

CONTACT

PERSONAL INFORMATION

Selina Våge
Date of birth: 22.06.1985
Nationality: Swiss / Norwegian

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Department of Biological Sciences (BIO)
University of Bergen (UiB)
Thormøhlensgate 53 B
N-5006 Bergen, Norway

CURRENT & PREVIOUS POSITIONS

- *April 2023 - present* Associate Professor at BIO, UiB, Norway
- *January 2019 - March 2023* Research fellow at BIO, UiB, Norway
- *January 2015 - December 2018:* Postdoctoral research fellow at BIO, UiB, Norway
- *November 2014:* Research assistant, BIO, UiB, Norway
- *November 2010 - October 2014:* Research Fellow, BIO, UiB, Norway

ACADEMIC DEGREES & THESES

- **Ph.d.** UiB (2010-2014). *Pelagic microbial food web organization. Extending the theory for structure and diversity based on life strategy trade-offs* (bora.uib.no/handle/1956/7894). Supervisor T. Frede Thingstad and Jarl Giske.
- **M.Sc.** University of Tromsø (2008-2010). *Physical structure and dynamics of Barents Sea Polar Front near the Great Bank and associated plankton distribution* (munin.uit.no/handle/10037/2456). Supervisor Kurt Tande and Sunnje Basedow.
- **B.Sc.** University of Zürich (2005-2008) Biology major, Mathematics minor.
Exchange year at University of Massachusetts Boston (UMass Boston), USA: 2007-2008
- **Swiss Matura.** Kantonschule Graubünden (1998-2005).
Exchange year at Sekolah Menengah Umun 1, Makassar, Indonesia: 2001-2002

STIPENDS, AWARDS & MOBILITY

- **Meltzerprice for outstanding young researcher 2018** (150 000 NOK)
- **Momentum Stipend 2018** (100 000 NOK) Mentoring at DTUAqua, Denmark, multiple visits
- **Ocean Outlook Fellowship 2018** (30 000 NOK) Research stay at MIT and UMB, USA, 4 weeks
- **L. Meltzers Høyskolefond 2017** (30 000 NOK) Research stay at MIT, Boston, USA, 3 weeks
- **Hjort Scholar Award 2017** (25 000 NOK) Host international collaborator from UMB, USA, 6 weeks
- **L. Meltzers Høyskolefond 2015** (30 000 NOK) Research stay at UMass Boston, USA, 12 weeks
- **L. Meltzers Høyskolefond 2012** (25 000 NOK) Travel grant for international conference in Otsu, Japan

PROFESSIONAL TRAINING

- **UPED600, UPED659, UPED678, UPED694** Program for universitetspedagogikk, UiB, Fall 2023
- **Pedagogical Training (PT)** - Collegial teaching and learning in Biological Education, bioCEED, UiB, August 2018 - May 2019 (5 ETCS)
- **PT** - Classroom interactions and professional feedback, Faculty of Psychology, UiB, 9.-11. January 2017
- **PT** - Quality Teaching at University, BioCEED, UiB, Lyngheisenteret Lygra, 2.-3. June 2015
- **PT** - Knowledge transmission (MNF400), UiB, September - December 2012 (3 ECTS)

TEACHING

- **General Microbiology, BIO214** Course leader & Teacher, UiB
- **Computational Viral Ecology & Evolution** Organizer, Course leader & Module teacher, UiB
- **Special Topics in Microbial Ecology, BIO315** Teacher, UiB
- **Microbial Ecology, BIO217** (Module teacher & Laboratory instructor, UiB
- **Current Topics in Ecology and Evolution, BIO301** Teacher, UiB
- **Marine Biodiversity, BIO101** Microbiology module teacher, UiB
- **Evolutionary Biology, BIO100** Teaching assistant, UiB
- **Mixotrophy in Ocean Life** Module Teacher, Hjort Summer School, Espesgrend, Norway
- **Scientific Report Writing, BIO103** Teaching assistant, UiB
- **Microbial Oceanography and Ecosystem Complexity** Organizer, Summer school leader & Module teacher, Hjort Summer School, Espesgrend, Norway

