



Curriculum Vitae

Personal information

Name Henrik Nicolay Finsberg
Birth date 20.08.1987
Address Jongsbruveien 27B, 1338 Sandvika, Norway
Cell phone (+47) 91186843
E-mail henriknf@simula.no
Specialization Applied Mathematics, Scientific Computing

Education

- 2014 – 2017 **PhD Scientific Computing**, *Simula Research Laboratory and University of Oslo*.
 - Funded by the Center for Cardiological Innovation (CCI).
 - Thesis title: Patient-Specific Computational Modeling of Cardiac Mechanics
- 2012 – 2014 **MSc. Applied and Engineering Mathematics**, *Nordic Master in Applied and engineering mathematics(N5TeAM)*, Trondheim, Copenhagen.
N5TeAM - Master's Programme in Applied and Engineering Mathematics is a joint study programme offered by five leading universities in Nordic countries.
 - First year at DTU in Copenhagen, and second at NTNU in Trondheim.
 - Degree NTNU Trondheim: Master of Science in Applied and Engineering Mathematics.
 - Degree DTU Copenhagen: Master of Science in Engineering.
 - Master thesis: Wavelet Techniques in Medical Imaging.
- 2010 – 2012 **MSc. Physics and Mathematics**, *NTNU*, Trondheim.
Specialized in industrial mathematics. Switched to N5TeAM after finishing first year at industrial mathematics.
- 2006 – 2008 **Sergeant**, *Army Officer Candidate School*, Skjold.
Two-year officer school in the engineering battalion. Position: Squad leader.
 - Responsibilities: Educate soldiers with background in construction, and lead small construction projects.

Work Experience

- 2017- **Research Engineer**, *Simula Research Laboratory*.
Working with implementation of software related to problems in biomedical computing.
- 2016 **Corrector**, *University of Oslo*, INF4331, Problem solving with high level languages.
Correcting assignment from master students.

- 2009 – 2013 **Teaching Assistant**, *Norwegian University of Science and Technology*, Trondheim.
Assisted groups of 25 students in Calculus 1, Calculus 2, Calculus 3, Statistics and Information Technology.
- 2012 – 2012 **Summer Intern**, *Energy Micro*, Oslo, Norway.
Porting the Energy Micro University program to Giant Gecko Starter Kit. Improving code and embedded documentation as well as look and usability of the doxygen generated documentation for all kits.
- 2011 – 2012 **Mentor**, *ENT3R NTNU*, Trondheim.
Responsibility for a class of 20 students from high school. Help students with mathematics, and motivate them for further education in science.
- 2011 – 2011 **Summer Intern**, *Norwegian Defence Research Establishment (FFI)*, Kjeller.
Created a GUI in Visual C# and Matlab to read the log files, and use this information to calculate and plot the desired data.

Activities

- 2015-2016 **Member of Excerpt Committee**, *Nokut*, Oslo.
 - Responsible for evaluating an application for accreditation of a PhD program at Bergen university college together with three other experts.
 - <http://www.nokut.no/no/Fakta/NOKUTs-publikasjoner/Tilsynsrapporter/Phd-studier/Computer-Science-Software-Engineering-Sensor-Networks-and-Engineering-Computing--Hogskolen-i-Bergen/>
- 2011-2012 **Business Manager**, *ENT3R NTNU*, Trondheim.
 - Responsible for organizing student events and invite companies to these events.
- 2011-2012 **Chairman for the Business Committee**, *Nabla - Applied Physics and Mathematics student association*, Trondheim.
 - Overall responsibility for hosting business presentations, publishing catalogue with summer jobs, and connect students to the industry.
- 2011-2012 **Member of the Business Committee**, *Nabla - Applied Physics and Mathematics student association*, Trondheim.
 - Responsible for contacting 20 companies and arrange business presentations.

Programming skills

Python, Git, Unix, C, C#, C++, Matlab, L^AT_EX, Linux, Bash, Gmsh, VTK, Paraview, Swig, FEniCS.

Languages

Norwegian	Native
English	Fluent, Paper-based Toefl test score: 583
French	Beginner level

Awards and Achievements

- April 2012 **Scholarships**.
 - Awarded the Abel scholarship, Fulbright scholarship, Erasmus scholarship, Nordplus Scholarship, N5TeAM Summer School Scholarship.
- May 2009 **Membership**, *Mensa Norway*.

Scientific Work

Thesis

- [1] Henrik Finsberg. Wavelet techniques in medical imaging: Classification of ultrasound images using the windowed scattering transform. <http://www.diva-portal.org/smash/get/diva2:733307/FULLTEXT01.pdf>, 2014. Master Thesis.
- [2] Henrik Finsberg. Growth of entire functions via borel transform. <https://www.dropbox.com/s/dc0ao6h9gs2mrvu/Project%20Henrik.pdf?dl=0>, 2013. Specialization Project (TMA4500).

Journal Publications

- [3] Gabriel Balaban, Henrik Finsberg, Hans Henrik Odland, Marie E Rognes, Stian Ross, Joakim Sundnes, and Samuel Wall. High-resolution data assimilation of cardiac mechanics applied to a dyssynchronous ventricle. *International journal for numerical methods in biomedical engineering*, 33(11), 2017.
- [4] Henrik Finsberg, Gabriel Balaban, Stian Ross, Trine F Håland, Hans Henrik Odland, Joakim Sundnes, and Samuel Wall. Estimating cardiac contraction through high resolution data assimilation of a personalized mechanical model. *Journal of Computational Science*, 2017.

Proceedings

- [5] H. Finsberg, G. Balaban, S. Ross, M.E. Rognes, H Odland, J. Sundnes, and S. Wall. Personalized cardiac mechanical model using a high resolution contraction field. Amsterdam, Netherlands, 9 2016. Virtual Physiology Human Conference.
- [6] H. Finsberg, G. Balaban, M.E. Rognes, J. Sundnes, and S. Wall. Optimization of a spatially varying cardiac contraction parameter using the adjoint method. FEniCS'16, 5 2016.
- [7] H. Finsberg, G. Balaban, M.E. Rognes, J. Sundnes, and S. Wall. Personalization of a cardiac computational model using clinical measurements. volume 28, pages 47–50, Tallin, Estonia, 10 2015. 28th Nordic Seminar on Computational Mechanics.
- [8] H. Finsberg, G. Balaban, M.E. Rognes, J. Sundnes, and S. Wall. Mechanical imaging of dynamic patient stress patterns. Lugano, Switzerland, 4 2015. MALT meeting 2015.

Posters

- [9] Henrik Finsberg. Patient specific modeling of cardiac mechanics using the active strain formulation. Geilo Winter School, 1 2016.