

CURICULUM VITAE**PERSONAL INFORMATION**

Name: Mats Olvmo
 Academic title: Associate professor
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Academic career

PhD examina November 1989 at the Department of Physical Geography, University of Gothenburg.
 Title of thesis: Meltwater canyons in Sweden A study of canyons of the "kursu"-, "skura"- and "grav"-type.
 Associate professor June 2002 at the Department of Earth Sciences, University of Gothenburg

Current position

Lecturer at the Department of Earth Sciences University of Gothenburg.

Earlier positions at the Departments of Physical Geography and Earth Sciences (from 1995), Göteborg University

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|---------------------|--------------------------|---|
| 83 07 01 - 88 06 30 | faculty research funding | 70% of full time, at the Department of Physical |
| 82 01 01 - 82 06 30 | teaching assistant | 50 |
| 83 07 01 - 85 06 30 | teaching assistant | 25 |
| 85 07 01 - 88 06 30 | teaching assistant | 30 |
| 88 07 01 - 89 02 15 | faculty research funding | 100 |
| 89 02 16 - 89 09 30 | lecturer | 50 |
| 89 10 01 - 90 12 31 | senior lecturer | 50 |
| 91 01 01 - 94 12 31 | research assistant | 100 |
| 93 01 01 - | senior lecturer | 100 |

Administrative functions

Director of studies at the Department of Earth Sciences 97-01-01 - 00-06-30
 Head of Physical Geography Division at Department of Earth Sciences 2003-06-01-2005-06-30
 Program coordinator – Bachelor program and Master program in geography 2007-0701-2009-06-30
 Program coordinator – Bachelor program and Master program in geography 2011-03-01-2017-06-30

Research funding (grants larger than 50000 SEK)

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|---|------------|
| 1992-94 NFR-funding for the project "Deglaciation och senglacial utveckling i Skäftesfallområdet" | 52,000 SEK |
| 1993-95 NFR- funding for the project "Djupvittring och paleoytor i sydöstra Sverige" | 76,000 |
| 1995-97 NFR- funding for the project Palaeosurfaces and deep weathering in Sweden (Karna Lidmar-Bergström main applicant) | 240,876 |
| 1998-00 NFR- funding for the project Palaeorelief, saprolites and uplift/denudation of cratons (Karna Lidmar-Bergström main applicant) | 719,504 |
| 2000-03 VR-funding, continued project Palaeorelief, saprolites and uplift/denudation of cratons (Karna Lidmar-Bergström main applicant) | 553,225 |
| 2007 Swedish National Space Board: Periglacial landforms on Mars: Classification, distribution and implications for subsurface ice and climate change | 412,000 |
| 2008 Swedish National Space Board: Periglacial landforms on Mars: Classification, distribution and implications for subsurface ice and climate change | 457,000 |

Supervision of PhD students

Johan Kling – Sorted circles and polygons in northern Sweden. (shared supervision). PhD 1997-01-15
Magnus Johansson – The role of tectonics, structures and etch processes for the present relief in glaciated Precambrian basement rocks of SW Sweden. (shared supervision). PhD 2000-06-04.
Johan Bonow - Palaeosurfaces and palaeovalleys on North Atlantic previously glaciated passive margins. (shared supervision) PhD May 2004.
Kerstin Ericson – Landform development in granitic terrain. PhD October 2004.
Andreas Johnsson – Periglacial landforms on Mars. Dissertation 2012-10-05.

Staffan Rosell – Sustainable landuse in Wollo Province, Ethiopia (supervisor). 2013-10-04
Gustaf Peterson Becher -Sedimentology and Geomorphology of Glacial Landforms in Southern Sweden:
 Studying the landscape of a melting ice sheet (shared supervision) PhD defense 2021-03-24

Other relevant activities

Participation in examination boards and faculty opponent duties etc.

