

## List of Keywords

3D analysis 3-D bio-printing 3-D cephalometry 3D culture 3-D imaging Absorbable materials Acetabular fracture Acetabulum Anterior cruciate ligament Adenovirus Adipose stem cells Adolescent idipathic scoliosis Adolescent spondylolisthesis Adult deformity Adult stem cells Advanced Neuromonitoring Aesthetic surgerv Alcohol Allografts Alveolar bone graft Alveolar Cleft analysis of instability Angiogenesis Angular fractures, Angular stable nailing Animal models Ankle Ankle fracture Ankle surgery Annulus fibrosus Antibiotic treatment (local and systemic) Antimicrobials Apoptosis Applied navigation Aritifical bone Arthodesis Arthritis Arthroplasty Arthroscopic assisted reduction of fractures Arthroscopic surgery

Arthroscopy Articular cartilage Articular fractures Articular joint Aseptic loosening Augmentation Autograft Autologous chondrocyte implantation Autologous stem cell transplantation Back pain Bacteria adhesion Bacterial infection Basic research basic Fibroblast growth factor Biochemistry biocompatibility Biocomposite Biocorrosion Bioengineering Biofilm Biomaterials **Biomechanical testing** Biomechanics Biomimetics Bioprinting **Bioreactors** Bioresorbable implants Bioresorbable materials **Biostatistics** Bisphosphonate-related osteonecrosis of the jaws **Bisphosphonates** Bisphosphonates Bone Bone / Implant interface Bone adaptation Bone architecture Bone augmentation Bone bioengineering Bone biology

Bone biomechanics Bone cells Bone cement Bone defects Bone defomity Bone development Bone filling material Bone fixation Bone formation Bone grafts Bone healing Bone histomorphometry Bone infections Bone innervation Bone lengthening Bone loss Bone metabolism Bone morphogenic proteins Bone perfusion Bone quality Bone regeneration Bone tissue engineering Bone tumor Bone viscoelasticity Bracing Brain Tissue Oxvgenation BSEM. uCT Burns Cables, Cerclages, Periprosthetic Cadaver studies Calcaneum fracture Cancellous bone Cancer C-arm fluoroscopy Carpal injury Cartilage Cartilage biology Cartilage defect Cartilage injury Cartilage mechanics Cartilage regeneration

Cartilage repair Cartilage surgery Cartilage tissue engineering CD73 Cell and organ culture system Cell based therapies Cell culture Cell deliverv Cell expansion and differentiation Cell senescence Cell signaling pathways Cell stretching Cell-cell adhesion Cell-matrix interactions Cell-mediated therapy Cell-surface interaction Cellular and molecular interaction Cellular Biology Cellular Diagnostics and Therapeutics Cellular differentiation Cellular engineering Cellular response to environmental stress Cements Ceramics Cerebral Edema Cervical Cervical fractures Cervical myelopathy Cervical spine Cervical trauma Chemistry Chemokines Chest trauma Chest wall resection/reconstruction Child & adolescent Chondrocvte Chondrogenesis

Chromatin modifying enzymes Classification Clavicula Cleft lip and palate Clinical Clinical epidemiology clinical fracture care Clinical implantology Clinical studies Clinical trials Coating Collagen Compartment syndrome Complex Fractures Compromised bone healing (by smoking, radiotherapy, osteoporosis...) Computational biomechanics Computational stress analysis Computed tomography Computer assisted planning (CAP) Computer assisted surgery (CAS) Congenital anomalies Connective tissue Controlled release Cranio-maxillo facial surgery Craniomaxillofacial Critical size bone defects Cruciate ligament Cvtokine/growth factor Cvtokines Damage control / Polytrauma Decompressive hemicraniectomy Deformity correction Degeneration Degenerative diseases Degradable materials Degradable metals Delaved union



