

BELGIAN MATHEMATICAL  
SOCIETY

Comité National de Mathématique CNM



NCW Nationaal Comite voor Wiskunde

**BMS-NCM NEWS: the Newsletter of the  
Belgian Mathematical Society and the  
National Committee for Mathematics**

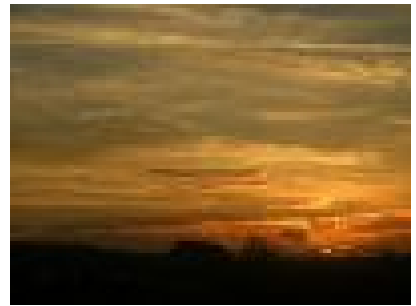
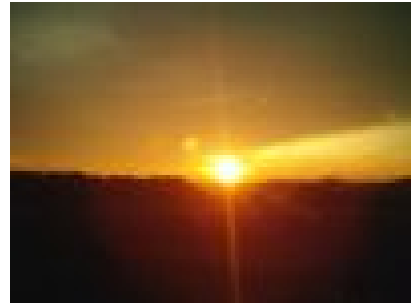
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**BMS-NCM NEWS**

No 60, November 15, 2006

## *Letter from the editor*

Welcome to the “November 15, 2006 Issue” of our Newsletter!

After rather high temperature in October... Halloween came and brought autumn, with so wonderful colors and brightness. Now winter is coming... Enjoy this Newsletter ... close to a roaring fire?

Françoise

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## 1 Meetings, Conferences, Lectures

### 1.1 November 2006

#### *Groupe de contact FNRS en Géométrie Différentielle*

Université Libre de Bruxelles, November 24-25, 2006

This meeting will take place at Université Libre de Bruxelles; it will start on Friday, November 24th, at 9:30am and will end on Saturday, November 25th, at noon. Here is the list of speakers :

FRANCIS BURSTALL (University of Bath)

*Parabolic submanifold geometry*

MANON DIDRY (Université de Nancy 1)

*TBA*

FABIAN RADOUX (Université de Liège)

*Natural and Projectively equivariant Quantizations*

JOHN RAWNSLEY (Warwick University)

*A survey of twistor theory for symplectic manifolds*

FRANÇOIS ROUVIÈRE (Université de Nice)

*On Radon transforms and the kappa operator*

FELIX SCHLENK (Université Libre de Bruxelles)

*Symplectic capacities in symplectic geometry*

For more information, please visit the meeting website

(<http://homepages.ulb.ac.be/~fbourgeo/contact/FNRScontact.html>). If you intend to participate, please contact Frédéric Bourgeois at [fbourgeo@ulb.ac.be](mailto:fbourgeo@ulb.ac.be).

## 1.2 December 2006

### *Réunion du groupe de contact en logique mathématique*

ULB, Campus de la Plaine, bâtiment NO, local 2NO906  
Jeudi 14 décembre 2006

Les orateurs suivants ont confirmé leur participation:

Thomas Brihaye (LSV, CNRS et ENS de Cachan), Eric Duchêne (ULg, Imag Grenoble), Marcin Jurdzinski (Warwick), Michael Leuschel (Düsseldorf).

Pour toute demande d'information et l'inscription au lunch, veuillez consulter en temps utile le site: <http://math.umh.ac.be/logic/seminars.htm> ou contacter les organisateurs par email: christian.michaux@umh.ac.be

## 1.3 January 2007

A l'occasion du Midterm Review meeting du réseau européen MODNET (model theory and applications) qui se tiendra à Mons le 22 janvier 2007, organisation d'un

### *groupe de contact en logique mathématique 21 et 23 janvier 2007 (UMH).*

De nombreux chercheurs, postdoctorants et doctorants du réseau MODNET participeront à cette réunion.

Pour toute demande d'information et l'inscription, veuillez consulter en temps utile le site: <http://math.umh.ac.be/logic/seminars.htm> ou contacter les organisateurs par email: point@logique.jussieu.fr

## 1.4 April 2007

### *Dynamics in Perturbations*

on the occasion of the 60th birthday of Freddy Dumortier  
Hasselt University  
(23-25 april 2007, campus Diepenbeek), and KVAB (26-27 april 2007, Brussels)

#### Organizers:

Patrick Bonckaert, Magdalena Caubergh, Peter De Maesschalck, André Vanderbauwhede.

#### Subject:

recent trends in differentiable dynamical systems, in particular geometric, analytic and topological methods in perturbation and bifurcation theory of vector fields. Focus on: singular, Hamiltonian and other perturbations. Essentially the conference will emphasize on results in low dimensions.

