

Instructions for contributors

Robotica aims to be an outlet for publication of original papers of the highest quality in the field of Robotics and closely related areas. This includes: novel robotic mechanism and actuator design; robot kinematics, dynamics and control; computer vision; sensor fusion; teleoperation and haptic interfaces; robot motion planning; and artificial intelligence. In addition, papers that apply techniques from Robotics to other fields are also welcome. Examples include dynamics and control models applied to biological systems, the description of implementations of robots in factories, service and agricultural settings, and general mechatronic design. Works may be theoretical, computational or experimental, or some combination. Both short papers (rapid communications), and longer archival papers are welcome. Proposals for special issues on topics of current interest are welcome, and can be submitted via email to the editor.

Authors are urged to ensure that their papers are written clearly and attractively, in order that their work will be readily accessible to readers. Manuscripts must be written in English. *Robotica* employs a rigorous peer-review process whereby all submitted manuscripts are sent to recognized experts in their subjects for evaluation. The Editor's decision on the suitability of a manuscript for publication is final. Manuscripts, whether accepted or rejected, will not be returned to authors.

Submission of manuscripts

Manuscripts for consideration by *Robotica* should be submitted electronically, using the Manuscript Central System, via <http://mc.manuscriptcentral.com/cup/robotica>. This system will allow authors to benefit from faster review and earlier, online publication. The system will accept PDF files; most other file types will be automatically converted directly into PDF. Source files are required for any paper accepted for publication. Authors who are unable to submit online should contact the Editorial Office (gregc@jhu.edu) for assistance.

Submission of a paper is taken to imply that it has not been previously published and that it is not being considered for publication elsewhere. Upon acceptance of a paper, the author will be asked to transfer copyright to the publisher. Authors are responsible for obtaining written permission from the copyright owners to reprint any previously published material included in their article.

Layout of manuscripts

Text should be double spaced throughout, on one side of the paper, allowing generous margins on all sides of the paper. Please avoid footnotes if possible. Papers should begin with an abstract of not more than 100 words and should end with a brief concluding section. The title and section headings should be concise and descriptive. All measurements should be given in SI units. On acceptance of a manuscript, authors are asked to send the electronic source file of the final version together with a PDF copy produced using the same file. The publisher reserves the right to typeset material by conventional means if an author's file proves unsatisfactory.

Illustrations

Figures should be composed to occupy a single column (80mm) or two columns (166mm) after reduction. The preferred format for figure files is .eps or .tiff at resolution 1200 dpi for lines, 600 dpi for greyscale and 300 dpi for colour (which preferably should also be in CMYK – cyan magenta yellow black – format). However,

most standard image formats such as pct, ppm, png, psd, Word, ppt, CorelDraw, ChemDraw, AutoCAD can also be used, but not customized output of software not designed for publishing purposes such as Matlab, nor PDF. Figures to be printed in black and white must be submitted as black and white files.

Figures should be numbered consecutively, with Arabic numerals, have descriptive captions, and be mentioned in the text. A list of captions should be attached separately, and as far as possible, information relating to a figure should be placed in the caption rather than on the figure. Each figure should be clearly numbered. Photographs should be the same size as they will appear in the journal and should be selected to fit neatly into one column (80 mm) or two columns (166 mm). Photographs should be clearly identified and numbered as for line drawings.

Tables

Tables should be presented on separate sheets. A descriptive title should be given to each table. If possible, very wide tables should be avoided. Tables should be numbered consecutively in Roman numerals. Exceptionally lengthy tables may be summarized for publication with a note that fuller details can be obtained from the authors.

Equations

Mathematical equations should be typewritten, with subscripts and superscripts clearly indicated. All mathematical symbols will be set in italics unless otherwise indicated: symbols or letters to be set in Roman (upright) type should be marked clearly.

References

In the text, references are indicated by superior Arabic numbers (without brackets), and should be confined to published work that is directly pertinent. References should be listed at the end of the paper in numerical order. Authors' initials should precede their names: cited article titles should be quoted in full, enclosed in quotation marks; and abbreviations of journal names should follow the style of Chemical Abstracts or Physical Abstracts, and be underlined for italics:

P.W. Anderson, "More is different" *Science* **177**, 393-399 (1972);
C.V. Negoita, *Fuzzy Systems* (Abacus Press. Tunbridge Wells, UK, 1980).

Citations such as 'personal communication', 'unpublished work', etc., are not acceptable as numbered references but can be included in parenthesis in the text. Do not use summaries as references.

Proof Reading

The corresponding author will receive PDF copies of page proofs for final proofreading. Only typographical or factual errors may be changed at proof stage. The publisher reserves the right to charge authors for correction of non-typographical errors. Authors are requested to return proofs within 48 hours by airmail. No page charge is made.

Offprints

No paper offprints are provided, but the corresponding author will be sent the pdf of the published article. Print offprints may be purchased at extra cost at proof stage.

