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## GRO BIRKEFELDT MØLLER PEDERSEN

Postdoctoral research fellow  
July 8, 1982  
Female  
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### EDUCATION

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**PhD** : Dept. Geology Aarhus University, Denmark 08/2008 – 04/2011  
Supervisors: Dr. Nørnberg, Dr. Gunnlaugsson.  
Major collaborator: Prof. Head III  
**MSc Geology**: Dept. Geology Aarhus University, Denmark 08/2005 – 07/2008  
**BSc Geology**: Dept. Geology Aarhus University, Denmark 08/2002 – 07/2005

### PROFESSIONAL EXPERIENCE

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**Project leader, EMMIRS grant of excellence**, University of Iceland, Iceland 04/2015-present  
**Post-doctoral research fellow**, University of Iceland, Iceland 04/2015-present  
**Post-doctoral research fellow**, Nordic Volcanological Center, Iceland 09/2013- 03/2015  
**Post-doctoral research fellow**, University of Iceland, Iceland 01/2011- 08/2013  
**Graduate research fellow**, Aarhus University, Denmark 08/2006-12/2010  
**Research assistant**, Hawaiian Volcano Observatory, USA 05/2010-10/2010  
**Teaching assistant**, Aarhus University, Denmark 05/2005-10/2010

### AWARDS, GRANTS AND FELLOWSHIPS

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NERC International Opportunities Fund (Co-proposer) 37537£ 2018-2020  
Icelandic Research Council, Rannís, grant of Excellence (Co-proposer) 98.135 mio ISK 2015- 2018  
Innviðarsjóður (Co-proposer), 3.695 mio ISK 2017  
Tækjakaupasjóður Háskóla Íslands (Co-proposer), 2.0 mio ISK 2016  
Goetz Instrument support program: ASD field spectrometer (Co-proposer) 2016  
European Facility For Airborne Research – EUFAR (Co-proposer).  
NERC ARSF flight survey (LiDAR, hyperspectral and aerial photography) of Holuhraun 2015  
AVCEI registration grant: 338€ 2015  
NORDVULK postdoctoral research fellowship (Nordic Council of Ministers) 2014-2015  
NORDVULK postdoctoral research fellowship (Nordic Council of Ministers) 2013-2014  
Danish Research Council (FNU), Postdoctoral grant: 1,200,833DKK (161,102€) 2011-2013  
NORDVULK postdoctoral research fellowship (Nordic Council of Ministers) 2011-2012  
Young Scientist's Travel Award (EGU): 338€ 2011  
Nordforsk grant: 900€ 2009  
Niels Bohr Fondet: 15,000DKK (2012€) 2008  
Knud Højgaard's Fond: 15,000DKK (2012€) 2008  
Dansk Geofysisk Forenings Rejselegat: 3000DKK (402€) 2007  
Nordic Mineralogical Network: 10,000DKK (1342€) 2007  
Nordplus: 1880€ 2006  
Etatsråd C. G. Filtenborg & hustru Marie Filtenborgs studielegat: 1000DKK (134€) 2006  
American Fulbright Grantees 85,000DKK (11,404€) 2005

## TEACHING AND SUPERVISION

Supervisor of Master student Rikke Vestergaard, Aarhus University	2018-2019
Supervisor of Master student Markus Koleszar, University of Iceland	2017-2018
Supervisor of Master student Tarun Devrani, Eberswalde University	2017-2018
Supervisor of Fulbright scholar Rose Rustowicz, Rochester Institute of Technology (RIT)	2015-2016
Supervisor of Master student Thórey Dagmar Möller, University of Iceland	2013-2014
NORDVULK summer school on remote sensing techniques in a dynamic geological Setting, Teaching lectures + practicals, University of Iceland.	2013
Object-based image analysis, Guest teacher in „Image processing and GIS in geological research“ University of Iceland	2013
Volcanology (8 ECTS), Teaching lectures + practicals, University of Iceland	2012
Fieldtrips on Reykjanes Peninsula (Organizer & guide), Nordic Volcanological Center	2011-2012
Introduction geologic mapping, Hawaiian Volcanological Observatory	2010
Principal Supervisor of BSc- project (10 ECTS, >40hr) Aarhus University	2008-2009
Minerals and Rocks (5 ECTS), Teaching Assistant (~170 hr) Aarhus University	2007-2009
Geochemistry (5 ECTS) Teaching Assistant (~160 hr), Aarhus University	2007
Rock Microscopy (5 ECTS) Teaching Assistant (~260 hr) Aarhus University	2006-2007
Philosophy of Science: Geology (5 ECTS), Teaching Assistant; Aarhus University	2005

