

JAKOB HULTGREN

I'm a PhD student in mathematics at Chalmers University of Technology. I will defend my doctorate in June 2018. I live in Gothenburg with my girlfriend Elina and daughter Noa.

My research is about real and complex Monge-Ampère equations. I'm interested in their relationship to canonical metrics, optimal transport and point processes.



PAPERS

PEER REVIEWED

- Coupled Kähler-Einstein metrics (joint with David Witt Nyström)
arXiv:1608.07209
Accepted by International Mathematics Research Notices
- Permenental point processes on real tori, thermodynamics and Monge-Ampère equations
arXiv:1604.05645
Accepted by Annales de la Faculté des Sciences de Toulouse

PREPRINTS

- An optimal transport approach to Monge-Ampère equations on compact Hessian manifolds (joint with Magnus Önnheim) arXiv:1607.02923
- Coupled Kähler-Ricci Solitons on Toric Manifolds (In preparation)

RESEARCH TALKS ETC

- I gave a **four part mini course** for grad students and faculty at the University of Maryland. The topic was statistical mechanics and large deviation principles. (29 & 31 August, 5 & 7 September 2017)
- **Conference talks:**
 - June 15, 2017: Meeting of the Swedish Math Society, Umeå
 - April 20, 2017: Spring School on Kähler Geometry, Nantes
 - May 23, 2016: Laboratory of Alg. Geometry, Moscow (They videotaped it: <https://goo.gl/HRsXy7>)
 - December 12, 2014: Gothenburg – Oslo Meeting on Complex Analysis, Oslo
- I have given five talks at the complex analysis seminar at Chalmers. Apart from my own research I have given general orientation seminars about theta functions and about toric geometry.

OTHER

- I organized a special grad student/postdoc ice breaker session at the Maryland Analysis and Geometry Atelier in College Park, US (<https://www-math.umd.edu/maga.html>)
- I was responsible for the grad student seminar at the math department at Chalmers (during spring 2015): <http://www.math.chalmers.se/~hultgrej/PhDSeminarProgram.html>
- I have done a lot of **teaching** at undergraduate engineering programs. Most recently (as a TA) in Abstract Algebra for math students and Linear Algebra and Numerical Analysis for Engineering Physics students.
- During autumn 2016 I [volunteered](#) as a teacher in Uganda.

EDUCATION: MASTER OF SCIENCE IN MATHEMATICS, GOTHENBURG UNIVERSITY 2007-2012