#### Invited speakers include:

Jorge Sotomayor – Universidade de Sao Paulo  
Floris Takens – RU Groningen  
Carmen Chicone - University of Missouri-Columbia  
Hiroshi Kokubu – Kyoto University  
Jean-Pierre Francoise - Université P.-M. Curie, Paris VI  
Chengzi Li – Beijing University  
Christiane Rousseau – Université de Montréal  
Wellington de Melo – IMPA, Rio de Janeiro  
Henryk Zholadek – University of Warsaw  
Douglas Shafer - University of North Carolina at Charlotte  
Henk Broer – RU Groningen  
Jaume Llibre - Universitat Autònoma de Barcelona  
Robert Roussarie – Université de Bourgogne, Dijon  
Carles Simo – Universitat de Barcelona  
Yulij Il'yashenko - Cornell University/MCCME Moscow

#### Homepage:

<http://www.uhasselt.be/dysy/dynper/> Email: patrick.bonckaert@uhasselt.be

## 1.5 July 2007

The EMS is a member society of ICIAM (=International Congress on Industrial and Applied Mathematics); please note the

*Congress ICIAM 2007, 16-20 July 2007 in Zurich*

See information on the web pages at the address <http://www.iciam07.ch/registration>

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## 1.6 2008

*5ECM, July 14-18, 2008*  
5th EUROPEAN CONGRESS of MATHEMATICS

Informations can be found at the address <http://www.5ecm.nl>

## 2 Summary of PhD theses

**Multi-dimensional Continuous Wavelet Transforms and  
Generalized Fourier Transforms in Clifford Analysis**

Nele DE SCHEEPER,  
Clifford Research Group, Dept. Mathematical Analysis, UGent  
December 15, 2006

Promotors: Fred Brackx and Frank Sommen

*I have written this thesis during my assistantship at Ghent University, under the good care of my supervisors Fred Brackx and Frank Sommen. The plan is to defend it on the 15th of December 2006, 16h, in the "Jozef Plateauzaal", Faculty of Engineering, Ghent - to be confirmed.*

This work covers three mathematical analysis domains: Continuous Wavelet Transform, Fourier Transform and Clifford Analysis, and consists of three parts in which these domains interact.

The one-dimensional continuous wavelet transform (CWT) is a successful tool for signal and image analysis, with applications in mathematics, physics and engineering. Higher dimensional CWTs typically originate as tensor products of one-dimensional phenomena.

Clifford analysis offers a natural generalization to higher dimension of the theory of holomorphic functions in the complex plane. The generalized holomorphic functions, known as monogenic functions, are null-solutions of the so-called Dirac operator, a first order rotationally invariant differential operator factorizing the Laplacian in higher dimensions. This factorization of the Laplace operator establishes a special relationship between monogenic functions and harmonic functions of several variables, in that the properties of monogenic functions constitute a refinement of those of harmonic functions.

An intrinsic feature of Clifford analysis is that it encompasses all dimensions at once, as opposed to the usual tensorial approaches. This true multi-dimensional nature allows for a very specific construction of higher dimensional wavelets and the development of the corresponding CWT-theory, based on generalizations to higher dimension of classical orthogonal polynomials on the real line. In Part I this wavelet construction procedure is presented within the usual, orthogonal Clifford analysis framework, while in Part III we generalize it to the metric dependent setting of Clifford analysis. The latter gives rise to so-called anisotropic Clifford-wavelets which are adaptable to preferential, not necessarily orthogonal, directions in the signals or textures to be analysed.

The central topic of Part II is the development of a new multi-dimensional Fourier transform in the framework of Clifford analysis, the so-called Clifford-Fourier transform. It arises as a theoretical construct quite naturally in the spirit of the above mentioned refinement of harmonic functions by monogenic ones.

### 3 Miscellaneous

#### 3.1 Call for prizes

*Call for the 2007 Fermat Prize for Mathematics Research.*

For information on the conditions of the prize and timetable, please check the following web page <http://www.math.ups-tlse.fr/Fermat/>.

Electronic files of the announcement are available at: [d.dallariva@math.ups-tlse.fr](mailto:d.dallariva@math.ups-tlse.fr)

Michel Ledoux, Institut de Mathématiques, Université de Toulouse, 31062 Toulouse, France  
<http://www.lsp.ups-tlse.fr/Ledoux/>, Tel. (+33) (0)5 61 55 85 74, Fax (+33) (0)5 61 55 60 89

#### 3.2 From FUNDP

*SIAM Awards Lagrange Prize to Roger Fletcher, Sven Leyffer, and Philippe L. Toint*

Established in 2002, the Lagrange Prize in Continuous Optimization is awarded jointly by the Mathematical Programming Society (MPS) and the Society for Industrial and Applied Mathematics (SIAM). SIAM awarded the Lagrange Prize at their annual meeting held in Boston from July 10–14, 2006.

