

MSc. Nicky Cordua MATTSSON

PERSONAL DATA

PLACE AND DATE OF BIRTH: Denmark | 07 August 1992
ADDRESS: Blommegrenen 165, Odense SØ, Denmark
PHONE: +45 31532765
EMAIL: nmatt1@student.sdu.dk

EDUCATION

- AUG 2016 Cand.Scient in **Applied Mathematics**, University of Southern Denmark
Topic: "Stochastic Integro-Differential Equations and Applications"
Advisors: Kristian DEBRABANT and Carsten SVANEBOG
ECTS GRADE: A [| Detailed List of Exams](#)
- AUG. 2012 – JAN. 2016 **CP³ Genius Student**, University of Southern Denmark
Talent courses in the cross field of mathematics and physics.
Advisors: Claudio PICA and Chris KOUVARIS
REQUIREMENT: Maintaining a running Danish GPA over 10
ECTS GRADE: No grade given [| Detailed List of Activities](#)
- JAN 2015 B.Sc in **Applied Mathematics**, University of Southern Denmark
Topic: "Modelling and simulation of pedestrian behaviour"
Advisors: Kristian DEBRABANT and Carsten SVANEBOG
ECTS GRADE: A [| List of Selected Exams](#)

PROJECTS

- JAN. 2015 – AUG. 2015 Recognition of Humans Using Moving Thermo-Imaging
Human counting software, 1000 nhs and articles in Ingeniøren and Version2
- AUG. 2014 – AUG. 2015 Geometric Numerical integration
6 Presentations for academias at University of Southern Denmark
- AUG. 2014 – JAN. 2015 Image Segmentation of Bone qCT
- MAY. 2013 – OKT. 2013 Part of the SDU iGEM team
Best Improved Biobrick, Best Wiki-page, Awarded gold, Part of the Judge Handbook (2014), an Article Published

WORK EXPERIENCE

- AUG. 2012 – AUG. 2016 Teaching Assistant at University of Southern Denmark, Odense
Various numerical analysis courses
A selection of courses I have taught is: Applied Topology, Ordinary Differential Equations and Partial Differential Equations.
- JUL. 2013 – AUG. 2015 High School Teacher at Tietgenskolen, Odense
I taught the annual summer courses for high school students which did not have mathematics at an appropriate level in order to enter the university. This included: creating my own time-plan, teaching material and proper execution of the exam.
- SUMMER 2013 Developer of teaching environment at STUDIEVALG FYN, Odense
We were to figure out a story at which the entire learning environment should be build on. Also we were to find appropriate exercises, which could be build in.

VOLUNTARY WORK

APR. 2013 – CURRENT	Board member of our housing cooperative, Odense Together with 4 other residents in the housing cooperative we made up the board, each with specific tasks. My main responsibility was to be the sales representative from the housing cooperative and therefore filling out various documents related to sales, doing the hand overs of the apartments and other related tasks.
MAR. 2013 – MAR. 2015	Internal accountant for the IMADA study counsel, Odense Together with another student from department of mathematics and computer science, IMADA, we were doing the annual internal revision of what the student counsel has spent their money on.
DEC. 2011 – Current	Organizer of talks with the Danish Youth Association of Science (UNF), Odense The association consists of voluntary students arranging exciting talks and workshops within the fields of science and technology. I have organized talks mainly within physics and mathematics. Additionally in 2013 I was the substitute for the board in Odense.

GRANTS

AUG. 2015	Granted 500 node hours as PI: “Generalized Langevin Dynamics”
AUG. 2015	Granted 1000 node hours as PI: “Recognition of Humans Using Moving Thermo-Imaging”

COMPUTER COMPETENCES

NUMERICAL ANALYSIS OF:	
Ordinary differential equations	Matlab
Stochastic differential equations	Matlab
Partial differential equations	Python and FEniCS
Molecular Dynamics	LAMMPS
STATISTICAL SIMULATION	R
UTILIZING SUPERCOMPUTERS	Bash
TEXT FORMATTING	LaTeX Microsoft Office

ACADEMIC TALKS

MAR. 2015	Integration Schemes and Their Order Conditions
MAR. 2015	Symmetric and Symplectic integration
MAY. 2015	Non-Canonical Hamiltonian systems and Implementations
MAY. 2015	Backward Error Analysis and Applications
JUN. 2015	Highly Oscillatory Problems
JUN. 2015	Dynamics of Multistep Methods

PUBLIC OUTREACH

- SEP. 2015 Was a part of an interview with DRs P1 program "Orientering" [Link](#)
- SEP. 2015 Articles published in Ingeniøren and Version2 [Link](#)
- JAN. 2014 Appeared in the University outreach paper twice, NatEkspressen, [Link](#)
- NOV. 2013 Did a video interview for TV2 Bornhom regarding the iGEM project, [Link](#)
- NOV. 2013 Appeared in the newspaper on Bornholm [Link](#)
- OKT. 2013 Did a phone interview for the danish news regarding the iGEM project
- OKT. 2013 Obtained a front-page article at "DRs" web-page regarding the iGEM project.

LANGUAGES

- ENGLISH: Fluent
- DANISH: Mother tongue
- GERMAN: Basic reading capabilities

Master of Science in APPLIED MATHEMATICS

Grades

EXAM	DANISH GRADE	ECTS POINTS
Computational Option Pricing	A	10
Image segmentation of Bone qCT	B	10
Geometric Numerical Integration	Pass	30
Recognition of Humans Using Moving Thermo-Imaging	A	10
Master thesis	A	60
	Total	120
	DANISH GPA	11.78

Detailed List of Activities done with CP³

Teaching Received

ACTIVITY	DATE START	DATE FINISH
Iterative Methods	JAN. 2013	DEC. 2014
Introduction to C	MAR. 2012	DEC. 2012
Course in Classical Mechanics	SEP. 2012	DEC. 2012
Special Relativity	JAN. 2012	JUN. 2012
Cosmology	JAN. 2012	JUN. 2012

Teaching Given

ACTIVITY	DATE START	DATE FINISH
Introduction to ODEs and Order conditions	SEP. 2015	SEP. 2015
Specialized Study Project (SRP)	DEC. 2013	DEC. 2015
CP ³ Genius Event series	MAR. 2012	MAR. 2013

Bachelor of Science in APPLIED MATHEMATICS

Selected grades

EXAM	ECTS GRADE	ECTS POINTS
Bachelor Thesis	A	10
Stochastic Differential Equations	B	10
Differential Equations	A	10
Partial Differential Equations	B	10
Statistical Simulations	A	5
Probability Theory	A	5
Computational Statistics	C	5
Applied Topology	C	10
	DANISH GPA	9.82