

CIRP BioM 2017

Paper and Author List

Medical Device (13)		
Paper #	Title	Authors
16-00972	Fabrication of PCL/PLA Composite Tube for Stent Manufacturing	A.J. Guerra, J. San, J. Ciurana
16-01151	Suitability Evaluation of various Manufacturing Technologies for the Development of Surgical Snake-like Manipulators from Metals Based on Flexure Hinges	S. Coemert, M.F. Traeger, E.C. Graf, T.C. Lueth
17-00146	A Review on Surgical Instruments of Knee Arthroscopic Debridement and Total Hip Arthroplasty	Z. Chen, C. Wang, W. Jiang, N. Tang, B. Chen
17-00161	A Comparison Review on Orthopedic Surgery Using Piezosurgery and Conventional Tools	Y. Zhang, C. Wang, S. Zhou, W. Jiang, Z. Liu, L. Xu
Invited	Activity-based Synthetic Biomarkers that Predict the Onset of Organ Transplant Rejection	G.A. Kwong
17-00164	Image Processing for Autonomous Positioning of Eye Surgery Robot in Micro-Cannulation	T. Tayama, Y. Kurose, T. Nitta, K. Harada, Y. Someya, S. Omata, F. Arai, F. Araki, K. Totsuka, T. Ueta, Y. Noda, M. Takao, M. Aihara, N. Sugita, M. Mitsuishi
17-00165	Toward Autonomous Collision Avoidance for Robotic Neurosurgery in Deep and Narrow Spaces in the Brain	H. Ueda, R. Suzuki, A. Nakazawa, Y. Kurose, M.M. Marinho, N. Shono, H. Nakatomi, N. Saito, E. Watanabe, A. Morita, K. Harada, N. Sugita, M. Mitsuishi
17-00172	Integrating Cell Sheets for Organ-on-a-chip Applications	W. Loewenhardt, R. Saunders, R. Lennon, B. Derby
17-00175	Manufacturing Choices for Ankle-Foot Orthoses: A Multi-objective Optimization	D. Totah, I. Kovalenko, M. Saez, K. Barton
Invited	Vibration-assisted Slicing of Soft Tissue for Biopsy Procedures	M.Giovannini
16-01182	Workcell for Hybrid Medical Device Fabrication	N. Ho, W. Ang, C.-K. Chui
17-00181	Electromagnetic Suspension System for Control of Limb Volume in Prosthetics	Jarrod Ng, Jedediah Johnson, Scott Miller, Kai Newton, Tim Roe, Russell Woo
17-00156	Automated Tissue Dissociation for Rapid Extraction of Viable Cells	C. McBeth, A. Gutermuth, J. Ochs, A. Sharon, A.F. Sauer-Budge
Biomechanics (9)		
Paper #	Title	First Author
16-01383	Study on Mechanical Response Model of Soft Tissue in the Clamping Process	P.P. Wei, H.J. Dong, Y.Q. Xu, H.C. Zhang, Q.H. Zhang
17-00154	Force Measurement of Blood Vessel Gripping by Hydraulic-driven Forceps	T. Sasaki, M. Hebisawa, Y. Mito, K. Dohda, S. Kuroda

