

# 2010

## Journal of Robotics and Mechatronics

### Cumulative Keyword List

### Volume 22

2D microwaves.....784  
 2DDFT .....43  
 3D force information .....122  
 3D map.....158  
 96-well microplate .....197

## A

active lighting.....50  
 actuator .....623  
 actuator unit.....391  
 adaptability .....514  
 adaptive attitude control.....418  
 adhesion.....631  
 agonistic behaviour .....526  
 AGV system .....475  
 ambient mechatronics.....777  
 application scenario.....322  
 arousal level.....76  
 artificial cell model .....651  
 asbestos .....496, 506  
 attention .....65  
 attentional condition.....447  
 attentive workbench (AWB) .....430  
 attractor selection mode .....315  
 automatic counting .....496  
 automation .....197  
 autonomous city vehicles .....694  
 autonomous mobile robot .....718  
 autonomous robot.....467  
 autonomous vehicle.....702  
 auxiliary particle filter.....758  
 avidin-biotin binding system.....619

## B

ball balance .....348  
 ballbot.....348  
 bilateral control .....179  
 biochip.....371, 623  
 bio-inspired robotics .....315  
 biological fluctuation .....315  
 biological reaction.....651  
 biomolecule .....601  
 biped robots.....363  
 bump.....293

## C

cell division .....669  
 cell manipulation  
 .....371, 613, 623, 639  
 cell patterning.....613  
 cell production robot system.....100  
 cell-based assay.....594  
 cellular automaton .....669  
 central pattern generator (CPG)...36  
 cloning .....371  
 close calls .....43  
 collective behavior .....514  
 color extraction.....262  
 communication .....82  
 communication system.....737  
 competitive coevolution .....475  
 concealed object.....253  
 conformation .....601  
 consolidation of kernel functions  
 .....496  
 construction machinery .....447  
 contact mode estimation .....542  
 continuous passive motion .....239  
 cooperative maneuvers .....702  
 cooperative system .....204  
 CPM device.....239  
 cricket .....526  
 CTS (Cybernetic Transport System)  
 .....685  
 cubic polynomial deformation ...122

## D

data association .....140  
 data association problem.....758  
 data size.....82  
 deskwork support system.....430  
 dielectrophoresis.....601  
 differential pH sensor probe .....197  
 dismantling robot .....204  
 dismantling robot system .....50  
 distributed touch sensor .....293  
 division of labor .....514  
 DP matching.....532  
 driver assistance system(s) 737, 745

drug delivery system .....579  
 dynamic walking .....36

## E

echogram .....273  
 elastic body .....122  
 elbow joint disorder .....239  
 elderly driver .....745  
 electrochemical sensor .....594  
 EMG-moment model .....10  
 evanescence .....568

## F

facial skin thermal image.....76  
 facial skin thermogram .....43  
 facial thermal image.....751  
 facial-expression.....76  
 Fast-SLAM.....140  
 fault tolerance.....485  
 fight or flight reaction.....43  
 filtration.....280  
 flexible object handling.....100  
 flexible robot skin .....784  
 flexible-shaft.....380  
 force closure.....230  
 force feedback.....179  
 force servo.....273  
 formation .....467  
 friendly amusing mobile .....301  
 fuel cell.....150  
 fuzzy precompensation.....551

## G

gesture recognition .....262  
 gesture-based input interface .....430  
 glucose.....594  
 grasp planning .....230

## H

hand waving .....262

haptics.....784  
 Hep G2 cell .....594  
 hepatocyte.....587  
 human body.....418  
 human body motion .....439  
 human parameters identification418  
 human tracking.....28  
 human-like robotic arm.....315  
 humanoid .....391  
 humanoid robot .....230  
 human-robot collaboration .....50  
 human-robot interaction .....301  
 hybrid control system.....380  
 hydrogen generator .....150  
 hysteresis .....333

**I**

I2V (Infrastructure to Vehicle) ..685  
 image processing.....262  
 immobilization.....631  
 impedance control .....239  
 impedance spectroscopy.....601  
 industrial application .....485  
 information system.....737  
 inkjet.....341  
 intelligent control .....694  
 intelligent room .....262  
 intelligent RT software component  
 .....322  
 intelligent transport systems (ITS)  
 .....737  
 interface .....439  
 inverted pendulum .....348  
 ISFET .....197

**J**

joint interface .....767  
 JPEG 2000.....82

**L**

lab-on-a-chip .....587  
 landmark.....718  
 landmark estimation.....140  
 laser range scanner and camera 221  
 LC tuner .....91  
 LCD projector .....608  
 leakage.....333  
 load measurement.....292  
 localization.....28, 158, 758

**M**

machine learning .....506  
 magnet sensor.....253

magnetically driven microtool  
 .....280, 623  
 maintenance.....485  
 manhole cover .....718  
 manipulation.....356, 542  
 manipulator control .....173  
 map building.....28  
 maskless.....608  
 master-slave control .....308  
 master-slave robot .....10  
 material transport system .....485  
 maximum size pruning.....112  
 measurement.....631  
 mechanical gap.....280  
 mechanical stiffness .....391  
 mechanism.....189  
 medical and welfare assistance..189  
 metallic sensor.....718  
 methanol .....150  
 micro machine.....167  
 micro/nanopipette .....651  
 microarray .....639  
 microdevice .....341  
 microfluidic device.....594  
 microfluidics .....341, 601  
 micromanipulation .....644, 651  
 micro-mechanism .....292  
 microparticles .....280  
 micropattern.....608  
 microphone array .....402  
 microrotation flow.....587  
 microscope images.....496  
 microscopic observation.....506  
 microTAS .....341, 371  
 microteleoperation.....659  
 microtool .....356, 631  
 miniaturization.....91  
 mixed-society .....526  
 mobile robot.....158, 204, 402  
 model reduction.....418  
 molecular motor .....568  
 Monte Carlo localization (MCL)  
 .....158, 758  
 mosaic image.....212  
 motion stereo.....100  
 multifingered hand .....230  
 multilayered nanofiber meshes ..579  
 multiple robots .....485  
 multiple viewpoints for recognition  
 .....50  
 multiple-person tracking .....221  
 multi-robot.....456  
 multi-robot system .....514  
 muscle strength assessment.....10  
 musculoskeletal .....391