Delivery system	Epidemiology	Frontal sinus trauma	Implant design	Leukotriene Metabolism
Dental	Equine	Functional adaptation	Implant loosening	Ligaments
Dental pulp stem cells	Esthetic facial surgery	Gene expression	Implant osseointegration	Limb deformities
Developmental biology	Evidence based medicine	Gene regulation	Implant removal	Limb Regeneration
Diabetes	Experimental modelling	Gene silencing	Implant stability	Limb salvage
Diagnosis and imaging	Expert nail	Genetic engineering	Implants	Listhesis
Diaphysis	External fixation	Gene Therapy	In vitro	Liver
Dicckopf 1	Extra oral implants	Genetics	In vivo	Locked nailing
Differentiation	Extracellular matrix	Geriatric	In vivo tracking	Locking plate
Disaster, mediacl coordinator of	Extracorporal shock wave	Geriatric fractures	in vivo loading	Long bone
the dormant disaster hospital	Extremity trauma	Glial cells	Induced pluripotent stem cells	Low back pain
and course director of MRMI	Fabrication	Glycosaminoglycan	Infection	Low intensity pulsed ultrasound
courses	Face transplantation	Greyhounds	Infection Models	or therapeutic ultrasound
Discogenic pain	Facet joint mechanics	Growth factors	Infections	Lower extremity
Dislocations	Facial deformity	Growth Plate	Inflammation	Lumbar
Distal extremities fractures -	Facial growth	Guided bone regeneration	Information technology	Macrophages
carpus, tarsus, digits	Facial paralysis	Hand and wrist	Innate immunity	Magnetic resonance imaging
Distal Femur Fracture	Facial reconstruction	Head & neck cancer	Instability	and technology
Distal radius	Facial skin & soft tissue	Head & Neck reconstructive	Interlocking nails	Malalignment
Distraction osteogenesis	Facial tissue Regeneration	surgery	Internal fixation	Malunion
Drug delivery and nanomedicine	Facial trauma	Head injuries	Interspinous devices	Management of multiple trauma
Dupuytren's disease	Fat embolus	Health care economics	Intervertebral disc	Mandible
DXA	Femoral Acetabular	Hemorrhage / Resuscitation	Intervertebral disc cells	Mandible morphometry and
Dynamic loading	Impingement/Hip Dysplasia	Heparan sulphate	Intervertebral disc Degeneration	shape
Dynamization	Femoral nailing	Heterotopic bone formation	Intracellular pathogen	Mandibular reconstruction
Dysphagia	Femur and hip	HIF-1	Intracranial Pressure	Mandibular trauma
Education	Fibroblast	High energy trauma	Intramedullary nailing	Materials science
Elbow	Fibronectin	Hip and Pelvis	Intra-operative neuromonitoring	Mathematics
Electric and magnetic	Finite Element Analysis	Histology or histomorphometry	Ionic homeostasis	Matrix biology
stimulation	Fixation stability and tissue	Host pathogen interactions	Ischemia / Reperfusion	Matrix metalloproteinases
Electrospinning	regeneration	HTO	Joint	Mechanical adaptation
Embolisation	Fluid flow	Human	Joint biomechanics	Mechanical analysis
Embryonic stem cells	Fluorescence microscopy	Human Motion Analysis	Joint fractures	Mechanical engineering
Emergency medicine	Foot & ankle	Humeral nailing	Joint modeling	Mechanical forces
Enabling technology	Foot & ankle surgery	Humeral shaft fracture	Joint replacement	Mechanical Loading
Endochondral ossification	Foot & ankle trauma	Humerus	Joint surgery	Mechanical testing
Endocrine orbitopathy	Forearm and elbow surgery	Hydrogels	Kinematics	Mechanobiology
Endoprosthesis	Forearm fractures	Hypoxia	Knee	Medical education
Endoscopic assisted surgery	Fracture healing	lhh	Knee revision	Medical physics
Endoscopic spinal approaches	Fracture healing assessment	Iliac fixation	Knee surgery	Medical software
Endoscopic surgical instruments	Fragility fractures	IM Fixation	Kyphoplasty	Meniscus
Endothelial cell biology	Free flap reconstruction	Imaging - microCT, DXA, pQCT,	Large animal models	Mesenchymal stem cells
Endothelial progenitor cells	Frontal and base of the skull	high resolution pQCT	Large bone defects	meta-analyses
Enopthalmous repair	Frontal sinus reconstruction	Immunohistochemistry	Lentivirus	Metadherin, AEG-1
Enthesis	Frontal sinus surgery	Immunology	Less invasive spine surgery	