© CAMBRIDGE UNIVERSITY PRESS 2010

Cambridge University Press
The Edinburgh Building, Cambridge CB2 8RU, United Kingdom
32 Avenue of the Americas, New York, NY 10013-2473, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
Ruiz de Alarcón 13, 28014, Madrid, Spain
Dock House, The Waterfront, Cape Town 8001, South Africa

Printed in the United Kingdom at the University Press, Cambridge

ROBOTICA

Volume 28 Part 5 September 2010

- A biologically inspired method for robot navigation in a cluttered environment,
Hamid Teimoori and Andrey V. Savkin 637
- Dynamic modeling of planar parallel robots considering passive joint sensor data,
Asier Zubizarreta, Itziar Cabanes, Marga Marcos and Charles Pinto 649
- Landmark detection and localization for mobile robot applications: a multisensor
approach, **Dilan Amarasinghe, George K. I. Mann and Raymond G. Gosine** 663
- A shape memory alloy based tendon-driven actuation system for biomimetic
artificial fingers, part II: modelling and control, **Gabriele Gilardi,
Edmund Haslam, Vishalini Bundhoo and Edward J. Park** 675
- To enhance transparency of a piezo-actuated tele-micromanipulator using passive
bilateral control, **R. Seifabadi, S. M. Rezaei, S. Shiry Ghidary, M. Zareinejad
and M. Saadat** 689
- Autonomous rendezvous and robotic capturing of non-cooperative target in space,
Wenfu Xu, Bin Liang, Cheng Li and Yangsheng Xu 705
- A methodology for static stiffness mapping in lower mobility parallel manipulators
with decoupled motions, **Charles Pinto, Javier Corral, Oscar Altuzarra
and Alfonso Hernández** 719
- Design and similarity evaluation on humanoid motion based on human motion
capture, **Qiang Huang, Zhangguo Yu, Weimin Zhang, Wei Xu
and Xuechao Chen** 737
- A Jacobian-based algorithm for planning the motion of an underactuated rigid
body undergoing forward and reverse rotations, **Sung K. Koh** 747
- Globally exponential continuous controller/observer for position tracking in
robot manipulators with hysteretic joint friction, **Srinivasulu Malagari
and Brian J. Driessen** 759
- Perception advances in outdoor vehicle detection for automatic cruise control,
S. Álvarez, M. Á. Sotelo, M. Ocaña, D. F. Llorca, I. Parra and L. M. Bergasa 765
- Complete dynamic modelling of a moving base 6-dof parallel manipulator,
António M. Lopes 781

Robotica now accepts submissions via Manuscript Central
Go to <http://mc.manuscriptcentral.com/cup/robotica>

Cambridge Journals Online
For further information about this journal
please go to the journal website at:
journals.cambridge.org/rob



CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE

*Introducing the first textbook
to present cognitive science
as a discipline in its own right*

Cognitive Science

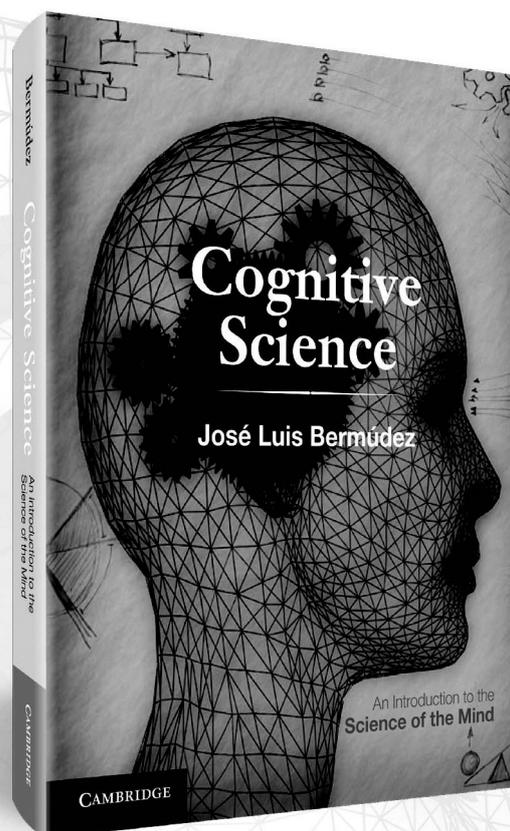
**An Introduction to the Science
of the Mind**

José Luis Bermúdez

This exciting textbook introduces students to the dynamic area of cognitive science – the scientific study of the mind and cognition. Organized thematically instead of by discipline, this is the first textbook to present a unified view of cognitive science.