1997 - Eva Lena Tullborg: *Recognition of low-temperature processes in the Fennoscandian Shield*. PhD thesis (member examination board)
 1997 – Charlotte Cederbom: *Fission track thermochronology applied to Phanerozoic thermotectonic events in central and southern Sweden* FL thesis (opponent)
 1999 – Krister Jansson: *The glacial geomorphology of North-Central Quebec-Labrador, Canada*. Licentiate thesis (shared opposition)
 2002 - Hanna Lokrantz: *Pleistocene stratigraphy, ice sheet history and environmental development in the southern Kara Sea, Arctic Russia* (PhD thesis, member examination board)
 2002 – Krister Jansson: *Glacial geomorphology of North -Central Quebec-Labrador, Canada*. PhD thesis (member examination board).
 2005 – Karin Ebert: *Large scale geomorphology and long-term landscape development of northern Fennoscandia*, Licentiate thesis (opponent)
 2009 - Karin Ebert: *Cenozoic landscape evolution in northern Sweden*. PhD thesis. (member examination board).
 2016 – Andrea Seim: *Spatiotemporal climate and atmospheric circulation variability in Asia inferred from tree rings* (member examination board).

Membership in other boards

Member of an expert group evaluating the quality of higher education in geosciences in Sweden by direction of the National Agency for Higher Education, 2003 finished spring 2004.

Member of "Svenska geologiska namnkommittén" 2019-2021

Member Nationella kommittén för UNESCOs Internationella Geovetenskaps-och Geoparksprogram (IGGP) 2021-

Bibliometrics and publication profile

The publication list includes different fields within geomorphology including periglacial and glacial geomorphology, weathering, structural geomorphology and bedrock geomorphology of glaciated shields as well as Martian geomorphology and earth analogues (mostly Svalbard) as well as research with a more broad geographical approach which addresses livelihood problems in the Ethiopian highlands.

Google Scholar h-index 15, i10-index 17 Since 2016 h-index 11, i10-index 12

List of publications

- Olvmo, M.**, 1985: Meltwater canyons of the "kursu" and the "skura" type. *Geografiska Annaler* 67A (1-2), pp.133-137.
- Olvmo, M.**, 1989: Meltwater canyons in Sweden. A study of canyons of the "kursu", "skura" and "grav" type. University of Göteborg, Department of Physical Geography, GUNI report 27, 134 pp. (thesis)
- Franzén, L., & **Olvmo, M.**, 1990: Small scale glacial erosion forms and their possible relation to post-glacial weathering. *Geografiska Annaler* 73A (1): 1-7
- Olvmo, M.**, 1992: Glaciofluvial canyons and their relation to the Late Weichselian deglaciation in Fennoscandia. *Zeitschrift für Geomorphologie* 36 (3): 343-363.
- Olvmo, M.**, Ronnert, L., Ekman, S. & Olsson, S. (1996): A weathered diamicton beneath Upper Weichselian sediments at Silvereke, southeastern Sweden. *GFF*, Vol. 118 (Pt. 2 June), pp.65-71. Stockholm. ISSN 1103-5897.
- Lidmar-Bergström, K., Olsson, S., & **Olvmo, M.** (1997): Palaeosurfaces and associated saprolites in southern Sweden. In Widdowson, M. (ed.): *Palaeosurfaces: Recognition, Reconstruction and Palaeoenvironmental interpretation* Geological Society, *Special Publication* No. 120, pp. 94-124.
- Olvmo, M.**, Lidmar-Bergström & Lindberg, G., (1999): The glacial impact on an exhumed sub-Mesozoic etch surface in south-western Sweden. *Annals of Glaciology*, vol. 28: 153-160.
- Johansson, M., **Olvmo, M.** & Söderström, M., (1999): Application of digital elevation and geological data in studies of morphotectonics and relief - a case study of the sub-Cambrian peneplain in south-western Sweden. *Zeitschrift für Geomorphologie* 43 (4): 505-520.
- Johansson, M., **Olvmo, M.** & Lidmar-Bergström, K., (2001): Inherited landforms and glacial

