

34th Annual Meeting of the Society for Biomaterials 2010

Giving Life to a World of Materials

**Seattle, Washington, USA
21 – 24 April 2010**

Volume 1 of 2

ISBN: 978-1-61738-210-9

Welcome to the 2010 Annual Meeting of the Society For Biomaterials



Society For Biomaterials

Giving life to a world of materials

Society For Biomaterials
Transactions of the 34th Annual Meeting
Volume XXXII

Published by:
Society For Biomaterials
15000 Commerce Parkway, Suite C
Mount Laurel, NJ 08054
(856)439-0826

Copyright © 2010
Society For Biomaterials, USA
ISSN# 1526-7547

All rights reserved. No part of this publication may be reproduced in any form by Photostat, microfilm, retrieval system, or any other means, without written permission from the publisher. The materials published in this volume are not intended to be considered by the reader as statements of standards of care or definitions of the state of the art in patient care or applications of the scientific principles described in the contents. The statements of fact and opinions expressed are those of the respective authors who are identified in the abstracts. Publications of these materials by the Society For Biomaterials does not express or imply approval or agreement of the officers, staff, or agents of the Society with the items presented herein and should not be viewed by the reader as an endorsement thereof. Neither the Society For Biomaterials nor its agents are responsible for inaccuracies or omissions in this Publication.

Every effort has been made to faithfully reproduce these Transactions as submitted. No responsibility is assumed by the Organizers for any injury and/or damage to persons or property as a matter of product liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein. Because of rapid advances in all sciences, we recommend that independent verification of the material presented should be made.

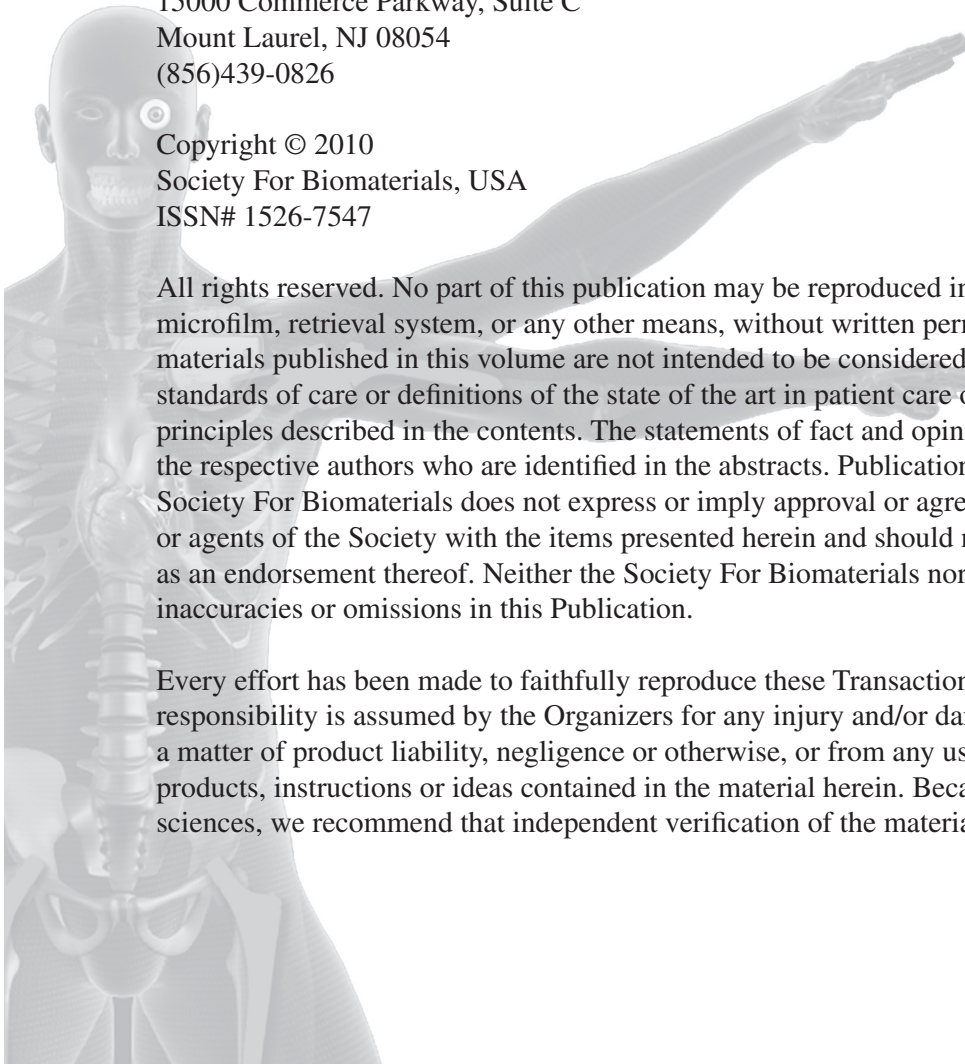


TABLE OF CONTENTS

Volume 1

BIOMIMETIC MATERIALS FOR TISSUE ENGINEERING I

1 - BIOACTIVE HYDROGELS BASED ON COLLAGEN-MIMETIC PROTEINS FOR CONTROLLED MSC DIFFERENTIATION	1
<i>D. J. Munoz-Pinto, B. Wang, T. Wilems, M. Browning, E. Cosgriff-Hernandez, B. Russell, J. Rivera, M. Hook, M. S. Hahn</i>	
2 - HEPARIN-BASED HYDROGEL AS A MATRIX FOR CULTIVATION OF PRIMARY HEPATOCYTES	2
<i>M. Kim, G. Tae</i>	
3 - COVALENTLY IMMOBILIZED PDGF-BB STIMULATES ANGIOGENESIS IN POLY (ETHYLENE GLYCOL) BASED HYDROGELS	3
<i>J. E. Saik, R. A. Poche, E. M. Watkins, J. E. Barbick, M. E. Dickinson, J. L. West</i>	
4 - MECHANISM OF VASCULAR SMOOTH MUSCLE ADHESION TO ELASTIN-LIKE POLYPEPTIDE SURFACE ENRICHED MATERIALS	4
<i>P. H. Blit, K. G. Battiston, M. Yang, K. A. Woodhouse, J. P. Santerre</i>	
5 - GRADIENT FORMATION MEDIATED BY DENSITY DIFFERENCES OF POLYETHYLENE GLYCOL MICROSPHERES	5
<i>J. Roam, D. L. Elbert</i>	
6 - ENGINEERED, DYNAMIC MATERIALS IMPROVE CARDIOMYOCYTE DIFFERENTIATION	6
<i>J. L. Young, A. J. Engler</i>	
7 - LAMININ-POLYCAPROLACTONE BLEND NANOFIBERS PROMOTE NEURITE EXTENSION	7
<i>R. A. Neal, N. Swami, R. C. Ogle, E. A. Botchwey</i>	
8 - EXTRACELLULAR MATRIX MOLECULES INCORPORATED INTO BIOINERT HYDROGELS ENHANCE MATRIX DEPOSITION AND RETENTION	8
<i>S. J. Bryant, G. D. Nicodemus, J. J. Roberts, S. Guinta</i>	

BIOMATERIAL TECHNOLOGIES FOR TREATING NON-UNION BONE DEFECTS: RESEARCH DEVELOPMENTS AND CLINICAL APPLICATIONS

9 - MECHANICALLY COMPETENT POLYPHOSPHAZENE NANO-STRUCTURED BIOMIMETIC SCAFFOLDS: ACCELERATED OSTEOBLAST DIFFERENTIATION	9
<i>M. Deng, S. G. Kumbar, L. S. Nair, A. L. Weikel, H. R. Allcock, C. T. Laurencin</i>	
10 - EFFECT OF RESORBABLE CALCIUM-ALKALI-ORTHOPHOSPHATE BONE SUBSTITUTE CEMENTS ON OSTEOGENESIS AFTER IMPLANTATION IN THE RABBIT FEMUR	10
<i>C. Knabe, G. Berger, R. Gildenhaar, A. Houshmand, C. Mueller-Mai, A. Bednarek, C. Koch, D. Joern, M. Stiller</i>	
11 - THE ESSENTIAL ROLE OF SPHINGOSINE 1-PHOSPHATE/S1P(3) RECEPTOR IN ENHANCED NEOVASCULARIZATION AND MECHANICAL INTEGRITY OF MASSIVE ALLOGRAFTS: PHARMACOLOGICAL MANIPULATION TO IMPROVE GRAFT INCORPORATION	11
<i>C. S. Huang, C. E. Petrie Aronin, S. J. Shin, Q. Cui, S. Jones-Quaidoo, E. A. Botchwey</i>	
12 - BONE REGENERATION USING COLLAGEN SCAFFOLDS LOADED WITH DIFFERENT TYPES OF DONOR CELLS	12
<i>M. Wei, X. Yu, L. Wang, F. Peng, X. Jiang, J. Huang, Z. Xia, D. Rowe</i>	
13 - LOCAL LOVASTATIN INJECTION ENHANCES BONE REGENERATION USING BIODEGRADABLE POLYURETHANE SCAFFOLDS	13
<i>A. E. Hafeman, T. Yoshii, J. S. Nyman, J. M. Esparza, G. R. Mundy, G. E. Gutierrez, S. A. Guelcher</i>	
14 - HYDROGEL MICROSPHERES INCREASE CELL SURVIVAL AND INCREASE NEW BONE VOLUME IN A GENE THERAPY BONE FORMATION MODEL	14
<i>R. M. R. Olabisi, Z. Lazard, M. Hall, E. Sevick, A. R. Davis, E. A. Davis, J. L. West</i>	
15 - UNIDIRECTIONAL BIOACTIVE GLASS (13-93) SCAFFOLDS WITH CONTROLLABLE PORE SIZE FOR REPAIR OF LOAD-BEARING BONES	15
<i>X. Liu, M. N. Rahaman, Q. Fu</i>	
16 - INJECTABLE ALLOGRAFT BONE/POLYMER COMPOSITE BONE VOID FILLER WITH RECOMBINANT HUMAN BONE MORPHOGENETIC PROTEIN	16
<i>J. Dumas, K. Zienkiewicz, P. Baer, S. Guelcher</i>	

NATURAL-BASED POLYMERIC BIOMATERIALS AND COMPOSITES

17 - KERATOSE BIOMATERIAL AS A CARRIER MATRIX OF BMP2 AND STEM CELLS FOR BONE REGENERATION	17
<i>R. C. De Guzman, T. Teli, S. L. Ray, M. D. Ellenburg, J. M. Saul, T. L. Smith, M. E. Van Dyke</i>	
18 - A NOVEL POLYSACCHARIDE FOR BIOMEDICAL APPLICATIONS: A BOTTOM UP APPROACH TO ESTABLISH ULVAN AS A BIOMATERIAL	18
<i>A. Alves, R. A. Sousa, R. L. Reis</i>	

19 - NEW CHITOSAN/BIOGLASS® COMPOSITE MEMBRANES FOR GUIDED TISSUE REGENERATION	19
<i>J. F. Mano</i>	
20 - KERATIN BIOMATERIALS PROMOTE SUSTAINED RELEASE AND BIOACTIVITY OF THERAPEUTIC AGENTS	20
<i>J. M. Saul, M. D. Ellenburg, R. C. De Guzman, M. E. Van Dyke</i>	
21 - IONIC STRENGTH CONTROLS FIBRIN GEL MECHANICAL PROPERTIES FOR ENHANCED OSTEOGENESIS	21
<i>H. E. Davis, S. L. Miller, J. K. Leach</i>	
22 - COMPOSITE HYDROGEL-HYDROXYAPATITE SCAFFOLD FOR REGENERATION OF CARTILAGE-BONE INTERFACE	22
<i>N. T. Khanarian, R. Burga, N. Haney, V. C. Mow, H. H. Lu</i>	
23 - INJECTABLE CHITOSAN-COLLAGEN COMPOSITE HYDROGELS FOR TISSUE ENGINEERING APPLICATIONS	23
<i>L. Wang, J. P. Stegemann</i>	
24 - ADDITION OF CHITOSAN TO NOVEL MECHANICALLY ADJUSTABLE THERMORESPONSIVE HYDROGEL BLENDS TO ENHANCE NEURAL ADHESION AND NEURITE EXTENSION	24
<i>J. Zuidema, E. Minner, R. J. Gilbert</i>	

STEM-CELL BIOMATERIAL INTERACTIONS (SYMPOSIA)

25 - STEM CELL AND POLYMERIC MATERIALS INTERACTIONS: CELL DELIVERY AND CELL HOMING	25
<i>J. Mao</i>	
26 - THE EVALUATION OF NEURAL DIFFERENTIATION OF HUMAN NEURAL STEM/PROGENITOR CELLS ON PIEZOELECTRIC SCAFFOLDS	26
<i>Y-S. Lee, G. Collins, T. Livingston Arinzeh</i>	
27 - MECHANICAL STIMULATION INDUCED FIBROBLASTIC DIFFERENTIATION OF HMSCS ON NANOFIBER SCAFFOLDS	27
<i>S. D. Subramony, B. R. Dargis, M. Castillo, E. Azeloglu, M. S. Tracey, H. H. Lu</i>	
28 - TISSUE-SPECIFIC EXTRACELLULAR MATRIX DERIVED COATINGS PROMOTE DIFFERENTIATION OF MUSCLE PROGENITOR AND HUMAN STEM CELL DERIVED CARDIOMYOCYTES IN VITRO	28
<i>J. A. Dequach, V. Mezzano, A. Miglani, S. Lange, G. M. Keller, F. Sheikh, K. L. Christman</i>	
29 - ELASTIN-BASED BIOMATERIALS FOR EMBRYONIC STEM CELL-DERIVED CARDIOMYOCYTE APPLICATIONS	29
<i>D. Sengupta, S. Heilshorn, E. Chiao, B. Leonard</i>	
30 - A NOVEL, CALCIUM PHOSPHATE ELECTROSPUN COMPOSITE PROMOTES THE OSTEOGENIC DIFFERENTIATION OF STEM CELLS	30
<i>A. Patlolla, T. Arinzeh</i>	
31 - SCAFFOLD-DIRECTED STEM CELL BEHAVIOR: THE EFFECT OF POLYMER CERAMIC COMPOSITES ON BONE REPAIR	31
<i>Y. Khan, E. K. Cushnie, C. T. Laurencin</i>	
32 - THE EFFECT OF CROSSLINKING DENSITY AND PORE GEOMETRY OF POLY(PROPYLENE FUMARATE)/DIETHYL FUMARATE COMPOSITE SCAFFOLDS ON OSTEOGENIC SIGNAL EXPRESSION OF RAT BONE MARROW STROMAL CELLS	32
<i>K. Kim, A. Lu, R. Breithaupt, D. Dean, A. G. Mikos, J. P. Fisher</i>	

SURFACE MODIFICATION AND THE BIOLOGICAL RESPONSE I (SYMPOSIA)

33 - A NEW COATING FOR MEDICAL IMPLANTS: POLYZENE®-F	33
<i>M. Grunze</i>	
34 - ANALYSIS OF MACROPHAGE ACTIVATION ON POLYMERIZED LIPID BILAYERS	34
<i>J. M. Page, B. A. Heitz, J. J. Joubert, S. S. Saavedra, W. He</i>	
35 - CELL SURFACE ENGINEERING FOR CONTROL OF CELL ADHESION	35
<i>D. P. Cross, S-Y. Choh, C. Wang</i>	
36 - OSTEOBLAST RESPONSES ON NANOCRYSTALLINE DIAMOND MODIFIED BY HYDROGEN, OXYGEN AND AMMONIUM PLASMAS	36
<i>L. Yang, B. W. Sheldon, T. J. Webster</i>	
37 - INHIBITION OF NOGGIN INCREASES OSTEOBLAST MATURATION ON MICROSTRUCTURED TITANIUM SURFACES	37
<i>R. Olivares-Navarrete, S. Hyzy, G. Dunn, Q. Pan, M. Dard, C. Appert, B. D. Boyan, Z. Schwartz</i>	
38 - USING MOLECULAR BEACON PROBES TO IMAGE B1 INTEGRIN EXPRESSION IN LIVE OSTEOBLAST-LIKE CELLS	38
<i>C. Hermann, M. Myers, F. Lennon, R. Olivares-Navarrete, W. Rhee, Z. Schwartz, G. Bao, B. D. Boyan</i>	
39 - CHICK CHORIOALLANTOIC MEMBRANE ASSAY FOR EVALUATION OF FIBROUS ENCAPSULATION OF DECORIN-COATED IMPLANTS	39
<i>M. L. Sylvester, B. D. Ratner</i>	

