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Elisabetta Strickland *Editors*

Trends in Contemporary Mathematics

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Vincenzo Ancona • Elisabetta Strickland
Editors

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Editors
Vincenzo Ancona
Istituto Nazionale di Alta Matematica
"Francesco Severi"
Roma
Italy

Elisabetta Strickland
Dipartimento di Matematica
Università degli Studi di Roma
"Tor Vergata"
Roma
Italy

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Preface

INdAM, the Istituto Nazionale di Alta Matematica, has been a leading Italian mathematics research institute ever since it was founded in 1939. Throughout its existence, one of its principal aims has been to invite leading scientists in order to present their research and to deliver high-level training, while at the same time interacting with the mathematical communities scattered around the country.

An important initiative in accomplishing this goal is the INdAM Day, an event conceived a decade ago by Corrado De Concini, then President of INdAM, with the intention of providing an insight into the state of the art in contemporary mathematics by means of four high-level expository lectures. Since the first INdAM Day was held on 18 June 2004 in Rome, each year speakers have been chosen by INdAM from among leading mathematicians around the world, and various Departments of Mathematics around Italy have hosted the initiative: Naples in 2005, Milan in 2006, Pisa in 2007, Padua in 2008, Turin in 2009, Catania in 2010, L'Aquila in 2011, Genoa in 2012, and Palermo in 2013.

To date, more than 40 mathematicians of international renown have delivered talks covering a wide spectrum of current trends in mathematics. These talks have not only been of obvious scientific interest but have also managed to prove the cultural relevance of mathematics. None of us on the INdAM staff would ever pretend to be capable of emulating Hilbert more than a century ago. As we could not possibly match his breadth of vision, we have simply reached a compromise in focusing on certain topics. These have not always been in areas in which we have extensive personal knowledge, but for whatever reason our selection seems to have repeatedly captured the attention of people over the years. We could never predict which areas of mathematics are likely to be fashionable, but our speakers have certainly succeeded in making predictions about mathematics as a whole.

We have also had some strokes of luck, as when Claire Voisin was awarded the Clay Research Award shortly before delivering her talk in Padua in 2008, or when Cédric Villani was awarded the Fields Medal at the ICM in Hyderabad just 2 months after giving his talk in Catania in 2010.

This volume presents a selection of these talks in order to leave a visible trace of the original efforts of INdAM.

Rome, Italy, 2014

Vincenzo Ancona
Elisabetta Strickland

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