## PUBLICATIONS (PEER-REVIEWED)

**Summary:** Since 2010 the candidate has published 15 peer-reviewed journal articles (8 as first author) and 2 first-author entries to Springers Encyclopedia of Planetary landforms. Google Scholar H-index is 7 and i10-index is 7. Check: <https://scholar.google.is/citations?user=7sGKjOsAAAAJ&hl=en>

1. Dumont S., Sigmundsson F., Parks M., Drouin V., **Pedersen G. B. M.**, Jónsdóttir I., Höskuldsson Á., Hooper A., Spaans K., Bagnardi, M., Gudmundsson M.T., Barsotti S., Hjartardóttir Á. R., Dürig T., Rossi C. (accepted) Integration of SAR data into monitoring of the 2014-2015 Holuhraun eruption, Iceland: Contribution of the Icelandic Volcanoes Supersite and the FutureVolc projects. *Frontiers*
2. Tarquini, S., de' Michieli Vitturi, M., Jensen, E.H., **Pedersen, G.B.M.**, Barsotti, S., Coppola, D., Pfeffer, M. (accepted) Modeling lava flow propagation over a flat landscape by using MrLavaLoba: the case of the 2014–2015 eruption at Holuhraun, Iceland. *Annals of Geophysics*.
3. Vilmundardóttir, O. K., F. S. Sigmundsson, **Pedersen, G. B. M.**, Belart, J. M. C., Kizel, F., Falco, N., Benediktsson, J. A., Gísladóttir, G. (2018). Off mosses and men – the impact of environmental factors on ecosystem development on the historical lava flow fields of Mt. Hekla in south Iceland. *Progress in Physical Geography*, <https://doi.org/10.1177/0309133318798754>.
4. Halldórsson, S.A., Bali, E., Hartley, M. E., Neave, D.A., Peate, D.W., Guðfinnsson, G. H., Jakobsson, S. Bindeman, I., Whitehouse, M. J., **Pedersen, G. B. M.** et al. (2018). Petrology and geochemistry of the 2014-2015 Holuhraun eruption, central Iceland: compositional and mineralogical characteristics, temporal variability and magma storage, *CMP*, <https://doi.org/10.1007/s00410-018-1487-9>.
5. **Pedersen, G. B. M.**, Belart, J. M. C., Magnusson, E., Vilmundardóttir, O. K., Kizel, F., Sigmundsson, F. S., Gísladóttir, G., Benediktsson, J. A. (2018) Hekla volcano, Iceland, in the 20th century: Lava volumes, magma supply and effusion rates, *GRL*, doi: 10.1002/2017GL076887.
6. Kizel, F., Bruzzone, L., **Pedersen, G. B. M.**, Vilmundardóttir, O. K., Falco, N., Benediktsson, J. A. (2018) Simultaneous and Constrained Calibration of Multiple Hyperspectral Images Through a New Generalized Empirical Line Model, *JSTAR*, doi: 10.1109/IGARSS.2017.8127924.
7. **Pedersen, G. B. M.**, A. Höskuldsson, T. Dürig, T. Thordarson, I. Jónsdóttir, M.S. Riishuus, B.V. Óskarsson, S. Dumont, E. Magnusson, M.T. Gudmundsson, F. Sigmundsson, V.J.P.B. Drouin, C. Gallagher, R. Askew, J. Guðnason, W.M. Moreland, P. Nikkola, H. I. Reynolds, J. Schmith (2017) Lava field evolution and emplacement dynamics of the 2014-2015 basaltic fissure eruption at Holuhraun, Iceland, *JVGR*, <http://dx.doi.org/10.1016/j.jvolgeores.2017.02.027>.
8. Gudmundsson, M. T., Jónsdóttir, K., Hooper, A., Holohan, E. P., Halldórsson, S. H., Ófeigsson, B. G., Cesca, S., Vogfjörð, K. S., Sigmundsson, F., Högnadóttir, T., Einarsson, P., Sigmarsson, O., Jarosch, A. H., Jónasson, K., Magnússon, E., Hreinsdóttir, S., Bagnardi, M., Parks, M. M., Hjörleifsdóttir, V., Pálsson, F., Walter, T. R., Schöpfer, M. P. J., Heimann, S., Reynolds, H. I., Dumont, S., Bali, E., Guðfinnsson, G. H., Dahm, T., Roberts, M. J., Hensch, M., Belart, J. M.C., Spaans, K., Jakobsson, S., Gudmundsson, G. B., Fridriksdóttir, H. M., Drouin, V., Dürig, T., Aðalgeirsdóttir, G., Riishuus, M. S., **Pedersen, G. B. M.**, Boeckel, T. V., Oddsson, B., Pfeffer, M. A., Barsotti, S., Bergsson,