TARGETED DRUG DELIVERY/POLYMER CONJUGATES (SYMPOSIA)

40 - EXPANSILE NANOPARTICLES: SYNTHESIS, CHARACTERIZATION, AND IN VIVO EFFICACY	40
<i>M. Grinstaff</i>	
41 - SITE-SPECIFIC, STOICHIOMETRIC PROTEIN-POLYMER CONJUGATES BY IN SITU ATOM TRANSFER RADICAL POLYMERIZATION	42
<i>W. Gao, A. Chilkoti</i>	
42 - ADVANCED NANOPARTICLE DRUG DELIVERY SYSTEM TARGETING STAPHYLOCOCCUS AUREUS WITHIN OSTEOBLASTS	43
<i>B. Jiang, Sr., H. Li, Sr., B. Li, Sr.</i>	
43 - TARGET SPECIFIC INTRACELLULAR DELIVERY OF SIRNA USING HYALURONIC ACID - REDUCIBLE PEI CONJUGATE	44
<i>K. Park, M. Lee, S. Hahn</i>	
44 - SUSTAINED DELIVERY OF GDNF FOR IMPROVED PERIPHERAL NERVE REGENERATION IN A SCIATIC NERVE INJURY	45
<i>K. G. Marra, L. E. Kokai, A. M. Ghaznavi</i>	
45 - LOW MOLECULAR WEIGHT HYALURONIC ACID-METHOTREXATE CONJUGATES FOR TARGETED DRUG DELIVERY IN THE TREATMENT OF RHEUMATOID ARTHRITIS	46
<i>N. Zhang, K. L. Wagoner, R. A. Bader</i>	
46 - IDENTIFICATION OF FIBRIN-SPECIFIC BINDING MOTIFS FOR DEVELOPMENT OF FIBRIN-TARGETED THERAPEUTICS	47
<i>S. E. Stabenfeldt, W. E. Brown, T. H. Barker</i>	

BIOMIMETIC MATERIALS FOR TISSUE ENGINEERING II

47 - PHOTOTUNABLE CLICK-BASED HYDROGELS FOR 3D CELL ENCAPSULATION AND MANIPULATION	48
<i>C. A. Deforest, E. A. Sims, K. S. Anseth</i>	
48 - PATTERNING 3D HYDROGEL REMODELING THROUGH CONTROLLED PRESENTATION OF BIOMIMETIC SIGNALS	49
<i>S. Khetan, J. A. Burdick</i>	
49 - INCORPORATION OF COLLAGEN-MIMETIC PROTEINS INTO BIOACTIVE HYDROGELS	50
<i>T. S. Wilems, M. B. Browning, J. Rivera, B. Russell, M. Höök, D. Munoz-Pinto, M. Hahn, E. Cosgriff-Hernandez</i>	
50 - BIOADHESIVE AND BIODEGRADABLE MODIFICATION OF POLY(ETHYLENE GLYCOL) HYDROGELS FOR MODULATING CELLULAR RESPONSES	51
<i>J. Zhu, L. Lin, C. Tang, R. E. Marchant</i>	
51 - RECOMBINANT ELASTIN ANALOGUES AS CELL-ADHESIVE MATRICES	52
<i>S. Ravi, E. L. Chaikof</i>	
52 - TUNABLE PROTEOLYTIC DEGRADATION OF MOLECULARLY ENGINEERED PEG HYDROGELS FOR ENHANCED CELLULAR INVASION	53
<i>J. Patterson, J. A. Hubbell</i>	
53 - A BIOCOMPATIBLE POLYESTER DESIGNED FOR FACILE BIOFUNCTIONALIZATION	54
<i>Z. You, W. Wu, H. Cao, Y. Wang</i>	
54 - RAPID MINERALIZATION OF CELL-SEEDED COLLAGEN-HYDROXYAPATITE COMPOSITE SCAFFOLDS VIA A BIOMIMETIC PROCESS	55
<i>A. Jiao, R. R. Rao, D. H. Kohn, J. P. Stegemann</i>	

ENGINEERING THERAPEUTIC DELIVERY FROM BIOMATERIAL SCAFFOLDS FOR CELL THERAPY

55 - HYDROGEL MICROSPHERES FOR SUPPORT AND DELIVERY OF NEURAL STEM CELLS IN A RAT MODEL FOR STROKE	56
<i>C. L. Franco, N. Gorenkova, Z. Hassani, G. El Akabawy, M. Mike, J. West</i>	
56 - ENDOTHELIAL TUBE STABILIZATION AND SMC DIFFERENTIATION BY TGF-β1 LOADED PEGYLATED FIBRIN GELS	57
<i>C. T. Drinman, G. Zhang, L. J. Suggs</i>	
57 - GENE TRANSFER IN AND FROM HYDROGELS	58
<i>Y. Lei, M. Rahim, S. Gojggini, T. Segura</i>	
58 - LOCALIZED AND SUSTAINED DELIVERY OF SIRNA FROM BIOPOLYMER HYDROGELS	59
<i>M. D. Krebs, O. Jeon, J. Samorezov, E. Alsborg</i>	
59 - SURFACE IMMOBILIZATION OF PLASMID DNA WITH A CELL-RESPONSIVE TETHER FOR SUBSTRATE-MEDIATED GENE DELIVERY	60
<i>K. M. Blocker, K. L. Kiick, M. O. Sullivan</i>	
60 - PROLONGED CONTROLLED RELEASE OF A GENE INDUCER AS A MEANS TO SPATIALLY-CONTROL GENE EXPRESSION IN A CELLULARIZED SCAFFOLD	61
<i>D. M. Nelson, P. R. Baraniak, C. E. Leeson, W. R. Wagner</i>	
61 - TYROSINE-DERIVED POLYCARBONATE CONDUIT TO IMPROVE FUNCTIONALITY OF PERIPHERAL NERVE REGENERATION	62
<i>M. Ezra, J. Kohn, M. Schachner, D. Shreiber, J. Chen, S. Masand</i>	

62 - HYDROGEL-ELECTROSPUN FIBER MAT COMPOSITES AS CONTROLLED DELIVERY SYSTEMS FOR NERVE REGENERATION	63
<i>N. Han, J. Johnson, J. Lannutti, J. Winter</i>	

APPLICATIONS OF NANOMATERIALS IN MEDICINE I

63 - CORE-SHELL STRUCTURED FIBROUS MATRIX CONTAINING TWO DIFFERENT GROWTH FACTORS FOR WOUND REPAIR	64
<i>J. Choi, H. Kim, S. Park, H. Jung, Y. Son, H. Yoo</i>	
64 - INTEGRATED LABELING, ENRICHMENT, AND DETECTION OF PROTEIN ANALYTES FROM HUMAN PLASMA BY “SMART” MAGNETIC/GOLD NANOPARTICLES FOR POINT-OF-CARE DIAGNOSTIC TESTING	65
<i>M. A. Nash, P. Yager, A. S. Hoffman, P. S. Stayton</i>	
65 - REAL-TIME BIO-IMAGING OF HYALURONIC ACID DERIVATIVES IN CIRRHOTIC MICE USING QUANTUM DOTS	66
<i>K. Kim, W. Hur, S. Yoon, S. Hahn</i>	
66 - EPHRINA1-CONJUGATED NANOSHELLS FOR PROSTATE CANCER CELL THERAPY	67
<i>A. J. Coughlin, A. M. Gobin, J. J. Moon, J. L. West</i>	
67 - IN VIVO TARGETING OF FLUORESCENT SILICA NANOPARTICLES TO ISCHEMIA VIA ENHANCED PERMEABILITY AND RETENTION EFFECT	68
<i>J. Kim, L. Cao, D. J. Mooney</i>	
68 - DECREASING BIOFILM FORMATION THROUGH THE USE OF MAGNETIC NANOPARTICLES	69
<i>E. N. Taylor, T. J. Webster</i>	
69 - OSTEOINTEGRATIVE BIPHASIC NANOFIBER SCAFFOLD FOR FUNCTIONAL ROTATOR CUFF REPAIR	70
<i>K. L. Moffat, R. T. Cassilly, B. R. Dargis, X. Zhang, X. Liu, X. Guo, S. B. Doty, W. N. Levine, H. H. Lu</i>	
70 - OSTEOBLAST ADHESION AND PROLIFERATION ON SILICATE CONTAINING NANOCOMPOSITES	71
<i>A. K. Gaharwar, P. Schexnailder, G. Schmidt</i>	

SURFACE MODIFICATION AND THE BIOLOGICAL RESPONSE II

71 - MAGNETOELASTIC MATERIALS AS NOVEL BIOACTIVE COATINGS FOR CONTROL OF CELL ADHESION	72
<i>E. Vlaisavljevich, K. Scott, K. G. Ong, R. M. Rajachar</i>	
72 - A PIG MODEL TO EVALUATE THE ABILITY OF POROUS P² TITANIUM COATED SUBDERMAL DISKS TO PREVENT INFECTION IN TRANSCUTANEOUS IMPLANTS	73
<i>S. Jeyapalina, J. P. Beck, A. D. Snyder, R. D. Bloebaum, K. N. Bachus</i>	
73 - NANOMETER-THICK COLLAGEN/CALCIUM PHOSPHATE COATINGS WITH IMPROVED MECHANICAL AND BIOLOGICAL PERFORMANCE	74
<i>L. T. De Jonge, S. C. G. Leeuwenburgh, J. J. J. Van Den Beucken, J. G. C. Wolke, J. A. Jansen</i>	
74 - SOL GEL AG-DOPED TiO₂ COATINGS SHOWING ANTIBACTERIAL ACTIVITY	75
<i>C. Della Valle, L. De Nardo, R. Chiesa, M. Santin, S. Meikle, A. Cigada</i>	
75 - ELECTRODEPOSITION OF COLLAGEN ON TITANIUM TO ADD HARD AND SOFT TISSUE COMPATIBILITIES	76
<i>T. Hanawa, H. Kamata, J. Choi, K. Oya, Y. Tsutsumi, H. Doi, N. Nomura, K. Moriyama</i>	
76 - SURFACE CHARACTERIZATION OF BIODEGRADABLE MAGNESIUM-CALCIUM ORTHOPEDIC IMPLANTS BY LOW PLASTICITY BURNISHING	77
<i>Y. Guo, M. Salahshoor</i>	
77 - DENDRITIC CELL RESPONSE TO THE ROUGHNESS AND CHEMISTRY OF TITANIUM SURFACES	78
<i>P. Kou, Z. Schwartz, B. D. Boyan, J. E. Babensee</i>	
78 - EFFECTS OF CA-OZONE TREATMENT ON INITIAL CELL ATTACHMENT TO TITANIUM	79
<i>K. Ishikawa</i>	

ENGINEERING MATERIALS FOR MEDICAL USE: THE NEW, THE IMPROVED, AND THE COATED

79 - POLYMER, PROCESS AND DESIGN ELEMENTS OF A BALLOON EXPANDABLE BIOABSORBABLE DRUG ELUTING STENT	80
<i>V. Davé, D. Overaker, R. Donovan, R. Falotico</i>	
80 - TAILORING DEGRADATION RATE AND MECHANICAL PROPERTIES OF POLY(β-AMINO ESTER)S FOR CARDIOVASCULAR THERAPIES	81
<i>D. Saffranski, D. Weiss, J. B. Clark, W. R. Taylor, K. Gall</i>	
81 - IN VITRO BIOSTABILITY OF SEGMENTED POLYISOBUTYLENE-BASED THERMOPLASTIC POLYURETHANES	82
<i>D. Cozzens, U. Ojha, P. Kulkarni, R. Faust, S. Desai</i>	
82 - BIOSTABLE MULTIBLOCK THERMOPLASTIC POLYURETHANES INCORPORATING POLY(ε-CAPROLACTONE) AND POLYHEDRAL OLIGOMERIC SILSESQUOXANE (POSS)	84
<i>J. Wu, X. Gu, P. T. Mather</i>	

83 - BIOINTEGRATIVE & BIODURABLE RETICULATED ELASTOMERIC MATRIX FOR INTRA-CRANIAL ANEURYSM THERAPY	85
<i>A. Datta</i>	
84 - NEXT GENERATION ANTIBACTERIAL VASCULAR CLOSURE DEVICE	86
<i>V. Davé, H. Scalzo, J. Fischer, R. Falotico, C. Rogers</i>	
85 - LYSINE-POLY(HEMA) MODIFIED POLYURETHANE SURFACE WITH HIGH LYSINE DENSITY AND FIBRINOLYTIC ACTIVITY	87
<i>H. Chen, S. Wang, D. Li, J. L. Brash</i>	
86 - STIMULI-RESPONSIVE AND TUNABLE-BIOADHESIVE HYDROGELS OF NONIONIC POLY(N-ISOPROPYL ACRYLAMIDE) CONTAINING ZWITTERIONIC POLYSULFOBETAINE	88
<i>Y. Chang</i>	
87 - STABILITY STUDIES OF NONFOULING SURFACES MADE BY PLASMA DISCHARGE COATING OF FEP	89
<i>L. Mayorga Szott, T. A. Horbett, B. D. Ratner</i>	
88 - HIGH DENSITY LIPOPROTEIN ENHANCES ENDOTHELIALIZATION OF SYNTHETIC SURFACES IN VITRO AND IN VIVO	90
<i>M. L. W. Knetsch, L. H. Koole</i>	

BIOMATERIALS FOR BONE REPAIR

89 - EFFECT OF ARCHITECTURE ON THE LONG TERM IN VIVO DEGRADATION OF DESIGNED PLLA POROUS SCAFFOLDS	91
<i>E. Saito, Y. Liu, F. Migneco, S. J. Hollister</i>	
90 - DEVELOPMENT OF CHITOSAN-CALCIUM PHOSPHATE SCAFFOLDS WITH INCREASED DEGRADATION FOR ENHANCED BONE REGENERATION	92
<i>B. T. Reves, J. D. Bumgardner, J. Cole, W. O. Haggard</i>	
91 - IN VITRO AND IN VIVO EVALUATION OF ABSORBABLE, SELF-SETTING COMPOSITE ADHESIVE BONE CEMENT	93
<i>K. D. Gray, Jr., R. T. Pace, S. W. Shalaby</i>	
92 - A COMPARISON OF THE SETTING, EXOTHERM AND ANTIBACTERIAL PROPERTIES OF A ZINC BASED GLASS POLYALKENOATE CEMENT WITH A COMMERCIAL BONE CEMENT	94
<i>A. W. Wren, Jr., M. R. Towler, D. Boyd</i>	
93 - CHANGING THE MECHANICAL PROPERTIES OF PMMA BONE CEMENT WITH NANO AND MICRO PARTICLES	95
<i>R. F. Pinto, L. D. T. Topoleski</i>	
94 - CHITOSAN AND INTERLEUKIN-12 ENHANCE THE ANTIGEN-SPECIFIC T-CELL RESPONSE OF A PROTEIN-BASED VACCINE	96
<i>M. J. Heffernan, D. A. Zaharoff, J. Schlom, J. W. Greiner</i>	
95 - MICROPOROUS ALENDRONATE-CONJUGATED FIBRINOGEN SCAFFOLDS FOR BONE TISSUE ENGINEERING	97
<i>E. Lih, Y. Joung, Y-P. Yun, S. Kim, I. Kwon, K. Park</i>	
96 - IN VITRO EVALUATION OF CARBOHYDRATE DECORATED-HYDROGELS FOR ORAL PROTEIN DELIVERY	98
<i>M. A. Phillips, N. A. Peppas</i>	
97 - ELECTROSPUN SILK MATERIAL SYSTEMS FOR WOUND HEALING	99
<i>S. P. McCarthy, S. E. Wharram, X. Zhang, D. Kaplan</i>	
98 - STRUCTURE-FUNCTION RELATIONSHIP OF META-KERATEINE BIOMATERIALS DERIVED FROM HUMAN HAIR	100
<i>J. G. Rouse, R. C. De Guzman, M. E. Van Dyke</i>	

