Università del Salento
Università degli Studi di Napoli
Federico II
Seconda Università degli Studi di Napoli
Università degli Studi di Salerno

Advances in Group Theory and Applications 2009

Hotel Lo Scoglio, Porto Cesareo (Lecce, ITALY): June, 8th - 12th, 2009

PROGRAMME

Monday, June 8th

- Registration until 14.00

- 15.00 Opening
- 15.30 - 16.30 J.S. Wilson: Profinite and Residually Finite Groups I
- 16.30 - 17.00 B. Amberg: Trifactorizable groups
- 17.00 - 17.30 Coffee break
- 17.30 - 18.30 D.J.S. Robinson: Strong Forms of Residual Finiteness
- 18.30 - 18.55 W. de Graaf: Constructing generators of unit groups of group algebras of finite commutative groups

Tuesday, June 9th
Wednesday, June 10th

- 9.00 - 10.00  **D.J.S. Robinson**: Graphs of Groups and Generalized Baumslag-Solitar Groups
- 10.00 - 11.00 **S.K. Sehgal**: Group Rings and their Group of Units II
- 11.00 - 11.30 Coffee break
- 11.30 - 11.55 **Y. Li**: Reversible and Duo Group Rings
- 12.00 - 12.25 **E. Spinelli**: Minimal algebras with respect to their *-exponent
- 12.30 - 12.55 **E. Crestani**: Monotone p-groups

- 15.00  Trip

Thursday, June 11th

- 9.00 - 10.00  **J.S. Wilson**: Profinite and Residually Finite Groups III
- 10.00 - 11.00 **D.J.S. Robinson**: Quotients of Generalized Baumslag-Solitar Groups
- 11.00 - 11.30 Coffee break
- 11.30 - 11.55 **M. Patassini**: On the (non) contractibility of the simplicial complex associated to the coset poset of a classical group
- 12.00 - 12.25 **M. Avitabile**: The structure of thin Lie algebras up to the second diamond
- 12.30 - 12.55 **C. Sica**: On groups admitting a fixed-point-free
elementary 2-group of automorphisms

- 15.00 - 16.00  **E. Jespers**: Groups and Set Theoretic Solutions of the Yang-Baxter equation
- 16.00 - 17.00  **R. Schmidt**: L10-Free Groups
- 17.00 - 17.30  Coffee break
- 17.30 - 17.55  **A. Erfanian**: Some results on the probability of mutually commuting n-tuples and n-th nilpotency degree of groups
- 18.00 - 18.25  **D. Lenzi**: On some properties of nilpotent groups of class at most 2
- 18.30 - 18.55  **F. Russo**: On a generalization of the minimal non-nilpotent groups

- Social dinner

**Friday, June 12th**

- 9.00 - 10.00  **S.K. Sehgal**: Group Rings and their Group of Units III
- 10.00 - 11.00  **S.E. Stonehewer**: Quasinormal Subgroups of Finite p-Groups
- 11.00 - 11.30  Coffee break
- 11.30 - 12.00  **H. Heineken**: Fitting core and supersolvable groups
- 12.00 - 13.00  **A. Giambruno**: Polynomial Identities and Representations of the Symmetric Group

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**Abstracts**

**Advances in Group Theory**

and Applications 2009

June, 8th - 12th, 2009
Some results on the probability of mutually commuting $n$-tuples and $n$-th nilpotency degree of groups

A. Erfanian

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Let $G$ be a finite group, then the probability that a randomly chosen pair of elements of $G$ commutes is denoted to be the number of pairs $(x, y) \in G \times G$ with $xy = yx$ divided to $|G|^2$. Two usual ways to generalize this probability is to consider $n$-tuples $(x_1; x_2; \ldots ; x_n)$ of elements in group $G$ with the property that $x_ix_j = x_jx_i$ for all $1 \leq i, j \leq n$ or $(n+1)$-tuples $(x_1; x_2; \ldots ; x_{n+1})$ such that $[x_1; x_2; \ldots ; x_{n+1}] = 1$. We denote them by $Pr_n\text{Com}(G)$ and $d(n)(G)$, and are called the probability of mutually commuting $n$-tuples and $n$-th nilpotency degree of $G$, respectively. In this talk, we will give some results concerning the above two probabilities and state some relations between these and the notion of the isoclinism. Furthermore, we give one more way of generalization of the probability for infinite groups at the end.