- B., Donovan, A., Burton, M. R., Aiuppa, A. (2016) Gradual caldera collapse at Bárðarbunga volcano, Iceland, regulated by lateral magma flow, *Science*, doi: 10.1126/science.aaf8988
9. **Pedersen, G. B. M.** (2016) Semi-automatic classification of glaciovolcanic landforms: An object-based mapping approach based on geomorphometry, *JVGR*, doi:10.1016/j.jvolgeores.2015.12.015
  10. Gíslason, S.R., G. Stefánsdóttir, M.A. Pfeffer, S. Barsotti, Th. Jóhannsson, I. Galeczka, E. Bali, O. Sigmundsson, A. Stefánsson, N.S. Keller, A. Sigurdsson, B. Bergsson, B. Galle, V.C. Jacobo, S. Arellano, A. Aiuppa, E.S. Eiríksdóttir, S. Jakobsson, G.H. Guðfinnsson, S.A. Halldórsson, H. Gunnarsson, B. Haddadi, I. Jónsdóttir, Th. Thordarson, M. Riishuus, Th. Högnadóttir, T. Dürig, **G.B.M. Pedersen**, Á. Höskuldsson, M.T. Gudmundsson (2015) Environmental pressure from the 2014–15 eruption of the Bárðarbunga volcano, Iceland, *Geochem. Perspect. Lett* 1, 84-93, doi: 10.7185/geochemlet.1509
  11. **Pedersen, G. B. M.**, Grosse, P. (2014) Morphometry of subaerial and intraglacial volcanoes from Reykjanes Peninsula, Iceland: Effects of eruption environment, *JVGR*, doi: 10.1016/j.jvolgeores.2014.06.008.
  12. **Pedersen, G. B. M.** (2014) Chaos Terrain. In: Hargitai, H., Kereszturi (eds.) *Encyclopedia of Planetary Landforms*. Springer, Berlin, Germany.
  13. **Pedersen, G. B. M.** (2014) Ring-mold craters. In: Hargitai, H., Kereszturi (eds.) *Encyclopedia of Planetary Landforms*. Springer, Berlin, Germany.
  14. **Pedersen, G. B. M.**, 2013. Frozen Martian lahars? Evaluation of morphology, degradation and geologic development in the Utopia –Elysium transition zone. *Planetary and Space Science*, doi:10.1016/j.pss.2013.05.020.
  15. **Pedersen, G. B. M.**, Head III, J. W., 2010. Evidence of widespread degraded Amazonian-aged ice-rich deposits in the transition between Elysium Rise and Utopia Planitia, Mars: Guidelines for the recognition of degraded ice-rich materials. *Planetary and Space Science*, doi:10.1016/j.pss.2010.09.019.
  16. **Pedersen, G. B. M.**, Head III, J.W., 2010. Chaos formation by sublimation of volatile-rich substrate: Evidence from Galaxias Chaos, Mars. *Icarus*, doi:10.1016/j.icarus.2010.09.005.
  17. **Pedersen, G. B. M.**, Head III, J. W., Wilson, L., 2010. Formation, erosion and exposure of Early Amazonian dikes, dike swarms and possible subglacial eruptions in the Elysium Rise/Utopia Basin Region, Mars. *Earth Planet. Sci. Lett*, doi:10.1016/j.epsl.2009.08.010

#### **PUBLICATIONS IN REVIEW/SUB./IN PREP. (PEER-REVIEWED)**

- Pedersen, G. B. M.**, Morales, J., Einarsson, P., Vilmundardóttir, O. K., Sigurdsson, F. S., Belart, J. M. C., Hjartardóttir, Á.R., Kizel, F., Rostuwicz, R., Falco, N., Gísladóttir, G., Benediktsson, J.A. (in review) Historical lava fields at Hekla volcano, SW Iceland. *Jökull*.
- Pedersen, G. B. M. et al.** (in prep.) Open benchmark repository of the Hekla volcano. *Scientific Data*
- Pedersen, G. B. M. et al.** (in prep.) Glacier development and ice-volcano interactions on Hekla volcano.
- Pedersen, G. B. M., Grosse, P.** (in prep.) Morphometric analysis of tuyas in the neovolcanic zone, Iceland.

