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**Liaison,
Schottky Problem
and Invariant Theory**
Remembering Federico Gaeta

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Preface

Federico Gaeta (1923–2007) was a Spanish algebraic geometer who was a student of Severi. He is considered to be one of the founders of linkage theory, on which he published several key papers. After many years abroad he came back to Spain in the 1980s. He spent his last period as a professor at Universidad Complutense de Madrid.

In gratitude to him, some of his personal and mathematically close persons during this last station, all of whom benefited in one way or another by his inspiration, have joined to edit this volume to keep his memory alive.

We offer in it surveys and original articles on the three main subjects of Gaeta's interest through his mathematical life.

The volume opens with a personal semblance by Ignacio Sols and a historical presentation by Ciro Ciliberto of Gaeta's Italian period. Then it is divided into three parts, each of them devoted to a specific subject studied by Gaeta and coordinated by one of the editors. For each part, we had the advice of another colleague of Federico linked to that particular subject, who also contributed with a short survey. The first part, coordinated by E. Arrondo with the advice of R.M. Miró-Roig, deals with linkage theory, corresponding to Gaeta's Italian period (see papers G2–G20) and contains, besides a survey, five research articles. The second part was coordinated by R. Mallavibarrena with the advice of J.M. Muñoz-Porrás, and is devoted to the Schottky problem, the main interest of Gaeta during his American period; it contains a survey and two research articles (see papers G37–G41). The third part, coordinated by M.E. Alonso with the advice of L. González-Vega, has to do with computation in algebraic geometry, the interest of the elderly years of Federico (see papers G42–G48; G50–G52); here we include, with a short presentation, an unpublished article of Federico Gaeta, as well as a research article inspired by his ideas.

Thanks, then, to those who accepted our invitation to collaborate with research articles to this volume – thanks also to their referees – and thanks to the mentioned authors of the reviews in this volume, including their advice to the editors. And special thanks, finally, to Ciro Ciliberto for his erudite and pleasant recreation of the Italian period of Federico Gaeta.