- impact of different palaeosurfaces in Southwest Sweden. *Geografiska Annaler* 83 A (1-2): 67-89.
- Johansson, M., Migon, P. & **Olvmo, M.**, (2001): Development of joint-controlled basins in Bohus granite, SW Sweden. *Geomorphology* 40: 145-161.
- Olvmo, M.** & Johansson, M., (2002): The significance of rock structure, lithology and preglacial deep weathering for the shape of intermediate-scale glacial erosional landforms. *Earth Surface Processes and Landforms* 27:251-268.
- Ericson, K. & **Olvmo, M.**, (2004): A-tents in the Central Sierra Nevada, California. A geomorphological indicator of tectonic stress. *Physical Geography* 25 (4): 291–312.
- Ericson, K., Migon, P., **Olvmo, M.**, (2005): Fractures and drainage in the granite mountainous area. A study from Sierra Nevada. *Geomorphology* 64(2005): 97-116.
- Olvmo, M.**, Lidmar-Bergström, K., Ericson, K. & Bonow, J. M., (2005): Saprolite remnants as indicators of preglacial landform genesis in southeast Sweden. *Geografiska Annaler* A 87: (3): 447-460.
- Olvmo, M.**, (2010). Review of denudation processes and quantification of weathering and erosion rates at a 0.1 to 1 Ma time scale. Swedish Nuclear Fuel and Waste Management Co., Technical Report TR-09-18.
- Lindberg, F., **Olvmo, M.**, Bergdahl, K. (2011). Mapping areas of potential slope failures in cohesive soils using a shadow-casting algorithm-A case study from SW Sweden. Accepted for publication in *Computers and Geotechnics*.
- D. Reiss, E. Hauber, H. Hiesinger, R. Jaumann, F. Trauthan, F. Preusker, M. Zanetti, M. Ulrich, A. Johansson, L. Johansson, **M. Olvmo**, A.E. Carlsson, H.A.B. Johansson, and S. McDaniel. (2011) Terrestrial gullies and debris flows on Svalbard as planetary analogs for Mars. *The Geological Society of America - Special Paper* 483: 165-175.
- E. Hauber, D. Reiss, M. Ulrich, F. Preusker, F. Trauthan, M. Zanetti, H. Hiesinger, R. Jaumann, L. Johansson, A. Johansson, **M. Olvmo**, A.E. Carlsson, H.A.B. Johansson, S. McDaniel. (2011). Periglacial landscapes on Svalbard: terrestrial analogues for cold-climate landforms on Mars. *The Geological Society of America - Special Paper* 483: 177-201.
- E. Hauber, D. Reiss, M. Ulrich, F. Preusker, F. Trauthan, M. Zanetti, H. Hiesinger, R. Jaumann, L. Johansson, A. Johansson, S. van Gasselt, **M. Olvmo**. (2011). Landscape evolution in Martian mid-latitude regions: Insights from analogous periglacial landforms in Svalbard. In Balme, M., Bargery, A. S., Gallagher, C. J. & Gupta, S. (eds.) *Martian Geomorphology*, The Geological Society of London - Special Publications, 356: 111-131.
- A. Johansson, D. Reiss, E. Hauber M. Zanetti, H. Hiesinger, L. Johansson a, **M. Olvmo**. (2012). Periglacial mass-wasting landforms on Mars suggestive of transient liquid water in the recent past: Insights from solifluction lobes on Svalbard. *Icarus* 218. 489-505.
- Rosell, S. & **Olvmo, M.**, (2013). An analysis of Soil Productivity Parameters and Livelihoods in West Shewa and South Wollo, Ethiopia. *Scottish Geographical Journal*. DOI:10.1080/14702541.2013.820027, published online 22 Jul 2013.
- Lidmar-Bergström, K. & **Olvmo, M.** (2015). Plains, steps, hilly relief and valleys in northern Sweden – review, interpretations and implications for conclusions on Phanerozoic tectonics. Swedish Geological Survey, Research paper C 838, 42 pp.
- Lidmar-Bergström, K. & **Olvmo, M.**, Bonow, J. M. (2017). The South Swedish Dome: a key structure for identification of peniplains and conclusions on Phanerozoic tectonics of an ancient shield. *Geologiska Föreningen i Stockholm Förhandlingar (GFF)* 139, 249-259.
- Rosell, S., **Olvmo, M.** & Holmer, B. (2017). Cultivated land – a scarce commodity in a densely populated rural area in South Wollo, Ethiopia. *Journal of Land Use Science* <https://doi.org/10.1080/1747423X.2017.1319978>
- Olvmo, M.**, Holmer, B., Thorsson, S., Reese, H. & Lindberg, F. (2020). Sub-arctic palsa degradation and the role of climatic drivers in the largest coherent palsa mire complex in Sweden (Vissátvuopmi), 1955–2016. *Scientific Reports* | (2020) 10:8937 |