ORTHOPAEDIC BIOMATERIALS FOR BONE REPAIR AND REGENERATION

99 - DEVELOPMENT OF TYROSINE-DERIVED POLYCARBONATES AS BONE TISSUE ENGINEERING SCAFFOLDS	101
<i>J. Kim, H. Magno, A. Srinivasan, S. McBride, A. Darr, J. Kohn, J. Hollinger</i>	
100 - ANTIMICROBIAL HYBRID COATINGS FOR EXTERNAL FIXATION PINS	102
<i>J. D. Jarrell, Sr., J. R. Morgan, R. A. Hayda, C. T. Born, D. Spenciner</i>	
101 - ENHANCEMENT OF BONE TISSUE FORMATION BY ALGINATE GEL-ASSISTED CELL SEEDING INTO A POROUS CERAMIC SCAFFOLD	103
<i>S. J. Florczyk, M. Zhang</i>	
102 - NOVEL POLY(PROPYLENE FUMARATE) REINFORCED BRUSHITE COMPOSITES FOR BONE REPAIR	104
<i>D. L. Alge, T-M. G. Chu</i>	
103 - BIODEGRADABLE POLYMER-MAGNESIUM COMPOSITE SCAFFOLDS FOR BONE TISSUE ENGINEERING: EFFECT OF MAGNESIUM ON OSTEOBLAST PROLIFERATION, MATURATION AND MINERALIZATION	105
<i>S. Nukavarapu</i>	

104 - THE INFLUENCE OF LOCKING MECHANISM ON SCREW-HOLE OSTEOLYSIS AND BACKSIDE DAMAGE IN LONG-TERM ACETABULAR LINERS RETRIEVED FROM REVISION TOTAL HIP ARTHROPLASTY	106
<i>A. Akbari, M. E. Roy, L. A. Whiteside, S. D. Minter</i>	
105 - POLYMERIZABLE REVERSE EMULSIONS AS A MECHANICALLY TUNABLE BIOMATERIALS PLATFORM	107
<i>G. Nazareth, C. S. Cohen, P. Arora, D. Devore, P. Ducheyne</i>	
106 - EFFECT OF RADIATION ON ARTICULAR CARTILAGE MECHANICAL PROPERTIES	108
<i>A. Lindburg, M. Elpers, D. Dean</i>	
107 - CONTEMPORARY ALTERNATIVES TO ZIRCONIA: RETRIEVAL ANALYSIS OF OXINIUM ® AND BIOLOX ® DELTA FEMORAL HEADS	109
<i>A. N. Sakona, D. W. Macdonald, P. Sharma, F. Medel, S. Kurtz</i>	
108 - DEVELOPMENT OF A BIOMIMETIC AND RADIOPAQUE PROSTHETIC IMPLANT FOR THE NUCLEUS PULPOSUS	110
<i>K. Saralidze, L. A. Smolders, B. Meij, L. H. Koole</i>	

MODERN TOOLS AND TECHNIQUES FOR BIOMATERIAL SYNTHESIS

109 - IMMOBILIZATION OF ENZYMES ON NANOPARTICLES FOR CATALYSIS IN NON-AQUEOUS MEDIA	111
<i>J. N. Barry</i>	
110 - IMMOBILIZATION OF CHONDROITIN SULFATE FOR THE FABRICATION OF BIOMIMETIC BRUSH STRUCTURES	112
<i>S. Sarkar, C. Vroome, N. Ganesh, C. Schauer, M. Marcolongo</i>	
111 - FABRICATION AND CHARACTERIZATION OF A GRADED CO-ELECTROSPUN MESH TO MIMIC THE BONE-LIGAMENT INTERFACE	113
<i>S. Samavedi, A. S. Goldstein, A. W. Morgan</i>	
112 - COLLAGEN RECOGNIZABLE BIOCOMPATIBLE NANOGELATOR FOR TISSUE ENGINEERING	114
<i>M. Matsusaki, R. Amekawa, T. Waku, Y. Tanaka, A. Kubota, K. Nishida, M. Akashi</i>	
113 - CHARACTERIZATION OF IVY NANOPARTICLE ADHESION FORCE FOR BIOMEDICAL APPLICATIONS	115
<i>L. Xia, S. Lenaghan, M. Zhang, N. Stewart, Jr., J. Burris</i>	
114 - DIRECT CELL WRITING: PROCESS, VIABILITY AND FUNCTION	116
<i>W. Sun, J. Snyder, E. Yildirim</i>	
115 - A NOVEL METHOD FOR THE SYNTHESIS AND MANUFACTURE OF PHOTOCROSSLINKABLE POLYCAPROLACTONE-BASED BIODEGRADABLE 3D SCAFFOLDS FOR TISSUE ENGINEERING APPLICATIONS	117
<i>N. J. Castro, M. Cooke</i>	
116 - DESIGN, SELECTIVE LASER SINTERING, PROPERTIES AND IN VITRO BIOLOGICAL EVALUATION OF OSTEOCONDUCTIVE NANOCOMPOSITE SCAFFOLDS FOR BONE TISSUE ENGINEERING	118
<i>B. Duan, M. Wang</i>	
117 - LASER DIRECT WRITING OF MOUSE EMBRYONIC STEM CELLS TO CREATE PRECISE PATTERNS	119
<i>D. T. Corr, N. R. Schiele, D. B. Chrisey, N. Abdul Raof, Y. Xie</i>	
118 - LASER-BASED RAPID PROTOTYPING OF MICROSTRUCTURED MEDICAL DEVICES	120
<i>R. Narayan, A. Doraiswamy, S. Gittard, A. Ovsianikov, B. Chichkov</i>	

ADIPOSE TISSUE ENGINEERING AND BIOMATERIAL- GUIDED STEM CELL BEHAVIOR

119 - COTRANSPLANTATION OF ADIPOSE-DERIVED STEM CELLS AND MICROVASCULAR EC USING A MODULAR TISSUE ENGINEERING APPROACH PRODUCES VASCULARIZED ADIPOSE TISSUE IN VIVO	121
<i>M. J. Butler, K. A. Woodhouse, M. V. Sefton</i>	
120 - TOPOGRAPHY OF NANOFIBERS REGULATES THE PHENOTYPIC EXPRESSION OF THE ADIPOSE STEM CELLS	122
<i>X. Fu, H. Wang</i>	
121 - PRODUCTION OF HUMAN ENDOTHELIALIZED ADIPOSE TISSUES DEVOID OF EXOGENOUS BIOMATERIAL	123
<i>J. Fradette, C. Vincent, M. Proulx</i>	
122 - EFFECT OF SCAFFOLD STIFFNESS ON HUMAN BONE MARROW STROMAL CELL DIFFERENTIATION IN 3D CULTURE	124
<i>K. Chatterjee, S. Lin-Gibson, M. F. Young, C. G. Simon, Jr.</i>	
123 - DEVELOPMENT AND CHARACTERIZATION OF COMPOSITE PEG HYDROGELS FOR OSTEOCHONDRAL TISSUE ENGINEERING	125
<i>N. Steinmetz, S. J. Bryant, K. Walline</i>	
124 - EFFECT OF SCAFFOLD MICROSTRUCTURE ON NEW BONE FORMATION	126
<i>X. Yu, Z. Xia, L. Wang, F. Peng, J. Xi, J. Huang, D. Rowe, M. Wei</i>	

GLYCOSAMINOGLYCAN BIOMATERIALS IN MEDICINE

125 - METHACRYLATED HYALURONIC ACID HYDROGELS FOR TWO-STEP PHOTOCROSSLINK-MEDIATED BIOPRINTING.....	127
<i>A. Skardal, J. Zhang, L. McCoard, X. Xu, S. Oottamasathien, G. D. Prestwich</i>	
126 - CHEMICALLY FUNCTIONALIZED PROTEOGLYCAN 4 (PRG4) FOR CARTILAGE RESURFACING	128
<i>K. Chawla, H. Ham, T. Nguyen, P. B. Messersmith</i>	
127 - BIODEGRADABLE HYALURONIC ACID HYDROGELS WITH TUNABLE PROPERTIES AND ENCAPSULATED MICROSPHERES FOR WOUND REPAIR.....	129
<i>E. Tous, J. L. Ifkovits, M. Lee, D. Lee, J. A. Burdick</i>	
128 - HYALURONIC ACID-BASED HYDROGEL PARTICLES AND DOUBLY CROSSLINKED NETWORKS FOR SOFT TISSUE REGENERATION.....	130
<i>A. K. Jha, W. Yang, C. B. Kirm-Safran, M. C. Farach-Carson, X. Jia</i>	
129 - CHITOSAN-BASED COMPOSITE MICROBEADS FOR CELL DELIVERY	131
<i>L. Wang, Z. Chen, J. P. Stegemann</i>	
130 - TISSUE DENSITY CULTURE IN GAG-BASED MICROCAPSULES AS A FOUNDATION FOR MODULAR TISSUE ENGINEERING.....	132
<i>R. T. Annamalai, D. R. Armant, H. W. T. Matthew</i>	

MOLECULAR MECHANISMS MEDIATING PROTEIN-SURFACE AND CELL-SURFACE INTERACTIONS

131 - INTRACELLULAR SIGNALING: THE KEY TO UNDERSTANDING WHY CELLS BEHAVE DIFFERENTLY ON DIFFERENT MATERIALS.....	133
<i>M. R. Caplan, V. Shankaraman</i>	
132 - THE ROLE OF INTEGRINS IN THE RECOGNITION OF BIOMATERIALS BY DENDRITIC CELLS	134
<i>T. H. Rogers, J. E. Babensee</i>	
133 - BIOLOGICAL ACTIVITY OF A RECOMBINANT FRAGMENT OF FIBRONECTIN (FNIII₇₋₁₀) ON POLY(ETHYL ACRYLATE).....	135
<i>M. Salmerón-Sánchez, P. Rico, C. González-García, T. A. Petrie, A. J. García</i>	
134 - CONTACT ACTIVATION OF COAGULATION BY MIXED THIOL SELF-ASSEMBLED MONOLAYERS	136
<i>J. W. Bauer, E. A. Vogler, C. A. Siedlecki</i>	
135 - DELINEATING THE SPECIFIC INTERACTIONS MEDIATING PLATELET ADHESION TO ADSORBED PLASMA PROTEINS	137
<i>B. Sivaraman, R. Latour</i>	
136 - MOLECULAR MECHANISMS OF GENETICALLY ENGINEERED PEPTIDES FOR INORGANICS ON GOLD AND GRAPHITE SURFACES.....	138
<i>C. R. So, E. E. Oren, H. Yazici, J. Evans, P. Mulheran, C. Tamerler, M. Sarikaya</i>	

PROBING THE SURFACE OF BIOLOGY

137 - SIDE-CHAIN SPECIFIC STRUCTURAL STUDIES OF PEPTIDES AT INTERFACES USING ISOTOPE LABELING WITH SFG SPECTROSCOPY	139
<i>T. Weidner, N. F. Breen, G. P. Drobny, D. G. Castner</i>	
138 - TOF-SIMS STUDY OF FIBRONECTIN ORIENTATION/CONFORMATION ON SELF-ASSEMBLED MONOLAYERS.....	140
<i>L. Arnadottir, J. Brison, L. J. Gamble</i>	
139 - QUANTIFYING THE AFFINITY BETWEEN HYDROXYAPATITE AND A SMALL PEPTIDE PROBE USING SURFACE PLASMON RESONANCE IMAGING.....	141
<i>M. Weiger, J. Park, A. Karim, M. Becker</i>	
140 - ASSESSMENT OF PROTEIN-BIOMATERIAL SURFACE INTERACTION BY STREAMING POTENTIAL MEASUREMENT	142
<i>T. Luxbacher</i>	
141 - MEASURING THE ORIENTATION OF CHEMICALLY AND ELECTROSTATICALLY IMMOBILIZED PROTEIN G B1 BY TIME-OF-FLIGHT SECONDARY ION MASS SPECTROSCOPY AND SUM FREQUENCY GENERATION	143
<i>J. Baio, L. Baugh, T. Weidner, P. S. Stayton, L. J. Gamble, D. G. Castner</i>	
142 - PATIENT FACTOR CORRELATION OF EXPLANTED COMPOSITE HERNIA MESH MATERIAL PROPERTIES.....	144
<i>M. J. Cozad, D. A. Grant, S. L. Bachman, B. R. Ramshaw, S. A. Grant</i>	

SURFACE MODIFICATION OF THREE DIMENSIONAL SCAFFOLDS FOR TISSUE ENGINEERING APPLICATIONS

143 - A NEW SMALL DIAMETER VASCULAR GRAFT COATED WITH EMBRYONIC EXTRACELLULAR MATRIX ENHANCES ENDOTHELIAL CELL RETENTION UNDER SHEAR STRESS	145
<i>S. Dimitrievska, Jr., M. Moreno, Sr., E. Pinney, Sr., R. Gendron, Sr., M. N. Bureau, Sr.</i>	

144 - HEPARIN-ASSISTED BMP-2 RELEASE FROM BETA-TRICALCIUM PHOSPHATE SURFACE FOR BONE TISSUE ENGINEERING	146
<i>X. Liu, Y. Qiu, X. Li, Y. Yang, X. Wen</i>	
145 - SURFACE MODIFICATION OF CALCIUM PHOSPHATE BIOMATERIALS AND DETECTION USING CONFOCAL RAMAN SPECTROSCOPY	147
<i>N. C. Hannigan, R. A. Ayers, J. J. Benedict</i>	
146 - MODIFICATION OF CHITOSAN SCAFFOLDS BY ELECTROKINETIC PARTICLE TREATMENT	148
<i>S. R. Tully-Dartez, R. E. Gade, P. Sit</i>	
147 - CHARACTERIZATION AND IN VIVO STUDIES OF A NOVEL BIO-NANOCOMPOSITE AS A TISSUE SCAFFOLD	149
<i>S. A. Grant, C. R. Deeken, D. A. Grant, S. L. Bachman, B. Ramshaw</i>	
148 - THE VERSATILITY OF TWO-PHOTON ABSORPTION LASER SCANNING LITHOGRAPHY IN POLY(ETHYLENE GLYCOL) HYDROGELS	150
<i>J. C. Hoffmann, J. L. West</i>	

MULTI-FACTOR DRUG DELIVERY FOR MUSCULOSKELETAL REGENERATION (SYMPOSIA)

149 - WITHDRAWN	151
150 - SELF-ASSEMBLED ROSETTE NANOTUBES FOR BONE REGENERATION	152
<i>Y. Chen, A. Alsaiee, H. Fenniri, D. Ciombor, R. Aaron, W. Thomas</i>	
151 - HYBRID SCAFFOLDS FOR THE DELIVERY OF MULTIPLE PROTEINS IN BONE TISSUE ENGINEERING	153
<i>M. A. Susano, I. B. Leonor, R. L. Reis, H. S. Azevedo</i>	
152 - EVALUATING CONTROLLED SEQUENTIAL DELIVERY OF TWO GROWTH FACTORS TO ENHANCE OSTEOINDUCTION IN YOUNG MICE	154
<i>L. Kuhn, Q. Wang, G. Gronowicz, G. Ou</i>	
153 - DUAL DELIVERY OF VANCOMYCIN AND RHBMP-2 FROM POLYURETHANE IMPLANTS FOR CONTAMINATED BONE WOUND HEALING	155
<i>B. Li, K. V. Brown, J. C. Wenke, S. A. Guelcher</i>	
154 - EXTENDED DUAL ANTIBIOTIC DELIVERY FROM MODIFIED CALCIUM SULFATE DELIVERY SYSTEMS	156
<i>J. A. Jennings, J. N. Clower, J. D. Bumgardner, W. O. Haggard</i>	

PLURIPOTENT STEM CELLS IN REGENERATIVE MEDICINE (SYMPOSIA)

