

## Contact

Alan Sola  
Department of Mathematics  
Kungliga Tekniska Högskolan  
Lindstedsvägen 25  
100 44 Stockholm

Tel: +4687908457  
Email: [alansola@math.kth.se](mailto:alansola@math.kth.se)  
[www.math.kth.se/~alansola](http://www.math.kth.se/~alansola)

Date of birth: January 10, 1981  
Citizenship: Swedish

## Education

- **Kungliga Tekniska högskolan (KTH)**: Ph.D. Student in Mathematics, 2005—, Funded by the Knut and Alice Wallenberg Foundation; Advisor: Prof. Håkan Hedenmalm. Defence expected in May 2010.
- **Kungliga Tekniska högskolan (KTH)**: Master of Science in Engineering Physics, 2001—2005. Specialized in Pure Mathematics.

## Research interests

- Conformal mapping, Loewner's equation, planar random growth models, reproducing kernel functions.

## Papers

- *An estimate of the universal means spectrum of conformal mappings*, Comput. Methods Funct. Theory 6 (2006), 423-436.
- *Norm expansion along a zero variety*, with H. Hedenmalm and S. Shimorin, J. Funct. Anal. 254 (2008), 1601-1625.
- *Spectral notions for conformal maps: a survey*, with H. Hedenmalm, Comput. Methods Funct. Theory 8 (2008), 447-474.
- *Rescaled Lévy-Loewner hulls and random growth*, with F. Johansson, Bull. Sci. Math. 133 (2009), 238-256.
- *Scaling limits of anisotropic Hastings-Levitov clusters*, with F. Johansson and A. Turner, <http://arxiv.org/abs/0908.0086>.

## Research visits

- **University of Texas at Austin, USA**: Three-week visit in November 2009.
- **Lancaster University, UK**: One week visit in April 2009. Invited by collaborator, Amanda Turner.
- **Mittag-Leffler Institute, Sweden**: Visitor to the research program *Complex analysis of several variables*, Spring 2008.

## Travel grants

- **G.S. Magnuson Foundation, Royal Swedish Academy of Sciences**: Travel grants awarded in 2007, 2009.
- **Hierta-Retzius Foundation, Royal Swedish Academy of Sciences**: Travel grant awarded in 2008.

**Selected presentations**

- *Loewner evolutions driven by compound Poisson processes and random growth*, Analysis and dynamical systems seminar, KTH, April 2009.
- *Randomized Hastings-Levitov clusters and deterministic Loewner chains*, Workshop on Random structures, growth processes and conformal methods, University of Helsinki, Finland, March 2009.
- *Loewner chains and random growth processes*, Several complex variables seminar, Stockholm University, February 2009.
- *$HL(\alpha)$  and related growth models*, Potential theory and analysis of growth processes, Université d'Orléans, France, January 2009.
- *Levy-Loewner evolutions and random growth*, Fifth advanced course in operator theory and complex analysis, University of Seville, Spain, June 2008.
- *Norm expansions and reproducing kernels*, First African-Swedish conference in mathematics, Yaoundé, Cameroon, September 2006.
- *Norm expansion along a zero variety in  $C^d$* , Analysis and dynamical systems seminar, KTH, September 2006.

**Teaching**

- **KTH, Lecturer and organizer:** Full responsibility for Linear algebra course; fall 2008, fall 2009. Mechanical Engineering program, around 150 students.
- **KTH, Lecturer and organizer:** KTH Mathematical Circle, Outreach courses in Number theory and Geometry for high school students in the Stockholm area, 2008—.
- **KTH, Graduate Teaching assistant:** Calculus, Linear algebra, Advanced linear algebra, Vector analysis, Discrete mathematics, Complex analysis, 2005-2008.
- **KTH, Undergraduate instructor:** Linear algebra, Calculus, Vector analysis, Differential equations, 2002-2005.

**Teaching material**

- *Talteori [Number Theory]*, with A. Enblom, Lecture notes (in Swedish) for the KTH Mathematical Circle 2008, 61pp.
- *Hyperbolisk geometri [Hyperbolic Geometry]*, with D. Petersen, Lecture notes (in Swedish) for the KTH Mathematical Circle 2009, 99pp.

**Teaching awards**

- *En fjäder i hatten*, Prize awarded by Engineering physics students' chapter for excellence in teaching; 2005, 2008.

**Professional activities**

- **Conference organizer:** Organizer (with L. Nilsson, Stockholm University) of graduate student conference “Komplex analys utan seniorer (KAUS) 2008” at KTH and Stockholm University, January 2008.
- **Seminar organizer:** Organizer (with M. Björklund) of the Department's Graduate Student Seminar, 2006—2009.
- **Referee:** Michigan Mathematical Journal, Complex Variables and Elliptic Equations.
- **Committees:** Graduate student representative on KTH School of Science appointment committee, January 2008—.

**Additional information**

- **Language skills:** Swedish, Polish (native); English, German (fluent), French (basic).