

Sajeesh Kumar
Jacques Marescaux
Editors

Telesurgery



SAJEESH KUMAR JACQUES MARESCAUX (EDS.)
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Sajeesh Kumar Jacques Marescaux (Eds.)

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 Springer

Sajeesh Kumar, Ph.D.

Centre of Excellence in e-Medicine
Lions Eye Institute
University of Western Australia
2 Verdun Street
Nedlands, 6009 WA, Western Australia

Jacques Marescaux, M.D., F.R.C.S

IRCAD/EITS (European Institute for Telesurgery)
1 place de l'Hôpital, BP 426
67091 Strasbourg, France

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Preface

Developments in telesurgery are progressing at great speed. As a consequence, there is need for a broad overview of the field. This first-ever book on telesurgery is presented in such a way that should make it accessible to anyone, independent of his or her knowledge of technology. The text is designed to be used by *all* professionals, including surgeons, nurses, allied health professionals, and computer scientists, and not just medical practitioners.

In a very short time, driven by technical developments, the field of telesurgery has become too extensive to be covered by only a small number of experts. Therefore, *Telesurgery* has been written with chapter contributions from a host of renowned international authorities in telesurgery (see the Table of Contents and the List of Contributors). This ensures that subject matter focusing on recent advances in telesurgery is truly up to date. Our guiding hope during this task was that as editors of multiple chapters and authors, we could still write with a single voice and keep the content coherent and simple. We hope that the clarity of this book makes up for any limitations in its comprehensiveness.

The editors took great care that *Telesurgery* would not be merely a collection of separate chapters but would offer a consistent and structured overview of the field. We are aware that there is still considerable room for improvement and that certain elements of telesurgery are not fully covered, such as various surgical specialities, legal matters and reimbursement policies. A surgeon holds an array of sensors that is missing in the surgical robotics tools—sensors that can sense texture, temperature, force, pressure, blood pulse and smell! The new generation of tools for surgical robotics may include more sensing capabilities (such as the one explained in Chapter 11) for conveying to the surgeon information regarding the state of the tissue. The editors invite readers to forward their valuable comments and feedback to further improve and expand future editions of *Telesurgery*.

Books on theoretical and technical aspects inevitably use technical jargon, and this book is no exception. Although jargon is minimized, it cannot be eliminated without retreating to a more superficial level of coverage. The readers' understanding of the jargon will vary based on their respective backgrounds, but anyone with some background in computers, health, and/or biomedicine should be able to understand most of the terms used. In any case, an attempt to define jargon terms is made in the Glossary.

This *Telesurgery book* has been organized systematically. The format and length of each chapter is standardized, thus ensuring that the content is concise and easy to read. Every chapter provides a comprehensive list of citations and references for further reading. There are numerous figure drawings and clinical photographs throughout, which illustrate and illuminate the text well, providing high-quality visual reference material. Particularly useful features of this text are that each chapter ends with a summary of salient points for the reader.

The book contains 15 chapters and begins with a brief introductory chapter explaining the concepts that are mainstay to telesurgery; subsequent chapters are built on those foundations. Within each chapter, the goal is to provide a comprehensive overview of the topic. The chapters on telementoring and law are deliberately placed in this first edition of the book to emphasize the fundamental importance of these topics. Nevertheless, its content is not inclusive, since opportunities arise progressively in this domain. The final chapter covers future directions for telesurgery.

This book would not have been possible without the assistances of various people. We acknowledge and appreciate the assistance of all reviewers and Ms. Latika Hans, editorial assistant from Bangalore, India. We would like to thank all authors for making this possible through their chapter contributions. Their contributions in the not-too-distant future will be seen as major developments in health care.

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List of Contributors

J.J. Banihachemi

Emergency Department
Grenoble University Hospital (South)
38100 Grenoble
France
and
TIMC Laboratory
38100 Grenoble
France

Neera Bhatia

School of Legal Studies
University of Wolverhampton
Arthur Storer Building
Molineux Street
Wolverhampton WV1 1SB
England

E. Boidard

TIMC Laboratory
38100 Grenoble
France

J. L. Bosson

TIMC Laboratory
38100 Grenoble
France
and
Clinical Investigation Centre
Grenoble University Hospital
38100 Grenoble
France

L. Bressollette

Vascular Medicine Department
Brest Hospital
29200 Best
France
and
LATIM Laboratory
29200 Brest
France

I. Bricault

TIMC Laboratory
38100 Grenoble
France
and
Radiology Department
Grenoble University Hospital (North)
38100 Grenoble
France

W. Randolph Chitwood

Center for Minimally Invasive and Robotic Surgery
East Carolina Heart Institute
Brody School of Medicine at East Carolina University
Greenville, NC 27858-4353
USA

P. Cinquin

TIMC Laboratory
38100 Grenoble
France
and
Technological Innovation Centre (CIT)
Grenoble University Hospital
38100 Grenoble
France
Correspondence to:
IN3S, School of Medicine
Domaine de la Merci
38706 La Tronche cedex
France

G. Ferretti

Radiology Department
Grenoble University Hospital (North)
38100 Grenoble
France

Thomas Frede

Department of Urology
Heilbronn Clinic
University of Heidelberg
Am Gesundbrunnen 20
74074 Heilbronn
Germany