#### **CONFERENCE ABSTRACTS & PROCEEDINGS**

##### **2018**

1. Friedl, B., Hölbling, D., Diettrich, J., Tiede, D., Saemundsson, T., Gudmundsson, S., **Pedersen, G. B. M.** Delineation of rock avalanche deposits on glaciers from different remote sensing data. Presented at EGU, Vienna, Austria.
2. **Pedersen, G. B. M.**, Belart, J. M. C., Magnusson, E., Vilmundardóttir, O. K., Kizel, Falco, N., F., Sigmundsson, F. S., Gísladóttir, G., Benediktsson, J. A. The evolution of Hekla volcano in the 20th century: Integrating remote sensing data from the past 70 years. Presented at Nordic Geological Winter Meeting, Copenhagen, Denmark.
3. **Pedersen, G. B. M.**, Vilmundardóttir, O. K., Kizel, F., Falco, N., Sigmundsson, F. S., Belart, J. M. C., Gísladóttir, G., Benediktsson, J. A. Environmental mapping and monitoring of Iceland by remote sensing (EMMIRS). Presented at Nordic Geological Winter Meeting, Copenhagen, Denmark.

##### **2017**

3. Diettrich, J., Friedl, B., Hölbling, D, **Pedersen, G. B. M.**, Saemundsson, T., Gudmundsson, S. Towards the Compilation of a Terrain-Corrected Backscatter Database of Glacio-Volcanic Land Cover Types. Presented at Geological Remote Sensing Group (GRSG) 28th Annual Conference, Lisbon, Portugal
4. **Pedersen, G. B. M.**, A. Höskuldsson, T. Dürig, T. Thordarson, I. Jónsdóttir, M.S. Riishuus, B.V. Óskarsson, S. Dumont, E. Magnusson, M.T. Gudmundsson, F. Sigmundsson, V.J.P.B. Drouin, C. Gallagher, R. Askew, J. Guðnason, W.M. Moreland, P. Nikkola, H. I. Reynolds, J. Schmith. 2017. Lava field evolution

and emplacement dynamics of the 2014-2015 basaltic fissure eruption at Holuhraun, Iceland. Presented at IAVCEI, Portland, USA.

5. Dumont, S., F. Sigmundsson, A. Hooper, K. Vogfjörð, S. Hreinsdóttir, B. Ófeigsson, M. Pfeffer, D. Coppola, S. Barsotti, M. Ripepe, E. Eibl, C. Bean, E. Heimisson, M. Parks, M. T. Gudmundsson, K. Jónsdóttir, V. Drouin, **G. B. M. Pedersen**, Á. Höskuldsson, S. Halldórson and the IES field team. 2017. Spatial and temporal evolution of the plumbing system feeding the 2014-2015 fissure eruption at Holuhraun (Iceland) inferred from a multi-disciplinary approach. Presented at IAVCEI, Portland, USA.
6. Belart, J. M. C., **G.B.M. Pedersen**, F. Kizel, E. Magnússon, O. K. Vilmundardóttir, N. Falco, F. S. Sigmundsson, G. Gísladóttir, S. Tarquini, Mattia de' Michieli Vitturi, J.A. Benediktsson. 2017. The evolution of Hekla volcano in the 20th century: Integrating remote sensing data from the past 70 years. Presented at IAVCEI, Portland, USA.
7. Vilmundardóttir, O. K., F. S. Sigmundsson, **G. B.M. Pedersen**, F. Kizel, N. Falco, J. M.C. Belart, G. Gísladóttir and J. A. Benediktsson. 2017. Examining primary succession for the past 850 yrs on the lava-chronosequence of Hekla volcano in south Iceland. Presented at IAVCEI, Portland, USA.
8. Vilmundardóttir, O. K., F. S. Sigmundsson, **G. B.M. Pedersen**, F. Kizel, N. Falco, J. M.C. Belart, G. Gísladóttir and J. A. Benediktsson. 2017. Examining primary succession for the past 850 yrs on the lava-chronosequence of Hekla volcano in south Iceland. Presented at ESA Portland, USA.
9. **Pedersen, G. B. M.**, A. Höskuldsson, M. S. Riishuus, I. Jónsdóttir, T. Thórdarson, T. Dürig, M. T. Gudmundsson, S. Dumont and the IES eruption Team. 2017. Lava field evolution and emplacement dynamics of the 2014-2015 basaltic fissure eruption at Holuhraun, Iceland. Presented at JFI, Reykjavík, Iceland.
10. **Pedersen, G. B. M.**, J. M.-C. Belart, O. K. Vilmundardóttir, N. Falco, F. Kizel, F.S. Sigmundsson, R. Rustowicz, G. Gísladóttir, and J. A. Benediktsson. 2017. The landscape evolution at Hekla volcano, Iceland: Integrating remote sensing data from the past 70yr. Presented at JFI, Reykjavík, Iceland.

