

Curriculum Vitae

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for Carsten Lunde Petersen

0. Address and Civil Status:

Carsten Lunde Petersen
Ternevej 45
DK-4000 Roskilde
DENMARK

Tel. (+45) 46 75 17 27 (private)
email: lunde@ruc.dk

- (a) Danish citizen, born October 9-th. 1961 in Lumsås, Højby Sogn, Denmark.
- (b) Married to cand. mag. and pæd. psyk. Lone Hygum on September 2-nd. 1989.
- (c) Children : Thomas (born June 10-th. 1990), Ida (born July 20-th. 1992) and Rasmus (born June 2-nd. 1994).

1. Work experience

(a) *Positions*

- i. Associate professor (Lektor MSK) of mathematics at IMFUFA (Department of Studies in Mathematics and Physics and their Functions in Education, Research and Applications), Roskilde University. May 1-st. 1998– (MSK October 1-st. 2009). (IMFUFA is continued as research group IMFUFA under Department of Science (NSM) from Sept. 1-st. 2006.)
- ii. Assistant professor at IMFUFA February 1-st. 1996 - April 30-th. 1998.
- iii. Post doc. at the Mathematical Institute, the Technical University of Denmark, awarded by the Danish state Natural Sciences Research Council, May 1-st. 1994 to January 31-st. 1996.
- iv. Post doc. at Institut des Hautes Études Scientifiques, Bures-sur-Yvette, France, September 1-st. 1993 to April 30-th. 1994.
- v. Various Danish stipends in the period September 1-st. 1989 to June 30-th. 1993.

2. Degrees etc.

(a) *Degrees*

Ph.D. in mathematics at Århus University July 1993.

Cand. Scient i Matematik og Fysik med speciale i Matematik, at Århus University, Denmark, August 1989 (*Masters degree in Mathematics and physics with a thesis in mathematics*).

(b) *Evaluation of qualifications*

Evaluated professorable at Roskilde University 2006

(c) *Pedagogical training*

I have completed the pedagogical courses for university teachers at RUC.

(d) *Language skills*

Danish, native language, English fluent in writing as well as orally, French fluent/good both in writing and orally.

3. Scientific qualifications

(a) *Scientific production :*

For publications see the attached list of publications and the scientific memorandum.

(b) *Supervision or similar tasks*

I have supervised Eva Uhre, awarded the Ph.d. degree February 2009) and supervised jointly with Bodil Branner, DTU, Christian Henriksen, awarded the Ph.d. degree in 2000.

I have supervised one guest ph.d. student Sebastian Godillon (February-September 2009) and

I am currently supervising two ph.d. students

Luna Lomonaco (started september 2009)

and Asli Deniz (jointly with Nuria Fagella Univ. Barcelona)

I have supervised a post. doc. in holomorphic dynamics. (Anja Kabelka)

(c) *Scientific leadership*

- i. I received as principal investigator in a group of four including Henrik Laurberg Pedersen, Copenhagen University Christian henriksen, The Technical University of Denmark and Jacob Stordahl Christiansen a research

- grant (rammebevilling) Nov.2015-Oct. 2018 for the project “Holomorphic Dynamics and Orthogonal Polynomials” from FNU, the Danish state Natural Sciences Research Council.
- ii. I was leader of the Danish-Swedish node of the EU RTN (Research Training Network) CODY (Conformal Structures and Dynamics).
CODY homepage : <http://www.warwick.ac.uk/cody/cody-home.htm>
 - iii. I received jointly with Christian Berg leader, Henrik Laurberg Pedersen, Copenhagen University and Christian henriksen, DTU a 3 year research grant (rammebevilling) 2011-2013 “Complex Methods in Dynamical Systems and Special functions” from FNU, the Danish state Natural Sciences Research Council,
 - iv. I received jointly with Christian Berg leader, Henrik Laurberg Pedersen, Copenhagen University and Bodil Branner, DTU a 3 year research grant (rammebevilling) 2008-2010 “Complex Methods in Dynamical Systems and Special functions” from FNU, the Danish state Natural Sciences Research Council,
(<http://fi.dk/portal/pls/pr05/docs/1/2996001.PDF>)
 - v. I am principal organiser and program chair (since 2004), of a yearly international combined workshop and Ph.d. course in holomorphic dynamics. Latest the workshop “Holomorphic Dynamics around Thurston's Theorem”, with program chair Adam Epstein, Warwick Univ.
<http://milne.ruc.dk/lunde/holodyn/> (the page contains links to webpages of the previous workshops and Ph.d. courses at the bottom).
 - vi. I was principal organiser of a Symposium in holomorphic dynamics in 2003.
<http://milne.ruc.dk/lunde/bodilfest/>
 - vii. I was awarded 6 months travel grants by the Danish state Natural Sciences Research Council, in 2003 and 2000.
 - viii. I organised a summerschool for Danish university math majors in 2002 and 2010.
 - ix. I have co-organised special sessions on dynamical systems at regional conferences.
 - x. I am a member of the studies board in Mathematics at RUC (studienævnet).
 - xi. I have served as a member of the academic board (Akademisk råd) at RUC.
 - xii. I served on the scientific committee of the workshop “Cantor Bouquets in hedgehogs and transcendental iteration, Toulouse June 2009.
 - xiii. I co-organized a workshop “Trends and Developments in Complex Dynamics” at Oberwolfach October 2008 jointly with D. Schleicher, Jacobs Univ. Bremen, M. Lyubich Univ. of StonyBrook and John Smiley Cornell Univ.