SUPERVISION

- **Karen Erstad**, *BIO 299 students project*, Project title: Microbial virus-host interactions - Chasing resistance in *E. coli*. **Main-Supervisor**, Fall 2022
- **Jesslyn Tjendra**, *PhD candidate*, Tentative thesis: Trade-off between competitive and defensive traits in microbial systems, **Main-supervisor**, Expected graduation fall 2023 (incl. 1 year maternity leave)
- **Lotta Landor**, *PhD candidate*, Tentative thesis: At what cost? Quantifying the cost of resistance in bacterial interactions, **Main-supervisor**, Expected graduation fall 2023
- **Fateme Pourhasanzade**, *Postdoctoral research fellow*, Individual-based modeling of virus-host interactions, **Main-supervisor**, UiB, 2020-2023
- **Nilu Ranasinghe**, *Master of science in Biology*, UiB, Literature study of virus size, burst size, latent period and genome size across different lytic eukaryotic and prokaryotic virus groups - An overview of traits and possible trade-offs, **Main-Supervisor**, Graduated in fall 2019
- **Marius Saltvedt**, *Master of science in Biology*, UiB, Characterizing the infectious behavior of viruses infecting haptophytes, **Co-Supervisor**, Graduated in spring 2019
- **Signe Melbye Hansen**, *Visiting student* from Danish Technical University (DTU Aqua), Marine Microbiology Practical (virus-host infection experiments), **Main-supervisor**, February-March 2019
- **Anne Bögeholz**, *ERASMUS PLUS intern* from Oldenburg University, UiB, *E. coli* - T4 chemostat infection experiments, **Main-supervisor**, April - June 2019

MEMBERSHIPS OF SCIENTIFIC SOCIETIES, INSTITUTIONAL RESPONSIBILITIES & COMMISSIONS OF TRUST

- **Member**, Network for Modeling diverse plankton communities (*MODIV*), EuroMarine, 2018 - 2022
- **Member**, *Strategic ICT Vision Group* for Nygårdshøyden Syd renovation and innovation, Faculty of Mathematics and Natural Sciences, UiB, spring 2021
- **Leader & Representative**, Modeling and theory in Marine Microbiology Group, BIO, UiB, since 2016
- **Internal sensor**, *Master exam assessments* at BIO, UiB, since 2020
- **UiB Representative**, EuroMarine *Young Scientist Working Group* 2018-2019
- **Scientific Motivator**, *Hjort Centre for Marine Ecosystem Dynamics*, Bergen, 2014 - 2017
- **Webmaster**, Marine Microbiology Group, BIO, UiB, since 2011
- **Organizer**, *Journal Club* in Microbial Ecology, BIO, UiB, 2011-2014
- **Co-organizer**, MBON-MODIV plankton diversity workshop, 30 participants, online, November 2020
- **Co-organizer**, *Hjort Summer School*, Espesgrend Field Station, 30 internatl. participants, August 2017
- **Leader**, *Hjort Summer School*, Espesgrend Field Station, 35 internatl. participants, September 2016
- **Leader**, 1st Annual Hjort *Open Science Seminar*, Hotel Scandic Bergen, 40 participants, May 2015
- **Peer-Reviewer**: a.o. *Ecology Letters*, *American Naturalist*, *Mar.Ecol.Prog.Ser.*, *Environ. Microbiol.*, *J.Mar.Syst*
- **Referee**, Marsden Fund Application, New Zealand, *Royal Society*

INTERNATIONAL COLLABORATIONS

- **Janice Lawrence**, *University of New Brunswick, IUC Physics*, Viral ecology and evolution
- **David Talmy**, *University of Tennessee, Department of Microbiology, USA* Mathematical biology & ocean plankton modeling
- **Ben Knowles**, *UCLA, Institute of the Environment & Sustainability, USA*, Viral control of microbial host communities
- **Swami Iyer**, *University of Massachusetts Boston, Computer Science Department, USA*, Individual-based modeling & evolutionary algorithms
- **Nick Record** *Bigelow Laboratory for Ocean Sciences, USA* Computational oceanography & ecosystem modeling
- **Marwan Fuad**, *Coventry University, School of computing, electronics & maths* Computational ecology
- **Hong-Yan Shih**, *Academia Sinica, Institute of Physics, Taiwan* Microbe-virus interaction models & network analyses