## 2016

11. Falco, N., **G. B. M. Pedersen**, O. K. Vilmundardóttir, J. M.-C. Belart, F. S. Sigmundsson, F. Kizel and J. A. Benediktsson. 2016. Unsupervised Change Detection for Geological and Ecological Monitoring via Remote Sensing: Application on a Volcanic Area. Presented at AGU, San Francisco, USA.
12. Rossi, C., **G. B. M. Pedersen**, S. Dumont, M. Dirscherl. 2016. Geodetic exploitation of the 2014-2015 Bardarbunga unrest: volume variation history and lava tube evolution (155362). Presented at AGU, San Francisco, USA.
13. Dumont, S., F. Sigmundsson, A. Hooper, S. Hreinsdóttir, B. Ófeigsson, M. Parks, M. Pfeffer, K. Vogfjörð, S. Barsotti, E. Eibl, V. Drouin, E. Heimisson, **G. B. M. Pedersen**, Á. Höskuldsson, and the IES field team. Constraints on the plumbing system feeding the 2014-2015 fissure eruption at Holuhraun (Iceland) inferred from a multi-disciplinary approach. Presented at 18<sup>th</sup> General assembly of WEGENER, Ponta Delgada, Azores, Portugal.
14. **Pedersen, G. B. M.**, O. K. Vilmundardóttir, N. Falco, F. S. Sigmundsson, R. Rustowicz, J. M.-C. Belart, G. Gísladóttir, and J. A. Benediktsson. 2016. Environmental mapping and monitoring of Iceland by remote sensing (EMMIRS). Presented at EGU, Vienna, Austria.
15. **Pedersen, G. B. M.**, J. M.-C. Belart, O. K. Vilmundardóttir, N. Falco, F. S. Sigmundsson, R. Rustowicz, S. Tarquini, M.de' M. Vitturi, G. Gísladóttir, and J. A. Benediktsson. 2016. The landscape evolution at Hekla volcano, Iceland: Integrating remote sensing data from the past 70yr. Presented at EGU, Vienna, Austria.
16. **Pedersen, G. B. M.**, A. Höskuldsson, M. S. Riishuus, I. Jónsdóttir, T. Thórdarson, T. Dürig, M. T. Gudmundsson, S. Dumont and the IES eruption Team. 2016. Emplacement dynamics and lava field evolution of the flood basalt eruption at Holuhraun, Iceland: Observations from field and remote sensing data. Presented at EGU, Vienna, Austria.
17. Vilmundardóttir, O. K., F. S. Sigmundsson, **G.B.M. Pedersen**, N. Falco, R. Rustowicz, G. Gísladóttir, J. A. Benediktsson, 2016. Habitat mapping using hyperspectral images in the vicinity of Hekla volcano in Iceland. Presented at EGU, Vienna, Austria.
18. Harris, L., G. Llewellyn, C. MacLellan, M. Warren, D. Clewley, M. Grant, S. Goult, A. Mata, S. Groom, D. Coomes and **G. B. M. Pedersen**. 2016. Introduction to airborne thermal hyperspectral data processing with Specim's AisaOwl in the NERC Airborne Research Facility. Presented at RSPSoc, Nottingham, England

## 2015

19. Gudmundsson, M. T., T. Dürig, T. Hognadóttir, A. Höskuldsson, H. Björnsson, S. Barsotti, G. N. Petersen, T. Thórdarson, **G. B. M. Pedersen** and M. S. Riishuus., 2015 Large, Moderate or Small? The Challenge of

Measuring Mass Eruption Rates in Volcanic Eruptions. Presented at AGU, San Francisco, USA.

