

Curriculum vitae



Dr. rer. nat. Jan Schulz

Address: Hinter der Mühle 5, 27619 Schiffdorf-Spaden, Germany

Mail: Jan.Schulz [at] code10.info

Date of birth: May 1974 **Nationality:** German

Academic Career & Employments

03/2009-to date

IMARE – Institute for Marine Resources, Bremerhaven

Vice head of the department 'Marine Physics and Sensors'. Responsible for imaging systems, software

01/2008-02/2009

Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven

Scientific project leader in several cooperations for the development of a Multi-Sensor-Carrier-System (M

01/2007-12/2007

Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven

Postdoc in the synthesis phase of the German Global Ocean Ecosystem Dynamics project, GLOBEC-G

03/2004-03/2008

Non-invasive optical methods for the detection of zooplankton in the water-column, Bremerhaven

Project for development of new investigation approaches to identify fine-scale relationships between hydro

10/2002-12/2006

Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven

PhD thesis:

Zooplankton variability in the presence of d

04/2001-09/2002

Merck Pharma Deutschland, Darmstadt

Scientific representative for pharmaceuticals in the strategic fields of cardiac, diabetic, thyroid and gynaecology

02/2000-03/2001

Hannover School of Veterinary Medicine, Hannover

Thesis for a diploma (Master): The distribution of the calcium-binding proteins Calbindin

10/1996-10/2000

Hannover School of Veterinary Medicine, Hannover

Several appointments as student assistant in the zoological-anatomical lab course for biologists, geology,

07/1996-01/2000

Hannover University and

School of Veterinary Medicine, Hannover

Specialisation in Aquatic ecology, Limnology, Terrestrial ecology, Geology, Laboratory animal science,

08/1995-10/1995

Pfeil Trawid GmbH, Hasede

Software design and development for backup systems between ISO/EIA RS232 interfaces of CNC pun

03/1995-04/2002

R+S, Hannover

Several appointments for the service provider R+S during Hannover Fairs. Since 1999 fore worker.

10/1994-07/1996

Hannover University and

School of Veterinary Medicine, Hannover

Basic biology training leading to the german 'Vordiplom' (Bachelor) in Zoology, Botany, Chemistry and

08/1986-06/1994

High school Himmelsthür, Hildesheim

Acquiring the general qualification for university entrance with the subjects Chemistry, Biology, Geogra

Skills

Computing

Excellent knowledge of the languages Pascal and Delphi. Very good experience with C++.

Very good knowledge of algorithms, data structures, software design and architecture, including the understanding of hardware.

Diving license

Scientific diver, Helgoland, Germany, 05-09/2005.

Drivers license

Clean, including motor vehicles up to 7.5 tons and trailers.

Hobbies

Diving, photography, programming, swimming, travelling.

Immuno-histochemistry

Skills in ABC immuno-histochemistry staining techniques, especially with calcium binding proteins. Applied to various tissues.

Laboratory animal science

Course corresponding to the 'Federation of European Laboratory Animal Science Associations' and 'German Association of Laboratory Animal Science'.

Marine gears and methods

Handling experience of the gears and methods: Apstein net, Bongo net, CTD, Laser-Optical-Plankton-Counter, etc.

Media skills

Training course for scientists with the main topics: interface between journalist and scientist, communication, etc.

Microscopy

Good experiences in different light microscopy techniques and basics in electron microscopy.

Offshore survival techniques

Model course meeting the requirements of chapter 195 of the International Convention for the Safety of Life at Sea (SOLAS) 1974, as amended, and the European Union Directive 90/269/EEC on the minimum requirements for the training of offshore survival instructors.

Projects

Global Ocean Ecosystem Dynamics (GLOBEC) - Germany, 01/2007 - 12/2007

Postdoc in the synthesis phase of the project (Funded by German Federal Ministry of Education and Research)

Optical methods for remote sensing of zooplankton, Bremen, 03/2004 - 06/2007

Development and design of new methods to detect relationships between hydrography and zooplankton

Ocean Sneaker's Tool, Software development, 11/2002 - up to now

Architect and chief developer of an open code software project for processing, geo-coding, visualising, g

Global Ocean Ecosystem Dynamics (GLOBEC) - Germany, 10/2002 - 12/2006

Participant and PhD student (Funded by German Federal Ministry of Education and Research, BMBF 03

Publications & Manuscripts

Schulz J., Leese F., Held C. (submitted): Dot-plots – Algorithms and Applications.