PROJECT LEAD & AFFILIATIONS

- **CONFECT** - An interactive network to advance research and education in viral ecology and evolution, RCN INTPART project. **Project leader** (Co-leader Ruth-Anne Sandaa), UiB *2021 - 2026*
- **SIMPLEX** Self-similarity in ecosystem organization, Trond Mohn Research Foundation Starting Grant. **Project leader**, UiB, *2019-2023*
- **VirVar** Uncovering key-players for regulation of phytoplankton function and structure: lessons to be learned from algal virus-haptophyte coexistence. Contributing with theoretical modeling, project leader Ruth-Anne Sandaa, UiB *2019-2022*
- **Nansen Legacy**, Norwegian initiative for Arctic research. Contributing as field work participant, project leader Marit Reigstad, UiT *2018-present*
- **Aquacosc**, EU network for mesocosm facilities. Contributing as work package leader, project leader Jens Nejstgaard, Leibniz-Institut für Gewässerökologi und Binnenfischerei *2017-2019*
- **MINOS**, Microbial Network Organisation, ERC Advanced grant. Contributing with theoretical modeling, project leader T. Frede Thingstad, UiB *2010-2014*

PUBLIC OUTREACH

- **Science Animation** about virus-host interactions: <https://www.scipod.global/dr-selina-vage-modelling-microbes-to-understand-ecosystem-dynamics-and-infectious-diseases/> (September 2021)
- **Science Blog** about microbial research in the Arctic: <https://sciencenorway.no/blog-nansen-legacy-project-blog-researchers-zone/the-tiniest-do-the-heavy-lifting/1913564> (September 2021)
- **Interview** with Ben Knowles, shared with students in EEB187 at UCLA <https://www.dropbox.com/s/gp7rztliovu2i6l/selina+vage+interview.mp4?dl=0> (May 2021)
- **PhD Portrait** in Morgenbladet's "Doktoren svarer", Micro-explosions in the Deep (April 2014)
- **Public Stand at Christie conference**, MINOS project on microbial ecology, Bergen (April 2013)

FIELD WORK

- **Interdisciplinary Oceanography Cruise**, Ecosystem assessment in the Arctic ocean (Nansen and Amundsen basin). Member of microbial team, responsible for prokaryote and viral abundance and diversity sampling and rate measurements. Cruise leader Prof. Bodil Bluhm, UiT & Agneta Fransson, Norwegian Polar Institute (*August-September 2021*)
- **Mesocosm Experiment**, Bottom-up and top-down control in coastal microbial communities, Espesgrend, Western Norway, Project leader T. Frede Thingstad, UiB, Norway (*June 2013*)
- **Biological Oceanography Cruise**, Nutrients and virus-host interactions in Framstrait, Eastern Greenland. Cruise leader Prof. Jørgen Berge, University of Tromsø, Norway (*April-May 2013*)

- **Physical Oceanography Cruise**, North Icelandic Jet and East Greenland Current. PI Dr. Robert S. Pickart, Woods Hole Oceanographic Institution, USA (*July-August 2012*)
- **Physical-Biological Oceanography Cruise**, Currents and predator-prey interactions in Western Antarctic peninsula. PI Prof. Douglas P. Nowacek, Duke University, USA (*May-June 2010*)
- **Physical-Biological Oceanography Cruise**, Hydrology and biological productivity. Cruise leader Prof. Hans C. Eilertsen, University of Tromsø, Norway (*April 2009*)
- **Physical Oceanography Cruise**, Circulation and convection in the Irminger Sea. PI Dr. Robert S. Pickart, Woods Hole Oceanographic Institution, USA (*July 2004*)

FAR-DEVELOPPED MANUSCRIPTS TO BE PUBLISHED IN PEER REVIEWED JOURNAL

- **Våge S**, Talmy D, Follows M (*in revision, rejected by Science*) Fundamental trade-off may underly biomass scaling laws across ecosystems

SUBMITTED TO PEER REVIEWED JOURNAL

- Talmy D, Carr E, Rajakaruna H, **Våge S**, Willem-Omta A (*submitted to Global Biogeochemical Cycles*) Killing the predator: impacts of top- predator mortality on global-ocean ecosystem structure
- Saltvedt M, Wang H, Lawrence J, Dahle H, **Våge S**, Edvardsen B, Bratbak G, Sandaa R-A. The paradox of virus-host coexistence

