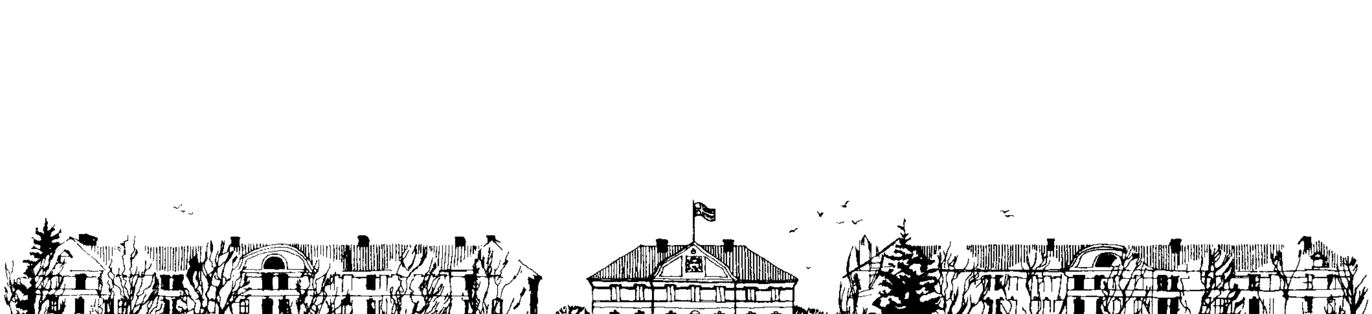
June 12, 1997

Complex Analysis and Differential Equations

A Marcus Wallenberg Symposium In Honor of Matts Essén

June 15–18, 1997, Uppsala, Sweden

Program



Uppsala University
Department of Mathematics

Welcome to the symposium in honor of Matts Essén!

The symposium is organized by the Department of Mathematics of Uppsala University. It is financially supported by:

The Marcus Wallenberg Foundation for International Scientific Collaboration,

The Wenner-Gren Center Foundations,

The Nordic Academy for Advanced Study (NorFa),

The Swedish Natural Science Research Council,

The Faculty of Science and Technology of Uppsala University,

Gustaf Sigurd Magnuson's Fund, and

The Presidency of Uppsala University.

We gratefully acknowledge the support of these institutions.

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The symposium will be held at the Mathematics and Information Technology Center (MIC) of Uppsala University, situated on Polacksbacken about 2 km south of downtown Uppsala.

Registration will start on Sunday, June 15, at 09:00. The official opening of the symposium will be at 10:00 that day, and the first plenary lecture will be given at 10:10. There will be a reception on Sunday, an excursion on Monday, and a banquet on Tuesday. The symposium will end in the afternoon of Wednesday, June 18. The last talk will end at 16:15. It is followed by a farewell reception.

Plenary lectures

All plenary lectures will be held in the main lecture room on the MIC Campus (the *MIC Aula*). They will be 45 minutes long.

Hiroaki Aikawa, Shimane University: *Norm estimates of Green operator and perturbation of Green function.* Tuesday at 9:00

Milne Anderson, London

Kari Astala, Jyväskylä. *Periodic quasiconformal mappings, homogenization and optimal conductivity properties of material mixtures.* Wednesday at 14:15

Al Baernstein, St. Louis: *Symmetrization theorems for integrals involving volumes of simplices.* Sunday at 15:40

Lennart Carleson, Uppsala & KTH: *DLA and an analogue of Burgers' equation.* Sunday at 13:30

David Drasin, Purdue: *On Nevanlinna's inverse problem.* Wednesday at 15:30

Vladimir Eiderman, Moscow: *Metric properties of exceptional sets.* Tuesday at 11:15

Stephen Gardiner, Dublin: *Limits of superharmonic functions along parallel lines* (Joint work with Matts Essén). Tuesday at 10:15

Wolfhard Hansen, Bielefeld: *A Liouville property for Schrödinger operators.* Tuesday at 14:25

Walter Hayman, Imperial College: *The mathematical work of Matts Essén.* Sunday at 10:10

Ilpo Laine, Joensuu: *Meromorphic solutions of some complex differential equations* (Joint work with Shengjian Wu). Monday at 9:00

John Lewis, Lexington, Kentucky: *Some problems for elliptic and parabolic measure.* Wednesday at 10:00

