

**Special issue**

**Proceedings of the International School and Workshop  
Polynomial Automorphisms  
and Related Topics  
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**Guest editors**

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## PREFACE

The Jacobian conjecture which was stated by Ott-Heinrich Keller in 1939 is still an open problem. Many mathematicians were obsessed by the problem which can be stated in an understanding way: *Is a polynomial map from  $\mathbb{C}^n$  into  $\mathbb{C}^n$  which is a local isomorphism a global isomorphism?* As it is known, using the fundamental theorem of algebra and the implicit function theorem, the problem can be restated as: *Is a polynomial map from  $\mathbb{C}^n$  into  $\mathbb{C}^n$  whose Jacobian determinant is a non-zero constant an algebraic automorphism of  $\mathbb{C}^n$ ?* Algebraic automorphisms are not well understood. It seems that knowing more about them should decide the Jacobian problem.

The Abdus Salam ICTP is organizing every year an activity in mathematics outside Trieste on a different continent. In 2006 it was decided to accept the proposal of Nguyễn Văn Châu of the Institute of Mathematics of Vietnam to organize a school and workshop “Algebraic Automorphisms and Related Topics” jointly with Arno van den Essen of the University of Nijmegen, David Wright of Washington University and Lê Dũng Tráng of the Abdus Salam ICTP. Mathematicians, who have contributed to the Jacobian Conjecture and Algebraic automorphisms of  $\mathbb{C}^n$  like Hyman Bass of Michigan University and Shreeram Abhyankar of Purdue University, were invited. The school and workshop was held at the Institute of Mathematics, Hanoi, on October 9-20, 2006.

This issue of Acta Mathematica Vietnamica is dedicated to the proceedings of the workshop. We have chosen to gather both research articles and surveys. We hope that future generations will be interested by these problems and this issue will be an important document for them.

We thank the Institute of Mathematics of Vietnam and its staff for all the help they give to make the school and workshop possible.

Hanoi, October 4, 2007  
Lê Dũng Tráng