20. Thordarson, T., A. Hoskuldsson, I. Jónsdóttir, **G. B. M. Pedersen**, M. T. Gudmundsson., T. Dürig, M. S. Riishuus, W. Moreland, J. Gudnason, C.R. Gallagher and R. A. Askew., 2015. Emplacement and Growth of the August 2014 to February 2015 Nornhraun Lava Flow Field North Iceland. Presented at AGU, San Francisco, USA.
21. (*Invited*) **Pedersen, G.B.M.**, A. Höskuldsson, M.S. Riishuus, I. Jónsdóttir, M.T. Gudmundsson, F. Sigmundsson, B.V. Óskarsson, V.J.P.B. Drouin, C. Gallagher, R. Askew, W.M. Moreland, T. Dürig, S. Dumont, Þ. Þórdarson and the IES eruption team. Nornhraun lava morphology and mode of emplacement. Presented at IUGG, Prague, Czech Republic.
22. **Pedersen, G. B. M.**, 2015. Semi-automatic mapping of volcanic landforms based on object-based image analysis and geomorphometry. Presented at IUGG, Prague, Czech Republic.
23. Jónsdóttir, I., Thórðarson, T., Höskuldsson, Á., Davis, D., Schneider, D., Wright, R., Kestay, L., Hamilton, C., Harris, A., Coppola, D., Guðmundsson, M. T., Durig, T., **Pedersen, G. B. M.**, Drouin, V., Höskuldsson, F., Símonarson, H., Arnarson, G. Ö., Einarsson, M. Ö., Riishuus, M., 2015. Real-time satellite monitoring of Nornhraun lava flow NE Iceland. Presented at EGU, Vienna, Austria.
24. Tarquini, S., Vittuti, M. D. M., Jensen, E. H., Barsotti, S., **Pedersen, G. B. M.**, Coppola, D., 2015. Simulating the lava flow formed during the 2014-2015 Holuhraun eruption (Bardarbunga volcanic system, Iceland) by using the new F-L probabilistic code. Presented at EGU, Vienna, Austria.
25. Hoskuldsson, A., Jónsdóttir, I., Riishuus, M., **Pedersen, G. B. M.**, Gudmundsson, M. T., Þórdarson, Þ., Drouin, V. J. P. B. And the Futurevolc IES field work team., 2015. Magma discharge and lava flow field growth in the Nornhraun/ Bardarbunga eruption in Iceland. Presented at EGU, Vienna, Austria.
26. **Pedersen, G. B. M.**, Höskuldsson, A., Riishuus, M., Jónsdóttir, I., Gudmundsson, M. T., Sigmundsson, F., Óskarsson, B. V., Dürig, T., Drouin, V. J. P. B., Gallagher, C., Askew, R., Moreland, W. M., Dumont, Þórdarson, Þ., 2015. Nornhraun lava morphology and mode of emplacement. Presented at EGU, Vienna, Austria.
27. **Pedersen, G. B. M.** , Höskuldsson, A., Riishuus, M., Jónsdóttir, I., Gudmundsson, M. T., Sigmundsson, F., Óskarsson, B. V., Dürig, T., Drouin, V. J. P. B., Gallagher, C., Askew, R., Moreland, W. M., Dumont, S., Davies, A., Keszthelyi, L., Hamilton, C. W., Þórdarson, Þ., 2015. Nornhraun lava morphology and emplacement: A new terrestrial analogue for planetary lava flows. Presented at 46th LPSC, The Woodlands, Texas, USA.

#### 2014

28. **Pedersen, G. B. M.**, Gallagher, C.R., Reynolds, H.I. and the IES eruption team, 2014. Holuhraun: lava flow morphologies and emplacement mechanisms. Paper for The Icelandic Geological Society, Reykjavik, Iceland
29. (*Keynote*) **Pedersen, G. B. M.**, Grosse, P., 2014. Insights into subglacial eruptions based on geomorphometry: Broad scale analysis of subglacial edifices in Iceland. Presented at EGU, Vienna, Austria.