Olli Martio, Helsinki: *Stability results.* Sunday at 14:25

Pertti Mattila, Jyväskylä: *Removable sets for Lipschitz harmonic functions in the plane.* Sunday at 11:15

Ivan Netuka, Prague: *Limit behavior of convolutions of measures and its application to harmonic functions and stabilization.* Tuesday at 15:40

Phil Rippon, Milton Keynes: *Asymptotic values of continuous functions.* Tuesday at 13:30

John Rossi, Blacksburg, Virginia: *Circular means of fine Green's functions and the longest arc relation* (Joint work with Fryntov and Weitsman). Monday at 10:55

Kristian Seip, Trondheim: *On some interpolation problems for entire functions and the Hunt–Muckenhoupt–Wheeden theorem.* Sunday at 16:35

Dan Shea, Madison: *On convolution inequalities in function theory (from Kjellberg to Essén).* Wednesday at 11:00

Mikhail Sodin, Tel-Aviv: *Hilbert transform of measures and L^1 functions* (after Matsaev). Monday at 13:45

Jang Mei Wu, Urbana: *Growth and asymptotic sets of subharmonic functions.* Wednesday at 13:15

Contributed talks

All contributed talks will be held in Building 2 on the MIC Campus. They will be 30 minutes long.

Mats Erik Andersson, KTH, Stockholm: *The sharp logarithmic Sobolev inequality for the group of order three.* Monday at 09:55, Room 245

Rauno Aulaskari, Jyväskylä: *$Q_p(R)$ on Riemann surfaces.* Tuesday at 17:15, Room 245

Vladimir Azarin, Bar-Ilan: *On limit sets of entire curves and the multiplicator problem.* Monday at 13:00, Room 345

Yuanji Cheng, Luleå: *On an open problem of Ambrosetti, Brezis and Cerami.* Monday at 9:55, Room 347

W. N. Everitt, Birmingham, UK: *On the representation of holomorphic functions by integrals.* Tuesday at 17:15, Room 247

Kurt Hansson, Linköping: *A Dirichlet problem for a multidimensional Riccati equation.* Monday at 13:00, Room 245

Håkan Hedenmalm, Lund: *Invertible but not weakly invertible functions in the Bergman spaces.* Monday at 09:55, Room 247

Burglind Juhl-Jöricke, Berlin: *A non-removable generic 4-ball in the unit sphere in* $\mathbf{C}^3$ (Joint work with N. Shcherbina). Tuesday at 17:15, Room 345

Visa Latvala, Joensuu: *Bloch functions of solutions to elliptic equations.* Monday at 9:55, Room 345

Peter Lindqvist, Trondheim: *On a very degenerate nonlinear eigenvalue problem.* Tuesday at 17:15, Room 347

José G. Llorente, Madrid: *Axiomatic potential theory, asymptotic values and elliptic differential operators.* Wednesday at 9:00, Room 345

Torbjörn Lundh, KTH, Stockholm: *Percolation of a Brownian motion absorbed by a Poisson process.* Monday at 13:00, Room 347

Jerk Matero, Uppsala: *Mean curvature flow with absorption.* Wednesday at 9:00, Room 347

Vladimir Maz'ya, Linköping: *On the Wiener regularity of a boundary point for higher order elliptic operators.* Sunday at 17:30, Room 247

Artur Nicolau, Barcelona: *Inner functions, Bloch spaces and symmetric measures.* Sunday at 17:30, Room 245

I. V. Ostrovskii, Kharkov and Ankara: *Power series having tails with multiply positive coefficients* (Joint work with N. A. Zheltukhina). Tuesday at 16:35, Room 347

Jarmila Ranošová, Prague: *Sets of determination in potential theory.* Tuesday at 16:35, Room 245

Charles Stanton, San Bernardino, California: *Some sharp inequalities for norms of conjugate functions* (Joint work with Dan Shea and Matts Essén). Wednesday at 9:00, Room 247

Tadie, Copenhagen: *Structure of radial solutions of semilinear elliptic equations via the "normalized" problems.* Monday at 13:00, Room 247

Vadim Tkachenko, Beer-Sheva: *Non-selfadjoint Dirac operators with periodic skew-symmetric potential matrices.* Tuesday at 16:35, Room 247

Luis Manuel Tovar, Mexico: Q_p*-functions and Blaschke products.* Tuesday at 16:35, Room 345

A. Ulanovskii, Stavanger: *Completeness problems for sparse sequences of exponentials on large sets.* Sunday at 17:30, Room 347

Björn Gabriel Walther, KTH, Stockholm: *Fourier transforms of singular distributions as initial data for the time-dependent Schrödinger equation.* Wednesday at 9:00, Room 245.