Features:

- ⚙️ Lively, full colour presentation with overviews, examples, illustrations, exercises, summaries and checklists to aid learning and help students to find and retain information for papers and exams
- ⚙️ Students are introduced to the cognitive scientist's "toolkit" – the vast range of techniques and tools that cognitive scientists can use to study the mind
- ⚙️ Draws on cutting-edge research and new developments to explore both the achievements that cognitive scientists have made, and the challenges that lie ahead
- ⚙️ An accompanying website provides sample syllabuses, PowerPoint slides, and links to supplementary material



August 2010
978-0-521-70837-1 | PB
978-0-521-88200-2 | HB

"The text is engaging, well-crafted for an undergraduate audience, and is sure to inspire a generation of students"

Michael Spivey, University of California, Merced

"This book's breadth and depth of coverage is truly impressive. Bermudez explicates the science of the mind in a sophisticated yet understandable fashion, from its traditional roots in symbol processing to exciting new advances in dynamic, embodied, and situated cognition."

*Rob Goldstone, Professor of Psychology and Director,
Cognitive Science Program, Indiana University*

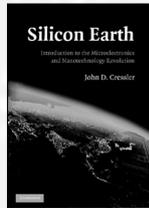
Find out more and order your inspection copy today:
www.cambridge.org/bermudez



CAMBRIDGE
UNIVERSITY PRESS

New and Exciting Titles!

Silicon Earth
Introduction to the Microelectronics and Nanotechnology Revolution
JOHN D. CRESSLER
\$125.00: Hb: 978-0-521-87939-2: 508 pp.
\$65.00: Pb: 978-0-521-70505-9



Fast Multipole Boundary Element Method
Theory and Applications in Engineering
YIJUN LIU
\$85.00: Hb: 978-0-521-11659-6: 254 pp.



Second Edition!
Computational Principles of Mobile Robotics
GREGORY DUDEK, MICHAEL JENKIN
\$99.00: Hb: 978-0-521-87157-0: 408 pp.
\$49.99: Pb: 978-0-521-69212-0

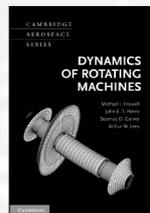
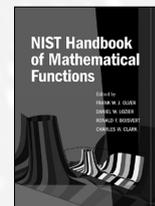


Robotics for Electronics Manufacturing
Principles and Applications in Cleanroom Automation
KARL MATHIA
\$130.00: Hb: 978-0-521-87652-0: 250 pp.

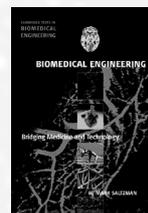
Hydrodynamics of High-Speed Marine Vehicles
ODD M. FALTINSEN
\$117.00: Hb: 978-0-521-84568-7: 474 pp.
Forthcoming: Pb: 978-0-521-17873-0



NIST Handbook of Mathematical Functions
EDITED BY **FRANK W. J. OLVER, DANIEL W. LOZIER, RONALD F. BOISVERT, CHARLES W. CLARK**
\$99.00: Hb: 978-0-521-19225-5: 968 pp.
\$50.00: Pb: 978-0-521-14063-8

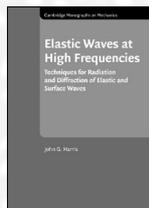


Dynamics of Rotating Machines
MICHAEL I. FRISWELL, JOHN E. T. PENNY, SEAMUS D. GARVEY, ARTHUR W. LEES
Cambridge Aerospace Series
\$115.00: Hb: 978-0-521-85016-2: 544 pp.

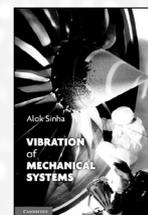


Biomedical Engineering
Bridging Medicine and Technology
W. MARK SALTZMAN
Cambridge Texts in Biomedical Engineering
\$99.00: Hb: 978-0-521-84099-6: 656 pp.

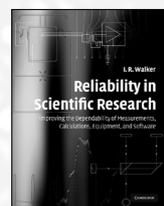
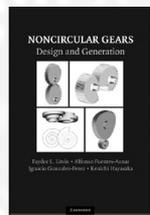
Elastic Waves at High Frequencies
Techniques for Radiation and Diffraction of Elastic and Surface Waves
JOHN G. HARRIS
Cambridge Monographs on Mechanics
\$85.00: Hb: 978-0-521-87530-1: 182 pp.



Vibration of Mechanical Systems
ALOK SINHA
\$75.00: Hb: 978-0-521-51873-4: 250 pp.

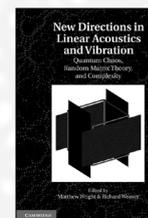


Noncircular Gears
Design and Generation
FAYDOR L. LITVIN, ALFONSO FUENTES-AZNAR, IGNACIO GONZALEZ-PEREZ, KENICHI HAYASAKA
\$110.00: Hb: 978-0-521-76170-3: 214 pp.



Reliability in Scientific Research
Improving the Dependability of Measurements, Calculations, Equipment, and Software
I. R. WALKER
\$85.00: Hb: 978-0-521-85770-3: 600 pp.

New Directions in Linear Acoustics and Vibration
Quantum Chaos, Random Matrix Theory and Complexity
EDITED BY **MATTHEW WRIGHT, RICHARD WEAVER**
\$125.00: Hb: 978-0-521-88508-9: 272 pp.



Prices subject to change.

