



## News Archive

### September 2005 – August 2006

#### June 2006: Congratulations Dr Rahul

Maths PhD student Rahul Savani was successfully examined for his PhD in June. Rahul's supervisor was Professor Bernhard von Stengel.

#### June 2006: Grant Success

Dr Amol Sasane has just been awarded a Nuffield Newly Appointed Lecturers Scheme Grant of £5,000 to pursue his research on 'State Construction for Partial Differential Equations'

#### May 2006: Congratulations to Bernhard von Stengel and Rahul Savani

Bernhard has just been promoted to Professor of Mathematics.

More congratulations! Rahul Savani has just been awarded an EPSRC Postdoctoral Fellowship in Theoretical Computer Science. The fellowships, which last three years, are awarded to enable talented young researchers to establish an independent research career directly or shortly after completing their PhD. Rahul will be based at the University of Warwick, and plans to visit ETH Zurich and McGill University.

#### March 2006: Congratulations Dr Nic

Maths PhD student Nicholas Georgiou was successfully examined for his PhD on Friday 27th January. Nic's thesis was entitled 'Random Structures for Partially Ordered Sets'. Nic's supervisor was Professor Graham Brightwell.

#### December 2005: Congratulations to the winner of the University of London Lionel Cooper Prize for Mathematics.

Congratulations from the Department of Mathematics go to Iain Morrow, winner of the prestigious 2005 University of London-wide Lionel Cooper Prize for Mathematics. The Lionel Cooper Prize is awarded for excellence in all assessed parts of an MSc course at a College of London University, of which Mathematics forms at least 50%, in other words for best performance on a University of London Mathematics Masters programme.

Iain achieved this with an outstanding degree average of nearly 88%, including marks of 97% for MA401 and 90% for MA410. He was the only student to achieve more than 80% in every module of the degree. This includes a mark of 82% for his dissertation, 'When to say "Don't Know": Confidence in Automatically Generated Hypotheses without the Assumption of an Underlying Distribution', which has since been published in the CDAM Research Report Series as paper LSE-CDAM-2005-17.

## **December 2005: Congratulations to the inaugural winner of the Haya Freedman Prize at LSE**

Congratulations from the Department of Mathematics go to Gabriel Rosenberg, the first winner of the Haya Freedman Prize for Best Dissertation on the [MSc in Applicable Mathematics](#). More details about the prize can be viewed [here](#).

Gabe's dissertation topic, supervised by Bernhard von Stengel, was 'Enumeration of All Extreme Equilibria of Bimatrix Games with Integer Pivoting and Improved Degeneracy Check', which has since been published in the CDAM Research Report Series as paper LSE-CDAM-2005-18. Gabe scored a remarkable 89% for this piece of work, the top dissertation mark. Gabe told us that, "*I found Bernhard's enthusiasm for the topic and for working with students comforting and inspiring. That type of dedication to students is rare, and I think it's fitting that the award named after Dr Freedman, a teacher who was known for such qualities, is going to a student of Bernhard's.*"

Gabe has also asked us to reproduce here the acknowledgements from his dissertation:

*"An enormous thank you is due to my advisor, Dr. Bernhard von Stengel of the Department of Mathematics at the London School of Economics, for his incredible help with this paper. The paper is a direct result of the immeasurable time he spent helping me understand the subject matter and providing insight into the problem and its solutions. My introduction under his watch to the world of mathematical research made this project the highlight of my academic year. Thank you also to Rahul Savani of LSE for his help in answering my questions relating to the subject matter.*

*I had the fortunate opportunity to meet and discuss this work with several of the authors of related papers. Thank you to David Avis of McGill University and Charles Audet and Pierre Hansen of the Groupe d'études et de Recherche en Analyse des Décisions. These group discussions contributed greatly to portions of the paper, including clarifying various choices for the objective function and understanding the problem of degeneracy.*

*Lastly, I would like to thank the entire Department of Mathematics at LSE for a fantastic inaugural year of the MSc program in Applicable Mathematics."*

## **November 2005: The Haya Freedman Prize, for Best Dissertation on the MSc Applicable Mathematics, has been established**

In memory of Dr Freedman, the Mathematics Department has established the Haya Freedman Prize. This prize will be awarded annually for 'Best Dissertation' produced by a student on the MSc in Applicable Mathematics. The prize consists of £200 and a book chosen by the Department. The winner of the prize will be selected by the staff of the Mathematics Department at the MSc Examination Sub-Board Meeting in the Michaelmas Term each year, and will be informed shortly afterwards. We hope that this is a very positive way of remembering Dr Freedman, and also of rewarding our students for excellence.

## September 2005: In memory of Haya Freedman

Haya Freedman (1923-2005)



We are sorry to report the death of Dr Haya Freedman on 19th July of a heart attack following a long illness.

Haya Freedman was a member of the Sub-Department of Mathematics, (as it was then), at LSE for many years until her retirement in 1989. She carried out research in abstract algebra.