Cornils A., Schulz J., Schmitt P., Lanuru M., Richter C., Schnack-Schiel S. B. (2010): Mesozooplankton distribution in the Spermonde Archipelago (Indonesia, Sulawesi) with special reference to the Calanoida (Copepoda). Deep-Sea Research II, 57(24-26):2076-2088. doi:10.1016/j.dsr2.2010.09.011.

Schulz J., Barz K., Ayon P., Lüdtko A., Zielinski O., Mengedocht D., Hirche H.-J. (2010): Imaging of plankton specimens with the Lightframe On-sight Keyspecies Investigation (LOKI) system. Journal of the European Optical Society – Rapid publications 5, 10017s. ISSN 1990-2573.

Zielinski O., Saworski B., Schulz J. (2010): Marine bubble detection using optical-flow techniques. Journal of the European Optical Society – Rapid publications 5, 10016s. ISSN 1990-2573.

Schulz J., Barz K., Mengedocht D., Hanken T., Lilienthal H., Rieper N., Hoops J., Vogel K., Hirche H.-J. (2009): Lightframe On-sight Key species Investigation (LOKI) - The art of imaging minute plankton species on-the-fly. IEEE Catalog Number CFP09OCF-CDR, 5

Schulz J., Tamm S., Moll A., Zabanski S. (2008): GLOBEC Germany – Integrated Datasets. WDC-MARE Reports 0007/2008. hdl:10013/epic.32135. ISSN 1611 6577 (print version). ISSN 1862 4022 (digital version).

Schulz J., Mengedocht D., Barz K., Basilico A., Henrich M., Hirche H.-J. (2008): Remote sensing of zooplankton. In: Observing the Coastal Sea - an Atlas of Advanced Monitoring Techniques. Editors: Doerffer, Colijn, van Beusekom. LOICZ Reports & Studies No. 33. Geesthacht, Germany: GKSS Research Centre. ISSN 1383 4304.

Schulz J., Barz K., Dickmann M., Hirche H.-J. (2007): Predation control by hydrographic gradients. GLOBEC International Newsletter 13(2):65-66.

Schulz J., Möllmann C., Hirche H.-J. (2007): Vertical zonation of the zooplankton community in the Central Baltic Sea in relation to hydrographic stratification as revealed by Multivariate Discriminant Function- and Canonical Analysis. Journal of Marine Systems doi://10.1016/j.jmarsys.2006.09.004.

Schulz J., Hirche H.-J. (2007): Living below the halocline - Strategies of deep living zooplankton species in the Baltic Sea. Journal of Plankton Research 29(10):881-894. doi://10.1093/plankt/fbm066.

Schulz J. (2006): Spatial and temporal distribution patterns of zooplankton in the central Baltic Sea and methods to detect them. Arbeit zur Erlangung des akademischen Grades Dr. rer. nat. an der Universität Bremen, Deutschland.

Schulz J., Potthoff M., Dickmann M. (2006): Ocean Sneaker's Tool: An open code software

tool for fast processing, exploring, and visualising marine and aquatic data. GLOBEC International Newsletter 12(1):84-85.

Schulz J., Hirche H.-J. (2004): Zooplankton distribution in the Bornholm Sea - A seasonal overview. ICES Conference Paper CM 2004/P:19.

Schulz J. (2001): Die Verteilung der calciumbindenden Proteine CalbindinD28k und Calretinin in der Hörbahn von Gallus gallus. Diplomarbeit, Tierärztliche Hochschule Hannover, Deutschland.

Intellectual Property

Schulz J. (2007): Vorrichtung zur Partikeldetektion in einer tiefenbegrenzten Lichtscheibe. Applikation zur optischen Begrenzung eines zu beobachtenden Volumens in einem transparenten, frei strömenden Fluid. Granted Patent in Germany (DE 10 2005 028 893 B4, 2007.12.06) and pending in all countries of the Patent Corporation Treaty (PCT/DE-2006/001073).