The recipients of this year's prize are Roger Fletcher of the University of Dundee, Scotland, Sven Leyffer of Argonne National Laboratory, and Philippe L. Toint of the University of Namur, Belgium.

The prize is awarded for outstanding works in the area of continuous optimization. Judging of works is based primarily on their mathematical quality, significance, and originality. Clarity and excellence of the exposition and the value of the work in practical applications may be considered as secondary attributes.

The 2006 recipients were recognized on behalf of their papers: “Nonlinear Programming Without A Penalty Function” by Roger Fletcher and Sven Leyffer, published in *Mathematical Programming*, 91 (2), pp. 239-269 (2002) and “On the Global Convergence of a Filter-SQP Algorithm” by Roger Fletcher, Sven Leyffer, and Philippe L. Toint, published in *SIAM Journal on Optimization*, Volume 13, pp. 44-59 (2002)

.....

In the development of nonlinear programming over the last decade, an outstanding new idea has been the introduction of the filter. This new approach to balancing feasibility and optimality has been quickly picked up by other researchers, spurring the analysis and development of a number of optimization algorithms in such diverse contexts as constrained and unconstrained nonlinear optimization, solving systems of nonlinear equations, and derivative-free optimization. The generality of the filter idea allows its use, for example, in trust region and line search methods, as well as in active set and interior point frameworks. Currently, some of the most effective nonlinear optimization codes are based on filter methods. The importance of the work cited here will continue to grow as more algorithms and codes are developed.

The filter sequential quadratic programming (SQP) method is proposed in the first of the two cited papers. Many of the key ideas that form the bases of later non-SQP implementations and analyses are motivated and developed. The paper includes extensive numerical results, which attest to the potential of the algorithm.

The second paper complements the first, using novel techniques to provide a satisfying proof of correctness for the filter approach in its original SQP context. The earlier algorithm is simplified, and, in so doing, the analysis plays its natural role with respect to algorithmic design.

The Society for Industrial and Applied Mathematics (SIAM) was founded in 1952 to support and encourage the important industrial role that applied mathematics and computational science play in advancing science and technology. Along with publishing top-rated journals, books, and *SIAM News*, SIAM holds about 12 conferences per year. There are also currently 45 SIAM Student Chapters and 15 SIAM Activity Groups.

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SIAM's 2006 Annual Meeting themes included dynamical systems, industrial problems, mathematical biology, numerical analysis, orthogonal polynomials and partial differential equations.

For complete details, go to <http://www.siam.org/meetings/an06/index.php> .

### 3.3 From KUL

***Belgian Francqui Chair 2006 - 2007 : Professor Pierre van Moerbeke (UCL)***

He will give a lecture series at the K.U. Leuven that starts with an

*inaugural lecture on Wednesday, 22 November 2006.*

Everybody is cordially invited.

For more information, please contact arno.kuijlaars@wis.kuleuven.be

See also the poster at the end of this Newsletter.

Program:

- Wednesday, 22 November 2006, 4:00 pm  
*Random matrices: from the solitaire game to non-intersecting Brownian motions (inaugural lecture)*
- Wednesday, 29 November 2006, 4:00 pm  
*Random permutations, random walks, and unitary matrix integrals*
- Wednesday, 6 December 2006, 4:00 pm  
*The length of the longest increasing subsequence in random permutations*
- Wednesday, 13 December 2006, 4:00 pm  
*Orthogonal polynomials, matrix integrals, and integrable systems*
- Wednesday, 20 December 2006, 4:00 pm  
*Matrix integrals and the Virasoro algebra*
- Wednesday, 17 January 2006, 4:00 pm  
*Non-intersecting Brownian motions and non-linear PDEs*

For more information, please contact Arno Kuijlaars at arno.kuijlaars@wis.kuleuven.be

### 3.4 From VUB

Prof. **Ingrid Daubechies (Princeton)** will visit the **VUB from November 27 till November 30, 2006.**

Contact: pcara@vub.ac.be

### 3.5 PhD position

**TILBURG UNIVERSITY**  
**CentER and Department of Econometrics & OR**

Applications are invited for a

*Ph.D. student (AiO) position in mathematical statistics.*

The research area is nonparametric statistics including, in particular, empirical likelihood, empirical and quantile processes, statistics of extreme values, and nonparametric regression.

