

Prof. Jane K. Hart

Curriculum Vitae

*Professor of Physical Geography, Geography and Environment, University of Southampton,
Southampton, SO17 1BJ, UK*

Previous Appointments

1989 onwards, Lecturer, Senior Lecturer, Reader and Professor in Geography, University of Southampton

1988-1989, Lecturer in Geography, University of Manchester

Qualifications

1983-1987, Ph.D., Environment Science, University of East Anglia

1980-1983, B.Sc. (Hons) 1st Class, Physical Geography, University of Reading

Research Summary

Expertise in climate change, glacial sedimentology, environmental sensor networks and informatics.

My early research concerned the development of a new model of glacial deposition and deformation associated with glaciers on unconsolidated sediments, to understand the importance of the 'slipperiness' of the glacier bed on glacier behavior. More recently, I have diversified my research into the study of wireless environmental sensor networks and informatics, to understand environmental response to climate change. My recent research involves using internet of things (IoT) to monitor the cryosphere. All this research has been supported by "blue chip" grants, published in top quality internationally referred journals (>80), with significant impact which is reflected by a high citation index (with an average of 150 per year over the last 3 years and an H-index of 35).

Selected Referred Journal Publications (Google citation given for those with ≥ 40 citations)

Hart JK, Martinez K, Young DS, Basford P, Robson B & Clayton A 2019a: Surface melt driven summer diurnal and winter multi-day stick-slip motion and till sedimentology. *Nature Communications*, **10**, 1599.

Hart JK, Martinez K, Basford PJ, Clayton AI, Bragg G M, Ward T & Young DS 2019b: Surface melt-driven seasonal behaviour (englacial and subglacial) from a soft-bedded temperate glacier recorded by in situ wireless probes. *Earth Surface Processes and Landforms*.

Hart JK, Clayton AI, Martinez K & Robson BA 2018: Erosional and depositional subglacial streamlining processes at Skálafellsjökull, Iceland: an analogue for a new bedform continuum model. *GFF*, DOI: 10.1080/11035897.2018.1477830.

Martinez K, Hart JK, Basford PJ, Bragg GM, Ward T & Young DS 2017: A geophone wireless sensor network for investigating glacier stick-slip motion. *Computers & Geosciences*, **105**, 103-112.

Young D, Hart JK & Martinez K 2015: Image analysis techniques to estimate river discharge using time-lapse cameras in remote locations. *Computers & Geosciences* **76**, 1-10. (doi:10.1016/j.cageo.2014.11.008).

Hart JK & Martinez K 2015: Towards an Environmental Internet of Things (IoT). *Earth and Space Science* **2**, 194-200.doi:10.1002/2014EA000044. **(Citation 41)**

Hart JK, Rose KC & Martinez K 2011: Subglacial till behaviour derived from in situ wireless multi-sensor subglacial probes: Rheology, hydro-mechanical interactions and till formation. *Quat. Sci.Rev.***30** 234-247.

Hart JK, Rose KC, Martinez K & Ong R 2009: Subglacial clast behaviour and its implication for till fabric development: new results derived from wireless subglacial probe experiments. *QSR* **28** 597-607. **(Citation 38)**

Hart, J. K. (2006). An investigation of subglacial processes at the microscale from Briksdalsbreen, Norway. *Sedimentology*, **53**, 125-146. **(Citation 53)**

Hart JK & Martinez K 2006: Environmental Sensor Networks: A revolution in the Earth System Science? *Earth Science Reviews* **78**,177-191. **(Citation 818)**

Martinez K, Padhy P, Elsaify A, Zou G, Riddoch A, Hart JK & Ong HLR 2006: Deploying a sensor network in an extreme environment. In: IEEE SUTC'06, pp. 8. IEEE. **(Citation 81)**