155 - REPAIRING THE INFARCTED HEART WITH ENGINEERED HUMAN MYOCARDIUM	157
<i>C. Murry, K. R. Stevens, K. Kreutziger</i>	
156 - HYDRODYNAMIC MIXING REGULATES DIFFERENTIATION OF EMBRYONIC STEM CELLS WITHIN SIZE-CONTROLLED EMBRYOID BODIES	158
<i>M. A. Kinney, C. Y. Sargent, T. C. McDevitt</i>	
157 - FEEDER-FREE SELF-RENEWAL OF HUMAN EMBRYONIC STEM CELLS IN 3D POROUS NATURAL POLYMER SCAFFOLDS	159
<i>L. Zhensheng, M. C. Leung, H. A. Richard, R. Ellenbogen, M. Zhang</i>	
158 - EFFICIENT GENERATION OF HEMATOPOIETIC STEM CELLS FROM MOUSE ES CELLS: A BIOREACTOR-BASED APPROACH	160
<i>K. M. Fridley, I. Fernandez, K. Roy</i>	
159 - INTRINSIC FIBRONECTIN MATRIX PROPERTIES REGULATE DIFFERENTIATION OF EMBRYONIC STEM CELLS BETTER THAN CANONICAL GROWTH FACTORS	161
<i>W. Helen, J. E. Schwarzbauer, A. J. Engler</i>	

CARDIOVASCULAR CONTROLLED DRUG RELEASE

160 - MODIFICATION OF AN INJECTABLE, BIODEGRADABLE POLYMER FOR SUSTAINED LOCAL PROTEIN DELIVERY	162
<i>D. M. Nelson, Z. Ma, K. L. Fujimoto, W. R. Wagner</i>	
161 - DIAZENIUMDIOLATED PROTAMINE SULFATE AS BIMODAL NITRIC OXIDE DELIVERY SYSTEM FOR VASCULAR REPAIR	163
<i>R. Van Lith, G. A. Ameer</i>	
162 - IN VITRO DEGRADATION STUDIES OF BIOABSORBABLE STENTS	164
<i>V. Davé, D. Yang, C. Vaillhé, R. Falotico</i>	
163 - QUANTITATIVE ASSESSMENT OF DRUG AND POLYMER DISTRIBUTION IN THE NEVO™ SIROLIMUS-ELUTING CORONARY STENT RESERVOIRS FROM EXPLANTED PORCINE SAMPLES OVER TIME BY VIBRATIONAL SPECTROSCOPY	165
<i>K. Balss, M. Chisholm, C. Maryanoff</i>	
164 - DRUG ELUTION KINETICS AND STRUCTURE OF ABSORBABLE MATRIX COATINGS	166
<i>S. Sarkar Das, M. K. McDermott, A. D. Lucas, T. E. Cargal, L. Patel, D. M. Saylor, D. V. Patwardhan</i>	

165 - NATIVE ENDOTHELIUM MIMICKING SELF-ASSEMBLED NANOMATRIX FOR DRUG ELUTING STENT APPLICATIONS.....	167
<i>M. Kushwaha, J. Anderson, A. Andukuri, P. Anderson, B. Brott, H-W. Jun</i>	

DENTAL MATERIALS

166 - PHOTOINITIATOR EFFECT IN DEGRADATION STUDIES OF MODEL DENTIN ADHESIVES.....	168
<i>Q. Ye, J. Park, A. Misra, E. Nalvarte, P. Spencer</i>	
167 - MICROPARTICLE AMOUNT IN CALCIUMPHOSPHATE/PLGA COMPOSITES AFFECTS MATERIAL DEGRADATION AND BONE FORMATION IN VIVO.....	169
<i>F. Van De Watering, J. Van Den Beucken, F. Walboomers, J. Jansen</i>	
168 - SWELLING, TENSILE TESTING, AND SAOS-2 CELL PROLIFERATION ON NANO-FIBROUS CHITOSAN MEMBRANES.....	170
<i>P. A. Norowski, Jr., W. Clem, P. C. Adatrow, W. O. Haggard, J. D. Bungardner</i>	
169 - ASSESSMENT OF ADHESION AND GROWTH OF HUMAN GINGIVAL FIBROBLASTS ON A DEGRADABLE-POLAR HYDROPHOBIC IONIC POLYURETHANE (PU).....	171
<i>J. W. C. Cheung, J. Santerre</i>	
170 - INFLUENCE OF MOISTURE IN NANOFILLER ON SELF-ADHESIVE CEMENT.....	172
<i>J. Lee, B. I. Suh</i>	
171 - PORCINE URINARY BLADDER MATRIX AS AN INDUCTIVE TEMPLATE FOR TEMPOROMANDIBULAR JOINT MENISCUS RECONSTRUCTION.....	173
<i>B. N. Brown, S. A. Johnson, M. W. Ochs, W. L. Chung, A. J. Russell, S. F. Badylak</i>	

NOVEL IMAGING METHODS FOR MAPPING CELL PHENOTYPE

172 - HIGH CONTENT IMAGING BASED MAPPING OF STEM CELL PHENOTYPES ON POLYMERIC BIOMATERIALS.....	174
<i>E. Liu, H. Rizvi, D. Patel, H-J. Sung, M. Becker, J. Kohn, P. Moghe</i>	
173 - BROADBAND COHERENT ANTI-STOKES RAMAN SCATTERING MICROSCOPY (μCARS) FOR NONINVASIVE IMAGING OF CELL PHENOTYPE.....	175
<i>M. T. Cicerone, S. H. Parekh, Y. J. Lee, K. Aamer</i>	
174 - EVALUATION OF SAMPLE PREPARATION METHODS FOR IMAGING 3T3 FIBROBLASTS WITH TOF-SIMS.....	176
<i>M. A. Robinson, J. Brison, D. G. Castner</i>	
175 - TIME-OF-FLIGHT SIMS IMAGING IDENTIFICATION OF INDIVIDUAL CELLS IN HETEROGENEOUS CULTURES.....	177
<i>C. A. Barnes, J. Brison, D. G. Castner, B. D. Ratner</i>	
176 - MAGNETIC RESONANCE IMAGING OF ENDOTHELIAL PROGENITOR CELLS TRANSPLANTED TO RAT HINDLIMB ISCHEMIA MODEL USING NOVEL WATER SOLUBLE CONTRAST AGENTS.....	178
<i>T. Yamaoka, C. A. Agudelo, Y. Tachibana, H. Iida</i>	
177 - REAL-TIME, IN VIVO IMAGING OF BIOMATERIAL-ASSOCIATED INFLAMMATION.....	179
<i>S. Selvam, K. L. Templeman, K. Kundu, N. Murthy, A. J. Garcia</i>	

SELF-ASSEMBLY IN TISSUE ENGINEERING

178 - IN VIVO ASSEMBLY OF ENDOTHELIALIZED MODULES FOR TISSUE ENGINEERING.....	180
<i>R. Gupta, M. D. Chamberlain, M. L. Butler, M. V. Sefton</i>	
179 - FIBRILLIZING PEPTIDE MATRICES WITH MODULAR CONSTRUCTION ENABLING MULTIFACTORIAL OPTIMIZATION.....	181
<i>J. P. Jung, J. H. Collier</i>	
180 - NEURAL STEM CELL ENCAPSULATION WITHIN HETERO-ASSEMBLING PROTEIN HYDROGELS.....	182
<i>S. C. Heilshorn, C. Wong Po Foo, W. Mulyasmita, A. Parisi-Amon, J. Lee</i>	
181 - PRODUCTION OF HIGHLY POROUS BIOACTIVE HYDROGELS BY SELF-ASSEMBLY OF PHASE SEPARATED POLY(ETHYLENE GLYCOL) MICROSPHERES IN THE PRESENCE OF CELLS.....	183
<i>A. W. Smith, D. L. Elbert</i>	
182 - MOLECULAR BIOMIMETICS - PEPTIDE-BASED MATERIALS FOR NANOTECHNOLOGY AND MEDICINE.....	184
<i>C. Tamerler, M. Sarikaya</i>	

SURFACE OPTIMIZATION TO MAXIMIZE BIOSENSOR PERFORMANCE

183 - TOF-SIMS IMAGING TO CHARACTERIZE DNA MICROARRAY SPOTS.....	185
<i>L. J. Gamble, L. Árnadóttir, N. Vandencastele, J. Brison, D. G. Castner, D. W. Grainger</i>	
184 - DNA IMMOBILIZATION ON SURFACES VIA MUSSEL ADHESIVE PROTEIN-INSPIRED POLYMER.....	186
<i>H. Ham, Z. Liu, H. Lee, P. B. Messersmith</i>	

185 - HIGH PERFORMANCE INTERFACE BASED ON POLYELECTROLYTE MULTILAYERS FOR CONVENTIONAL IMMUNOASSAY	187
<i>H. Shen, J. Watanabe, T. Akagi, M. Akashi</i>	
186 - ENHANCING THE PERFORMANCE OF FLUIDIC BIOSENSORS WITH INTEGRATED MICRO/NANO 3D SURFACES	188
<i>G. Zhang</i>	
187 - IMPROVED INTERACTIONS OF PRIMARY NEURONS WITH RFGDT PYROLYTIC CARBON AND PHOTOCATALYTIC TITANIUM FOR ELECTRODE IMPLANTS	189
<i>M. Sczymanski, A. E. Meyer, R. Salvi, R. E. Baier</i>	
188 - ELECTROACTIVE PEPTIDES VIA PHAGE DISPLAY FOR BIOSENSOR APPLICATIONS	190
<i>C-W. Liao, Y-W. Yeh, S. Kim, D. Norton, L. B. Gower</i>	

BIOMATERIALS AS STEM CELL NICHE

189 - ACTIN AND SRF TRANSDUCE PHYSICAL CUES FROM THE MICROENVIRONMENT TO REGULATE KERATINOCYTE TERMINAL DIFFERENTIATION	191
<i>J. T. Connelly, J. E. Gautrot, D. W. Tan, B. Trappmann, W. T. S. Huck, F. M. Watt</i>	
190 - MICROSPHERE-MEDIATED DELIVERY OF RETINOIC ACID TO EMBRYOID BODIES INDUCES SPATIALLY CONTROLLED DIFFERENTIATION	192
<i>R. L. Carpenedo, S. A. Seaman, A. M. Bratt-Leal, N. J. Bowen, J. F. McDonald, T. C. McDevitt</i>	
191 - PLURIPOTENT AND VASCULAR STEM CELL RESPONSES TO OXYGEN DEPLETION	193
<i>R. E. Truitt, H. E. Abaci, G. Drazer, S. Gerecht</i>	
192 - THREE-DIMENSIONAL CO-CULTURE IN MICROPATTERNABLE HYDROGELS WITH CELL-RELEASE CAPABILITIES	194
<i>T. M. Hammoudi, N. C. Bloodworth, H. Lu, J. S. Temenoff</i>	
193 - PROTEOGLYCAN SEQUESTRATION PROVIDES SPATIALLY MODULATED MESENCHYMAL STEM CELL PROLIFERATION	195
<i>G. A. Hudalla, J. T. Koepsel, W. L. Murphy</i>	
194 - TUMOR MICROENVIRONMENTAL CUES SIGNAL HOST TISSUE PROGENITOR CELLS TO PROMOTE TUMORIGENESIS	196
<i>E. M. Chandler, B. Seo, J. S. Lee, C. M. Berglund, B. J. Kirby, C. Fischbach</i>	

ADVANCES IN OPHTHALMIC BIOMATERIALS TECHNOLOGY

195 - CAUSES OF INTRAOCULAR LENS OPACIFICATION OR DISCOLORATION: ANALYSES OF EXPLANTS	197
<i>L. Werner</i>	
196 - THERMOSENSITIVE, INJECTABLE, BIODEGRADABLE POLYMERS FOR OCULAR DRUG DELIVERY	198
<i>S. Garty, N. Kim, A. Galperin, S. Kanayama, T. T. Shen, B. D. Ratner</i>	
197 - SPHERE TEMPLATED ANGIOGENIC REGENERATION (STAR) BIOMATERIALS FOR OPHTHALMIC APPLICATIONS	199
<i>A. J. Marshall, S. Garty, S. Kanayama, T. T. Shen, B. D. Ratner, C. Woods, M. G. Maginness</i>	
198 - CONTROLLED AND SUSTAINED DELIVERY OF AG1478 FOR OPTIC NERVE REGENERATION	200
<i>R. Robinson, J. Lin, C. A. Williams, J. M. Criscione, S. R. Viviano, J. C. Tsai, E. B. Lavik</i>	
199 - SUPER-HYDROPHILIC SILICONE HYDROGELS WITH PHOSPHOLIPID POLYMER IPN FOR NEWLY CONTACT LENSES	201
<i>K. Ishihara, T. Shimizu</i>	
200 - GLISTENINGS IN INTRAOCULAR LENSES	202
<i>L. Werner</i>	

CELLULAR RESPONSES TO BIOMATERIALS AND CARDIOPATHOLOGIES

201 - HYPERGLYCEMIA AMPLIFIES THE OSTEOGENIC RESPONSES IN VASCULAR CELLS IN THE PRESENCE OF ELASTIN DEGRADATION PRODUCTS AND TGF-β1	203
<i>A. Sinha</i>	
202 - CORRELATIVE LIGHT AND ELECTRON MICROSCOPY TO DETERMINE THE FATE OF POLYELECTROLYTES IN PORCINE ARTERIES	204
<i>M. Sandros, M. Tabrizian</i>	
203 - EFFECTS OF POLYMER DEGRADATION ON SMOOTH MUSCLE CELL PHENOTYPE: IMPLICATIONS FOR STENT DESIGN	205
<i>L. S. Sefcik, B. R. Wamhoff</i>	
204 - EVALUATION OF A DEGRADABLE POLAR HYDROPHOBIC IONIC POLYURETHANE DESIGNED FOR VASCULAR GRAFT GENERATION IN AN IN VITRO ENDOTHELIAL AND MONOCYTE CELL CO-CULTURE	206
<i>S. M. McDonald, L. A. Matheson, J. E. McBane, S. Sharifpoor, J. P. Santerre, R. S. Labow</i>	

205 - A COMPETITIVE CO-CULTURE STUDY ON VASCULAR CELL RESPONSES TO UNDERLYING STENT TOPOGRAPHY	207
<i>J. Lu, T. J. Webster</i>	
206 - PROLIFERATION AND PHENOTYPE OF HUMAN CORONARY ARTERY SMOOTH MUSCLE CELLS IN POLYURETHANE POROUS SCAFFOLDS UNDER CYCLIC MECHANICAL STRAIN	208
<i>S. Sharifpoor, J. E. McBane, C. A. Simmons, R. S. Labow, J. P. Santerre</i>	

CHEMOSELECTIVE CHEMISTRY FOR BIOMATERIALS

207 - CYLIC THIOESTER-CONTAINING MACROMONOMERS FOR CROSS-LINKING OF HYDROGELS BY NATIVE CHEMICAL LIGATION	209
<i>J. Su, B-H. Hu, P. B. Messersmith</i>	
208 - FACILE C-TERMINAL ATTACHMENT OF PROTEINS ON SURFACES BY HYDRAZINE-INTEIN CHEMICAL REACTION	210
<i>P. Yang, S. M. Marinakos, A. Chilkoti</i>	
209 - CHEMOSELECTIVE IMMOBILIZATION OF MULTIPLE DISTINCT PEPTIDES ON SAMS FOR STEM CELL CULTURE	211
<i>G. A. Hudalla, W. L. Murphy</i>	
210 - DEVELOPMENT OF INJECTABLE POLYMERS THAT CROSS-LINK BY CLICK CHEMISTRY	212
<i>M. Runge, M. J. Yaszemski</i>	
211 - SURFACE PEGYLATION VIA NATIVE CHEMICAL LIGATION	213
<i>E. Byun, H. J. Lee, S. Kang, H. Lee</i>	
212 - MODULATING THE ELASTICITY OF SELF-ASSEMBLED MATRICES BY CHEMOSELECTIVELY CROSSLINKING DISTINCT FIBRIL POPULATIONS	214
<i>J. Z. Gasiorowski, J. H. Collier</i>	

BIOFILM-MATERIAL INTERACTIONS (SYMPOSIA)