COMPLETE LIST OF PEER REVIEWED PUBLICATIONS

- Landor L, Bratbak G, Larsen A, Tjendra J, **Våge S (2023)** Differential toxicity of bioorthogonal non-canonical amino acids (BONCAT) in Escherichia coli *J. Microbiol. Meth.* (in press)
- Tjendra J, Storesund JE, Dahle H, Sandaa R-A, **Våge S (2023)** Molecular evidence of parallel evolution in a cyanophage *PLOS ONE* (in press)
- Pourhasanzade F, Iyer S, Tjendra J, Landor L, **Våge S (2022)** Individual-based model highlights the importance of trade-offs for virus-host population dynamics and co-existence *PLOS Comp. Biol* doi:10.1371/journal.pcbi.1010228
- Acevedo-Trejos E, Cadier M, Chakraborty S, Chen B, Cheung SY., Grigoratou M, Guill C, Hassenrück C, Kerimoglu O, Klauschie T, Lindemann C, Palacz A, Ryabov A, Scotti M, Smith SL, **Våge S**, and Prowe AEF (**2022**) Modelling approaches for capturing plankton diversity (MODIV), their societal applications and data needs *Front. Mar. Sci.* doi:10.3389/fmars.2022.975414
- Sandaa R-A, Saltvedt MR, Dahle H, Wang H, **Våge S**, Blanc-Mathieu R, Steen IH, Grimsley N, Edvardsen B, Ogata H, Lawrence J (**2021**) Adaptive evolution of viruses infecting marine microalgae (haptophytes), from acute infections to stable coexistence. *Biol. Rev.* doi:10.1111/brv.12795
- Knowles B, Bonachela JA, Behrenfeld M, Bondoc K, Cael BB, Carlson CA, Cieslik N, Diaz B, Fuchs HL, Graff J, Grasis J, Halsey K, Haramaty L, Johns CT, Natale F, Nissimov JI, Schieler B, Thamatrakoln K, Thingstad TF, **Våge S**, Cliff Watkins C, Westberry TK & Bidle KD (**2020**) Temperate infection in a virus-host system previously known for virulent dynamics. *Nature Communications.* doi:10.1038/s41467-020-18078-4
- Thingstad TF, **Våge S**, Bratbak G, Egge J, Larsen A, Nejstgaard JC, Sandaa R-A (**2020**). Reproducing the virus-to-copepod link in Arctic mesocosms using host fitness optimization. *Limnol. & Oceanogr.* doi:10.1002/lno.11549
- Thingstad, TF, **Våge S (2019)** Host-virus-predator coexistence in a grey-box model with dynamicoptimization of host fitness. *ISME J* doi:10.1038/s41396-019-0496-7
- **Våge S**, Bratbak G, Egge J, Heldal M, Larsen A, Norland S, Lund Paulsen M, Pree B, Sandaa R-A, Foss Skjoldal E, Tsagaraki T, Øvreås L, Thingstad TF (**2018**) Simple models combining competition, defence and resource availability have broad implications in pelagic microbial food webs. *Ecol. Lett.* doi:10.1111/ele.13122
- Sandaa R-A, Pree B, Larsen A, **Våge S**, Töpper B, Töpper JP, Thyraug R, Thingstad TF (**2017**) The Response of Heterotrophic Prokaryote and Viral Communities to Labile Organic Carbon Inputs Is Controlled by the Predator Food Chain Structure. *Viruses* 9:238 doi:10.3390/v9090238
- Leles SG, Mitra A, Flynn KJ, Stoecker DK, Hansen PJ, Calbet A, McManus GB, Sanders RW, Caron DA, Not F, Hallegraeff GM, Pitta P, Raven JA, Johnson MD, Glibert PM, **Våge S (2017)** Oceanic protists with different forms of acquired phototrophy display contrastingbiogeographies and abundance. *Proc R Soc B* doi:10.1098/rspb.2017.0664
- Record, N., Talmy, D., **Våge, S. (2016)**. Quantifying tradeoffs for marine viruses. *Front. Mar. Sci.* 3:251, (**Paper without supervisors, Equal author contributions**)
- Pree, B., Larsen, A., Egge, J.K. , Simonelli, P., Madhusoodhanan, R., Tsagaraki, T., **Våge, S.**, Erga, S.R., Bratbak, G., Thingstad, T.F. (**2016**) Dampened copepod-mediated trophic cascades in a microzooplankton-dominated microbial food web: a mesocosm study. *Limnol. Oceanogr.* doi:10.1002/lno.10483

