



We are pleased to continue the tradition of publishing the *Proceedings of the Fifth Carolus Magnus Euro-Summer School on Plasma and Fusion Energy Physics* in this issue of the *Transactions of Fusion Science and Technology*. We express our thanks to André Rogister and the other school organizers who helped organize the papers for the proceedings.

The proceedings from the past four schools (*Carolus Magnus Summer School on Plasma Physics*) have been published in *Transactions of Fusion Technology*, **25**, 2T (1994); **29**, 2T (1996); **33**, 2T (1998); and **37**, 2T (2000). These proceed-

ings were highly regarded by the fusion plasma community and used to supplement textbooks at various universities as well as used as reference material by researchers in the field.

The Fifth Carolus Magnus Euro-Summer School on Plasma and Fusion Energy Physics took place on September 10–21, 2001, at the Physikzentrum Bad Honnef, near Bonn, Germany. The school was organized by the three EURATOM Associations: “Institut für Plasmaphysik, Forschungszentrum Jülich GmbH”; “Laboratory for Plasma Physics, Ecole Royale Militaire/Koninklijke Militaire School, Belgian State”; and “F.O.M.-Institut voor Plasmafysica Rijnhuizen” now associated in the Trilateral Euregio Cluster. The aim has been to provide PhD students and young researchers of the European Union and Associated States, as well as of other nations, an opportunity to acquire a broad introduction to plasma physics and fusion energy research in magnetically confined plasmas. The emphasis has been mainly on tokamak physics, but most topics being discussed apply to stellarators and compact tori as well.

The major emphases in the first four summer schools were on plasma physics. To emphasize and acknowledge the worldwide fusion energy research effort, aiming to build an experimental fusion reactor to demonstrate fusion burn, the organizers have modified the name of the fifth school, and the program has been updated to cover both plasma and fusion energy physics.

The program of the present summer school focused on plasma and fusion energy physics ranging from basic plasma theory and fusion machines to diagnostics, fusion burn, and fusion reactor designs. Although there is some overlap of topical areas and lectures between the present proceedings and that of the past four schools, the readers will find that the lecturers expanded coverage and/or incorporated new developments in the field. In addition, the present proceedings include new and expanded coverage on fusion energy physics. These proceedings should be useful to students engaged in PhD studies as supporting material and to young scientists requiring a well-documented and fairly complete view of the multifaceted field of plasma physics and fusion energy research.

We look forward to continuing this tradition for the Sixth Summer School in these series to be held in Brussels, in 2003. We extend special appreciation to the sponsors for their support, the organizing committee for assistance, and the lecturers for their work and cooperation in refining their lecture notes for publication. Our thanks to all who made it all possible.

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