CIRP BioM 2017

Paper and Author List

17-00158	Controlled Three-dimensional Rotation of Single Cells Using Acoustic Waves	N. Lübli, N. Shamsudhin, D. Ahmed, B.J. Nelson
17-00167	Optimizing the Architecture of a Dynamic Spinal Implant for Customized Mechanical Behavior	Y. Ledoux, A. Ramos, M. Mesnard
17-00178	Process Parameter Optimization for Hot Embossing Uniformly Textured UHMWPE Surfaces for Orthopedic Bearings for hot embossing uniformly textured UHMWPE surfaces for orthopedic bearings	C. Ippolito, S. Yu, Y.J. Lai, T. Bryant
17-00195	Topology Optimization to Reduce the Stress Shielding Effect for Orthopedic Applications	A.A. Al-Tamimi, C. Peach, P. Rui Fernandes, A. Cseke, P. JDS Bartolo
17-00204	A Review of Engineered Zirconia Surfaces in Biomedical Applications	L. Yin, Y. Nakanishi, A.-R. Alao, X.-F. Song, J. Abduo, Y. Zhang
17-00187	Bio-inspired Design Methodology of Sensor-actuator-structure Integrated System for Artificial Muscle Using SMA	C. Peng, Y.H. Yin, H.B. Hong, J.J. Zhang, X. Chen
Invited	Solvent-free Fabrication of Engineered Tissue Model Systems	W. Li
Additive Manufacturing (13)		
Paper #	Title	First Author
16-01263	Corrosion Resistance and Mechanical Characterization of Ankle Prostheses Fabricated via Selective Laser Melting	E. Liverani, A. Balbo, C. Monticelli, A. Leardini, C. Belvedere, A. Fortunato
16-01315	Modeling and Additive Manufacturing of Biomimetic Heterogeneous Scaffold	S. Kale, N. Khani, A. Nadernezhad, B. Koc
16-01334	The Human Cornea as a Model Tissue for Additive Biomanufacturing: A Review	R. Gibney, S. Matthyssen, J. Patterson, E. Ferraris, N. Zakaria
16-01458	Systematic Biomimetic Part Design for Additive Manufacturing	T. Kamps, M. Gralow, G. Schlick, G. Reinhart
17-00173	Fabrication Speed Optimization for High-resolution 3D-printing of Bioresorbable Vascular Scaffolds	H.O.T. Ware, A.C. Farsheed, E. Baker, G. Ameer, C. Sun
Invited	Bioprinting: Implementation, Process Dynamics, and Process-Induced Cell Injury	Y. Huang
Invited	3D Printing Functional Materials & Devices	M. McAlpine
17-00174	Methodology for Image-driven High-resolution Additive Manufacturing Using Discretized Data Set	H.O.T. Ware, W. Liu, J. Hu, H. Zhang, C. Sun
17-00176	Process Chain for the Fabrication of a Custom 3D Barrier for Guided Bone Regeneration	E. Ramirez-Cedillo, H. Lara-Padilla, L.F. Zamudio-Peña, A. Rodriguez-Garcia, L. Ruiz-Huerta, A.C. Ruiz, H.R. Siller
17-00177	The Development of an All-polymer-based Piezoelectric Photocurable Resin for Additive Manufacturing	X. Chen, H.O.T. Ware, E. Baker, W. Chu, J. Hu, C. Sun

