

# MIMO

## *From Theory to Implementation*

By Alain Sibille, Claude Oestges  
and Alberto Zanella

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**TITLE**

### DESCRIPTION:

This book provides an invaluable resource for anyone needing to know **what** MIMO is and **how** it will be incorporated into emerging wireless systems. Readers from academia, wireless networks operators, terminals and radio equipment manufacturers, service providers, even regulators, needing to bring their knowledge up to date will find a comprehensive and state of the art description of the underlying theory along with practical guidance on how the fundamental principles can be exploited in real technologies and networks. This book developed out of a very

successful training school organized in 2009 by the European Cooperation Action **COST 2100** “Pervasive Mobile & Ambient Wireless Communications”.

### FEATURES:

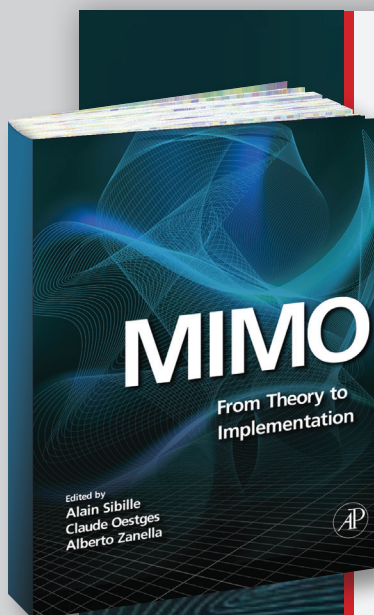
- An up-to-date overview of MIMO fundamentals, including information theory basics, space-time coding and a solid assessment of the radio channel characteristics that impact the MIMO link quality
- Detailed coverage of the major architectural designs of transceivers and receivers in real world MIMO systems implementations, including the compact incorporation of multiple antennas into wireless terminals
- Comprehensive highlights on the features of the main existing and upcoming MIMO based standards, namely IEEE 802.16 (WiMAX), IEEE 802.11n (WIFI), LTE and LTE-Advanced
- Fundamentals of the latest developments in MIMO techniques, including multi-user and cooperative MIMO
- An authoritative vision of the prospects of MIMO in future years, highlighting the trade-offs between the considerable potential benefits and the economical and technical impediments to a quick deployment

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Editor for Wireless Systems, IEEE Transactions on Communications and has published more than 60 international publications and conference communications.

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