The position is for three years. Apart from conducting research that leads to a Ph.D. thesis and publications, the successful candidate will teach for a limited part of the time. She/he will be appointed at CentER, the research institute of the Faculty of Economics and Business Administration of Tilburg University; see [www.center.nl](http://www.center.nl), where you find links to the Department, Faculty and University as well.

Required is education at the M.Phil. level or equivalent, meaning five years of relevant university education directed towards a research career.

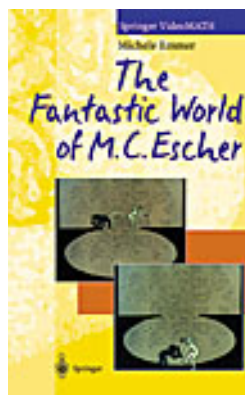
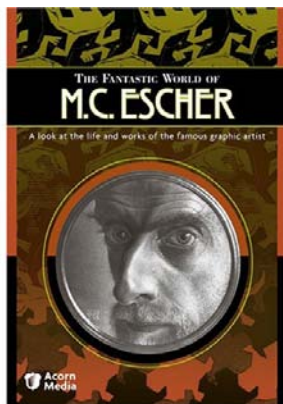
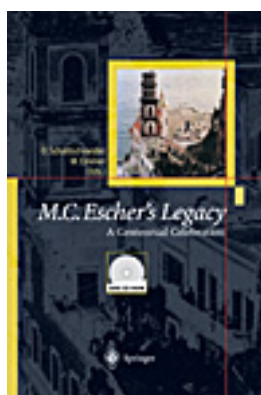
More information can be obtained from prof.dr. J.H.J. Einmahl, email: [j.h.j.einmahl@uvt.nl](mailto:j.h.j.einmahl@uvt.nl), phone: 013-4668208.

Applications including a curriculum vitae and copies of some written work, should be sent to him not later than November 15, 2006, at the address: Dept. of Econometrics & OR Tilburg University P.O.Box 90153 5000 LE Tilburg The Netherlands

## 4 History, maths and art, fiction, jokes, quotations...

**M.C. Escher's legacy, a centennial celebration** *D. Schattschneider, M. Emmer (eds)*, Springer Verlag, Berlin, 2003 (458 p.), Hard cover, including CD-ROM, ISBN 3-540-42458-X.

**M. Emmer** *The Fantastic World of M.C. Escher*, Video tape, (approx 50 min.), 2001, Springer Verlag, Berlin, ISBN 3-540-92646-1. Now also available as a DVD by Acron Media, 2006.



Maurits Cornelis Escher (1898-1972), or Mauk as he was called by his family, is probably the most popular graphical artist known all over the world. He spent most of his youth in Arnhem. At the age of 20 he started courses for architect in Haarlem, but, not being brilliant in mathematics, he gave up soon to start graphical arts.

His early work includes landscapes and insects. Many of them were made on his trip to Italy, and later Spain where he was fascinated by the decorative tilings in the Alhambra palace of Grenade.

Later he returned to Italy where he met his future wife. They lived for a while in Switzerland, but returned to Italy again.

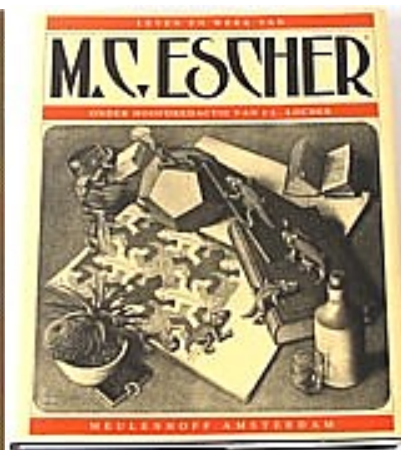
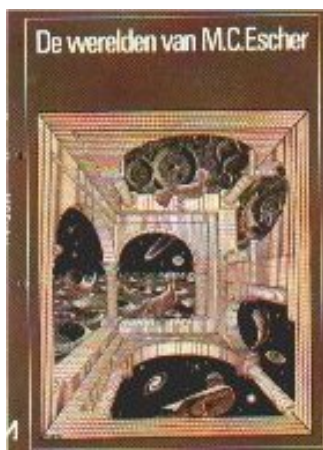
His first contact with mathematics was through his brother, a geology professor in Leiden, who recognized the symmetry groups from crystallography in his brothers woodcuts. The 17 plane symmetry groups he found in Polyá's work were the inspiration for his work on tiling the plane while they were living in Belgium (1937-1941). They fled to Baarn in Holland when the Germans invaded Belgium.