213 - EMERGING BIOMATERIALS STRATEGIES TO PREVENT BIOFILM INFECTION	215
<i>J. D. Bryers</i>	
214 - TARGETED CATIONIC PEPTIDE FOR THE DISRUPTION OF STAPHYLOCOCCUS EPIDERMIDIS BIOFILM FORMATION	216
<i>C. M. Hofmann, K. J. Bednar, J. M. Anderson, R. E. Marchant</i>	
215 - IGG BIOFILM ADSORPTION IS INFLUENCED BY COBALT WEAR DEBRIS SIZE AND CAN INCREASE IL-1BETA PRODUCTION IN MACROPHAGES	217
<i>A. Reddy, M. Caicedo, J. Jacobs, N. Hallab</i>	
216 - PRESENCE OF BIOFILM ON PASSIVATED METAL: AN EXPERIMENTAL APPROACH TO ANALYZE THE SULZER ORTHOPAEDICS INC. RECALL	218
<i>D. L. Williams, S. Jeyapalina, J. P. Beck, K. L. Woodbury, R. D. Bloebaum</i>	
217 - EFFECT OF PROTEIN ADSORPTION ON STAPHYLOCOCCUS EPIDERMIDIS RP62A ADHESION ON POLYURETHANE BIOMATERIALS SURFACES	219
<i>L. Xu, C. A. Siedlecki</i>	

EMERGING FRONTIERS IN DESIGN AND CHARACTERIZATION OF BIO-INSPIRED NANOSCALE RESEARCH & MATERIALS

218 - FUNCTIONALIZED MULTI-WALLED CARBON NANOTUBES IMPART ELECTRICAL CONDUCTIVITY TO PROTEIN BIOPOLYMER MATRICES	220
<i>C. M. Voge, J. Johns, J. P. Stegemann</i>	
219 - PHASE SEPARATION AS THE FIRST STEP LEADING TO HYDROLYTIC DEGRADATION IN PEG-CONTAINING POLYMERS	221
<i>S. N. Murthy, I. J. Khan, A. Luk, J. Kohn</i>	
220 - IN VITRO MECHANICAL TESTING OF COLLAGEN NANOFIBRILS	222
<i>Z. L. Shen, M. R. Dodge, H. Kahn, R. Ballarini, S. J. Eppell</i>	
221 - CHARGE DENSITY MEASUREMENT OF INDIVIDUAL NANOPARTICLES FOR THE PURPOSE OF UNDERSTANDING MOLECULAR SELF-ASSEMBLY	223
<i>K. E. Jarmusik, F. R. Zypman, S. J. Eppell</i>	
222 - OPTIMIZATION AND IN VITRO VALIDATION OF PROTEASE-ACTIVATED QUANTUM DOT PROBES	224
<i>N. J. Rohani</i>	
223 - ENHANCED RESISTANCE OF DNA NANOSTRUCTURES TO ENZYMATIC DIGESTION	225
<i>J. Keum, H. Bermudez</i>	

BIOMATERIALS FOR SOFT TISSUE ENGINEERING

224 - MECHANICAL AND BIOLOGICAL EVALUATION OF POLY(GLYCEROL SEBACATE) MICROFIBROUS SCAFFOLDS	226
<i>S. Sant, C. Hwang, S. Lee, A. Khademhosseini</i>	
225 - EFFECT OF SCAFFOLD FIBER DIAMETER ON HUMAN TENDON FIBROBLAST RESPONSE	227
<i>C. Erisken, X. A. Zhang, K. L. Moffat, H. H. Lu</i>	
226 - FABRICATION OF TWO AND THREE-DIMENSIONAL ALIGNED NANOFIBER/SKELETAL MUSCLE-LIKE CONSTRUCTS	228
<i>V. Z. Beachley, X. Wen</i>	
227 - DELIVERY OF BFGF WITH INJECTABLE PH- AND TEMPERATURE-RESPONSIVE HYDROGEL PROMOTES REVASCULARIZATION AND IMPROVES CARDIAC FUNCTION POST-INFARCT	229
<i>J. C. Garbern, A. S. Hoffman, C. E. Murry, P. S. Stayton</i>	
228 - DIAPHRAGMATIC RECONSTRUCTION BY ELECTROSPUN ALIGNED FIBROUS SCAFFOLDS	230
<i>W. Zhao, S. Lee, G. Christ, A. Atala, J. J. Yoo</i>	
229 - SELF CRIMPING ELECTROSPUN FIBRES AS SCAFFOLDS FOR CONNECTIVE TISSUE	231
<i>D. C. Surrao, J. Hayami, S. D. Waldman, B. Amsden</i>	
230 - CONTROLLED REAGGREGATION OF PANCREATIC β-CELL IN PEG-BASED MICROWELLS	232
<i>A. B. Bernard, C-C. Lin, K. S. Anseth</i>	
231 - CHARACTERIZATION OF POLY(ETHYLENE GLYCOL) GELS WITH ADDED COLLAGEN FOR NEURAL TISSUE ENGINEERING	233
<i>R. Scott, L. Marquardt, R. K. Willits</i>	

BIOMIMETIC MATERIALS FOR TISSUE ENGINEERING

232 - A QUICK BIOMIMETIC METHOD FOR HYDROXYAPATITE COATING WITH GRADIENT STRUCTURE	234
<i>F. Peng, M. T. Shaw, J. R. Olson, M. Wei</i>	
233 - COMPARISON OF LIGAMENT FIBROBLAST RESPONSE ON PLGA AND PCL NANOFIBER SCAFFOLDS	235
<i>S. D. Subramony, M. Tracey, C. Erisken, M. Y. Elasmai, H. H. Lu</i>	
234 - OSTEOLAST INTERACTIONS ON ELECTRICALLY POLARIZED BIPHASIC CALCIUM PHOSPHATES	236
<i>M. S. Tarafder, A. Bandyopadhyay, S. Bose</i>	
235 - TUNING PROPERTIES OF POLY(β-AMINO ESTER) DEGRADABLE HYDROGEL SYSTEMS FOR GROWTH PLATE REGENERATION	237
<i>A. M. Hawkins, J. Cordova, D. A. Puleo, T. A. Milbrandt, J. Hilt</i>	
236 - REVERSIBLE ADDITION-FRAGMENTATION CHAIN TRANSFER IN THE SYNTHESIS OF BIODEGRADABLE POLY(2-HYDROXYETHYL METHACRYLATE) HYDROGELS FOR CARDIAC TISSUE ENGINEERING SCAFFOLDS	238
<i>L. R. Madden, B. D. Ratner</i>	
237 - RECAPITULATION OF ENDOGENOUS MICROVASCULAR STRUCTURES USING TWO PHOTON ABSORPTION LASER SCANNING LITHOGRAPHY	239
<i>J. C. Hoffmann, J. C. Culver, M. E. Dickinson, J. L. West</i>	
238 - OXYGEN GENERATING MATERIALS FOR MUSCLE REGENERATION	240
<i>C. L. Ward, B. Corona, V. Kesireddy, M. Machingal, W. Zhao, G. Christ, B. S. Harrison</i>	
239 - NANOFIBER MATRICES FOR TENDON AUGMENTATION: EFFECT OF CELL SEEDING AND EXTRACELLULAR MATRIX COMPONENTS ON PROLIFERATION AND TENSILE PROPERTIES	241
<i>M. S. Peach, S. Roberge, B. Allen, U. Toi, C. T. Laurencin, S. Kumbar</i>	
240 - ELECTROSPUN POLY (2-HYDROXYETHYL METHACRYLATE) AS NON-FOULING SCAFFOLDS	242
<i>B. Zhang, R. Lalani, L. Liu</i>	
241 - ALIGNED ELECTROSPUN FIBERS FOSTER AXONAL REGENERATION IN A COMPLETE TRANSECTION MODEL OF SPINAL CORD INJURY	243
<i>J. M. Cregg, A. Hurtado, H. Wang, D. Wendell, M. Oudega, R. J. Gilbert</i>	

DELIVERY AND IMMUNE RESPONSES

242 - DEVELOPMENT OF A NOVEL PH-RESPONSIVE DIBLOCK COPOLYMER FOR PLASMID DNA DELIVERY	244
<i>M. J. Manganiello, A. J. Convertine, A. S. Hoffman, P. S. Stayton</i>	
243 - INTEGRIN-DIRECTED MODULATION OF MACROPHAGE RESPONSE TO BIOMATERIALS	245
<i>T. Zaveri, N. Dolgova, M. Clare-Salzer, B. Keselowsky</i>	
244 - RIGIDTY-DEPENDENT ACTIVATION OF CD4+ T LYMPHOCYTES	246
<i>A. L. Urick, K. Shen, E. Judokusumo, L. C. Kam</i>	
245 - PORE SIZE OF IMPLANTED BIOMATERIALS MODULATES MACROPHAGE POLARITY	247
<i>E. M. Sussman, L. R. Madden, B. D. Ratner</i>	

246 - PATTERNS OF TISSUE REMODELING AND MACROPHAGE POLARIZATION FOLLOWING IMPLANTATION OF NON-CROSSLINKED AND CROSSLINKED EXTRACELLULAR MATRIX SCAFFOLDS IN A MODEL OF BILATERAL RAT BODY WALL DEFECT REPAIR	248
<i>B. N. Brown, K. A. Kukla, N. J. Turner, S. F. Badylak</i>	
247 - MODELING THE EFFECTS OF CAPSULE FORMATION ON GLUCOSE TRANSPORT TO SUBCUTANEOUSLY IMPLANTED SENSORS	249
<i>M. T. Novak, F. Yuan, W. M. Reichert</i>	
248 - HISTONE-MIMETIC CONJUGATES AS SELF-ACTIVATING & TAILORABLE NON-VIRAL GENE DELIVERY VEHICLES	250
<i>M. J. Reilly, M. O. Sullivan</i>	
249 - TARGETING DENDRITIC CELLS WITH “PATHOGEN-LIKE” POLYANHYDRIDE NANOPARTICLES	251
<i>B. R. Carrillo-Conde, A. V. Chavez-Santoscoy, E-H. Song, Y. Phanse, N. Pohl, M. J. Wannemuehler, B. H. Bellaire, B. Narasimhan</i>	
250 - SUSTAINING THE RELEASE OF VANCOMYCIN FROM POLYURETHANE SCAFFOLD FOR INFECTION CONTROL	252
<i>B. Li, K. V. Brown, J. C. Wenke, S. A. Guelcher</i>	
251 - HISTIDINE-RICH GLYCOL CHITOSAN SELF-ASSEMBLED WITH SIRNA DECORATED QDOTS AS A VEHICLE FOR SIRNA DELIVERY	253
<i>M. Sandros, F. Azari, M. Tabrizian</i>	

APPLICATIONS OF NANOMATERIALS IN MEDICINE

252 - RE-ENGINEERING CELLULAR INTERFACES WITH CELL SURFACE-SUPPORTED POLYELECTROLYTE MULTILAYER THIN FILMS	254
<i>J. T. Wilson, W. Cui, Z. Qu, E. L. Chaikof</i>	
253 - RESPONSIVE DRUG ELUTING NANOTECHNOLOGY BIOSENSOR SYSTEMS FOR BONE IMPLANTS	255
<i>S. Sirivisoote, T. J. Webster</i>	
254 - EFFECTS OF ELECTRICAL STIMULATION ON OSTEOBLASTS ON ANODIZED NANOTUBULAR TITANIUM FOR ORTHOPEDIC APPLICATIONS	256
<i>B. Ercan, C. D. Hartman, T. J. Webster</i>	
255 - NANOSHELL-MEDIATED LASER ABLATION OF GLIOMA: BIODISTRIBUTION AND SURVIVAL STUDIES IN A MOUSE MODEL OF GLIOMA	257
<i>E. S. Day, L. Zhang, N. A. Lewinski, P. A. Thompson, R. A. Drezek, S. M. Blaney, J. L. West</i>	
256 - DEVELOPING PLA/CDHA BIONANOCOMPOSITES FOR DRUG DELIVERY APPLICATIONS	258
<i>H. Zhou, A. Touny, S. B. Bhaduri</i>	
257 - MICROPATTERNING OF ELECTROSPUN POLYURETHANE FIBERS THROUGH USE OF SOFT LITHOGRAPHY MOLDING	259
<i>D. K. Dempsey, C. Schwartz, R. S. Ward, A. V. Iyer, J. P. Parakka, E. Cosgriff-Hernandez</i>	
258 - CREATING BONE-PROMOTING, CANCER-INHIBITING, BACTERIAL-INHIBITING IMPLANTS USING SELENIUM NANOCLUSTERS	260
<i>P. A. Tran, E. Taylor, T. J. Webster</i>	
259 - ENERGY HARVESTING FOR IMPLANTABLE NANODEVICES USING PIEZOELECTRIC ZINC OXIDE NANOWIRE ARRAYS	261
<i>P. Soman, D. Eils, M. Darnell, M. Feldman, S. Chen</i>	
260 - HIGH THROUGHPUT EVALUATION OF PROTEIN STABILIZATION UPON ENCAPSULATION IN POLYANHYDRIDE NANOPARTICLES	262
<i>L. Petersen, C. Sackett, B. Narasimhan</i>	
261 - REAL-TIME DETECTION OF NANOPARTICLE TOXICITY USING ELECTRIC CELL-IMPEDANCE SENSING	263
<i>B. Mohanraj</i>	

ENGINEERING IMMUNE INTERACTIONS WITH BIOMATERIALS

262 - SURFACE-INITIATED PHOTOPOLYMERIZATION TO FABRICATE FUNCTIONALIZED COATINGS WHICH PROVIDE LOCAL T CELL IMMUNOSUPPRESSION	264
<i>P. Hume, K. Anseth</i>	
263 - DENDRITIC CELL RESPONSES TO A LIBRARY OF POLYMETHACRYLATES WITH VARIED MATERIAL PROPERTIES	265
<i>P. Kou, N. Pallassana, B. Cunningham, J. Kohn, J. E. Babensee</i>	
264 - T-CELL MEDIATED DELAY OF B CELL LYMPHOMA TUMOR ONSET AFTER IMMUNIZATION WITH IN SITU CROSSLINKABLE HYDROGEL VACCINE	266
<i>A. Singh, H. Qin, I. Fernandez, J. Wei, J. Rytlewski, L. W. Kwak, K. Roy</i>	
265 - CD47 MODIFIED POLYMERIC SURFACES RESIST INFLAMMATORY CELL ATTACHMENT	267
<i>F. Wang, I. Alferiev, R. K. Tsai, N. Tomczak, J. M. Connolly, D. E. Discher, D. M. Eckmann, S. J. Stachelek, R. J. Levy</i>	
266 - TUNING PEPTIDE IMMUNOGENICITY THROUGH CONTROLLED OLIGOMERIZATION INTO NANOFIBERS	268
<i>J. S. Rudra, Y. F. Tian, J. P. Jung, J. H. Collier</i>	

267 - THE FOREIGN BODY RESPONSE TO CENTRAL NERVOUS SYSTEM IMPLANTS IS ACCOMPANIED BY DECREASED NEUROGENESIS IN THE HIPPOCAMPUS	269
<i>B. D. Winslow, P. A. Tresco</i>	
268 - INVOLVEMENT OF THE INNATE IMMUNE SYSTEM IN WEAR DEBRIS PARTICLE INDUCED INFLAMMATION	270
<i>J. Pearl, T. Ma, K. Smith, H. Zhinong, R. L. Smith, S. B. Goodman</i>	
269 - IMMUNO-SUPPRESSIVE MICROPARTICLE VACCINES FOR TYPE 1 DIABETES	271
<i>J. S. Lewis, N. Dolgova, C. Q. Xia, M. Clare-Salzler, B. G. Keselowsky</i>	

