

KRISTIAN PAGH NIELSEN

WORK EXPERIENCE

From 2008	Danish Meteorological Insitute (DMI)
	<ul style="list-style-type: none"> • Full time employment as physicist/meteorologist. • Specialization: Radiative transfer modelling and verification of clouds with satellite data.
2001-2008	Balter Medical/PhotoSense AS (company name changed in 2007)
	<ul style="list-style-type: none"> • Full time employment with PhotoSense AS from August 2001. • In the period 2002-2004 funded as a Dr. Scient. candidate by the Norwegian research council on the project: "A novel approach imaging objects imbedded tissue".
1991-2001	Nielsen's Planteskole
	<ul style="list-style-type: none"> • Part time job at a wholesale nursery in weekends and holidays.

EDUCATION

2002-05	Dr. scient. Physics, University of Bergen, Norway
	<ul style="list-style-type: none"> • Research fields: Biomedical optics, spectroscopy, optical engineering, and dermatology.
09.03.2005	<ul style="list-style-type: none"> • Thesis for Dr. scient. defended and accepted.
1999-01	Cand. scient. Geophysics, University of Bergen, Norway
	<ul style="list-style-type: none"> • Research fields: Spectroscopy, synthetic spectra data fitting, meteorology, space physics, and statistical analysis. • Awarded "laudabilis prae ceteris" (A+/A)
1995-98	Bach. scient. Geology, University of Aarhus, Denmark
	<ul style="list-style-type: none"> • Subjects: Water resource mapping with electromagnetic tomographic and transient methods, geotechnics, and geological mapping. • Grade: "11" (A).
	Other university studies
1999	<ul style="list-style-type: none"> • 2-month exchange at the Geophysical Institute, University of Alaska, Fairbanks, USA.
2004	<ul style="list-style-type: none"> • 3-month visiting scientist at the Light and Life Laboratory, Stevens Institute of Technology, Hoboken, NJ, USA.

SELECTED PUBLICATIONS

2020	<ul style="list-style-type: none"> • Rontu, L., E. Gleeson, D. M. Perez, K. P. Nielsen, and V. Toll: "Sensitivity of Radiative Fluxes to Aerosols in the ALADIN-HIRLAM Numerical Weather Prediction System," <i>Atmosphere</i>, doi:10.3390/atmos11020205, 11(2), 205, 2020.
2019	<ul style="list-style-type: none"> • Nielsen, K. P.: "The importance of the snow spectral albedo and integrated water vapour," <i>Geosci. Model Dev.</i>, doi:10.5194/gmd-2018-175-RC3, 2019.
2018	<ul style="list-style-type: none"> • Nielsen, K. P. and E. Gleeson: "Using Shortwave Radiation to Evaluate the HARMONIE-AROME Weather Model," <i>Atmosphere</i>, doi:10.3390/atmos9050163, 9(5), 163, 2018. • Furbo, S., J. Dragsted, B. Perers, E. Andersen, F. Bava, and K. P. Nielsen: "Yearly thermal performances of solar heating plants in Denmark - Measured and calculated," <i>Solar Energy</i>, doi:10.1016/j.solener.2017.10.067, 159, 186-196, 2018.
2017	<ul style="list-style-type: none"> • Bengtsson et al.: "The HARMONIE-AROME Model Configuration in the ALADIN-HIRLAM NWP System," <i>Mon. Weather Rev.</i>, doi:10.1175/MWR-D-16-0417.1, 145, 1919-1935, 2018.
2016	<ul style="list-style-type: none"> • Polo et al.: "Preliminary survey on site-adaptation techniques for satellite-

derived and reanalysis solar radiation datasets," *Solar Energy*, doi:10.1016/j.solener.2016.03.001, 132, 25-37, 2016.