Later, in 1958, he learned about hyperbolic geometry from a paper by Coxeter, who became a close friend. This type of geometry is used in several of his prints subdividing the circle. His fascination for the tessellation of the plane led him to his write book *Division of the Plane* [1].

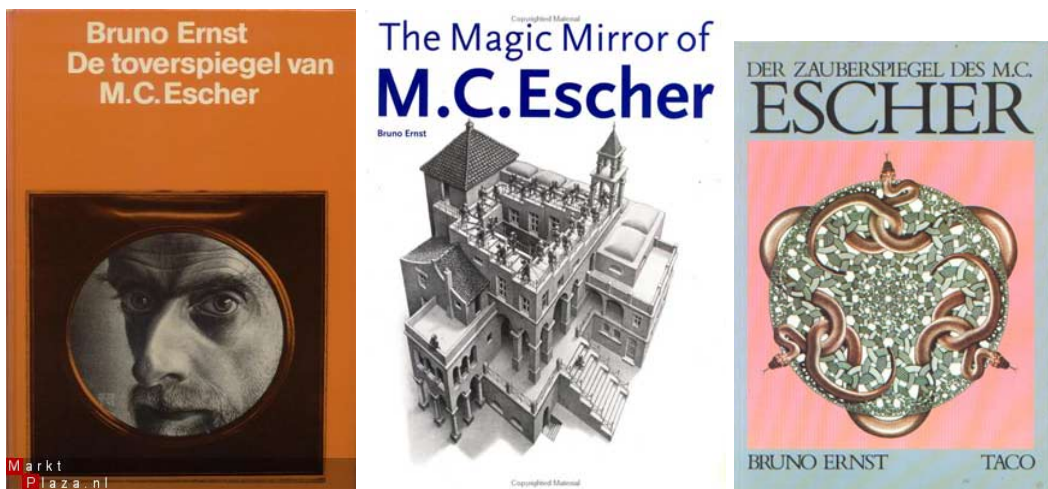
He was also fascinated by topology which he learned from Roger Renrose, and this gave rise to his experiments with several "impossible figures".

He became rather famous by the end of the 1950's. This is because there was an exposition in 1954 on the occasion of an international mathematical congress in Amsterdam. For some reason (probably the dream-like magic world the he evocated) his work became popular among the hippy community who reprinted his work illegally in flashy colours much to the disliking of the artist.

Even Mick Jagger wrote a letter to Escher asking him to design a picture for the next album of the Rolling Stones in 1969. Maurits declined, and since Mick Jagger had started his letter with "Dear



Maurits”, Escher closes his formal reply to Jagger’s assistant with the sentence “by the way, please tell Mr. Jagger I am not Maurits to him, but, Very sincerely, M.C. Escher”.



During a lecturing tour in 1964 he fell ill and retired. He was never able to give the lectures he had prepared very carefully.

His last years are described as follows.

When Escher’s view of the world turned inward he produced his best known puzzling prints, which, art aside, were truly intellectually playful, yet he was not. His life turned inward, he cut himself off and he had few friends. ... He died after a protracted illness...

I bought my first book with a collection of Escher reproductions in 1981 which was the best-selling Meulenhoff edition of 1971 with the brown cover [2]. I have two of his prints framed and hung up on a wall in my house. Later, I got as a present a more complete collection also published by Meulenhoff in 1981 edited by J.L. Locher [3] and which became also available in English in 1982 [4].

But there are many other books that appeared about his work of course. For example Taschen republished in 2001 an old collection of 1959 [5], and the well known book by B. Ernst of 1976 [6], which is a kind of biography and which has been translated in several languages [7,8]. The cover of the German edition shows Escher’s last work with the snakes. And there is of course Hofstadter’s well known Gödel, Escher, and Bach of 1979 [9].

In 1985 there was a first conference in Rome dedicated to Escher’s work [10], and an exposition [11].

Because of the centennial celebration in 1998, a new biography by Wim Hazeu came out [12]. There was also a conference held in Rome completely dedicated to Escher. The proceedings of this conference is the direct incentive for writing this note because I have just ordered and received the Springer book together with the video tape that are mentioned at the top of this note.



The proceedings contain three parts: Escher’s world; Escher’s artistic legacy; and Escher’s scientific and educational legacy. In the first part nine contributions sketch the ideas and the origins of the magical world that Escher has created, the places where he has lived in Italy, his relation with mathematics, etc.

