CONTEMPORARY MATHEMATICS

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A Conference in Honor of
Donald S. Passman
June 10–12, 2005
The University of Wisconsin-Madison
Madison, Wisconsin

William Chin
James Osterburg
Declan Quinn
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With Best Wishes to
Donald S. Passman
for his 65^{th} birthday.

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Preface

A conference in honor of Donald S. Passman, entitled *Groups, Rings and Algebras*, took place on June 10, 11 and 12, 2005 at the University of Wisconsin-Madison. The scientific purpose of the conference was a retroactive and proactive assessment of those areas of algebra related to his work. These include group rings, group theory, character theory, graded rings, enveloping algebras, group actions on algebras and rings, Hopf algebras and certain algebras arising from the study of noncommutative geometry. The principle speakers were Yuri Bahturin, Edward Formanek, Martin Isaacs, Martin Lorenz, Susan Montgomery, Lance Small, Toby Stafford, A. E. Zalesskiĭ and Efim Zelmanov. In addition, there were many contributed talks.

The social highlights of the meetings were a candle lit soirée at the Passman's on Friday evening and a banquet on the ninth floor of Van Vleck Hall on Saturday night.

Participants were invited to contribute papers. The submissions were refereed and those that were accepted are the contents of this volume. They are in final form and no version will be submitted for publication elsewhere.

Finally, it is our happy task to acknowledge those who made a difference and to thank them. First, we thank our financial sponsors the National Security Agency and the University of Wisconsin-Madison. In particular, we thank Michelle Wagner of the NSA and David Griffeath, Chair of the Mathematics Department. The excellent physical facilities in Van Vleck were provided by the Mathematics Department and the efforts of the staff of the department, especially Mark Castillo and Joan Wendt, were greatly appreciated.

W. Chin, J. M. Osterburg and D. Quinn

Biography of Donald S. Passman

Donald Steven Passman was born in New York City in 1940. He did his undergraduate work at the Polytechnic Institute of Brooklyn, receiving his B.S. degree in 1960, and his graduate studies at Harvard University, receiving his M.A. in 1961 and his Ph.D. in 1964. His thesis advisor was the famous algebraist Richard Brauer. He was an Assistant Professor at the University of California, Los Angeles (1964–1966) and at Yale University (1966–1969). In 1969, he was appointed an Associate Professor at the University of Wisconsin-Madison, and was promoted to the rank of full Professor in 1971. Since 1995, he has been the Richard Brauer Professor of Mathematics. Professor Passman has held visiting positions at U.C.L.A., the University of Warwick, and at IDA/CCR Princeton and LaJolla.

He is the author of six books, namely:

- **Permutation Groups**, Benjamin, New York, 1968.
- **Infinite Group Rings**, Marcel Dekker, New York, 1971.
- **The Algebraic Structure of Group Rings**, Wiley-interscience, New York, 1977. [Krieger, Malabar, 1985.]
- **Group rings, Crossed Products and Galois Theory**, CBMS Conference Notes, AMS, Providence, 1986.
- **Infinite Crossed Products**, Academic Press, Boston, 1989.
- **A Course in Ring Theory**, Wadsworth, Pacific Grove, 1991. [Chelsea-AMS, Providence, 2004.]

Professor Passman works in group theory, ring theory, group rings, Hopf algebras, and Lie algebras. He is the author of more than 160 research papers. His most significant papers would certainly include:

- *Nil ideals in group rings*, Michigan Math. J. **9** (1962), 374–384.
- *Group rings satisfying a polynomial identity*, J. Algebra **20** (1972), 103–117.
- *A new radical for group rings?*, J. Algebra **28** (1974), 556–572.
- *Infinite crossed products and group-graded rings*, Trans. AMS **284** (1984), 707–727.
- *The semiprimitivity problem for twisted group algebras of locally finite groups*, Proc. London Math. Soc. (3) **73** (1996), 323–357.
- *The Jacobson radical of group rings of locally finite groups*, Trans. AMS **349** (1997), 4696–4751.
- *Invariant ideals and polynomial forms*, Trans. AMS **354** (2002), 3379–3408.

One of his best puns is the title of:

- *It's essentially Maschke's theorem*, Rocky Mt. J. **13** (1983), 37–54.

Professor Passman has directed the dissertations of twelve doctoral students officially and several others unofficially. His many invited addresses include those at the 29th British Mathematical Colloquium (invited speaker, University of Edinburgh, 1977), the American Mathematical Society (invited speaker, Washington D.C., 1979), CBMS Conference (main lecturer, Mankato State University, 1985), and the Canadian Mathematical Society (plenary speaker, Windsor, Ontario, 1989). He has received numerous awards for his teaching and his writing. These include the Lester R. Ford Award (American Mathematical Society) in 1976 for his paper *What is a group ring?*, and the Deborah and Franklin Tepper Haimo Award for Distinguished University Teaching (Mathematical Association of America) in 2000.

Professor Passman continues to teach and to do research. He lives with his wife Marjorie in Madison, Wisconsin. They have two married children and five grandchildren. They enjoy both families: Barbara, Thomas, Samuel and Rebecca Brownsword of Montclair, New Jersey; and Pamela, Jonathan, Abraham, Jordan and Eve Passman of Minnetonka, Minnesota.

This is a companion volume to the conference in honor of Donald S. Passman held in Madison, Wisconsin in June 2005. It contains research papers on Algebras, Group Rings, Hopf Algebras, Invariant Theory, Lie Algebras and their Enveloping Algebras, Noncommutative Algebraic Geometry, Noncommutative Rings, and other topics. The papers represent an important part of the latest research in these areas.

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