STIMULI-RESPONSIVE SCAFFOLDS FOR TISSUE ENGINEERING: NEW DEVELOPMENTS

270 - OXYGEN-SENSING BORON BIOMATERIALS AS A PLATFORM FOR TISSUE ENGINEERING	272
<i>R. A. Neal, R. A. Murray, A. J. Harmata, G. Zhang, C. L. Fraser, E. A. Botchwey</i>	
271 - SCAFFOLDS WITH CONTROLLED POROSITY BASED ON FULLY DEGRADABLE POLY(N-ISOPROPYL ACRYLAMIDE) HYDROGEL	273
<i>A. Galperin, B. D. Ratner</i>	
272 - SYNTHESIS OF NIPAAM-BASED RANDOM AND BLOCK COPOLYMERS AS BIODEGRADABLE THERMALLY RESPONSIVE HYDROGELS	274
<i>Z. Ma, S-H. Ye, Y. Hong, D. M. Nelson, K. L. Fujimoto, W. R. Wagner</i>	
273 - POLY(N-VINYLCAPROLACTAM) BASED CRYOGEL SCAFFOLD FOR TISSUE ENGINEERING APPLICATIONS: SYNTHESIS & BIOPHYSICAL CHARACTERIZATION	275
<i>A. Srivastava, A. K. Shakya, A. Kumar</i>	
274 - CELL CULTURE PLATFORM WITH MECHANICAL CONDITIONING AND NON-DAMAGING CELLULAR DETACHMENT	277
<i>E. L. Lee, H. A. Von Recum</i>	
275 - HUMAN FORESKIN FIBROBLAST COLLAGEN DEPOSITED ELECTROSPUN POLYCAPROLACTONE SCAFFOLDS FOR LIGAMENT RECONSTRUCTION	278
<i>A. Chung</i>	
276 - TRICALCIUM PHOSPHATE BASED RESORBABLE CERAMICS FOR BONE TISSUE ENGINEERING: INFLUENCE OF SiO₂ AND ZNO DOPANTS	279
<i>S. Bose, S. Rewinkel, M. S. Tarafder, N. Davies, A. Bandyopadhyay</i>	
277 - GUIDING HYDROXYAPATITE SCAFFOLD BASED BONE REGENERATION IN VIVO WITH COLLAGEN MEMBRANES	280
<i>T. Guda, J. A. Walker, S. Kim, S. Oh, M. R. Appleford, J. L. Ong, J. C. Wenke</i>	

CELL FUNCTION IN 2D VS 3D CULTURE (SYMPOSIA)

278 - MATRIX COMPLIANCE AND CELL FUNCTION: UNDERSTANDING DIFFERENCES BETWEEN 2D AND 3D CULTURES	281
<i>A. J. Putnam, E. Kniazeva, M. Kotlarchyk, E. Botvinick, M. Digman, E. Gratton</i>	
279 - POROUS POLYSTYRENE SCAFFOLDS ENABLING ROUTINE THREE-DIMENSIONAL CELL CULTURE	282
<i>R. J. Carnachan, M. Bokhari, D. Lundy, A. Maatta, N. R. Cameron, S. A. Przyborski</i>	
280 - DRG NEURONS ADAPT BI-INTEGRIN SIGNALING MECHANISMS TO 3D MICROENVIRONMENTS	283
<i>A. S. Ribeiro, S. Vargo, E. M. Powell, J. B. Leach</i>	
281 - EFFECTS OF ENVIRONMENT DIMENSIONALITY IN DRG NEURONS PROCESS OUTGROWTH: 3D BETTER MIMICS IN VIVO FEATURES	284
<i>S. Vargo, A. S. Ribeiro, E. M. Powell, J. B. Leach</i>	
282 - MATRIX MECHANICS AND CYTOSKELETAL FUNCTION AFFECT OSTEOBLAST DIFFERENTIATION IN 3D SCAFFOLDS	285
<i>S. H. Parekh, K. Chatterjee, M. T. Cicerone, C. G. Simon, Jr.</i>	
283 - A THREE DIMENSIONAL MICRO-ENVIRONMENT FOR CHARACTERIZING ENDOTHELIAL CELL SPROUTING	286
<i>A. Shamloo, S. C. Heilshorn</i>	
284 - EFFECT OF STEATOSIS AND CYTOKINE EXPOSURE ON HEPATOCYTE-DERIVED REPORTER CELLS IN 3-DIMENSIONAL (3-D) CULTURE CONDITIONS	287
<i>A. V. Janorkar, B. Sowell, B. Murphy</i>	

CONTROLLED RELEASE AND PRESENTATION SYSTEMS FOR REGULATING CELL BEHAVIOR

285 - DEVELOPMENT OF AN IN VIVO POLYMERIC DELIVERY SYSTEM FOR SIRNA	288
<i>D. S. W. Benoit, C. L. Duvall, A. J. Convertine, C-C. Lee, A. S. Hoffman, P. S. Stayton</i>	
286 - ENGINEERING THE CELLULAR RESPONSE TO BIOMATERIALS: AUGMENTING LOCAL OXIDATIVE STRESS	289
<i>P. P. Wattamwar, T. Ho, J. Hilt, T. D. Dziubla</i>	
287 - CONTROLLED RELEASE OF BIOACTIVE TRANSFORMING GROWTH FACTOR BETA 1 FROM AFFINITY PEPTIDE HYDROGELS	290
<i>J. McCall, C-C. Lin, K. Anseth</i>	

288 - IN SITU FORMING HYDROGELS TO LOCALIZE STEM CELL RECRUITMENT	291
<i>B. P. Purcell, J. A. Burdick</i>	
289 - NOVEL HYDROPHOBIC POLY(DIOL-CO-CITRATES) AS IMPLEMENTED ELASTOMERS FOR LOCAL NITRIC OXIDE DELIVERY	292
<i>M. C. Serrano, G. A. Ameer</i>	
290 - PEPTIDE-DELIVERING FIBRO-POROUS MATS TO ACCELERATE SKIN REGENERATION	293
<i>L. K. Macri, L. Sheihet, J. Kohn, R. A. Clark</i>	
291 - SEQUENTIAL DELIVERY OF VEGF AND SIP IN AN ANGIOGENESIS MODEL	294
<i>J. Tengood, A. Russell, S. Little</i>	
292 - GROWTH FACTOR DELIVERY BY HEPARIN COMPLEXED WITH A BIOCOMPATIBLE POLYCATION	295
<i>Y. Wang</i>	

APPLICATIONS OF NANOMATERIALS IN MEDICINE II (SYMPOSIA)

293 - BIOMATERIALS FOR IMAGE-GUIDED DRUG DELIVERY	296
<i>K. Ferrara</i>	
294 - TRACKING, MODELING AND PREDICTING THE EROSION OF FLUORESCENTLY LABELED MATERIALS NONINVASIVELY	297
<i>N. Artzi, C. Piron, A. B. Ramos, A. Groothuis, G. Sahagian, E. R. Edelman</i>	
295 - MULTIFUNCTIONAL RARE-EARTH DOPED NANOPARTICLES IN ENCAPSULATED ALBUMIN NANOCARRIERS FOR TUMOR TARGETING	298
<i>D. J. Naczynski, T. Andelman, D. Pal, R. Riman, C. M. Roth, P. V. Moghe</i>	
296 - LIPOPEPTIDES POSSESSING TRIPEPTIDE, NOT DIPEPTIDE, HEAD GROUPS SHOW EFFICIENT DNA AND SIRNA DELIVERY	299
<i>X-X. Zhang, M. W. Grinstaff</i>	
297 - IN-VIVO AND IN-VITRO DETECTION OF PANCREATIC CANCER USING FUNCTIONALIZED CUINSE/ZNS QDS WITH NIR EMISSION	300
<i>K. Lee, H-E. C. Bhang, J. Park, J. Galloway, A. Maitra, M. Pomper, P. Searson</i>	
298 - EFFECT OF CORONA LENGTHS ON MAGNETIC RESONANCE IMAGING SENSITIVITY OF SUPERPARAMAGNETIC POLYMERIC MICELLES	301
<i>C. Khemtong, O. Togao, J. Ren, C. W. Kessinger, M. Takahashi, A. D. Sherry, J. Gao</i>	
299 - EMBEDDABLE FIBER-BASED BIOSENSORS FOR BACTERIAL VAGINOSIS	302
<i>V. Reukov, V. Maximov, A. Vertegel, R. Burtovyy, I. Luzinov, K. Kornev, A. Moore, R. Bevins, P. Miller</i>	

BIOMATERIALS FOR DIRECTED STEM CELL DIFFERENTIATION

300 - COMBINATORIAL EFFECTS OF MATRIX ELASTICITY AND CELL SHAPE ON MESENCHYMAL STEM CELL DIFFERENTIATION	303
<i>B. J. Gill, S. Nemir, J. L. West</i>	
301 - EMBRYONIC STEM CELL DIFFERENTIATION IS MODULATED BY INCORPORATION OF BIOMATERIALS WITHIN EMBRYOID BODIES	304
<i>A. M. Bratt-Leal, R. L. Carpenedo, M. D. Ungrin, P. W. Zandstra, T. C. McDevitt</i>	
302 - A BILAYER CONSTRUCT CONTROLS ADIPOSE DERIVED STEM CELL DIFFERENTIATION	305
<i>S. Natesan, G. Zhang, T. J. Walters, R. J. Christy, L. Suggs</i>	
303 - STEM CELL REACTIVITY TO CARDIOVASCULAR-SPECIFIC DIFFERENTIATION CUES IS ALTERED IN DIABETIC CONDITIONS	306
<i>H. S. Zhang, J. Maivelett, R. Stowers, M. E. Tedder, D. T. Simionescu, A. Simionescu</i>	
304 - ECM MIMICKING HYDROGEL SCAFFOLDS FOR EFFICIENT DIFFERENTIATION OF BONE MARROW STROMAL CELLS INTO VARIOUS ZONES OF ARTICULAR CARTILAGE	307
<i>L. H. Nguyen, A. K. Kudva, N. Saxena, K. Roy</i>	
305 - CYCLODEXTRIN-BASED TUNING OF PEG HYDROGELS FOR IMPROVED CHONDROGENESIS OF MESENCHYMAL STEM CELLS	308
<i>A. Singh, Z. Ye, J. Coburn, L. Wo, J. Elisseeff</i>	
306 - USING BIOACTIVE GRADIENTS TO MEASURE THE EFFECT OF IMMOBILIZED PEPTIDE DENSITY ON HUMAN MARROW STROMAL CELL PROLIFERATION AND DIFFERENTIATION	309
<i>N. M. Moore, N. J. Lin, M. T. Cicerone, M. L. Becker</i>	
307 - GROWTH AND DIFFERENTIATION OF HUMAN MESENCHYMAL STEM CELLS IN POLYMER-PEPTIDE HYDROGELS THAT UNDERGO CELL-MEDIATED DEGRADATION	310
<i>S. B. Anderson, M. J. Kissler, K. S. Anseth</i>	

CANCER DRUG DELIVERY

308 - CHIMERIC POLYPEPTIDE-DOXORUBICIN CONJUGATES SELF-ASSEMBLE INTO NANOPARTICLES AND ABOLISH TUMORS AFTER A SINGLE INJECTION	311
<i>M. Chen, J. A. Mackey, J. R. . McDaniel, T. Chu, W. Liu, A. J. Simnick, A. Chilkoti</i>	

309 - THERANOSTIC POLYMER MICELLES FOR TARGETED IMAGING AND THERAPY OF LUNG CANCER	312
<i>G. Huang</i>	
310 - UPTAKE OF PRO-APOPTOTIC PEPTIDE AMPHIPHILES BY SJS-A1 CELLS IN VITRO INDUCES SPECIFIC CELL DEATH	313
<i>D. Missirlis, M. Tirrell</i>	
311 - MECHANISTIC STUDY OF BIOLOGIC INTRACELLULAR DELIVERY WITH PH-RESPONSIVE POLYMERS	314
<i>G. Y. Berguig, A. C. Convertine, C. L. Duvall, A. S. Hoffman, P. S. Stayton</i>	
312 - PRODRUG FORMING HIGH DRUG LOADING MULTIFUNCTIONAL NANOCAPSULES	315
<i>Y. Shen, E. Jin, B. Zhang, C. J. Murphy, J. Tang, M. Sui, H. Tang, M. Fan, E. Van Kirk, W. J. Murdoch</i>	
313 - SURFACE-MODIFIED MONOCYTES COUPLED TO PAMAM DENDRIMERS FOR TARGETED ANTICANCER DRUG DELIVERY	316
<i>C. A. Holden, Q. Yuan, W. Yeudall, D. Lebman, H. Yang</i>	
314 - CHARACTERIZATION OF IN VIVO DRUG RELEASE FROM IN SITU FORMING DRUG DELIVERY IMPLANTS	317
<i>R. B. Patel, L. Solorio, H. Wu, T. M. Krupka, A. A. Exner</i>	
315 - NANOSPHERIC CHEMOTHERAPEUTIC AND CHEMOPROTECTIVE AGENTS	318
<i>L. Sheihet, O. B. Garbuzenko, T. Minko, J. Kohn</i>	

CARDIOVASCULAR MATERIALS AND POLYURETHANE BIOMATERIALS (SYMPOSIA)

316 - CARDIOVASCULAR BIOMATERIALS AND POLYURETHANES: ISSUES AND PERSPECTIVES	319
<i>J. M. Anderson, B. Jao, E. Cosgriff-Hernandez</i>	
317 - IN VIVO KINETIC DEGRADATION ANALYSIS AND BIOCOMPATIBILITY OF ALIPHATIC POLYESTER POLYURETHANES	320
<i>P. T. Knight, J. T. Kirk, J. M. Anderson, P. T. Mather</i>	
318 - SYNTHESIS, PROCESSING AND CHARACTERIZATION OF A BIODEGRADABLE, ELASTOMERIC POLY(ESTER-CARBONATE URETHANE) UREA (PECUU) FOR SOFT TISSUE ENGINEERING	321
<i>Y. Hong, J. Guan, K. Fujimoto, R. Hashizumi, A. L. Pelinescu, W. R. Wagner</i>	
319 - DELIVERY OF A COLLAGEN BINDING FGF-1 CHIMERA FROM COLLAGEN HYDROGELS ENHANCES SMOOTH MUSCLE CELL PROLIFERATION	322
<i>Y. Pang, X. Wang, A. A. Ucuzian, E. M. Brey, H. P. Greisler</i>	
320 - TESTING THE IN VIVO COMPATIBILITY AND BIODEGRADATION OF A DEGRADABLE-POLAR/HYDROPHOBIC/IONIC POLYURETHANE FOR VASCULAR TISSUE ENGINEERING APPLICATIONS	323
<i>J. E. McBane, K. Cai, L. A. Matheson, S. Sharifpoor, R. S. Labow, J. P. Santerre</i>	
321 - TUNABLE AND INJECTABLE HYALURONIC ACID HYDROGELS TO ATTENUATE POST-INFARCTION LEFT VENTRICULAR REMODELING	324
<i>J. L. Ifkovits, E. Tous, M. Minakawa, M. Morita, J. H. Gorman, R. C. Gorman, J. A. Burdick</i>	
322 - SURFACE MODIFICATION WITH PEG AND HIRUDIN FOR PROTEIN RESISTANCE AND THROMBIN NEUTRALIZATION IN BLOOD CONTACT	325
<i>S. Alibeik, S. Zhu, J. Brash</i>	

ENGINEERED DISEASE MODELS FOR BASIC RESEARCH AND DRUG DISCOVERY

323 - ENGINEERED POLYSTYRENE SCAFFOLDS FOR IN VITRO THREE-DIMENSIONAL DISEASE MODELS	326
<i>M. K. Bergenstock, W. Lau, W. Sun, Q. Liu</i>	
324 - BISPHOSPHONATE EFFECTS ON BREAST CANCER COLONIZATION OF THREE-DIMENSIONAL OSTEOBLASTIC TISSUE	327
<i>G. N. Miller, V. Krishnan, A. M. Mastro, E. A. Vogler</i>	
325 - REGULATION OF CARDIOMYOCYTE HYPERTROPHY BY SCAFFOLD STIFFNESS, LIGAND PRESENTATION, AND CO-CULTURE	328
<i>R. Boyer, K. Masters</i>	
326 - A NOVEL 3D CELL CULTURE SYSTEM COULD POSTPONE PRIMARY HEPATOCYTES DEDIFFERENTIATION IN VITRO	329
<i>M. Huihui, H. Yannan, H. Kanghong</i>	
327 - HARNESSING CELLULAR MANIPULATION OF THE CELL-MATRIX INTERFACE TO CONTROL STEM CELL FATE	330
<i>N. Huebsch, P. R. Arany, A. S. Mao, D. Shvartsman, O. A. Ali, J. Rivera-Feliciano, D. J. Mooney</i>	
328 - ANASTELLIN IRREVERSIBLY ALTERS THE MECHANICAL PROPERTIES OF EXTRACELLULAR MATRIX FIBRONECTIN FIBERS	331
<i>R. Andresen Eguiluz, M. L. Smith, E. Klotzsch, V. Vogel, D. Gourdon</i>	
329 - A MICROFLUIDIC TUMOR MODEL TO STUDY THE EFFECTS OF OXYGEN LEVEL AND 3-D CULTURE ON TUMOR ANGIOGENESIS	332
<i>S. S. Verbridge, N. Choi, Y. Zheng, D. J. Brooks, A. D. Stroock, C. Fischbach</i>	

