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## MATHEMATICAL ASPECTS OF EVOLVING INTERFACES

### ORGANIZERS

P.Colli, University of Pavia, Italy;  
J.F.Rodrigues, University of Lisbon, Portugal.

This is a CIM/CIME Summer School.

### DATE

3rd to 9th July 2000.

### STRUCTURE

Series of five complementary courses with 3 or 4 lectures of 1h/1h30m for each course and a limited number of selected talks of 20/30 minutes each by young researchers or postdocs.

For details please see <http://maei.lmc.fc.ul.pt/>

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## WORKSHOP ON PARTIALLY KNOWN MATRICES AND OPERATORS

The present state of knowledge on the study of eigenvalues and other properties of matrices when only part of the entries are known will be discussed. Applications of this kind of problems to Systems Theory, extensions to operators in infinite dimensional spaces and the use of techniques from Combinatorics and Algebraic Combinatorics will also be discussed.

Several experts in the field will be present.

### ORGANIZERS

Fernando C. Silva, University of Lisbon;  
António Leal Duarte, University of Coimbra;  
Isabel Cabral, New University of Lisbon;

Susana Furtado, University of Oporto.

### DATE

3 days in September 2000.

### STRUCTURE

12 invited 1-hour talks and some contributed 20-minute talks.

### SUPPORT

Centro de Estruturas Lineares e Combinatórias  
Centro de Matemática da Universidade de Coimbra  
Fundação para a Ciência e Tecnologia

## GREAT MOMENTS IN XXTH CENTURY MATHEMATICS

BY EFIM ZELMANOV

Professor F. J. Craveiro de Carvalho asked me to choose two outstanding mathematical events of this century. I'll restrict myself to the field of Abstract Algebra (even that won't be easy!).

Emmy Noether's work on ideals in commutative rings (preceded and influenced by the work of her

mentor David Hilbert). I don't think that this work is very deep and certainly it is not the best work of Emmy Noether. Still I find it remarkable as a manifesto of the beautiful, controversial, and seductive axiomatic method. Time tempered the euphoria and indicated the limits within which this

method is helpful. But even the staunchest critics of "axiomatizing" perhaps won't argue that it affected the way in which they present their own work.

The deep and powerful "odd order theorem" of W. Feit and J. Thompson and the whole classification project of finite simple groups (a collective effort of a group of first rate mathematicians).

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Efim Zelmanov was awarded a Fields Medal at the Zurich ICM, 1994, for his solution of the Restricted Burnside Problem. He is currently Full Professor at Yale University.

## AN INTERVIEW WITH DAVID CHILLINGWORTH

*Your father was a mathematician. In fact the author of a very successful textbook on complex variable theory (H. R. Chillingworth, *Complex Variables*, Pergamon Press, 1973). Was that influential in your becoming a mathematician?*

Certainly. My father loved mathematics and, as he was unable to stay on at university after an M.Sc. degree, he went back to research in his later career as a lecturer in a college for teacher training and gained a Ph.D. at that stage. There was always mathematics around at home, on the backs of envelopes, margins of newspapers and so on. Nevertheless, I might easily have taken a different path when the time came to make key decisions about subject choices: perhaps it was ultimately through conservatism that I stayed with mathematics.

*You went up to Cambridge as an undergraduate. What was it like to be an undergraduate in Cambridge in the 60's? Who were the big names at that time? Did you happen to have some interaction with them?*

Undergraduates in mathematics may not be aware of who are the big names. I attended lectures on complex variables by Harold Davenport and on differential equations by Mary Cartwright, among others. I could have done but did not attend lectures by Paul Dirac, because (foolishly) I thought I wasn't interested in Quantum Theory which was 'applied' and therefore – following the unfortunate precept of G.H. Hardy – not as respectable as 'pure' mathematics. Of course now I wish I had heard Dirac in person. My Director of Studies was Frank Smithies, still at Cambridge and involved in mathematics.

It is amazing to realize now how few text books there were at that time. For one lecture course I attended on Analysis the recommended texts were by Goursat and de la Vallée Poussin, and there seemed to be only one book on Linear Algebra (Mirsky). It is rather different now!

Cambridge in the 60's was still fairly traditional. Aca-

demical gowns were (officially) to be worn when attending lectures, meeting tutors, and walking in the street after dark – as well as when dining. There were no mixed undergraduate colleges and few women. College gates were locked at night, so climbing in was fairly common: those whose rooms lay on popular routes were frequently disturbed.



David Chillingworth

*After graduating you stayed on to do postgraduate work. I think that W. B. R. Lickorish was your research supervisor. What was the subject of your thesis?*

I was offered the chance to move to the new University of Warwick as one of the first batch of research students, but lacked the pioneering courage and decided to stay in Cambridge. In my final undergraduate year I had been fascinated to read a short section from Hilton & Wylie: *Homology Theory* dealing with integration along paths and cohomology theory (de Rham cohomology); until then I had no idea that algebraic topology had any connection with calculus. Therefore I gave the proposed title