#### 2013

30. (*Invited*) **Pedersen, G. B. M.**, Grosse, P., 2013. Morphometric analysis of glaciovolcanic edifices in Iceland. Presented at EPSC, London, United Kingdom.
31. **Pedersen, G. B. M.**, 2013. Frozen martian lahars? Evidence from Utopia-Elysium flows. Presented at IAVCEI, Kagoshima, Japan.
32. **Pedersen, G. B. M.**, Grosse, P., 2013. Morphometric extraction of the passage zone: Broad scale analysis of subglacial edifices in Iceland. Presented at IAVCEI, Kagoshima, Japan.
33. Einarsson, P., Hjartarsdóttir, A.R., Michalczewska, K., Ágústadóttir, T., **Pedersen, G. B. M.**, Magnúsdóttir, S. et al., 2013. Fault systems within the Reykjanes Peninsula Oblique Rift near Geitafell. Presented at JFI 22nd spring conference, Reykjavík, Iceland.
34. **Pedersen, G. B. M.**, Head J. W., 2013. Frozen martian lahars? Emplacement mechanisms and geologic impact of Utopia-Elysium flows. Presented at 44th LPSC, The Woodlands, Texas, USA.
35. **Pedersen, G. B. M.**, Grosse, P., 2013. Topographic fingerprints of eruption environment: Evidence from Reykjanes Peninsula, Iceland. Presented at 44th LPSC, The Woodlands, Texas, USA.

#### ≤ 2012

36. **Pedersen, G. B. M.**, Grosse, P., 2012. Identification of topographic fingerprints of eruption environments: Geomorphometric evidence from volcanoes of the Reykjanes Peninsula, Iceland. Presented at AGU, San Francisco, California, USA.
37. **Pedersen, G. B. M.**, Head III, J. W., 2012. Evidence of complex ice-volcano interactions in the transition

zone between Elysium Rise and Utopia Basin. Print-only abstract at 43rd LPSC, The Woodlands, Texas, USA.

38. **Pedersen, G. B. M.**, 2012. Diagnostic criteria for Icelandic volcanic landforms based on remote sensing data: constraints on morphology and optimization of mapping methodologies. Presented at Nordic Geological winter meeting, Reykjavík, Iceland.
39. **Pedersen, G. B. M.**, 2011. Bridging fieldwork and remote sensing data: Pilot study of diagnostic criteria for Icelandic volcanoes to optimize analysis of volcanic landforms. Presented at AGU, San Francisco, California, USA.
40. **Pedersen, G. B. M.**, Head III, J. W., 2011. Evidence of widespread degraded Amazonian-aged ice-rich deposits in the transition between Elysium Rise and Utopia Planitia, Mars: Guidelines for the recognition of degraded ice-rich materials. Presented at EGU, Vienna, Austria.
41. **Pedersen, G. B. M.**, 2010. Observed degradation stages of ring-mold craters (RMC): Geomorphic evidence for modification of ice-rich deposits in the transition zone between Elysium and Utopia Basin, Mars. Presented at 41. LPSC, The Woodlands, Texas, USA.
42. **Pedersen, G. B. M.**, Head III, J. W., Wilson, L., 2009. Early Amazonian dike swarms in Utopia Basin, Mars: Nature of substrate and estimates of effusion rates. Presented at 40th LPSC, The Woodlands, Texas, USA.
43. **Pedersen, G. B. M.**, Head III, J. W., 2009. Overview of Possible Ice-Related Morphologies in the transition zone between Elysium and Utopia Basin, Mars. Presented at 40th LPSC, The Woodlands, Texas, USA.
44. **Pedersen, G.B.M.**, 2009. Dikes and dike swarms on Mars. Presented at Magma Chamber Process XV, Aarhus, Denmark.
45. **Pedersen, G. B. M.**, Head III, J. W., 2008. Amazonian dike swarm in Utopia Basin, Mars. Presented at AGU, San Francisco, California, USA.
46. **Pedersen, G. B. M.**, Head III, J. W., 2008. Geomorphic characteristics for Amazonian dike swarm in Utopia Basin, Mars. Presented at EPSC, Münster, Germany.
47. **Pedersen, G. B. M.**, Hauber, E., Nørnberg, P., 2008. Characteristics of Galaxias Chaos, Mars; Implications for formation models. Presented at 39th LPSC, Leage City, Texas, USA.
48. **Pedersen, G.B.M.**, Wilson, J.R., 2005. Classification of a meteorite. Presented at Magma Chamber Processes XIII, Aarhus, Denmark.