- Våge, S., Pree, B. & Thingstad, T. F. (2016) Linking internal and external bacterial community control gives mechanistic framework for pelagic virus-to-bacteria ratios *Environ. Microbiol.* 18(11):3932-3948 (*PAPER OF THE MONTH, Hjort Centre for Marine Ecosystem Dynamics*)
- Mitra, A., Flynn, K. J., Tillmann, U., Raven, J. A., Caron, D., Stoecker, D. K., Not, F., Hansen, P. J., Hallegraeff, G., Sanders, R., Wilken, S., McManus, G., Johnson, M., Pitta, P., Våge, S., et al (2016) Defining planktonic protist functional groups on mechanisms for energy and nutrient acquisition: Incorporation of diverse mixotrophic strategies. *Protist* 167:106-120
- Våge, S. & Thingstad, T. F. (2015) Fractal hypothesis of the pelagic microbial ecosystem - Can simple ecological principles lead to self-similar complexity in the pelagic microbial food web? *Frontiers Microbiol.* 6:1357
- Thingstad, T. F., Pree, B., Giske, J. & Våge, S. (2015) What difference does it make if viruses are strain-, rather than species-specific? *Frontiers Microbiol.* 6:320
- Våge, S., Storesund E., J., Giske, J. & Thingstad, T. F. (2014) Optimal defense strategies in an idealized microbial food web under trade-off between competition and defense *PLOS ONE* 9:e0101415
- Thingstad, T. F., Våge, S., Storesund E., J., Sandaa, R.-A. & Giske, J. (2014) A theoretical analysis of how strain-specific viruses can control microbial species diversity *PNAS* 111:7813-7818
- Våge, S., Basedow, S. L., Tande, K. S., & Zhou, M. (2014) Physical structure of the Barents Sea Polar Front near the Great Bank in August 2007 *J. Mar. Syst.* 130:256-262 (**Paper without PhD supervisors**)
- Mitra, A., Flynn, K. J., Burkholder, J. M., Berge, T., Calbet, A., Raven J. A., Graneli, E., Glibert, P. M., Hansen, P. J., Stoecker, D. K., Thingstad, T. F., Tillmann, U., Våge, S., Wilken, S., & Zubkov, M. V. (2014) The role of mixotrophic protists in the biolo, doi:10.5194/bg-11-995-2014
- Våge, S., Storesund E., J. & Thingstad, T. F. (2013) SAR11 viruses and defensive host strains. *Nature* 499:E3-E4
- Våge, S., Storesund E., J. & Thingstad, T. F. (2013) Adding a cost of resistance description extends the ability of virus-host model to explain observed patterns in structure and function of pelagic microbial communities *Environ. Microbiol.* 15:1842-1852
- Våge, S., Castellani, M., Giske, J., Thingstad, T. F. (2013) Successful strategies in size structured mixotrophic food webs. *Aquat. Ecol.* 47(3):329-347
- Castellani, M., Våge, S., Strand, E., Thingstad, T. F. & Giske, J. (2013) The Scaled Subspaces Method: A new trait-based approach to model communities of populations with largely inhomogeneous density *Ecol. Model.* 251:173-186

TALKS

- Marine microbial food webs - Improving our understanding of diversity and biogeochemistry through mechanistic modeling. **BiB2023 Conference**, Os, Norway, May 22-24, 2023 **INVITED TALK**
- Finding the balance between predation and infection in Arctic pelagic ecosystems. **Gordon Research Conference**, Les Diablerets, Switzerland, May 24-29, 2022 **INVITED TALK**
- Adaptive host strategy links phage to copepods in Arctic mesocosms **DynaTrait Annual Meeting**, October 2021
- Fitness maximizing in bacteria links viruses to copepods in mesocosms studies. **ASLO**, online, June 2021
- Portrait of my research, Center for Ocean Life Annual Retreat, **DTU Aqua**, December 2018 **INVITED TALK**
- Merging scales in food web model links life strategy trade-offs to species level diversity, food web structure and biogeochemical cycling in pelagic microbial food webs. **Ocean Sciences Meeting**, Portland, USA, February 2018
- Best practice in mesocosm modeling. **Aquacosc Workshop**, Evora, Portugal, December 2017 **INVITED TALK**
- Can we constrain the “everything” in “everything is everywhere”? in collaboration with T.F. Thingstad. 3rd International Workshop to **Trait-based Approaches to Ocean Life**, Solstrand, Bergen, Norway, August 2017 **INVITED KEYNOTE**
- Universal trade-off can explain sub-linear scaling laws across the biosphere. **AMEMR Conference**, Plymouth Marine Laboratory, UK, July 2017
- How increased Arctic river run-off may reduce transfer efficiency of microbial production to higher trophic levels. **Arctic Frontiers Conference**, Tromsø, Norway, January 2017
- Bacterial diversity and transfer efficiency in pelagic microbial food web. Microbiology Seminar at **University of Bergen**, Norway, November 2016
- Linking bacterial diversity to trophic transfer efficiency, and fractal-aspects of microbial food-web. Institute Seminar at **Bigelow Laboratory for Ocean Sciences**, USA, October 2016
- Theory for virus-to-host ratios and self-similarity in pelagic food web organization. Oceanography Seminar at **MIT**, Boston, USA, October 2016
- Linking bacterial diversity to ciliate abundance gives mechanistic framework for virus-to-bacteria ratios. **ICES 6th Zooplankton Production Symposium**, Bergen, Norway, May 2016
- Linking bacterial diversity to ecosystem function -Towards a mechanistic understanding of virus-to-bacteria ratios? **Trait-based Approaches to Ocean Life Workshop**, Waterville Valley, USA, October 2015
- Elements of a theory linking biodiversity in pelagic heterotrophic prokaryotes to ecosystem function. **ASLO**, Granada, Spain, February 2015