Ali S. Goezen

Department of Urology
Heilbronn Clinic
University of Heidelberg
Am Gesundbrunnen 20
74074 Heilbronn
Germany

Santiago Horgan

Department of Surgery
University of California
San Diego
200 West Arbor Drive
San Diego, CA 92103
USA

Kenta Hori

Gunma Prefectural College of Health Sciences
School of Radiological Technology
323-1 Kamioki-machi
Maebashi, Gunma 323-1
Japan

J.P. Hubschman

Jules Stein Eye Institute
Department of Ophthalmology
Los Angeles, CA 90095-7000
USA

Sajeesh Kumar

Centre of Excellence in e-Medicine
Lions Eye Institute
University of Western Australia
2 Verdun Street, Nedlands, 6009 WA
Western Australia

Amy Lin

CSTAR and The University of Western Ontario
339 Windermere Road
London, Ontario
Canada N6A 5A5

Richard A. Malthaner

Associate Professor in the Divisions of Thoracic Surgery
Surgical Oncology, and Epidemiology and Biostatistics
Director of Thoracic Research
CSTAR and The University of Western Ontario
339 Windermere Road
London, Ontario
Canada N6A 5A5

C.W. Mango

Weill Cornell Medical College
Cornell University – NY Presbyterian Hospital
NY, 10065-4896
USA

M. Marchal

TIMC Laboratory, 38100 Grenoble
38100 Grenoble
France

Jacques Marescaux

IRCAD/EITS (European Institute for Telesurgery)
1 place de l'Hôpital, BP 426
67091 Strasbourg
France

T. Martinelli

Radiology Department
Grenoble University Hospital (North)
38100 Grenoble
France

Yoav Mintz

Department of Surgery
University of California San Diego
200 West Arbor Drive
San Diego, CA 92103
USA

Anjali Mishra

Assistant Professor
Department of Endocrine Surgery
Sanjay Gandhi Postgraduate Institute of Medical Sciences
Rae-Bareillei Road
Lucknow-226 014, India

Saroj Kanta Mishra

Professor and Head, Department
of Endocrine Surgery and Nodal Officer
SGPGI Telemedicine Program,
Sanjay Gandhi Postgraduate Institute of Medical Sciences
Rae-Bareillei Road
Lucknow-226 014
India

A. Moreau-Gaudry

TIMC Laboratory
38100 Grenoble
France
and
Clinical Investigation Centre,
Grenoble University Hospital, France
and
Technological Innovation Centre (CIT)
Grenoble University Hospital
38100 Grenoble
France

L. Wiley Nifong

Center for Minimally Invasive and Robotic Surgery
East Carolina Heart Institute
Brody School of Medicine at East Carolina University
Greenville, NC 27858-4353
USA,

Correspondence to:

Associate Professor
Director of Robotic Surgery and the Robotic Training Center
East Carolina Heart Institute
600 Moye Boulevard, LSB 248
Greenville, NC 27834
USA

Henning Olsen

Consultant Urological Surgeon
Department of Urology
University Hospital of Aarhus-Skejby
Aarhus-8200N
Denmark

Rajni V. Patel

Department of Electrical & Computer Engineering
University of Western Ontario
London, Ontario
Canada N6A 5B9
and
Canadian Surgical Technologies
and Advanced Robotics (CSTAR)
339 Winderemere Road
London, Ontario
Canada N6A 5A5

F. Pellissier

France Telecom R&D
38100 Grenoble
France

P.V. Pradeep

Senior Resident
Department of Endocrine Surgery
Sanjay Gandhi Postgraduate Institute of Medical Sciences
Rae-Bareillei Road
Lucknow-226 014
India

Jens Rassweiler

Department of Urology
Heilbronn Clinic
University of Heidelberg
Am Gesundbrunnen 20
74074 Heilbronn
Germany

Yazan F. Rawashdeh

Senior Registrar
Department of Urology/Section of Pediatric Urology
Aarhus University Hospital
Skejby
Denmark

Evelio Rodriguez

Center for Minimally Invasive and Robotic Surgery
East Carolina Heart Institute
Brody School of Medicine at East Carolina University
Greenville
NC, 27858-4353
USA

C. Roux

LATIM Laboratory
29200 Brest
France

Francesco Rubino

IRCAD/EITS (European Institute for Telesurgery)
1 place de l'Hôpital, BP 426
67091 Strasbourg
France

D. Saragaglia

Emergency Department
Grenoble University Hospital (South)
38100 Grenoble
France

Walter Scheitlin

Department of Urology, Heilbronn Clinic
University of Heidelberg
Am Gesundbrunnen 20
74074 Heilbronn
Germany

Luc Soler

IRCAD/EITS (European Institute for Telesurgery)
1 place de l'Hôpital, BP 426
67091 Strasbourg
France

Brandon Spencer

Nova Southeastern University
Graduate School of Computer and Information Sciences
3301 College Avenue
Ft. Lauderdale, FL 33314
USA

Correspondence to:

511 Sioux Cr.
Kechi, KS 67067
USA

Mahdi Tavakoli

School of Engineering & Applied Sciences
Harvard University
60 Oxford Street, Room 312
Cambridge, MA 02138
USA