330 - ENGINEERED TUMOR AS AN IN VITRO PLATFORM FOR THE ASSESSMENT OF NANOPARTICLE DRUG DELIVERY SYSTEM.....	333
<i>L. A. Gurski, X. Wang, A. K. Jha, M. C. Farach-Carson, X. Jia</i>	

ADIPOSE TISSUE ENGINEERING AND ADIPOSE-DERIVED STEM CELLS

331 - SPECIFIC CALCIUM PHOSPHATE CERAMICS FACILITATE CELL PROLIFERATION AND ADHESION ON OSTEOCHONDRAL ALLOGRAFT	334
<i>J. A. Szivek, A. S. Ferng, J. L. Howard, C. P. Geffre</i>	
332 - INJECTABLE, DECELLULARIZED ADIPOSE EXTRACELLULAR MATRIX AS A SCAFFOLD FOR SOFT TISSUE ENGINEERING	335
<i>D. A. Young, D. P. Hu, K. L. Christman</i>	
333 - THE EFFECT OF MAMMARY EPITHELIAL CELL CONDITIONED MEDIA ON ADIPOSE CELL DIFFERENTIATION IN TWO-DIMENSIONAL CULTURE	336
<i>C. T. Gomillion, K. J. L. Burg</i>	
334 - SOFT SCAFFOLDS FOR ADIPOSE TISSUE ENGINEERING BASED ON POLY ETHYLENE GLYCOL - GELATIN SYSTEMS.....	337
<i>M. Tanzi, R. Levato, L. Altomare, S. Farè</i>	

ADVANCES IN OPHTHALMIC BIOMATERIALS TECHNOLOGY

335 - BIOENGINEERING EODOTHELIALIZED NEO-CORNEAS	338
<i>J. Choi, J. Williams, M. Greven, K. Walter, P. Laber, S. Soker</i>	
336 - FEASIBILITY OF DRAINAGE TO THE EXTERNAL OCULAR SURFACE AS A NEW GLAUCOMA THERAPY.....	339
<i>L. J. Camras, C. B. Camras</i>	
337 - PNIPAAAM-GRAFTED-COLLAGEN AS AN INJECTABLE, IN SITU GELLING DELIVERY SCAFFOLD FOR RETINAL CELL THERAPY.....	340
<i>S. D. Fitzpatrick, H. Sheardown</i>	
338 - DESIGN AND VALIDATION OF A BIOREACTOR FOR SCLERAL TISSUE	341
<i>P. Ganesan, C. F. Wildsoet</i>	
339 - ENGINEERING BRUCH'S MEMBRANE USING POLYETHYLENE GLYCOL DIACRYLATE HYDROGELS.....	342
<i>D. N. Patel, T. Tezel, A. S. Gobin</i>	
340 - KINETICS AND ELASTICITY OF IN-SITU FORMING SILICONE OR SILICONE-G-PEG POLYMERS FOR LENS REFILLING.....	343
<i>H. Lee, M-K. Kim, G. Tae, Y. Kim</i>	

APPLICATIONS OF NANOMATERIALS IN MEDICINE

341 - EFFECT OF ELECTRICAL STIMULATION ON STAPHYLOCOCCUS AUREUS GROWTH ON ANODIZED NANOTUBULAR TITANIUM.....	345
<i>K. M. Kummer, B. Ercan, E. N. Taylor, T. J. Webster</i>	
342 - BIOMIMETIC HYBRID NANOMATRIX FOR CARDIOVASCULAR APPLICATIONS.....	346
<i>A. Andukuri, M. Kushwaha, A. Tambralli, J. M. Anderson, K. S. Melvin, J. Berry, D. R. Dean, B. C. Brott, H-W. Jun</i>	
343 - EFFICIENT IN-VIVO TUMOR TARGETING OF CHITOSAN-CONJUGATED, PLURONIC-BASED NANO-CARRIERS	347
<i>W. Choi, J-Y. Kim, S-Y. Lee, K. Kim, I. Kwon, Y. Kim, G. Tae</i>	
344 - MMP-RESPONSIVE RELEASE OF DNA FROM ELECTROSPUN NANOFIBROUS MATRIX IN DIABETIC ULCERS	348
<i>H. Kim, H. Yoo, J. Choi, S. Park, H. Jung, Y. Son</i>	
345 - CONTROL OF CELLULAR FUNCTIONS BY LAYER-BY-LAYER NANOFILMS PREPARED ON CELL SURFACE	349
<i>K. Kadowaki, M. Matsusaki, M. Akashi</i>	
346 - EFFECT OF MOLECULAR STRUCTURE OF PEG ON THE BIOLOGICAL AND THERAPEUTIC POTENTIALS OF PEGYLATED HUMAN GROWTH HORMONE DERIVATIVES.....	350
<i>S. Chae, S. Son, S. Jung, K. Lee</i>	
347 - CHITOSAN COATED GOLD NANOPARTICLES FOR HEPATOCELLULAR CARCINOMA TREATMENT VIA PHOTOTHERMAL THERAPY.....	351
<i>G. Zhang, A. M. Gobin</i>	
348 - SYNTHESIS AND APPLICATIONS OF MICRO- AND NANOSTRUCTURED HYDROGEL COMPOSITES	352
<i>H. D. Chirra, J. Z. Hilt</i>	
349 - FIBROUS MEMBRANE OF NANO-HYBRID POLY-L-LACTIC ACID (PLLA)/SILICA XEROGEL FOR GUIDED BONE REGENERATION.....	353
<i>T-S. Jang, E-J. Lee, H-E. Kim</i>	
350 - THE EFFECT OF METALLIC NANOPARTICLES ON VASCULAR SMOOTH MUSCLE CELLS.....	354
<i>W. McAllister, L. Wiles, E. Drennon, J. Turbeville, P. Kerscher, C. Kitchens, D. Dean</i>	

351 - DECREASED INFECTION OF NANOMODIFIED ENDOTRACHEAL TUBES IN A BENCH TOP AIRWAY MODEL	355
<i>M. Machado, T. J. Webster, K. M. Tarquinio</i>	
352 - CYTOCOMPATIBLE NANOGELS FOR SUSTAINED DRUG DELIVERY ACROSS OCULAR BIOLOGICAL BARRIERS	357
<i>G. Misra, H. Imai, D. Daley, T. Gardner, T. Lowe</i>	
353 - POLYANHYDRIDE NANOPARTICLE ADJUVANTS FOR DEVELOPMENT OF A SINGLE DOSE ANTHRAX VACCINE	358
<i>Y. Phanse, L. Petersen, A. E. Ramer-Tait, B. H. Bellaire, B. Narasimhan, M. J. Wannemuehler</i>	
354 - IVY NANOPARTICLES FOR SUNSCREEN UV PROTECTION AND COSMETIC APPLICATIONS	359
<i>Q. Li, L. Xia, Z. Zhang, M. Zhang</i>	
355 - INCORPORATION OF ENCAPSULATED CYTOKINES INTO TISSUE SCAFFOLD PROVIDES STABILIZATION AND PROTECTION DURING PROCESSING AND STORAGE	360
<i>J. Giri, R. S. Tuan, M. T. Cicerone</i>	
356 - EFFECT OF NON-N-CONTAINING BIPHOSPHONATES ON NUCLEATION OF NAN NEEDLE HYDROXYAPATITE OF CALCIUM PHOSPHATE CEMENTS IN SBF EXPOSURE	361
<i>N. Nosoudi, S. Farhang, S. Valizadeh, F. Moztafzadeh, M. Gelinsky, M. Rabiee, S. Hesarakhi</i>	
357 - LITHOCHOLIC ACID-MODIFIED EXENDIN-4 LOADED GLYCOL CHITOSAN NANOPARTICLE (HGC) FOR EFFICIENT PROTEIN DRUG DELIVERY SYSTEM	362
<i>S. Son, S. Chae, K. Kim, I. Kwon, K. Lee</i>	
358 - BINDING CHARACTERIZATION AND CYTOTOXICITY ANALYSIS OF CELL SURFACE DISPLAY SELECTED TITANIUM BINDING PEPTIDES ON TITANIUM IMPLANT SURFACES	363
<i>H. Yazici, B. Wilson, E. Oren, J. S. Evans, M. Sarikaya, C. Tamerler</i>	
359 - OLEIC ACID DELIVERED BY NANOFIBERS INCREASES BONE MATRIX FORMATION BY DIFFERENTIATED MARROW STROMAL CELLS	364
<i>T. T. Ruckh, D. A. Carroll, B. S. Smith, K. C. Popat</i>	
360 - EXTRACELLULAR MATRIX MIMICKING TUBULAR SCAFFOLDS: ACCELERATED ACHILLES TENDON GAP DEFECT REGENERATION	365
<i>R. James, M. Hogan, S. Kumbar, C. T. Laurencin, A. Chhabra</i>	
361 - NANOPARTICLES FOR DRUG DELIVERY TO RESPIRATORY TRACT FOR PROPHYLAXIS OF FREE RADICAL-INDUCED DAMAGE	366
<i>A. Vertegel, V. Reukov, V. Maximov, C. Atkinson, R. Mulligan, R. Schlosser</i>	
362 - β-CYCLODEXTRIN-BASED NANOPARTICLES CONTAINING QUATERNARY AMINE FOR DRUG DELIVERY TO THE RETINA	367
<i>L. Wu, J. Zhang, G. P. Misra, T. L. Lowe</i>	

BIO-ADHESIVES IN DENTAL IMPLANTS

363 - PLASMA TREATMENT OF DENTIN SURFACE FOR ENHANCED ADHESIVE BONDING	368
<i>A. C. Ritts, H. Li, Q. Yu, J. Claybrooks, Y. Wang, X. Yao, C. Xu, L. Hong, M. Chen</i>	
364 - INFLUENCE OF MICROSIZE GROOVE SURFACE ON HUMAN OSTEOBLASTS BEHAVIOR AND INITIAL ADHESION EVALUATED BY CYTODETACHER	369
<i>S-P. Y. Yang, T-M. Lee, T-S. Lui, M-C. Hsieh</i>	

BIOFILM-MATERIAL INTERACTIONS

365 - NON-INVASIVE QUANTIFICATION OF PLASMID DYNAMICS: BIOFILM FORMATION EFFECT ON PLASMID SEGREGATIONAL LOSS	370
<i>H. Ma, J. D. Bryers</i>	
366 - SURFACE SELF-ASSEMBLED PEG HYDROGEL PARTICLES TO CONTROL BACTERIA-BIOMATERIAL INTERACTIONS	371
<i>Q. Wang, C. Valmikinathan, X. Yu, M. Libera</i>	
367 - ANTIBACTERIAL FUNCTION OF NOVEL PEPTIDE INCORPORATED TITANIUM ALLOYS AND FEASIBILITY OF THIS SURFACE TREATMENT FOR ORTHOPAEDIC IMPLANTATIONS	372
<i>C. Y. Yeung, L. Li, K. Yeung, R. Kao, D. Yang, K. Luk, K. Cheung</i>	
368 - WITHDRAWN	373
369 - LAYER-BY-LAYER ANTIMICROBIAL HYDROGEL THIN FILMS	374
<i>S. Pavlukhina, A. Patimetha, M. Libera, S. Sukhishvili</i>	
370 - BIOSTABLE, HIGHLY SWELLABLE POLYETHER-URETHANE-UREAS AND POLYETHER-SILOXANE-URETHANE-UREA: A PRELIMINARY REPORT	375
<i>G. T. Hilar, K. J. L. Burg, S. W. Shalaby</i>	
371 - WITHDRAWN	376
372 - COMPARISON OF STAPHYLOCOCCAL SPECIFIC AND NON-SPECIFIC ADHESION TO ADSORBED FIBRONECTIN	377
<i>J. A. Callihan, J. D. Bryers</i>	
373 - ELECTRON-BEAM PATTERNED SURFACES TO CONTROL S. AUREUS AND OSTEOBLASTIC CELL ADHESION	378
<i>Y. Wang, G. Subbiahdoss, J. Swartjes, H. C. Van Der Mei, H. J. Busscher, M. Libera</i>	

374 - DEVELOPMENT OF NOVEL ANTIMICROBIAL AGENTS TO PREVENT MEDICAL DEVICE RELATED INFECTIONS.....	379
<i>M. Zhang, J. Bryers</i>	
375 - ZINC AND SILVER GLASS POLYALKENOATE CEMENTS: AN EVALUATION OF THEIR ANTIBACTERIAL NATURE.....	380
<i>A. Coughlan, M. Towler</i>	
376 - NOVEL DIMETHACRYLATES WITH QUATERNARY AMMONIUM FUNCTIONALITIES FOR REDUCED BACTERIA ADHESION.....	381
<i>N. J. Lin, J. M. Antonucci, D. N. Zeiger, K. Tang, B. O. Fowler, S. Lin-Gibson</i>	

BIOMATERIAL TECHNOLOGIES FOR TREATING SEGMENTAL BONE DEFECTS: RESEARCH DEVELOPMENTS AND CLINICAL APPLICATIONS

377 - EFFECTS OF COMPOSITION AND SETTING ENVIRONMENT ON MECHANICAL PROPERTIES OF A COMPOSITE BONE FILLER.....	382
<i>M. E. Brown, Y. Zou, D. A. Puleo</i>	
378 - MECHANICAL PROPERTIES OF POLY(PROPYLENE FUMARATE) REINFORCED BRUSHITE CEMENT: EFFECTS OF CEMENT COMPOSITION AND POWDER TO LIQUID RATIO.....	383
<i>D. L. Alge, T-M. G. Chu</i>	
379 - EVALUATION OF SILICON SUBSTITUTED IN SITU SETTING CALCIUM PHOSPHATE CEMENTS.....	384
<i>X. Liu, M. Fulmer</i>	
380 - MACHINING OF A NOVEL BIOACTIVE FIXATION DEVICE.....	385
<i>A. Sparnell, A. El-Ghannam</i>	
381 - RESORBABLE, BILAYER POLYMER MEMBRANES FOR MULTI-MODAL DRUG RELEASE.....	386
<i>A. Satsangi, B. Xiao, J. W. Hernandez, J. L. Ong</i>	
382 - BIODEGRADABLE AND BIO-INSPIRED SCAFFOLD FOR BONE TISSUE ENGINEERING.....	387
<i>A. Akkouch, Sr.</i>	
383 - IN VIVO ASSESSMENT OF CALLOS®/OSTEOVATION® CALCIUM PHOSPHATE CEMENT CONTAINING AUTOLOGOUS BONE.....	388
<i>S. Jalota, D. C. Delaney, D. N. Yetkinler</i>	
384 - POLY(ESTER URETHANE UREA) POLYHIPES AS HIGH POROSITY BONE GRAFTS.....	389
<i>N. A. Sears, R. S. Moglia, H. A. Benhardt, E. M. Cosgriff-Hernandez</i>	
385 - SCPP-EM-PVA COMPOSITE AS A PROMISING SCAFFOLD FOR THE PREVENTION AND TREATMENT OF ASEPTIC LOOSENING.....	390
<i>W. Song, C. Wan, D. Markel, R. Blasier, W. Ren</i>	
386 - QUANTITATIVE MICROCT ANALYSIS OF SCPP-ERYTHROMYCIN (EM)-PVA SCAFFOLD.....	391
<i>A. Esquivel, W. Ren, W. Song, R. Blasier, D. Markel</i>	
387 - IMPROVEMENT OF INTERFACIAL COMPATIBILITY IN POLYURETHANE/TRICALCIUM PHOSPHATE COMPOSITE BONE CEMENTS THROUGH FILLER SURFACE MODIFICATION.....	392
<i>E. M. Prieto, K. Zienkiewicz, D. C. Harris, S. A. Guelcher</i>	
388 - BIOACTIVE CEMENTS FOR SPINAL AUGMENTATION.....	393
<i>M. R. Towler, A. W. Wren</i>	
389 - NANOINDENTATION OF MICROSTRUCTURAL ELEMENTS IN BONE CEMENT.....	394
<i>J. Gurganus, L. D. T. Topoleski</i>	
390 - OXIDATIVE STABILITY OF ANTIOXIDANT CONTAINING ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE AT 80 KGY STERILIZATION DOSE.....	395
<i>A. Senyurt, V. Narayan, D. Warner</i>	
391 - A NEW GENERATION OF EASILY CROSSLINKABLE POLYETHYLENE COPOLYMERS.....	396
<i>E. Wisse</i>	