Yuefei Wang, Beijing and Berlin: *Dynamics of entire functions: Wandering domains.* Sunday at 17:30, Room 345

Information on the web

Current information about the symposium is posted at URL:
`http://www.math.uu.se/~cok/essen_symposium.html`

Excursion, banquet, and farewell reception

If you want to participate in the excursion at 14:35 on Monday, please register at the registration desk no later than ***18:00 on Sunday.***

If you want to participate in the banquet at 18:00 on Tuesday, please register at the registration desk no later than ***18:00 on Sunday.***

If you want to participate in the farewell reception at 16:30 on Wednesday, please register at the registration desk no later than ***18:00 on Sunday.***

Checking your e-mail

You can check your e-mail by `Telnet` and have access to `Netscape` in Room 516, Building 2.

Informal discussions

Rooms 245, 247, 345, and 347 in Building 2 are available from 09:00 to 18:00 for informal discussions except when they are used for contributed talks.

Festschrift

We plan to publish a proceedings volume, which will also be a Festschrift for Matts. Those who wish to contribute, in particular all speakers, are asked to contact the chairman of the organizing committee, Christer Kiselman.

Scientific Committee

Hiroaki Aikawa, Shimane University
Catherine Bandle, Basel
David Drasin, Purdue
Walter Hayman, Imperial College
Ilpo Laine, Joensuu
John Lewis, Kentucky
Olli Martio, Helsinki
Ivan Netuka, Prague
Dan Shea, Madison

The advice of the Scientific Committee concerning the selection of contributed talks is gratefully acknowledged.

Organizing Committee

Christer Kiselman, Lars-Åke Lindahl, Jerk Matero (Secretary)
Conference manager: Zsuzsanna Kristófi

The Symposium day by day

Sunday, June 15

09:00	Registration starts in the hall outside the *MIC Aula.*
10:00	The Symposium will be officially opened by the Dean of the Faculty of Science and Technology, Bo Sundqvist. (Professor Sundqvist will be the President of Uppsala University from July 1, 1997.)
10:10–11:00	Walter Hayman, Imperial College: *The mathematical work of Matts Essén*
11:15–12:00	Pertti Mattila, Jyväskylä: *Removable sets for Lipschitz harmonic functions in the plane*
12:00–13:30	Lunch in Restaurant *Rullan*
13:30–14:15	Lennart Carleson, Uppsala & KTH: *DLA and an analogue of Burgers' equation*
14:25–15:10	Olli Martio, Helsinki: *Stability results*
15:10–15:40	Coffee or Tea in Restaurant *Rullan*
15:40–16:25	Al Baernstein, St. Louis: *Symmetrization theorems for integrals involving volumes of simplices*
16:35–17:20	Kristian Seip, Trondheim: *On some interpolation problems for entire functions and the Hunt–Muckenhoupt–Wheeden theorem*

17:30–18:00	***Contributed talks, Building 2***
Room 245	Artur Nicolau, Barcelona: *Inner functions, Bloch spaces and symmetric measures*
Room 247	Vladimir Maz'ya, Linköping: *On the Wiener regularity of a boundary point for higher order elliptic operators*
Room 345	Yuefei Wang, Beijing and Berlin: *Dynamics of entire functions: Wandering domains*
Room 347	A. Ulanovskii, Stavanger: *Completeness problems for sparse sequences of exponentials on large sets*

18:00– ***Reception in Restaurant Rullan***

Monday, June 16

09:00–09:45 Ilpo Laine, Joensuu: *Meromorphic solutions of some complex differential equations* (Joint work with Shengjian Wu)

09:55–10:25 ***Contributed talks, Building 2***

Room 245 Mats Erik Andersson, KTH, Stockholm: *The sharp logarithmic Sobolev inequality for the group of order three*

Room 247 Håkan Hedenmalm, Lund: *Invertible but not weakly invertible functions in the Bergman spaces*

Room 345 Visa Latvala, Joensuu: *Bloch functions of solutions to elliptic equations*

Room 347 Yuanji Cheng, Luleå: *On an open problem of Ambrosetti, Brezis and Cerami*

