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Lectures on Concurrency and Petri Nets

Advances in Petri Nets



Springer

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Preface

The very first model of concurrent and distributed systems was introduced by C.A. Petri in his seminal Ph.D. thesis in 1964. Petri nets has remained a central model for concurrent systems for 40 years, and they are often used as a yardstick for other models of concurrency. As a matter of fact, many other models have been developed since then, and this research area is flourishing today.

The goal of the 4th Advanced Course on Petri Nets held in Eichstätt, Germany in September 2003 was to present applications and the theory of Petri Nets in the context of a whole range of other models. We believe that in this way the participants of the course received a broad and in-depth picture of research in concurrent and distributed systems.

It is also the goal of this volume to convey this picture. The volume is based on lectures given at the Advanced Course, but in order to provide a balanced presentation of the field, some of the lectures are not included, and some material not presented in Eichstätt is covered here. In particular, a series of introductory lectures was not included in this volume, as the material they covered is well established by now, and well presented elsewhere (e.g., in W. Reisig and G. Rozenberg, eds., “Lectures on Petri Nets,” LNCS 1491, 1492, Springer-Verlag, 1997 – these two volumes are based on the 3rd Advanced Course on Petri Nets).

We believe that this volume will be useful as both a reference and a study book for the reader who is interested in obtaining an up-to-date overview of research in concurrent and distributed systems. It will be also useful for the reader who is specifically interested in Petri nets. Although the material presented in this volume is based on the Eichstätt course, the papers included here were written after the course, and therefore they have taken into account numerous comments made by the participants and fellow lecturers during the course. Because of this, and because, to start with, the lecturers were asked to present their material in a tutorial fashion, this volume is very suitable as an auxiliary reading for courses on concurrency and/or Petri nets, and especially useful as the underlying book for a seminar covering this research area.

Acknowledgements

The editors are indebted to the participants and the lecturers of the Advanced Course in Eichstätt for their enthusiastic participation in the course and for their constructive criticism of the presented material both during and after the course. We are also very much indebted to the authors of all the papers for their effort in producing all the material included here. We are grateful for the support of the Katholische Universität Eichstätt, hosting the Advanced Course, and to the Deutsche Forschungsgemeinschaft for its financial support. Many thanks to Springer-Verlag, and in particular to Mr. A. Hofmann, for the pleasant and efficient cooperation in producing this volume.

April 2004

Jörg Desel, Eichstätt
Wolfgang Reisig, Berlin
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