Index

A
Actual robots, 73
Aerospace training, 177, 182
Anthropomorphic hand-forearm system, 221, 222
Anthropomorphic modular hand, 209, 210
Artificial finger, 221–223, 227, 229–232
Assistive robot, 69, 73

B
Bilateral teleoperation, 145–149, 156, 158
Books handling, 80, 84
Brachytherapy, 191–193, 196–198, 200, 201, 203

C
Cable-based manipulators, 36
Colony picking, 103, 107, 112
Competitive design, 13
Compliant hand, 205, 210, 218
Correlation dimension, 221–223, 225, 232, 233

D
Design, 28, 30–36, 38–40
Desktop automation, 105, 107, 111, 114
Domestic service robots, 59, 61, 66

E
Educational platform, 118
Electrorheological fluids, 44, 48
Embedded intelligence, 12
Experimental robotics, 38

F
Fast adaptable control unit, 17, 18
Field programmable gate array, 145, 147
Force feedback, 5, 9

G
Grippers, 76, 78–82
Guidance, 161–163, 169, 170, 175

H
Haptic interface, 2, 5, 6
Haptics, 145–147, 153, 158
Human finger, 221–223, 227, 229, 231–234
Human-robot interaction, 119, 120

K
Kinect sensor, 205, 216, 218

L
Lab automation, 103, 106, 107, 111, 114
Library automation, 76, 77
Light-weight design, 28

M
Manipulation, 103–106, 109, 114
Man-machine interface, 1, 2
Mechanical motion simulation, 182
Mobile robot, 161–165, 170, 176
Modelling, 131, 132, 142, 143
Modular approach, 203

D. Pisla et al. (eds.), New Trends in Medical and Service Robots, Mechanisms and Machine Science 16, DOI: 10.1007/978-3-319-01592-7, © Springer International Publishing Switzerland 2014
N
Navigation, 161–163, 170
New trends, 57
Nonlinear analysis, 221

P
Parallel kinematics, 177, 178, 182, 184
Parallel robot, 191, 193, 194, 196, 198, 203
Paramedical training, 180
Partial nephrectomy, 89
Path planning, 161–163
Physical therapy, 43, 47, 48
Plug-and-play, 12, 13, 15, 21
Professional service robots, 59, 61–64, 66
PTELR methodology, 17

R
Radical prostatectomy, 93
Rehabilitation, 2, 3, 6–9, 44–47, 51, 52
Resistive torques, 46, 47
Robotic surgery, 88, 89, 91, 92

S
Scanning, 131, 133, 143
Service robots, 27–34, 38
Simulating, 132, 142, 143
Sliding mode control, 145, 146, 150
Smart actuators, 13
Smart sensors, 12–15, 20, 22
Social robot, 117, 119, 120, 122, 129
Spinal column, 131, 132, 142
Spinal deformities, 132
Statistics, 58
Stewart-gough platform, 185
Structural synthesis, 193, 194, 196, 197, 199, 201, 203
Surgical robotics, 12, 15

T
Tele-manipulator, 5
Tendon-driven hand, 207, 209, 211
Tracking control, 161, 162

U
Urology, 88, 89