Her funeral took place on 29th July (a private family-only occasion).

Haya Freedman was born in Lvov (then in Poland) in 1923. She moved to Israel (then Palestine) in 1933 where she completed her education obtaining an M.Sc. from the Hebrew University in Jerusalem. Her degree thesis in abstract algebra was written under the supervision of Dr. J.

Levitzki. She married a mathematical colleague, Arye, in 1948, moved to England in 1956 and did her Ph.D. at Queen Mary College under Prof. K. Hirsch. She took up a post in the Mathematics Department at Birkbeck College in 1965. When the late Professor Cyril Offord was invited to set up a Mathematics sub-department at LSE in 1966 Haya Freedman joined him here in 1967. She was thus a member of our department from its inception.

Haya's published research was in the general area of ring theory. She touched on subjects like torsion-free rings, the ring of endomorphisms of an Abelian group and its relation to the automorphism group.

She is remembered as an exceptionally gifted teacher. This was based on an uncanny ability to evaluate the qualities of a student, which talents were also used in admissions interviews (even to the Economics Department!). Haya developed a teaching method that made the students much more active participants in the learning process. This was achieved through seminars in which students explained to their colleagues original papers in mathematics. In the days of the BSc (Econ) degree at LSE, when the Department of Statistics and Mathematical Science offered a Mathematics degree, her third year course included an examinable project (in Algebra). Projects were selected by her according to student ability. She had quite a reputation for making mathematicians out of the talented students and many would say that the best way of obtaining a first class degree was to be a tutee of Haya's. These included a series of very good students indeed (some of whom had switched from Economics to Mathematics), with at least one getting the University of London Prize in Mathematics, if memory serves me correctly. One example of Haya's mentoring is Norman Fenton who is now Professor of Computer Science at Queen Mary, University of London. Others of her former students also teach mathematics at universities both in this country and in the U.S.A., while others now work in less obvious professions, such as Law.

She is remembered by her colleagues also outside of the formal life of the Department for her often remarkable gestures of great kindness.

She leaves behind her husband Arye and two daughters Daphne and Josephine, and will be greatly missed.

**Adam Ostaszewski**  
**Senior Lecturer**  
**Department of Mathematics**  
**LSE.**

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## **Memories of Haya**

We welcome in the section below contributions from colleagues and past students to offer memories of Haya. In doing so we realize that we are, indirectly, recording moments of the history of a department that is just months short of being 40 years in existence. In paying tribute to Haya one is almost involuntarily led to reflect that when we grieve the passing of a colleague, we grieve also the very passage of time, in which we are all carried.

Here is a poem on this very theme by Gerald Manley Hopkins entitled Spring and Fall. It is directed to a young child, who apparently asks why autumn unfolds.

Margaret, are you grieving  
Over Goldengrove unleaving?  
Leaves, like the things of man, you  
With your fresh thoughts care for, can you?  
Ah! as the heart grows older  
It will come to such sights colder  
By and by, nor spare a sigh  
Though worlds of wanwood leafmeal lie;  
And yet you will weep and know why.  
Now no matter, child, the name:  
Sorrow's springs are the same.  
Nor mouth had, no nor mind, expressed  
What héart héard of, ghóst guéssed:  
It is the blight man was born for,  
It is Margaret you mourn for.

### **HAYA FREEDMAN**

I was appointed to a lectureship in mathematics at LSE a few years after the department was founded under the leadership of Cyril Offord. It was not easy at first to attract students to our new mathematics degree in sufficient numbers to make it viable, but the students who came to us really wanted to learn. Haya understood this from the beginning and taught the rest of us what such students are capable of achieving with teachers who care as deeply as she did about their subject. Now she is gone, I can tell a story that says a great deal about what kind of person she was. While I was acting as chairman during the interregnum that followed Cyril Offord's retirement. I put it to her that she deserved promotion to Senior Lecturer, but she argued determinedly to the contrary. Eventually she reluctantly agreed to her name being put forward—but only on the condition that I said nothing whatever on the subject to anyone who didn't absolutely need to know. I guess the word that describes Haya best is integrity - both personal and intellectual. The world would be a better place if more of us were able to follow her example.

### **Ken Binmore**

#### **Emeritus Professor**

#### **Department of Economics**

#### **University College London**

### **HAYA FREEDMAN**

There was always something appealingly maternal about Haya. Conjoined with a disarming lack of worldliness, yet underpinned by a certain stubbornness - these qualities made her the unique person she was. While her devotion to her students brought out the best in them, she was no pushover, for her apparent naivete was balanced by a shrewdness of judgment concerning her charges' abilities. I recall several occasions on which she remarked to me that student X, although highly regarded, was "not all that good". She was serious, dedicated, and kind, a mathematician and teacher hailing from what is, sadly but inevitably, a bygone age. I recall her with genuine affection.

**Professor John L. Bell  
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