#### **POPULAR SCIENCE PUBLICATIONS**

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- Gunnlaugsson, H. P., **Pedersen, G. B. M.**, Madsen, M. B., 2010. Geologi på Mars. In: Brun, L., Pedersen, K. (eds.) Dansk astronomi i kikkerten. Sangill Grafisk, Danmark. p. 102-111 (*Book section*).
- Pedersen, G. B. M.**, 2009. Liv i universet- er vi alene?, Geologisk Nyt v. 01, p. 8 (*Book review*).
- Pedersen, G. B. M.**, 2008. Mars' nordligste feltgeolog- Phoenix Mars Lander. Geologisk Nyt 4, .4-7 (*Publication*).
- Pedersen, G. B. M.**, 2008. Mars "in action", Geologisk Nyt v. 01, p.21 (*Publication*).
- Pedersen, G. B. M.**, 2007. The surface of Mars – Boganmeldelse, Geologisk Nyt v. 07, p.8 (*Publication*).
- Pedersen, G. B. M.**, 2004. Geologi midt i byen – spektakulære fænomener inden for rækkevidde, Geologisk Nyt v. 04, p. 24-25 (*Publication*).

#### **TALKS, PRESS & PUBLIC OUTREACH**

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| Participation (Interviews and organization) in BBC documentary "Space volcanoes", New Horizon        | 05/2017 |
| Talk for employees at Arctic Adventure: "Volcanoes in Iceland"                                       | 04/2017 |
| Talk for high school teachers, University of Iceland: "Iceland: Glaciers, earthquakes and volcanoes" | 09/2015 |
| Interview with the Icelandic public news RUV: Topic Bárðarbunga activity (18-01)                     | 01/2015 |
| Interview with the Icelandic public news RUV: Topic Bárðarbunga activity (12-10)                     | 10/2014 |
| Interview with the Danish newspaper Politiken. Topic: Bárðarbunga activity (23-08)                   | 08/2014 |
| Interview with the Danish newspaper Ekstra bladet. Topic: Bárðarbunga activity (31-08)               | 08/2014 |
| Talk for high school teachers, University of Iceland: "Iceland: Glaciers, earthquakes and volcanoes" | 10/2013 |
| Talk for high school students, University of Iceland: "Iceland: Glaciers, earthquakes and volcanoes" | 09/2013 |
| Talk for high school teachers, University of Iceland: "Iceland: Glaciers, earthquakes and volcanoes" | 10/2012 |
| Interview-based article with science blog www.videnskab.dk. Topic: Landscapes of Mars                | 05/2011 |
| Interview-based article with science blog www.videnskab.dk. Topic: Impact cratering on the moon      | 09/2010 |
| Interview live with the Danish radio channel P4. Topic: Eyjafjallajökull eruption                    | 04/2010 |
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## **PROFESSIONAL ASSOCIATIONS & SERVICE**

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Scientific reviewer for <b>Journal of Geophysical Research, Applied Earth Observation and geoinformation, International journal of Remote Sensing and Planetary Space Science</b>	
Organizer of 3-day workshop “Environmental Mapping and Monitoring of Iceland by Remote Sensing”, University of Iceland	2017
Organizer of Nordic volcanological summerschool	2013
Organizer of „Mapping and Classification“ one-day seminar, University of Iceland	2013
Member of European Geophysical Union (Since 2011)	
Member of Iceland geological society (Since 2011)	
Member of American Geophysical Union (Since 2011)	
Organizer of Department-Lectures, University of Iceland	2011-2012
PhD student association, committee member	2009-2010
Organizer of Department-Lectures, Aarhus University	2006-2009
Students’ association, committee member	2004-2005
UNF (Youth Science Organization), committee member	1998 – 2000 & 2003-2005

## **ORGANISATIONAL SKILLS, TECHNICAL SKILLS AND LANGUAGES**

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**Organisational skills:** Project leader of 3-year grant of excellence project funded by the Icelandic Research fund, which include collaboration between 8 national and 9 international institutions.

**Operating systems:** MacOS X, Win 7/Vista/2000/XP

**Applications:** ESRI GIS software (highly proficient), R (proficient), eCognition (proficient), ERDAS IMAGINE (proficient), Matlab (beginner)

**Languages:** Danish (mother tongue), English (highly proficient), Icelandic (highly proficient), German (proficient).

## **MISCELLANEOUS**

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Member of the Icelandic rescue team: ICE-SAR, HSG

Sports: climbing, running, hiking, Indian classical dance, diving (CMAS), kayaking, photography.

## **PROFESSIONAL REFERENCES**

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Prof. James Head III	Dr. Jón Atli Benediktsson	Dr. Pablo Grosse
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