- Lorenz, E., J. Kühnert, D. Heinemann, K. P. Nielsen, J. Remund, and S. C. Müller: "Comparison of global horizontal irradiance forecasts based on numerical weather prediction models with different spatio-temporal resolutions," *Prog. in Photovoltaics: Res. Appl.*, doi:10.1002/pip.2799, 24(12), 1626-1640, 2016.
- 2014 • Nielsen, K. P., E. Gleeson, L. Rontu: "Radiation sensitivity tests of the HARMONIE 37h1 NWP model," *Geosci. Model Dev.*, 7, 1433-1449, 2014.
- 2013 • Nielsen, K. P., G. Wilke, L. Larsen: "Solar PV Meter," in Proceedings from EU PVSEC the 28th European Photovoltaic Solar Energy Conference and Exhibition, 3663-3665, 2013.
- 2012 • Moan, J., K. P. Nielsen, and A. Juzeniene: "Immediate pigment darkening: its evolutionary roles may include protection against folate photosensitization," *FASEB J.*, 26 (3): 971-975, 2012.
- 2011 • Nielsen, K. P.: "Testing cloud parametrizations in NWP models against satellite data," *HIRLAM Newsletter* 58: 65-70, 2011.
- Nielsen, K. P., and B. H. Sass: "Computationally efficient tilted independent column calculations of surface radiation," *HIRLAM Newsletter* 58: 94-97, 2011.
- 2010 • Stamnes J. J., K. Stamnes, L. Zhao *et al.*: "Optical method for determining morphological parameters and physiological properties of tissue." European Patent: EP2255173, 2010.
- Nielsen, K. P.: "Verification of HIRLAM cloud forecasts with MSG cloud physical products," *HIRLAM Newsletter* 55 (B): 11-17, 2010.
- 2009 • Swanson, D. L., S. D. Laman, M. Biryulina, K. P. Nielsen, G. Ryzhikov, J. J. Stamnes, B. Hamre, L. Zhao, F. Castellana, and K. Stamnes: "Optical transfer diagnosis of pigmented lesions: a pilot study," *Skin Research and Technology*, 15 (3): 330-337, 2009.
- 2008 • Nielsen, K. P., L. Zhao, J. J. Stamnes, et al.: "Retrieval of the physiological state of human skin from UV-VIS reflectance spectra - A feasibility study," *J. Photochem. Photobiol.* 93 (1): 23-31, 2008.
- 2007 • Hestenes K., K. P. Nielsen, L. Zhao, K. Stamnes, and J. J. Stamnes: "Monte Carlo and discrete-ordinate simulations of spectral radiances in a coupled air-tissue system," *Appl. Opt.* 46 (12): 2333-2350, 2007.
- 2006 • Nielsen, K. P., L. Zhao, K. Stamnes, J. J. Stamnes, and J. Moan: "The depth distribution of melanin in skin is an important determinant of DNA protection," *J. Photochem. Photobiol.* 82 (3): 194-198, 2006.
- 2005 • Nielsen, K. P.: "A novel approach imaging objects imbedded tissue," PhD-thesis, University of Bergen, 2005.
- 2004 • Nielsen, K. P., L. Zhao, P. Juzenas, J. J. Stamnes, K. Stamnes, and J. Moan: "Reflectance spectra of pigmented and non-pigmented skin in the UV spectral region," *Photochem. Photobiol.* 80 (3): 450-455, 2004.

OTHER

• Supervision

- Ph.d. students: Peter Ukkonen (KU/DMI) and Sisse Lundholm (KU/DMI).
- 4 Master degree students: Dlishad Mohammad (UiB), Øyvind Kvalsund (HiB), Svein Even Vikshaland (HiB) and Jan Martin Langeland (HiB).
- Project supervision of one engineering student: Florian Foschum (UiB/Ulm).

• Popular science

- Since 2003 I have held several lectures at high schools both in Norway and Denmark for promoting the interest in the physical sciences.

• Computing

- Skilled in the Windows, Unix, Linux, and Macintosh environments.
- Skilled in the programming languages: Fortran and Matlab.