- Martinez K, Padhy P, Riddoch A, Ong HLR & Hart JK 2005: Glacial Environment Monitoring using Sensor Networks. Real-World WSN, Sweden. June. **(Citation 96)**.
- Roberts DA & Hart JK 2005: The deforming bed characteristics of a stratified till assemblage in north East Anglia: *QSR* **24** 123-140. **(Citation 86)**
- Martinez K, Hart JK & Ong R 2004: Environmental Sensor Networks. *Computer* **37** (8), 50-56. **(Citation 618)**
- Martinez K, Ong R & Hart J 2004: Glacsweb: a sensor network for hostile environments. In: IEEE SECON 2004. (pp. 81-87). IEEE. **(Citation 223)**
- Martinez K, Hart JK, Ong R, Brennan S, Mielke A, Torney D, Maccabe A, Maroti M, Simon G, Ledeczki A & Sztipanovitz J 2004: Sensor network applications. *IEEE computer* **37**(8), 50-56. **(Cit. 60)**.
- Hart, J. K. and Rose, J. (2001). Approaches to the study of glacier bed deformation. *Quaternary International*, **86**, 45-58. **(Citation 85)**
- Boulton GS, van der Meer JJM, Beets DJ, Hart JK & Ruegg GHJ 1999: The sedimentary and structural evolution of a recent push moraine complex. *Quat. Sci. Rev* **18** 339-371 **(Cit. 150)**
- Hart JK 1999: Identifying fast ice flow from landform assemblages in the geological record: a discussion. *Annals of Glaciology*, **28**, 59-66. **(Citation 71)**
- Hart JK 1997: The relationship between drumlins .. subglacial def. *QSR* **16** 93-108. **(Citation 97)**
- Hart JK & Watts RJ 1997: A comparison of the styles of deformation associated with two recent push moraines, ..Svalbard. *Earth Surface Processes and Landforms* **22** 1089-1107. **(Citation 55)**
- Boulton GS, van der Meer JJM, Hart JK, Beets D, Ruegg GHJ, van der Wateren FM & Jarvis J 1996: Till and moraine emplacement in a deforming bed surge. *QSR* **15** 961-988. **(Citation 154)**
- Hart JK 1995: Glacial erosion, deposition and deformation associated with a deformable bed. *Progress in Physical Geography* **19** 173-191. **(Citation 130)**
- Hart JK 1994: Till fabric associated with deformable beds. *ESPL* **19** 15-32. **(Citation 170)**
- Hart JK & Roberts DH 1994. Criteria to distinguish between subglacial glaciotectionic and glaciomarine sedimentation: I – Def. and sed.. *Sedimentary Geology* **91** 191-214. **(Cit. 155)**
- Hart JK & Boulton GS 1991: The interrelationship between glaciotectionic deformation and glaciodeposition. *Quaternary Science Reviews* **10** 335-350. **(Citation 281)**
- Hart JK, Hindmarsh RCA & Boulton GS 1990: Different styles of subglacial glaciotectionic deformation in the context of the Anglian ice sheet. *ESPL* **15** 227-242. **(Citation 150)**

Honours and esteem indicators

- 1991, Wiley Prize: for best paper published in *Earth Surface Processes and Landforms* in 1990.
- 1998, European Academic Software Award prize winner: for the CD-ROM *Glacial Analysis*
- 1997-1999, President of the British Branch of the International Glaciological Society
- 2006, President of Geology Section of British Association for the Advance of Science
- 2012, President of Geological Society of Norfolk
- PhD external examiner, Universities of Cambridge, Royal Holloway London, University College London, Queen's University Belfast, Aberystwyth.
- Undergraduate External Examiner: University of Reading (2014-17), Queen's University Belfast (2013-16); Liverpool John Moores (2006-2010)
- Chair "Funds for Women Graduates" (2020-2023), Trustee (2017-2019), Chair of the Grants Committee (2012- 2017), Grants Committee member (2006-2012)
- AGU Chair ESSI Programme Committee (2018-19), member (2017-2020)
- RGS Programme Accreditation Review panel member (2019-2022)
- Vice-president Quaternary Research Association (2019-2022)
- NERC Constructing a Digital Environment Expert Network – Senior Panel Member (2019-2022)
- Co-chair of an EU Informatics Evaluation panel (CHIST-ERA CES) (2020)
- Deputy President EGU ESSI (2020-2021)
- AGU ESSI EU Foreign Liaison rep (2020-21)

Professional Society Membership

- American Geophysical Union (AGU)
- European Geophysical Union (EGU)
- Quaternary Research Association (QRA)
- International Glaciological Society
- Earth Science Women's Network (ESWN)