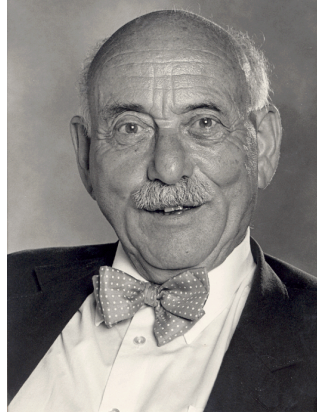


MATHEMATICAL SCIENCES INSTITUTE (MSI)
at The Australian National University

BHN 100

Thursday 15 October 2009



A celebration of the 100th anniversary of the birth of
Bernhard Neumann

<http://www.maths.anu.edu.au/bhn/>

Lectures in the Bernhard Neumann Seminar Room
(room G35, John Dedman Mathematical Sciences Building)

14:30 Laci Kovács and Mike Newman

From Manchester days

A sleeper (MFN)

Varieties and wreath products (LGK)

15:30 Afternoon tea

16:00 Marston Conder (Auckland)

A sample of Bernhard Neumann's contributions to group theory and beyond

17:15 Cheryl Praeger (Western Australia)

Bernhard Neumann: one hundred years

(Abstracts on next page)

Dinner at University House (details to be confirmed)

19:00 for 19:30

Intending participants are asked to notify

⟨Mike.Newman@anu.edu.au⟩ or ⟨L.G.Kovacs@anu.edu.au⟩

before the end of September, so we can plan accordingly

Accommodation on campus:

University House — <http://www.anu.edu.au/unihouse>

Liversidge Court Apartments — <http://accom.anu.edu.au/UAS/189.html>

Off-campus, the Rydges Lakeside Hotel is nearest:

see the Canberra & ACT Accommodation Directory

<http://www.totaltravel.com.au/travel/nsw/canberraact/directory/accommodation>

*

Details of lectures

14:30 Laci Kovács and Mike Newman

From Manchester days

We will try to give a picture of life around Bernhard Neumann when we were in Manchester fifty years ago.

A sleeper (MFN)

In early 1959 BHN gave an address to the Manchester Mathematical Colloquium entitled ‘Sharing ham and eggs’. In it he stated a problem about outer billiards. From it has grown what is now referred to as the Moser-Neumann problem. Moser saw it as a problem related to Celestial Mechanics. This circle of ideas was the subject of the Matthew Flinders lecture, Cutting the cake, given by BHN in 1984. In the last couple of years the problem has been solved by Richard Schwartz.

Varieties and wreath products (LGK)

These topics occur in BHN’s theses and were of significant interest in his Manchester days. This talk will be a brief non-technical overview.

16:00 Marston Conder (<http://www.math.auckland.ac.nz/~conder/>)

A sample of Bernhard Neumann’s contributions to group theory and beyond

Bernhard Neumann made a substantial number of contributions to the theory of groups, across a broad range of topics (including permutable subsets, embeddings, generating sets, coverings by cosets, ordered groups, amalgamated free products, automorphisms, groups with finite conjugacy classes, and many others). One of his most lasting contributions was made with his wife Hanna and his colleague Graham Higman, and gave rise to a subject that now bears their names: the theory of HNN-extensions. I will describe a sample of these contributions, assuming very little knowledge of group theory, and explain some of their significance. Also I will take the opportunity to acknowledge the many ways in which Bernhard supported the mathematical sciences in New Zealand.

17.15 Cheryl Praeger (http://school.maths.uwa.edu.au/portal_memberdata/praeger)

Bernhard Neumann: one hundred years

Bernhard Neumann’s published mathematical research spans a period of 70 years. His influential contributions to the theory of infinite groups led to his election to the Royal Society and the Australian Academy of Science. Numbers of theorems and constructions in Algebra and Geometry bear his name, some with impact far beyond these areas. I will look at Bernhard’s legacy as mathematician, especially for Australia.