CIRP BioM 2017

Paper and Author List

17-00191	Biaxial Mooney-Rivlin Coefficient of Silicone Sheet by Additive Manufacturing	K.B. Putra, J. Plott, A.J. Shih
17-00192	Silicone Foam Additive Manufacturing by Liquid Rope Coiling	X. Tian, J. Plott, H. Wang, B. Zhu, A.J. Shih
16-01314	Biomanufacturing of Heterogeneous Hydrogel Structures with Patterned Electrically Conductive Regions	A. Nadernezhad, N. Khani, B. Koc
Scaffold / Substrate (12)		
Paper #	Title	First Author
16-01250	Multi-layered Scaffolds Production via Fused Deposition Modeling (FDM) Using an Open Source 3D Printer: Process Parameters Optimization for Dimensional Accuracy and Design Reproducibility	E. Ceretti, P. Ginestra, P.I. Neto, A. Fiorentino, J.V.L. Da Silva
16-01254	Micro-structuring of Titanium Collectors by Laser Ablation Technique: A Promising Approach to Produce Micro-patterned Scaffolds for Tissue Engineering Applications	P. Ginestra, A. Fiorentino, E. Ceretti
16-01313	Solvent Based 3D Printing of Biopolymer/Bioactive Glass Composite and Hydrogel for Tissue Engineering Applications	K. Kolan, Y. Liu, J. Baldrige, C. Murphy, J. Semon, D. Day, M. Leu
16-01397	A Study on Degradation Behavior of 3D Printed Gellan Gum Scaffolds	I. Yu, S. Kaonis, R. Chen
17-00097	Electrospinning Parameters Selection to Manufacture Polycaprolactone Scaffolds for Three-dimensional Breast Cancer Cell Culture and Enrichment	M. Rabionet, T. Puig, J. Ciurana
17-00171	Trabecular Scaffolds' Mechanical Properties of Bone Reconstruction Using Biomimetic Implants	C.G. Helguero, J.L. Amaya, D.E. Komatsu, S. Pentyala, V. Mustahsan, E.A. Ramirez, I. Kao
17-00168	Fabrication of Micro-wavy Patterned Surfaces for Enhanced Cell Culturing	Y. Wang, Z. Yu, D. Mei, D. Xue
17-00169	Human Mesenchymal Stem Cells Expansion on Three-Dimensional (3D) Printed Poly-Styrene (PS) Scaffolds in a Perfusion Bioreactor	A. Kumar, W. Lau, B. Starly
17-00189	Polycaprolactone/Pluronic F127 Tissue Engineering Scaffolds via Electrohydrodynamic Jetting for Gastro Intestinal Repair	B. Wu, Y. Wu, W.F. Lu, J.Y.H. Fuh
17-00200	Design, Fabrication and Initial Evaluation of a Novel Hybrid System for Tissue Engineering Applications	F. Liu, S. Hinduja, P. Bartolo
17-00213	Production of Micro-patterned Substrates to Direct Human iPSCs-derived Neural Stem Cells Orientation and Interaction	R.M. Ferraro, P.S. Ginestra, G. Lanzi, S. Giliani, E. Ceretti

CIRP BioM 2017

Paper and Author List

17-00205	High-resolution 3D Bioprinting System for Fabricating Cell-laden Hydrogel Scaffolds with High Cellular Activities	B. Zhang, L. Gao, L. Gu, H. Yang, Y. Luo, L. Ma
Process (12)		
Paper #	Title	First Author
Invited	Nontraditional Machining for Medical Device Manufacturing	K. Rajurkar
16-01181	The Effect of Cooling Strategies and Machining Feed Rate on the Corrosion Behavior and Wettability of AZ31 Alloy for Biomedical Applications	R. Bertolini, S. Bruschi, A. Ghiotti, L. Pezzato, M. Dabalà
16-01309	Dimensional Metrology of Cell-matrix Interactions in 3D Microscale Fibrous Substrates	F. Tourlomousis, R.C. Chang
16-01311	Parallelization in Automated Stem Cell Culture	M. Kulik, J. Ochs, N. König, C. McBeth, A. Sauer-Budge, A. Sharon, R. Schmitt
17-00180	Optical Measurement of Tissue Deformation in Needle Insertion	D.-R. Li, J.-K. Yeh, K. Putra, A. Shih
16-01393	Impact of Hard Machining on Zirconia Based Ceramics for Dental Applications	B. Denkena, B. Breidenstein, S. Busemann, C.M. Lehr
16-01394	Material Removal Mechanisms in Grinding of Mixed Oxide Ceramics	B. Denkena, S. Busemann, L. Gottwik, T. Grove, A. Wippermann
17-00179	Image-guided Quality Control of Biomanufacturing Process	C. Kan, R. Chen, H. Yang
Invited	Skin Friction Drag Reduction over a Micro-patterned Superhydrophobic Surface in Turbulent Boundary Flow	B. Zhang
Invited	Nanoscale Metrology in Molecular Manufacturing: Approaches to Overcome Current Challenges	M. Bedewy
17-00197	Electrospinning Complexly-shaped, Resorbable, Bifurcated Vascular Grafts	R. Tejada-Alejandre, H. Lara-Padilla, C. Mendoza-Buenrostro, C.A. Rodriguez, D. Dean
16-01398	A Feasibility Study of Laser-assisted Titanium Implant Drilling for Periprosthetic Fracture Repair	C.T. Vangsness III, B.L. Tai