In the second part, 18 contributions are written mainly by artists who were influenced by Escher’s work or had similar inspiration. Here the CDROM that is included is most helpful in showing color plates and many more images of the work from these artists that are not included in the printed

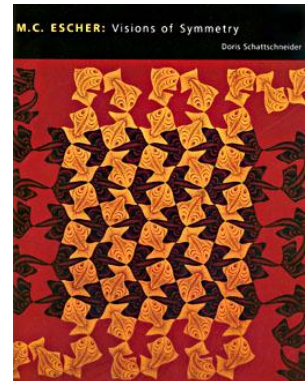


pages. But the CDROM contains also several movies, which can explain much better the techniques that were used by Escher and others to produce their artwork.

The third part of the book describes some of Escher's geometric constructs, computer games based on his ideas, tessellation rules, generalizations to 3D, etc. Here, little but still some, mathematical knowledge is welcome. The book clearly illustrates the enormous impact that Escher still has on people with quite different backgrounds.

The video is often filming a close up from Escher's prints which make you, as an observer part of this magical world. You are made part of it. That is a special experience, but the quality, both of the sound and the image of the tape is not so good, which is somewhat frustrating.

Those of you who are Escher addicts, may appreciate the official M.C. Escher web site [14], or the web site of the permanent Escher museum [15] in The Hague. Also the web site Escher and the Droste effect [16] is a pleasant one.



## References

- [1] M.C. Escher, *Regelmatige vlakverdeling*, De Roos Foundation, Utrecht, 1958.
- [2] J.L. Locher (ed.) *De werelden van M.C. Escher*, Meulenhoff, Amsterdam, 1971.
- [3] J.L. Locher (ed.) *Leven en werk van M.C. Escher. Het levensverhaal van een graficus. Met een volledig geïllustreerde catalogus van zijn werk.* Amsterdam, Meulenhoff 1981.
- [4] F.H. Bool et al., *M.C. Escher, His Life and Complete Graphic Work*, Random House, New York, 1982.
- [5] Escher, M.C. (2001). *M.C. Escher. Grafiek en tekeningen.* Köln: Taschen (1st edition 1959, Zwolle, published by Erven Tijl)
- [6] B. Ernst, (1976). *De toverspiegel van M.C. Escher.* Amsterdam: Meulenhoff, 1976.
- [7] B. Ernst. *The magic mirror of M.C. Escher.* Ballantine 1976; reprinted by Taschen 1994.
- [8] B. Ernst. *Der Zauberspiegel des M.C. Escher.* Berlin, Taco 1981
- [9] D. Hofstadter, *Gödel, Escher, Bach: An eternal Golden Braid* (New York, 1979).
- [10] H.S.M. Coxeter, M. Emmer, R. Penrose and M.L. Teuber (eds.), *M.C. Escher : Art and Science*, North Holland, Amsterdam, 1987.
- [11] M. Emmer, V. van Vlaanderen (eds.), *M.C. Escher : Art and Science*, The Dutch Institute, Rome, 1985.
- [12] W. Hazeu, *M.C. Escher, een biografie*, Meulenhoff, 1998
- [13] D. Schattschneider, *Visions of Symmetry: Notebooks, periodic drawings, and related work of M.C. Escher*, W.H. Freeman, New York, 1990, (2nd edition: Harry N. Abrams, New York, 2004).
- [14] M.C. Escher, J.W. Vermeulen, *Het oneindige, M.C. Escher over eigen werk*, Meulenhoff/Landshoff, Amsterdam, 1986 (translated as: *Escher on Escher: Exploring the infinite*, Harry N. Abrams, New York, 1989).
- [14] M.C. Escher Foundation, Official M.C. Escher web site <http://www.mcescher.nl/>
- [15] Paleis Lange Voorhout, Den Haag <http://www.escherinhetpaleis.nl/>
- [16] Escher and the Droste effect <http://escherdroste.math.leidenuniv.nl/>