Schulz J., Potthoff M. (2006): Reflektorstrahler. Reflector spotlight to emit light from several light sources as one collimated beam. Pending patent application in Germany (D-10 2006 044 019.6).

Schulz J. (2005): Lichtring. A circular luminous source for illuminating constrained volumes and its application. Pending patent application in Germany (D-10 2005 050 722.0) and the countries adhered to the Patent Corporation Treaty (PCT/DE-2006/001657).

Schulz J. (2005): Reflektorleuchte. High gain reflector lamp for underwater applications. Granted utility model in Germany (D-20 2005 009 814.0).

Talks

Hirche H.-J., Barz K., Schulz J., Ayon P.: High resolution zooplankton sampling off Peru. COLACMAR, Oct. 26-30 2009, Havanna, Cuba.

Barz K., Schulz J., Ayon P., Hirche H.-J.: LOKI, a new optical system for high-resolution plankton investigations, ICES annual science conference 2009, Sep. 21-25, Berlin, Germany.

Schulz J., Barz K., Mengedoht D., Hanken T., Lilienthal H., Rieper N., Hoops J., Vogel K., Hirche H.-J.: LOKI - A new video plankton recording system. EOS Topical Meeting on "Blue" Photonics - Optics in the Sea -, Aberdeen, Scotland (UK), 18-19. August 2009.

Schulz J., Barz K., Mengedoht D., Hanken T., Lilienthal H., Rieper N., Hoops J., Vogel K., Hirche H.-J.: Lightframe On-sight Key species Investigation (LOKI) - The art of imaging minute plankton species on-the-fly. IEEE Oceans'09, 3.3-2 Oceanographic Instrumentation, buoys and cables 2, 05/2009, Bremen, Germany.

Schulz J., Hirche H.-J.: Vertical segregation of the zooplankton community by hydrography and implications for trophodynamic interactions in the central Baltic Sea - A multivariate discriminant function- and canonical analysis. ICES Annual Science Conference, ICES CM 2007/G:09, Helsinki, Finland.

Schulz J., Mengedoht D., Hirche H.-J.: Partikelidentifikation im Meerwasser zur in-vivo Observation von Zooplankton – Optische und bildgebende Systeme im Unterwassereinsatz. Congress Innovation and Competence in Marine Techniques InnoMeerKom'07, 05/2007, Bremerhaven, Germany.

Schulz J., Mengedoht D.M., Hirche H.-J.: Imaging the small - Lightframe On-sight Keyspecies Investigation (LOKI). 38th International Liège Colloquium on Ocean Dynamics, 05/2006, Liège, Belgien.

Schulz J., Hirche H.-J.: Vertical zooplankton zonation in the Baltic Sea. 38th International Liège Colloquium on Ocean Dynamics, 05/2006, Liège, Belgien.

Schulz J., Mengedoht D.M.: Light management and Video-Plankton-Recorder systems. GLOBEC/SPACC Workshop for Image analysis to count and identify zooplankton, 11/2005, San Sebastian, Spanien.

Schulz J., Mengedoht D.M.: Imaging plankton – Methods for in-situ observations of zooplankton in relation to environmental parameters. 2nd MarTech Workshop, 10/2005, Bremerhaven & Bremen, Deutschland.

Schulz J., Hirche H.-J.: Zooplankton, layers and interactions. 5th Baltic Sea Science Congress, BSSC BMB-I, 06/2005, Sopot, Polen.

Mengedoht D.M., van Beusekom J.E.E., Schulz J., Schwarz J.N.: Seasonal and spatial patterns of dominant phytoplankton groups in the Bornholm Basin. A comparison of in-situ profiles with a multispectrofluorometer and satellite data. 5th Baltic Sea Science Congress, BSSC BMB-I, 06/2005, Sopot, Polen.

Schulz J., Hirche H.-J.: Zooplankton distribution in the Bornholm Sea - A seasonal overview. ICES Annual Science Conference, ICES CM2004/P:19, 09/2004, Vigo, Spanien.

Mengedoht D.M., van Beusekom J.E.E., Boersma M., Hirche H.-J., Schulz J., Schwarz J.N.: Seasonal and spatial patterns of dominant phytoplankton groups in the Bornholm Basin (Baltic Sea): A comparison of in situ fluorescence profiles with a multispectrofluorometer and satellite data. ICES Ann. Science Conference, ICES CM2004/L:21, 09/2004, Vigo, Spanien.