- xiv. I review grant applications for foreign grant awarding boards, approximately once a year (US, Israel, Great Britain, Canada)

(d) *Originality and capacity for development*

i. *Independent research profile*

My research is focussed on holomorphic dynamics. See the attached memorandum for a broader introduction. During the 1990-ties my research was mainly on holomorphic maps with one active critical point and on tools to study such maps. In this the early period of my career I worked mainly on solo-projects, establishing myself as an independent researcher on the international arena. The absolute highlight being my paper [P4]. Since the late 90-ties I have shifted towards collaborations with international colleagues. The paper [P10] is the first major such result. In the 00-s I shifted towards the study of holomorphic maps with more than one active critical point. Recently I have become interested in the dynamics of biological systems.

(e) *Extramural scientific activities and assignments*

- i. Developed and gave a phPh. mini-course on surgery in holomorphic dynamics January 2008.
- ii. I was appointed visiting research positions at Univ. Paul Sabatier, Toulouse, 1 month in 2015, 2009, 2008, 2 months in 2007.
- iii. I was appointed 1 month visiting research professorship at Univ. Cergy-Pontoise, each of the years 2001 – 2006.
- iv. I was appointed to a 4 months research position at CNRS, in 2003.
- v. I was appointed to a 3 months research position at IHES in 2004.
- vi. Member and rapporteur in the “habilitation a diriger recherches”, committee for Arnaud Cheritat. Univ. Paul Sabatier, Toulouse (committee director J.-C. Yoccoz).
- vii. Member and rapporteur in the thesis committee for Jacques Carette. Orsay Univ. (Thesis director A. Douady and committee director J.-C. Yoccoz)
- viii. Member and rapporteur in the thesis committee Arnaud Cheritat. Orsay Univ. (Thesis director A. Douady and committee director J.-C. Yoccoz)
- ix. Opponent for doktorand Gustav Ryd at his ph.d. defense, KTH Stockholm, (Thesis director Lennart Carleson).

(f) *Invited lectures during the recent years*

Plenary speaker at the IMS XXV conference in Stony Brook May 2015
 Plenary speaker at Dynamical Developments: a conference in Complex Dynamics and Teichmüller theory, 17-21 Aug. 2015. Plenary speaker at “Ergodic

Theory and Dynamical Systems” ESI Vienna, Sept 28 - OCT 2.
 Invitations to speak at conferences the Banach center in Warsaw and the Academy of Sciences China. Autumn 2015. Plenary speaker at “Frontiers in Complex Dynamics (Celebrating John Milnor’s 80th birthday)” at Banff International Research Station February 20.-25., 2011. Plenary speaker at “Workshop on parabolic implosion” November 22.-25. 2010 at Université Paul Sabatier, Toulouse
 Plenary speaker at CODY Fourth Year Conference : Conformal Methods in Analysis and Dynamics. Seillac, May 2. - 8. 2010.
 Seminar speaker at Université Paul Sabatier, Toulouse January 20. 2010.
 Seminar speaker at Universitat de Barcelona November 4. 2009.
 Plenary speaker at the Third year conference, Bedlewo September 2009,
 Plenary speaker at ”Douady Memorial Conference”, IHP, Paris. June 16-20, 2008
 Lecturer at “UK Dynamical Systems Graduate School on Complex Dynamics” University of Liverpool, January 14 - 18, 2008,
http://pcwww.liv.ac.uk/~lrempe/workshops/liv_jan_08/
 Seminar speaker at Universitat de Barcelona May 2. 2007.
 Seminar speaker Jacobs University, Bremen, February 13 2007.
 Plenary speaker at Opening conference Warwick, UK, 11-15 June 2007: Conformal Structures and Dynamics. The current state-of-art and perspectives
 Seminar speaker in the seminaire Analyse, géométrie et dynamique complexes, March 8, 2007
 Plenary speaker at Siegel disks, parabolic implosion and area of Julia sets, *Celebration of Adrien Douady’s 70th birthday*, May 9-11, 2006, Cergy-Pontoise University, France
 Seminar speaker at the Fields Institute, Toronto, March 1, 2006
 Numerous seminar and conference talks in France, Spain, Germany, Japan, USA and Denmark

4. Teaching experience

- (a) I have aquired a broad university teaching experience through the last 15 years, mainly through my employment at Roskilde University, RUC. I have completed the pedagogical teachers training at RUC.

I have taught and examined courses in various mathematical disciplines at all university levels from freshmen to post graduate, including international graduate mini courses. I have supervised a large number (40 +) of projects from 1. semester projects, over bachelor bachelor projects to mathematics master thesies and ph.d. thesies at Roskilde University and the Department of Mathematics of the Technical University of Denmark.

(b) **Information on research or other information dissemination in Society**

I have given several lectures aimed at high-school students, latest April 24. 2009 at Odsherreds Gymnasium.