**Professor Pierre van Moerbeke**  
**Université Catholique de Louvain**

## Inaugural Lecture:

Random matrices: from the solitaire game  
to non-intersecting Brownian motions

*Wednesday, 22 November 2006 at 4:00 pm.*

*Location: Arenberg Castle, Heverlee.*

## Lecture Course on Random Matrix Theory:

Random permutations, random walks,  
and unitary matrix integrals

*Wednesday, 29 November 2006*

The length of the longest increasing subsequence  
in random permutations

*Wednesday, 6 December 2006*

Orthogonal polynomials, matrix integrals  
and integrable systems

*Wednesday, 13 December 2006*

Matrix integrals and the Virasoro algebra

*Wednesday, 20 December 2006*

Non-intersecting Brownian motions  
and non-linear PDEs

*Wednesday, 17 January 2007*

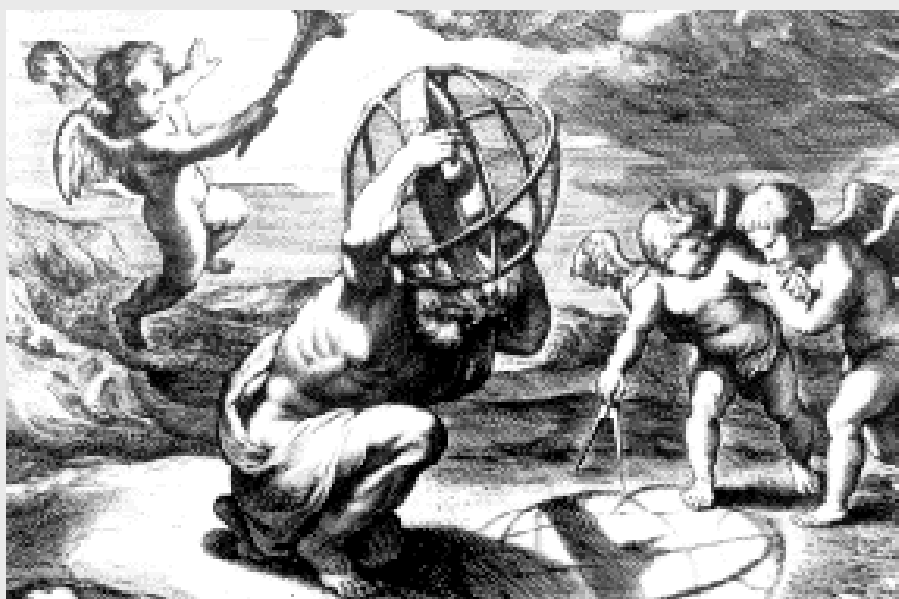
All lectures take place at the Katholieke Universiteit Leuven,  
Department of Mathematics, Celestijnenlaan 200B, Heverlee,  
from 4:00-4:50 and 5:00-5:50 pm



KONINKLIJKE VLAAMSE ACADEMIE VAN BELGIE  
VOOR WETENSCHAPPEN EN KUNSTEN



## Contactforum



# Wiskunde en Cultuur in de Lage Landen (1500-1700)

24-25 november 2006

Paleis der Academiën • Hertogsstraat 1 • 1000 BRUSSEL

Tijdens de wetenschappelijke revolutie van de zestiende en zeventiende eeuw, vormde de wiskunde een belangrijke schakel in de articulatie van een nieuw kennisidoom. Enerzijds sloot wiskunde aan bij academische discussies omtrent deductieve wetenschap en empirische kennis; anderzijds bevorderde zij de emancipatie van wiskundige beroepen en praktische vaardigheden.

Deze studiedag wil deze visie onderzoeken in het licht van hedendaagse theorieën over kennisoverdracht, wetenschapscommunicatie en circulatie van kennis. De mate waarin een samenleving kon deelnemen aan de wetenschappelijke revolutie kan namelijk in verband gebracht worden met de intellectuele positie van en de maatschappelijke waardering voor de wiskunde en wiskundige beroepen in die samenleving.

De studie van de Lage Landen biedt een bijzondere mogelijkheid om dit perspectief dieper te onderzoeken. De wetenschappelijke culturen in Noord en Zuid na de Scheiding in 1585 vertonen tal van gelijkenissen, maar ook diepgaande verschillen. Deze komen o.a. tot uiting in een verschillende maatschappelijke inbedding van de wiskunde, die op haar beurt moet verklaard worden vanuit verschillen in de culturele vormgeving van de samenleving in Noord en Zuid.

De studiedag sluit aan bij het Vlaams-Nederlandse onderzoeksprogramma "Circulating Knowledge", dat ondersteund wordt door NWO en FWO-Vlaanderen.

## PROGRAMMA

### VRIJDAG 24 NOVEMBER

10u00 Registratie

10u30 Verwelkoming

10u45 **Volker Remmert (Univ. Mainz)**, "The praise of mathematics in images and prose"

11u45 **Ad Meskens (Hogeschool Antwerpen)**, "Wiskunde en Cultuur in Antwerpen"

12u45-14u00 Lunch

*Wiskunde en Academische Cultuur*

14u15 **Sven Dupré (Univ. Gent)**, "Galileï, Aguilon, Optica en de Lage Landen"

15u00 **Angelo Debruycker (KU Leuven)**, "Wiskunde in de opleiding der Vlaamse Jezuïeten"

15u45-16u15 koffiepauze

16u15 **Liesbeth de Wreede (Univ. Utrecht)**, "Tussen twee vuren: Snellius' zoektocht naar een nieuwe aanpak van de wiskundige wetenschappen"