Posters

Hirche H.-J., Barz K., Schulz J. (2009): FLOKI, a new laboratory imaging system for the documentation and analysis of live and preserved zooplankton samples. ICES Annual Science Conference 2009, Sep. 21-25, Berlin, Germany.

Mengedoht D., Schulz J., Hirche H.-J. (2007): Imaging live zooplankton with LOKI. InWaterTec – International Inwater Technology Conference and Exhibition, Kiel, Germany, 10/2007.

Mengedoht D., Schulz J., Hirche H.-J. (2007): Imaging live zooplankton. 4th International Zooplankton Production Symposium, 05/2007, Hiroshima, Japan. Session S9, ID#3591.

Schulz J., Hirche H.-J. (2007): Vertical zonation of zooplankton in the central Baltic Sea in relation to hydrographic stratification. Meeting of the MarCoPoll Coast section, 04/2007, Helgoland, Deutschland.

Schulz J., Mengedoht D., Hirche H.-J. (2007): LOKI - Lightframe On-sight Keyspecies Investigation. Meeting of the MarCoPoll Coast section, 04/2007, Helgoland, Deutschland.

Schulz J., Hirche H.-J. (2004): Ocean Sneaker's Tool - open source software. ICES Annual Science Conference, 09/2004, Vigo, Spanien. ICES CM 2004/L:31.

Schulz J., Mengedoht D.M. (2004): Ocean Sneaker's Tool Data Converting–Processing–Visualisation. Status seminar of the GLOBEC-Germany Evaluation, 01/2004, Hamburg, Deutschland. <http://www.globec-germany.de>.

Schulz J., Hirche H.-J., Dutz J., Mohrholz V. (2004): Living in a highly stratified environment - Relation of hydrographic parameters to the vertical distribution of dominant copepods in the Baltic Sea. Status seminar of the GLOBEC-Germany Evaluation, 01/2004, Hamburg, Deutschland. <http://www.globec-germany.de>.

Kaiser A., Schulz J. (2001): Distribution of calcium-binding proteins CalbindinD28k and Calretinin in the auditory pathway of the chicken. ARO Midwinter Meeting, 2001, USA. <http://www.aro.org/archives/2001/19965.html>.

Media & Conferences

Oceans'09 (2009): Chairman of the Sessions Ecology versus Economy and Marine Law and Policy. IEEE Oceans'09, 05/2009, Bremen, Germany.

Selzer C. (2009): Umwelt und Verbraucher. Radio Deutschlandfunk. Broadcasting date: 13.05.2009. <http://www.dradio.de/dlf/sendungen/umwelt/964911/>.

Baron U., Kunft B. (2007): Das!taucht. Plankton-Messgerät im Test. NDR ,Das Abendstudio'. Broadcasting date 22.07.2006.
http://www3.ndr.de/ndrtv_pages_std/0,3147,OID2867496,00.html.

Languages

English: Proficient knowledge, spoken and written

German: Mother tongue

Spanish: Rudimentary

Malagasy: Rudimentary

Stays Abroad and Terrestrial Fieldwork

Madagascar, 11/1999 - 01/2000 Data acquisition to investigate life cycle strategies of Malagasy dry forest

Costa Rica, 02/1998 - 03/1998 Training course in terrestrial and marine tropical ecology of the Hannover School

England, several stays between 1990 and 1993 Participant in several youth exchanges with twinning towns.

Cruises

MSM07-03, Namibia to Cape Verde, 03-04/2008 Participant, responsible investigator for the LOKI ge

HEI 247, North Sea, 04/2006 Reincke, cruise participant, scientific diver.

ALK 237, North Sea, 05/2004 Kor, cruise participant.

ALK 226, Baltic Sea, 08/2003 Kor, cruise participant.

HEI 193, Baltic Sea, 07/2003 Reincke, cruise participant.

ALK 219, Baltic Sea, 04/2003 Kor, cruise participant.

AvH 44/03/01, Baltic Sea, 02/2003 der von Humboldt, cruise participant.