Curriculum Vitae Selina Våge

- Elements of a theory linking biodiversity in pelagic heterotrophic prokaryotes to ecosystem function **Ocean Outlook conference**, Bergen, Norway, February 2015
- Successful strategies in size-structured mixotrophic food webs. at **IMBER Open Science Conference**, Bergen, Norway, June 2014 **INVITED TALK**
- What determines success in pelagic prokaryote communities? **FortHjort Seminar Series**, Hjort Centre for Marine Ecosystem Dynamics, Bergen, Norway, May 2014
- Trade-offs between competition and viral defense structure pelagic prokaryote communities. **Ocean Sciences Meeting**, Honolulu, Hawaii, February 2014
- Cost of resistance extends theory for the role of lytic viruses in structuring pelagic microbial communities. **International ASLO conference**, Lake Biwa, Japan, July 2012
- Mixotrophy - Factors determining successful strategies in size structured planktonic food webs. **Leverhulme Mixotrophy Workshop**, University of Swansea, Swansea, UK, June 2012
- Factors determining the structure of food webs containing osmo-, mixo-, and phagotrophs. Oceanography Seminar at **MIT**, Boston, USA, March 2012
- Structure and dynamics of the Barents Sea Polar Front and associated plankton distribution in August 2007. Oceanography Seminar at **Institute of Marine Research**, Bergen, Norway, April 2010

POSTERS

- **Including virus and bacterial community structure in models of marine microbial food webs** ISME18, Lausanne, Switzerland, August 2022
- **MODIV Objectives, Outcomes & Next steps** EuroMarine General Assembly, online, February 2022
- **MODIV: Modelling different components of marine plankton diversity** ASLO, online, June 2021
- **Linking internal and external bacterial community control gives theoretical framework for virus-to-prokaryote ratios** Croucher Summer School at Hong Kong University of Science and Technology, Hong Kong, China, July/August 2015
- **Life strategy trade-offs in pelagic microbial communities** SAME13 Aquatic Microbial Ecology Conference, Stresa, Italy, September 2013
- **Life strategy trade-offs in pelagic microbial communities** Trait-based Approaches to Ocean Life Workshop, Copenhagen, Denmark, August 2013
- **Structure of the Barents Sea Polar Front near the Great Bank and associated plankton distribution in August 2007**, International Polar Year Science Conference, Oslo, Norway, June 2010
- **Deep-Sea Protobranchia of the North Atlantic**, Bachelor's thesis poster session, UMB, Boston, USA, 2008
- **Vorkommen verschiedener Schwammarten in Abhängigkeit der Standortbedingungen in der Bucht von Fetovaia, Insel Elba**, 39. National competition of "Schweizer Jugend Forscht", Lucerne, Switzerland, 2005

HOBBIES

- Skiing
- Hiking
- Kayaking (*certified sea kayaking guide*, Norsk Padleforbundet's Aktivitetsleder & British Canoeing 3 Start Sea Kayak award)
- Climbing (*certified mountaineering guide*, Norsk Fjellsportforum's Klatreinstruktør Høyfjell 1)
- Tracking and nosework with dogs
- Beer brewing
- Playing the cello
- Physics, in particular cosmology
- Popular science reading
- Scuba diving
- Gardening