17u00 **Steven Vanden Broecke (KU Brussel)**, "Wiskunde als model van wetenschap tussen theorie en praktijk"

18u00 Einde

### ZATERDAG 25 NOVEMBER

*Wiskundige beroepen*

9u30 **Koen van Cleempoel (Provinciale Hogeschool Limburg)**, "Instrumentmakers en wiskundige kennis"

10u15 **Paul Huvenne (KMSK, Antwerpen)**, "Pieter Pourbus als wiskundige"

11u00-11u30 koffiepauze

11u30 **Djoeke van Netten (Univ. Groningen)**, "Blauw als producent van wiskundige boeken"

12u15 **Charles vanden Heuvel (Univ. Maastricht)**, "Wiskunde, architectuur en fortificaties"

13u00-14u00 Lunch

*Wiskunde en onderwijs*

14u00 **Jan van Maanen (Freudenthal Instituut, Utrecht)** "Migratiepatronen van wiskundigen tussen Noord en Zuid"

14u45 **Albrecht Heeffter (Universiteit Gent)**, "Recreatieve wiskunde"

15u30-16u00 koffiepauze

16u00 **Klaas van Berkel (Univ. Groningen)**, "Wiskunde en Cultuur in Noord en Zuid"

17u00 Einde

Organisatie: Prof.dr. Geert Vanpaemel (KU Leuven, EHSAL), Dr. Ad Meskens (Hogeschool Antwerpen) en Prof.dr. Steven Vanden Broecke (KU Brussel).

Deelname is gratis, maar u wordt gevraagd vooraf uw deelname te bevestigen bij [geert.vanpaemel@arts.kuleuven.be](mailto:geert.vanpaemel@arts.kuleuven.be).

## Workshop location

Auditorium Baron Lacquet of the KVAB ([www.kvab.be](http://www.kvab.be)), in the heart of Brussels.



## Calendar

**Poster abstract submission deadline:**  
Friday 27 October

**Early registration deadline:**  
Friday 27 October

**Late registration deadline:**  
Friday 17 November

**Workshop:**  
Monday 27 - Tuesday 28 November

## Organizing committee

Bernard Manderick (VUB, COMO)  
Tijl De Bie (KUL, OKP)

## Sponsors

WOG machine learning for data mining and applications

The PASCAL-network



## International Workshop on

# Current Challenges in Kernel Methods

CCKM06, Belgium, Brussels — 27-28 November, 2006

<http://www.machine-learning.be/cckm06/>

## Aims and Scope

In the past decade, the kernel methods domain has expanded from a single algorithm for classification to a full-grown toolbox of techniques that are currently being applied in a variety of domains. This workshop aims at highlighting the current trends and topics of interest, and at putting these in a synthesized historical perspective, with attention for both theoretical and application challenges. Specific topics range from learning theory, over algorithmic and optimization issues in new kernel methods to practical successes and bottlenecks.

- **Intended audience:** researchers interested or working in kernel methods, or application domains that are likely to benefit from the advances in kernel methods. Participants may come from artificial intelligence, machine learning, statistics, bioinformatics, data mining, web mining,... with a special interest in the study and application of kernel methods.
- **Level and scope:** the lectures in the workshop are intended to be accessible to a broad audience, including anyone with a broad background in computer science, statistics, mathematics, physics, electrical engineering, or related domain. As a guideline, half of each lecture will be tutorial style, while the other half will cover recent developments.

The workshop is in collaboration with the Computational Intelligence and Learning doctoral school and is sponsored by the WOG machine learning for data mining and applications (<http://www.machine-learning.be>), and by the PASCAL-network (<http://www.pascal-network.org>), such that attendance will be free except for the catering expenses. If you want to attend please register as soon as possible on conference web site above since the the number of places is limited and they will be assigned on a first come first serve basis.

## Format

The workshop will consist of two days of invited talks by internationally renown researchers. Additionally, an interactive student poster session will be organized.

## Confirmed Speakers

- Andreas Christmann (Free University of Brussels)
- Nello Cristianini (University of Bristol)
- Ingrid Daubechies (Princeton University)
- Kristiaan Pelckmans (Katholieke Universiteit Leuven)
- Alain Rakotomamonjy (INSA de Rouen)
- Bernhard Schoelkopf (Max Planck Institute for Biological Cybernetics)
- John Shawe-Taylor (University College London)
- Johan Suykens (Katholieke Universiteit Leuven)
- Sandor Szedmak (University of Southampton)
- Jean-Philippe Vert (Ecole de Mines de Paris)