Conference Abstracts and Papers

- Olvmo, M.**, 1995: Microtextures on quartz sand grain - a complementary method to differentiate saprolites in south Sweden. 16th Regional meeting of Sedimentology, Aix-Les-Bains, France 24-26 April 1995, (abstract).
- Lidmar-Bergström, K., Olsson, S., & **Olvmo, M.** (1996): Saprolites in Sweden - distribution, characteristics, and morphological significance, with some comments on similar saprolites in Central Europe. *GFF* 118 A111. (abstract)
- Olvmo, M.**, Lidmar-Bergström & Lindberg, G., (1998): Genesis of granite landforms in an area of "glacial scouring", southwestern Sweden. International symposium on glaciers and the glaciated landscape, Kiruna, 17-20 aug 1998 (abstract)

- Johansson, M. & **Olvmo, M.**, (2005): Development of granite sheet fractures in response to long-term morphotectonic evolution in SW Sweden. Sixth international conference on geomorphology, Zaragoza, Spain, 2005, Conference Abstract (refereed).
- Reiss, D., Hiesinger, H. Zanetti, M. Hauber, E. Johnsson, A. Carlsson, E. Raack, J. **Olvmo, M.** Johansson, H.A.B. Johansson, L. Fredriksson, S. Schmidt, H.T. McDaniel, S. Heldmann, J.L. McKay, C.P. (2008). Debris flows of the mountain massif of Hjorthfjellet and Adventtoppen, Svalbard: Implications for gullies on mountains in the Argyre basin, Mars. EPSC Abstracts, Vol. 3, EPSC2008-A-00537, 2008. European Planetary Science Congress
- Carlsson, E., Johansson, H.A.B. Johnsson, A. Heldmann, J.L. McKay, C.P. **Olvmo, M.** Johansson, L. Fredriksson, S. Schmidt, H.T. McDaniel, S. Reiss, D. Hiesinger, H. Hauber E., M. Zanetti, M., (2008): Field studies of gullies and pingos on Svalbard – A Martian analog. EPSC Abstracts, Vol. 3, EPSC2008-A-00480, 2008 European Planetary Science Congress
- Johnsson, A. Delbratt, E., Mustard, J. F., Milliken. R. E., Reiss, D. Hiesinger, H., **Olvmo, M.**, (2008). Small scale polygonal patterns along the southern water ice margin on Mars. EPSC Abstracts, Vol. 3, EPSC2008-A-00379, 2008. European Planetary Science Congress, © Author(s) 2008.
- Johnsson, A. Delbratt, E., Mustard, J. F., Milliken. R. E., Reiss, D. Hiesinger, H., **Olvmo, M.**, (2008). Small scale polygonal patterns along the southern water ice margin on Mars. Lunar and Planetary Science XXXIX, #1753 (2008).
- Carlsson, E., Johansson, H., Johnsson, A., Heldmann, J. L., McKay, C. P., **Olvmo, M.**, Fredriksson, S., Schmidt, H. T.,(2008). An evaluation of models for Martian gully formation using remote sensing and in situ measurements of Svalbard analogs. Lunar and Planetary Science XXXIX, #1852 (2008).
- Johnsson, A., **Olvmo, M.**, Reiss, D. and Hiesinger, H (2009). Latitudinal survey of periglacial landforms and gullies in eastern Argyre and polewards on Mars. 40th Lunar and Planetary Science Conference (2009) #2405
- Hauber, E., Preusker, F., Trauthan, F., Reiss, D., Carlsson, A. E., Hiesinger, H., Jaumann, R., Johansson, H.A.B., Johansson, L., Johnsson, A., McDaniel, S., **Olvmo, M.** Zanetti, M. (2009). *Morphometry of alluvial fans in a polar desert (Svalbard, Norway): Implications for interpreting martian fans.* 40th Lunar and Planetary Science Conference (2009) #1648
- Reiss, D., Hiesinger, H., Hauber, E., Zanetti, M., Preusker, F. Trauthan, F., Reimann, G. M., Raack, J. Carlsson, A. E., Johnsson, A., M. **Olvmo, M.**, Jaumann, J., H.A.B. Johansson, H. A.B., Johansson, L. and McDaniel, S. (2009). *Morphologic and morphometric comparison of gullies on Svalbard and Mars..* 40th Lunar and Planetary Science Conference (2009) #2362
- Johnsson, A., Johansson, L., Zanetti, M., Reiss, D., Hauber, E., Hiesinger, H., Ulrich, R.M., Olvmo, M., Carlsson, E., Jaumann, R., Trauthan, F., Preusker, F., Johansson, H.A.B. & McDaniel, S. (2010) *The origin of strip-like patterns on Martian gully slopes: using Svalbard Advent Valley as a Mars analogue..* 41st Lunar and Planetary Science Conference, 1.-5. March 2010, The Woodlands, TX, USA. ISSN 1540-7845
- Hauber, E., Reiss, D., Ulrich, R.M., Krohn, K., Preusker, F., Trauthan, F., Zanetti, M., Hiesinger, H., van Gasselt, S., Jaumann, R., Johansson, L., Johnsson, A., and **Olvmo, M.** (2011). *Debris flow fans and permafrost landforms on Svalbard (Norway): Terrestrial analogues for martian mid-latitude periglacial landscapes.* 41st Lunar and Planetary Science Conference, 1.-5. March 2010, The Woodlands, TX, USA. ISSN 1540-7845
- Johnsson, A., Reiss, D., Hauber, E., Johansson, L., Zanetti, M., Hiesinger, H., Ulrich, M. R., **Olvmo, M.**, Carlsson, E., Jaumann, R., Trauthan, F., Preusker, F. and Johansson, H. A. B. (2011). Possible freeze-and-thaw landforms on high latitude slopes on Mars: Insights from terrestrial analogues in Spitsbergen, Svalbard. 42nd Lunar and Planetary Science Conference 2011.
- Stenborg, P., Schaan, D., Isendahl, C., Söderström, M., Eriksson, J. Amaral, M. and **Olvmo, M.**, (2013). The cultivated Wilderness Project. Hinterland archaeology in the Belterra Region, Pará, Brazil. *3er Encuentro Internacional de Arqueología Amazónica*, Quito, Ecuador.
- Olvmo, M.** and Johansson, M. (2014). The development of granite domes and their role in understanding the geomorphological evolution in SW Sweden. *31st Nordic Winter Meeting*, Lund, Sweden.
- Lidmar-Bergström, K. & **Olvmo, M.** (2014). Inherited basement relief and glacial erosion in northern and central Sweden – a review. *31st Nordic Winter Meeting*, Lund, Sweden.
- Johnsson, A., Reiss, D., Hauber, E., Johnson, M. D., **Olvmo, M.**, and Hiesinger, H. (2015). Veiki-moraine-like landforms in Nereidum Montes Region on Mars: Insights from analogues in northern Sweden. *European Planetary Science Congress 2015*, Nantes, France, Vol. 10, EPSC2015-878-1
- Reese, H., **Olvmo, M.**, Holmer, B., Thorsson, S. (2021). Multi-scale remote sensing observations of a palsa in degradation phase. , EGU General Assembly 2021, online, 19–30 Apr 2021, EGU21-14455, 2021.

