCRRA2017
3. K. Rieksts, I. Hoff & E. **Kuznetsova**, J. Côté. Laboratory investigations of thermal properties of crushed rock materials / BCRRA2017
4. K. Rieksts1, I. Hoff, E. **Kuznetsova**, Cote J. Laboratory investigations on heat transfer of coarse crushed rock materials / GeoOttawa 2017.
5. **Kuznetsova E.** Properties of the crushed rocks used as frost protection layer of the Norwegian roads: field and laboratory investigations // ECTRI – FEHRL – FERSI Young Researchers Seminar 2015. Rome, Italy.
6. **Kuznetsova E.,** Giudici H., Hoff I., Andreas S.A., Vignali V., Lantieri C., Marcheselli M., Miranda I. (2015) Investigation of crushed rock material used in the frost protection layer (Norway) // Proceedings of Canadian Conference on Permafrost GeoQuebec 2015.

***WHITE PAPERS***

Kuznetsova E. Case Study 4: Road infrastructure and climate effects in Norway in ***Arctic Transitions due to Infrastructure and Climate (RATIC): A contribution to ICARP III***. Editors: D.A. (Skip) Walker, J. L. Peirce Rapid. 51 pages, 2014.

***PROFESSIONAL JOURNALS***

1. **Kuznetsova E**., Hoff I. (2017) FROST prosjekt: Nye kalde og harde fakta // *Våre veger*. February 2017
2. Hoff I., **Kuznetsova E.** (2016) Steinforskning på NTNU // *Våre veger*. March 2016

**INVITED SPEAKER**

**03/2018 Forskning på bruk av lokale steinmaterialer** Stein i vei2018, Alta, Norway

**12/2018 Frost Protection of roads and railways: laboratory research**. Norsk Asfaltforenings dimensjoneringsgruppe (NADim) seminar. Oslo, Norway

**04/2017 Steinforskning på NTNU - Er det behov for å endre noen krav og beskrivelser?** Stein i vei, Trondheim, Norway

**03/2016 *Stein forskning p[ NTNU.*** Stein i vei, Molde, Norway

**02/2015** ***Betydningen av finstoffets egenskaper for veimaterialers telefarlighet***. Stein i vei 2015. Oslo, Norway

**12/2014** ***Comparison of different approaches to frost protection*.** Norsk Asfaltforenings dimensjoneringsgruppe (NADim) seminar. Oslo, Norway

**11/2014** ***How to avoid frost problems?*** Varige veger. Teknologidagene 2014. Trondheim, Norway