**N**

nanoliters discharge/suction .....644

navigation .....36  
 near-infrared spectroscopy .....3  
 negative dielectrophoresis .....613  
 network .....82  
 node selection strategy .....112  
 nonlinear oscillator.....467

**O**

object detection .....496  
 obstacle rate.....112  
 omnidirectional mobile robot.....28  
 omnidirectional wheel.....348  
 on-site experiment .....50  
 OpenRT Platform .....322  
 OpenRTM .....230  
 operational support.....447  
 optical tactile sensor.....122  
 optical topography.....3  
 optical tweezers .....356  
 optimization.....197  
 outdoor environments.....363  
 outdoor robot navigation.....708  
 oxygen .....639  
 oxygenated hemoglobin .....3

**P**

parallel mechanism.....273  
 parking assistance.....745  
 particle filter.....158, 221  
 passive dynamic walk .....363  
 passive walking .....167  
 path search.....532  
 PCM control .....91  
 pedestrian avoidance .....21  
 PEFC .....150  
 pH .....639  
 phospholipid-coated microdroplet  
 .....651  
 photo irradiation.....631  
 photolithography.....371, 608, 623  
 photoresist .....608  
 physiological measurement.....76  
 piezoelectric.....91  
 pneumatic servo system .....179  
 Pneumatic Valve.....91  
 Poisson distribution.....568  
 precomputation search tree .....112  
 presumption .....751  
 probe device .....644  
 projection.....301  
 proximity switch .....718  
 psychology of interest.....65  
 psychology of relevance .....65

**Q**

quadruped robot .....36  
 qualitative analysis .....506  
 quartz crystal .....292

**R**

rapid and direct cell-to-cell  
 adherence .....619  
 reaching movement .....173  
 real-time decision making .....694  
 reference shaping .....173  
 reflectivity of laser .....726  
 reflector .....293  
 Region of Interest (ROI) .....65  
 rehabilitation .....10  
 reinforcement learning .....532, 542  
 remote sensing .....212  
 reusability .....767  
 risk management .....456  
 road shape estimation .....726  
 robot manipulator .....532  
 robot maps .....726  
 robot vision .....82  
 robotic echography .....273  
 Robotic Technology Component  
 (RTC) .....767  
 robots .....551  
 ROI evaluation .....65  
 RT-middleware .....767

**S**

scan matching .....28  
 SD-method .....439  
 self-assembly .....356  
 self-contained system .....380  
 self-organizing map (SOM)  
 .....439, 532  
 self-reproduction .....669  
 self-supervised learning .....726  
 sensor .....292  
 sensor fusion .....253

sequential chemotherapy .....579  
 sequential electrospinning .....579  
 servo valve .....333  
 shoes' inclination .....293  
 simultaneous localization and  
 mapping .....140  
 single cell .....639  
 single cell analysis .....644  
 single cell manipulation .....619  
 single-molecule imaging .....568  
 single-molecule measurement .....568  
 small fish robot .....150  
 smooth path planning .....21  
 soft mechanism .....167  
 softness contactual bilateral control  
 .....308  
 sound identification .....402  
 spatio-temporal spectrum  
 differential analysis .....43  
 speech language understanding .....3  
 spheroid .....587  
 spool .....333  
 state identification .....447  
 steering set .....21, 112  
 step-on interface .....301  
 stepping motor .....348  
 stiffness adjustable mechanism .....308  
 stress .....751  
 structural design .....292  
 structured environments .....726  
 subjective understanding .....3  
 supervisory hierarchical fuzzy  
 controller (SHFC) .....551  
 surface LAN .....777  
 surgical robot .....179  
 system integration .....322

**T**

tactile sensor .....784  
 task phase .....447  
 teleoperation .....10  
 tendon driven .....308  
 thermography .....76  
 thermoresponsive polymer .....644

time-programmed sustained release  
 .....579  
 tissue engineering .....619  
 tracked vehicle .....293  
 traffic lights .....737  
 trap .....280  
 truly-tender-tailed tag-playing robot  
 (T-cube tag player) .....301  
 two-dimensional communication  
 .....777

**U**

ubiquitous robot .....777  
 uncertainty .....456, 551  
 unmanned aerial vehicle .....212  
 unscented transformation .....140  
 upper limbs .....239  
 urban environment .....758  
 usability testing .....659

**V**

V2I (Vehicle to Infrastructure) .....685  
 V2V (Vehicle to Vehicle) .....685  
 V2x (Vehicle-to-whatever) .....685  
 variable scaling .....659  
 vegetation monitoring .....212  
 visual servo .....273

**W**

walking assist .....189  
 walking assistance device .....380  
 water hydraulic system .....333  
 wearable device .....308  
 wheelchair .....439  
 wheeled robots .....21  
 wireless power transmission .....777  
 wireless sensor chip .....784  
 worm gear .....380