Popular Science publications

Olvmo, M. Skurorna i Småland. Geologiskt Forum nr 50, 2006, p. 8-11.

Olvmo, M., & Johnson, M., Karna Lidmar-Bergström blir hedersdoktor i Göteborg. Geologiskt Forum nr 98, 2018, p. 20-21.

Olvmo, M., Thorsson, S., Reese, H., Holmer, B. Vissátvuopmi palsmyr – en naturtyp på väg att försvinna. Geologiskt Forum nr 108, 2020, p. 4-11.

Other Reports

Ljungqvist, P. & **Olvmo, M.**, 1989: Nebkhas in the Sidi Bouzid area of Tunisia. I (Franzén, L.) red: Field course in the Sidi Bouzid area, central Tunisia 1988. GUNI rapport 26, 11 s.

Rosén, L. & **Olvmo, M.**, 1990: Sårbarhetklassificering av grundvattnet i Lysekils kommun. Rapport Lysekils kommun 1990.

Hultengren, S & **Olvmo, M.**, 1991: Ängar och hagar i Lysekils kommun. Länsstyrelsen i Göteborgs och Bohus län.

Hultengren, S & **Olvmo, M.**, 1991: Ängar och hagar i Sotenäs kommun. Länsstyrelsen i Göteborgs och Bohus län.

Books

Kinnekkulle. Bland drumliner och fossil. (red: Magnusson, B., Olin, K. & **Olvmo, M.**), Cradle Publishing, Gummessons Tryckeri AB Falköping 1992.