10:25–10:55 Tea or Coffee in Restaurant *Rullan*

10:55–11.40 John Rossi, Blacksburg, Virginia: *Circular means of fine Green's functions and the longest arc relation* (Joint work with Fryntov and Weitsman)

11:40–13:00 Lunch in Restaurant *Rullan*

13:00–13:30 ***Contributed talks, Building 2***

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Room 247 Tadie, Copenhagen: *Structure of radial solutions of semilinear elliptic equations via the "normalized" problems*

Room 345 Vladimir Azarin, Bar-Ilan: *On limit sets of entire curves and the multiplicator problem*

Room 347 Torbjörn Lundh, KTH, Stockholm: *Percolation of a Brownian motion absorbed by a Poisson process*

13:45–14:30 Mikhail Sodin, Tel-Aviv: *Hilbert transform of measures and L^1 functions* (after Matsaev)

14:35– ***Excursion to Ulva kvarn and Gamla Uppsala.*** If you want to participate, please register at the registration desk no later than 18:00 on Sunday. The buses will start near the entrance to the *MIC Aula*

Tuesday, June 17

09:00–09:45 Hiroaki Aikawa, Shimane University: *Norm estimates of Green operator and perturbation of Green function*

09:45–10:15 Coffee or Tea in Restaurant *Rullan*

10:15–11:00 Stephen Gardiner, Dublin: *Limits of superharmonic functions along parallel lines* (Joint work with Matts Essén)

11:15–12:00 Vladimir Eiderman, Moscow: *Metric properties of exceptional sets*

12:00–13:30 Lunch in Restaurant *Rullan*

13:30–14:15 Phil Rippon, Milton Keynes: *Asymptotic values of continuous functions*

14:25–15:10 Wolfhard Hansen, Bielefeld: *A Liouville property for Schrödinger operators*

15:10–15:40 Tea or Coffee in Restaurant *Rullan*

15:40–16:25 Ivan Netuka, Prague: *Limit behavior of convolutions of measures and its application to harmonic functions and stabilization*

16:35–17:05 ***Contributed talks, Building 2***

Room 245 Jarmila Ranošová, Prague: *Sets of determination in potential theory*

Room 247 Vadim Tkachenko, Beer-Sheva: *Non-selfadjoint Dirac operators with periodic skew-symmetric potential matrices*

Room 345 Luis Manuel Tovar, Mexico: Q_p*-functions and Blaschke products*

Room 347 I. V. Ostrovskii, Kharkov and Ankara: *Power series having tails with multiply positive coefficients* (Joint work with N. A. Zheltukhina)

17:15–17:45 ***Contributed talks, Building 2***

Room 245 Rauno Aulaskari, Jyväskylä: $Q_p(R)$ *on Riemann surfaces*

Room 247 W. N. Everitt, Birmingham, UK: *On the representation of holomorphic functions by integrals*

Room 345 Burglind Juhl-Jöricke, Berlin: *A non-removable generic 4-ball in the unit sphere in* $\mathbf{C}^3$ (Joint work with N. Shcherbina)

Room 347 Peter Lindqvist, Trondheim: *On a very degenerate nonlinear eigenvalue problem*

18:00– ***Banquet in Restaurant Rullan.*** If you want to participate, please register at the registration desk no later than 18:00 on Sunday

Wednesday, June 18

09:00–09:30 ***Contributed talks, Building 2***

Room 245 Björn Gabriel Walther, KTH, Stockholm: *Fourier transforms of singular distributions as initial data for the time-dependent Schrödinger equation*

Room 247 Charles Stanton, San Bernardino, California: *Some sharp inequalities for norms of conjugate functions* (Joint work with Dan Shea and Matts Essén)

Room 345 José G. Llorente, Madrid: *Axiomatic potential theory, asymptotic values and elliptic differential operators*

Room 347 Jerk Matero, Uppsala: *Mean curvature flow with absorption*

09:30–10:00 Coffee or Tea in Restaurant *Rullan*

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14:15–15:00 Kari Astala, Jyväskylä: *Periodic quasiconformal mappings, homogenization and optimal conductivity properties of material mixtures*

15:00–15:30 Tea or Coffee in Restaurant *Rullan*

15:30–16:15 David Drasin, Purdue: *On Nevanlinna's inverse problem*

17:00– ***Farewell reception offered by Matts and Agneta Essén in Restaurant Rullan.*** If you want to participate, please register at the registration desk no later than 18:00 on Sunday