Metal & biodegradable implant	Nonunions	Patella Fracture	Prostaglandins/COX-2	Rib plating
materials	Notch signaling	Patient specific implants	Prosthesis	Rigid fixation
Metal implants	Notochordal cells	Pediatric fractures	Prosthodontics	RNA interference
Metastasis	Nuclear replacement strategies	Pediatric Orthopedics	Protein adsorption	Robotics
Methodology	Nucleus Pulposus	Pediatric plastic surgery	Protein expression	Satellite cells
				Scaffolds
Microarray analysis	Nutrition	Pediatric Trauma Pedicle screws	Proteinase	
Microbiology	Obstructive Sleep Apnea		Proteoglycan	Scaphoid
microcirculation	Syndrom	PEEK	Proximal humerus	Scapula
Micro-computed tomography	Occupational back pain	Pelvis and acetabulum	Pseudoarthorosis	Scheuermanns kyphosis
microRNA	Open fracture and related	Pelvis fracture	Public health	Schwann cells
Microsurgery	healing	Peptides	Pulsed electromagnetic fields	Sciatic nerve
Mineralization	Operation planning	Percutaneous instrumentation	QCT	Sciatica
Minimally invasive surgery	Oral oncology	Periarticular	Quality of life	Sclerostin
Mircovascular free bone tissue	Oral pathology	Peri-implantitis	Quality of life (QoL) and	Scoliosis
transfer	Orbit	Periosteal distraction	posttraumatic growth (PTG)	Scope & Sports Medicine
Mircroarray analysis	Orbital	Periosteum signaling	research	Segmentation
Modeling	Orbital reconstruction	Peripheral nerve regeneration	Quantitative resonance imaging	Self-inductive scaffold
Molecular biology	Orbital trauma	Peripheral nerve tissue	Radiation injury to bone	Sensor integration
Monocyte	Organ culture	engineering	Radiation therapy	Sepsis
Motion Analysis/ Gait	Orthobiologics	Periprosthetic fractures	Radiculopathy	Shape analysis
Mouse genetics	Orthognatic Surgery and	Pharmaceuticals	Radiculopathy	Sheep
Mouse knockout models	imaging	Photobiology	Radiostereometry	Shock
Mouse models	Orthopaedic medical devices	Photochemical crosslinking	Radiotherapy	Shoulder
Muscle	Orthopaedic trauma	Photochemistry	Radius	Shoulder arthroplasty
Myelin disorders	Orthopaedics	Physical loading	Rapid prototyping	Shoulder biomechanics
Nailing	Osseointegration	Physiology	Rat	Shoulder fractures
Nanobiotechnology	Osteoarthritis	Pilon fractures	RDG, integrin	Shoulder instability
Nasal	Osteoblast biology	Plastic surgery	Real-time tracking	Shoulder Surgery
Nasoethmoidal repair	Osteochondral graft	Plastics	Reconstructive Surgery	Shoulder trauma
Naso-orbito-ethmoid	Osteochondral tissue	Plate	Reduction techniques	Signal transduction
trauma/reconstruction	engineering	Plateau fractures	Regeneration	Silica
Navigation	Osteoclasts	PMMA	Regenerative medicine	Simulation
Nerve injury	Osteoconduction	Polylactide membranes	Regulatory (pre-/non clinical)	Skeletal development
Nerve regeneration	Osteocytes	Polymers	Rehabilitation and Physical	Skeletal metastases
Neuroanatomy	Osteogenesis	Polytrauma	Therapy	Skull reconstruction
Neurobiology/Neuroscience	Osteogenic differentiation	Positron emission Tomography	Remodeling	Small animal models
Neurocritical Care	Osteomyelitis	Post trauma reconstructive	Repair	Small molecule drugs
Neuromuscular	Osteonecrosis	surgery	Replacement	Soft tissue
Neuromuscular scoliosis	Osteoporosis	Post-traumatic arthritis	Reverse nailing	Soft tissue reconstruction
Neuromuscular spine deformity	Osteoporotic fracture	Posttraumatic complications	Rheumatology	Soft tissue trauma
Neuronavigation	Outcome measures	Posttraumatic Deformities	RIA (Reamer Irrigator Aspirator)	Spinal cord regeneration
Neuroscience	Oxidative stress and cellular	Posttraumatic inflammation	Rib	Spinal deformity
Neurosurgerey	ageing	Preclinical	Rib and sternal fixation in rib	Spinal devices
Neurotrauma	Pain	proprioception	fractures and pseudoarthrosis	Spinal fracture
Neutrophil	Parathyroid hormone action	Prosimal humerus	Rib fracture	Spinal fusion



Spinal stenosis	Tibia		
	Tibia fracture		
Spinal trauma			
Spinal tumor	Tibia Plateau Fracture		
Spine	Tissue engineering		
Spine biomechanics	Tissue reaction		
Spine degeneration	Titanium		
Spondylolisthesis	TMJ ankylosis		
Sport medicine	Tooth development		
Squamous cell carcinoma	Total disc replacement		
Staphylococcal aureus	Total elbow arthoplasty		
Staphylococcus physiology	Total hip arthroplasty		
Statins	Total joint replacement		
Statistics	TPLO		
Stem cell biology	Trabecular bone		
Stem cell therapy	Transforming growth		
Stereotactic navigation	factor,TGF-b		
Sternal closure	Transcription factors		
Sternal fixation	Transgenic animal models		
Sternal reconstruction	Transient response		
Sternum	Transmembrane signaling		
Stress fractures	Transplantation		
Stroma	Trauma		
Structure-function	Traumatic brain injury		
Subchondral bone	Tribology		
Subchondral cysts	Ulna		
Surface characteristics	Ultrasound		
Surface chemistry	Upper extremity		
Surface coating	Vascularization		
Surface energy	VEGF		
Surface modification	Vertebra		
Surgery	Veterinary orthopedics		
Surgical alternatives to bone	Viral vectors		
graft	Virtual reconstructions		
Surgical approaches	Viscoelasticity		
Surgical decision making	War surgery		
Synovium	Wear		
Systematic review	Whiplash		
talus	Whole body vibration		
Temporomandibular joint	Wireless sensing		
Tenascin-C	wnt signaling		
Tendon	Wound healing		
Tendon regeneration	Wrist		
Tendon stem/progenitor cells	Zygoma		
Thoracic surgery	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Thorax			