BIOMATERIAL-GUIDED STEM CELL BEHAVIOR IN THE MUSCULOSKELETAL REALM

392 - COPOLYMER STIFFNESS REGULATES THE DIFFERENTIATION OF MG63 OSTEOBLAST-LIKE CELLS.....	397
<i>K. Smith, S. Hyzy, K. Gall, Z. Schwartz, B. Boyan</i>	
393 - MIMICKING THE STEM CELL MICROENVIRONMENT: THE ROLE OF MECHANICAL LOAD ON THE CHONDROGENESIS OF HUMAN BONE DERIVED MESENCHYMAL STEM CELLS IN FIBRIN-POLYURETHANE SCAFFOLDS.....	398
<i>M. J. Stoddart, Z. Li, D. Eglin, M. Alini</i>	
394 - BIOMATERIAL INDUCES HOST STEM CELL RECRUITMENT FOR IN SITU MUSCLE REGENERATION.....	399
<i>Y. Ju, C. Hwang, A. Atala, J. J. Yoo, S. Lee</i>	
395 - POLYMETHYLMETHACRYLATE PARTICLES INHIBIT HUMAN MESENCHYMAL STEM CELL OSTEOGENESIS.....	400
<i>R. Chiu, R. L. Smith, S. B. Goodman</i>	
396 - A NOVEL DEGRADABLE PEG-BASED HYDROGEL TO IMPROVE DELIVERY OF PROGENITOR CELLS FOR TENDON REPAIR.....	401
<i>Y. Qiu, L. Scott, Jr., J. J. Lim, J. S. Temenoff</i>	

397 - CONTROLLING STEM CELL MECHANOSENSITIVITY BY NANOTOPOGRAPHIC CULTURE	402
<i>J. Lim, J. D. Salvi, H. J. Donahue</i>	
398 - SUBSTRATE NANOTOPOGRAPHIC REGULATION OF STEM CELL DIFFERENTIATION.....	403
<i>J. Lim, J. D. Salvi, Y. Zhang, C. Niyibizi, H. J. Donahue</i>	
399 - DELIVERY OF PLATLET-DERIVED GROWTH FACTOR AS A CHEMOTACTIC FACTOR FOR MESENCHYMAL STEM CELLS	404
<i>Y. Xu, M. C. Phipps, S. L. Bellis</i>	
400 - VARIANCE OF EXTRACEL HYDROGEL COMPOSITIONS AND THE OSTEOGENIC EFFECTS ON GFP-REPORTER PREOSTEOBLASTS	405
<i>Y. Liu, A. J. Goldberg, L. T. Kuhn</i>	
401 - EFFECT OF POLYMER SCAFFOLD STRUCTURE ON HUMAN BONE MARROW STROMAL CELL DIFFERENTIATION	406
<i>G. Kumar, M. F. Young, C. G. Simon, Jr.</i>	
402 - INTERACTION OF MESENCHYMAL STEM CELLS WITH ELECTROSPUN COMPOSITE SCAFFOLDS TO ASSESS POTENTIAL FOR BONE REGENERATION.....	407
<i>M. C. Phipps, W. Clem, A. Schmitt, Y. Vohra, S. Bellis</i>	
403 - MESENCHYMAL STEM CELL RESPONSE ON ION BEAM SPUTTER-COATED HYDROXYAPATITE SURFACES	408
<i>N. A. Riedel, J. Williams, K. C. Popat</i>	
404 - MAGNESIUM-YTTRIUM ALLOYS FOR TREATING ANTERIOR CRUCIATE LIGAMENT INJURIES.....	409
<i>H. Liu, D. Perchy, S. Woo</i>	

BIOMATERIALS AS STEM CELL NICHE

405 - NEURAL PROGENITOR CELL STABILIZATION OF 3D FABRICATED MICROVASCULAR NETWORKS.....	410
<i>C. A. Williams, M. F. Rauch, M. Michaud, R. Robinson, J. Madri, E. Lavik</i>	
406 - REBUILDING COMPLETE VASCULAR NETWORK AT TRAUMATIC BRAIN INJURY LESION SITE USING IN SITU CROSSLINKABLE HYDROGEL	411
<i>X. Li, X. Liu, L. Cui, X. Wen, N. Zhang</i>	
407 - OSTEOGENIC COMPOSITES BASED ON CITRIC ACID AND CALCIUM PHOSPHATES.....	412
<i>E. Chung, G. Ameer</i>	
408 - COLLAGEN BIOMATRICES FOR ENHANCED ENDOTHELIAL PROGENITOR CELL DIFFERENTIATION, PROLIFERATION AND SURVIVAL	413
<i>D. Kuraitis, Y. Zhang, B. Vulesevic, D. McKee, M. Ruel, E. J. Suuronen</i>	
409 - ADHESION TO BIOACTIVE POLY(ETHYLENE GLYCOL) (PEG) HYDROGELS PROMOTES EXPANSION OF HEMATOPOIETIC PROGENITOR CELLS.....	414
<i>M. L. Rowland, J. S. Altus, J. L. West</i>	
410 - MICROARRAY STUDY OF CHONDROCYTE SECRETED FACTORS INDUCING OSTEOGENIC DIFFERENTIATION OF BONE MARROW STROMAL CELLS.....	415
<i>S. Janardhanan, J. P. Fisher</i>	
411 - REGULATION OF MESENCHYMAL STEM CELL DIFFERENTIATION BY NOVEL STEPWISE OSTEOGENESIS-MIMICKING MATRICES	416
<i>T. Hoshiba, N. Kawazoe, T. Tateishi, G. Chen</i>	
412 - EFFECT OF SUBSTRATE STIFFNESS ON DIFFERENTIATION AND ELECTROPHYSIOLOGY OF CARDIOMYOCYTES.....	417
<i>J. G. Jacot, J. D. Myers, J. J. Petsche</i>	
413 - CYTocompatible CELL IMMOBILIZATION 3D MATRIX BY REVERSIBLE PHOSPHOLIPID POLYMER HYDROGEL TO MANIPULATE THE DIFFERENTIATION FOR ELABORATING STEM CELL NICHE	418
<i>T. Konno, K. Ishihara</i>	
414 - GENE EXPRESSION ANALYSIS OF OSTEOBLAST-RELATED FACTORS IN HUMAN BONE MARROW CELLS FROM PATIENTS WITH TOTAL HIP REPLACEMENT.....	419
<i>W. Ren</i>	
415 - NOVEL BIOLOGICAL SCAFFOLDS FOR 3-D STEM CELL CULTURE	420
<i>Q-Q. Qiu, E. Lella, E. Cui, W. Zuo, H. Xu, J. Connor</i>	

BIOMATERIALS EDUCATION SIG

416 - NSF RET PROGRAM TO INCORPORATE BIOENGINEERING EDUCATION IN THE 4TH AND 5TH GRADES.....	421
<i>E. Lewis, L. A. Friis</i>	

BIOMATERIALS FOR CELL MANUFACTURING

417 - SURFACE ENGINEERED MESENCHYMAL STEM CELLS FOR SYSTEMIC CELL TARGETING.....	422
<i>D. Sarkar, Joel A. Spencer, Rohit Karnik, Charles P. Lin, Jeffrey M. Karp</i>	

418 - BIOACTIVE HYDROGEL MICROSPHERES AS A VERSATILE SUPPORT AND DELIVERY SYSTEM FOR STEM CELL-BASED THERAPIES	423
<i>C. L. Franco, J. West</i>	
419 - NOVEL THERMOSENSITIVE POLYD,L LACTIC ACID 3D STRUCTURE FOR CELL GROWTH AND EXPANSION	424
<i>A. R. C. Duarte, J. F. Mano, R. L. Reis</i>	
420 - OPEN POROUS MICROSCAFFOLDS FOR CELL MANUFACTURING AND TISSUE ENGINEERING BY SOLID LIPID TEMPLATING	425
<i>K. Ambrosch, S. Junghans, S. Beyer, A. Reinecke, M. Schulz-Siegmund, M. C. Hacker</i>	

BIOMATERIALS FOR DIRECTED STEM CELL DIFFERENTIATION

421 - SURFACE MODIFICATION OF SELECTIVE LASER SINTERED NANOCOMPOSITE SCAFFOLDS AND OSTEOGENIC DIFFERENTIATION OF MESENCHYMAL STEM CELLS ON THE SCAFFOLDS	426
<i>B. Duan, M. Wang, Z. Li, W. Lu</i>	
422 - PDNA-CONTAINING PLGA/PLURONIC F127 POROUS SCAFFOLD FOR THE EFFECTIVE CHONDROGENIC DIFFERENTIATION OF MESENCHYMAL STEM CELLS	427
<i>T. Kim, S. Jang, S. Oh, H. Kim, G. Im, J. Lee</i>	
423 - THE ROLE OF THE GROWTH FACTOR-COATED NANO-BEADS IN CHONDROCYTIC DIFFERENTIATION OF BONE MARROW STROMAL CELLS	428
<i>H-N. Hao, J. D. Peduzzi, R. A. Teitge</i>	
424 - CARBON NANOTUBE CARPETS AS SUBSTRATES FOR PROGRAMMING STEM CELL DIFFERENTIATION	429
<i>E. Jabbarzadeh, A. I. Aria, M. Gharib</i>	
425 - MATERIAL-BASED CUES THAT INFLUENCE MESENCHYMAL STEM CELL DIFFERENTIATION FOR USE IN CARTILAGE SCAFFOLDS	430
<i>J. Kadmas, J. Liu</i>	

BIOMIMETIC MATERIALS FOR TISSUE ENGINEERING

426 - ENZYME TRIGGERED RGD-INCORPORATED TETRONIC TYRAMINE HYROGELS FOR THE CONTROLLED MYOBLAST FUNCTION	431
<i>I. Jun, K. M. Park, K. D. Park, H. Shin</i>	
427 - HYDROXYAPATITE MINERALIZATION ON POROUS SILICON SURFACES AND IN 1-D GELS FOR BIOMIMETIC APPLICATIONS	432
<i>A. Richter, J. Dorvee, A. Boskey, L. Estroff</i>	
428 - A SIMPLE TEMPLATE TO ALIGN ELECTROSPUN FIBERS IN A USER-DEFINED MANNER	433
<i>A. Karchin, J. E. Sanders</i>	
429 - DEVELOPMENT OF A NOVEL SILICA SOL VAPOR DEPOSITION SYSTEM FOR USE IN INTERFACIAL TISSUE CONSTRUCTS	434
<i>K. L. Snyder, N. J. Hartman, K. A. Wold, R. M. Rajachar</i>	
430 - MULTI-LAYERED ELECTROSPUN POLYDIOXANONE COLLAGEN BLEND MATRICES	435
<i>E. Yesilalan, T. Bollenbach, V. Ronfard</i>	
431 - BIOMIMICRY OF THE GROWTH OF DENTAL ENAMEL FROM AMELOGENIN AND MMP-20 SOLS USING A CONTINUOUS TITRATION APPROACH	436
<i>V. Uskokovic, W. Li, S. Habelitz</i>	
432 - OSTEOGENIC POTENTIAL OF BMP2-LOADED NANOCOMPLEX/ HYDROXYAPATITE LAYER ON TITANIUM SURFACE	437
<i>S. Bae, K. Park, D. Han</i>	
433 - EFFECTS OF RASTERING VELOCITY ON ELECTROSPUN POLYEURTHANE STRUCTURE AND MECHANICAL PROPERTIES	438
<i>A. D'Amore, N. Amoroso, W. R. Wagner, M. S. Sacks</i>	
434 - ENHANCED MATERIAL THROMBORESISTANCE WITH ENDOTHELIAL PROGENITOR CELLS OVEREXPRESSING THROMBOMODULIN	439
<i>J. D. Stroncek, J. H. Lawson, G. A. Truskey, W. M. Reichert</i>	
435 - TRICALCIUM PHOSPHATE BASED RESORBABLE CERAMICS:INFLUENCE OF MGO AND SRO ADDITION ON MECHANICAL PROPERTIES AND BIOCOMPATIBILITY	440
<i>S. S. Banerjee, M. S. Tarafder, A. Bandyopadhyay, S. Bose</i>	
436 - A NOVEL PERFUSION BASED APPROACH TO 3D GRADIENT GENERATION IN POLY (ETHYLENE GLYCOL) DIACRYLATE HYDROGELS	441
<i>M. V. Turturro, G. Papavasiliou</i>	
437 - BMP-2 INCREASES CELL DENSITY IN MICROPORES BUT NOT BONE VOLUMEIN MACROPORES IN BIPHASIC CALCIUM PHOSPHATE SCAFFOLDS	442
<i>A. Wagoner Johnson, S. K. Lan Levenoood, S. Polak, A. Maki, M. B. Wheeler, S. Clark-Deener</i>	
438 - RECONSTRUCTION OF LIGAMENT TO BONE INTERFACE: THE STRATIFIED COMPLEX OF LIGAMENT AND CALCIFIED FIBROARTILAGE INCORPORATING BMP-2 LOADED HEPARIN-BASED HYDROGEL	443
<i>J. Lee, W-I. Choi, H. Lee, V. Guarino, L. Ambrosio, G. Tae, Y. Kim</i>	

439 - DECOUPLING PEG HYDROGEL MESH SIZE AND MODULUS WITH THE INTEGRATION OF 4-ARM PEG	444
<i>M. B. Browning, T. S. Wilems, M. Hahn, E. Cosgriff-Hernandez</i>	
440 - CHARACTERIZATION AND OPTIMIZATION OF ELASTIN BASED PEPTIDES FOR USE IN TISSUE ENGINEERED VASCULAR GRAFTS	445
<i>D. Patel, L. Taite</i>	
441 - WITHDRAWN	446
442 - INJECTABLE ALGINATE BASED HYDROGELS WITH ADJUSTABLE RESORPTION RATE	447
<i>J. Melvik, I. E. Skistad</i>	
443 - ALTERATIONS IN FIBRIN MICROSTRUCTURE VIA COMPETITIVE KNOB PEPTIDES AND THE IMPLICATIONS FOR CELLULAR RESPONSE	448
<i>S. E. Stabenfeldt, M. J. Gourley, N. M. Aboujamous, A. S. C. Soon, T. H. Barker</i>	
444 - TISSUE ENGINEERING FOR PALATE REGENERATION USING NANOFIBER ARRAY-BASED CELL CONSTRUCT	449
<i>E. Katsanevakis, Y. Qui, V. Beachley, N. Zhang</i>	
445 - BIO-INSPIRED NANOCOMPOSITE FIBROUS SCAFFOLDS FOR HARD TISSUE REGENERATIVE MEDICINE	450
<i>T. Chae, H. Yang, F. Ko, T. Troczynski</i>	
446 - A MACRODESIGNED, ACELLULAR SCAFFOLD PROMOTING ENDOGENOUS CELL INFLUX AND VIABILITY FOR CARTILAGE REGENERATION	451
<i>S. Reed</i>	
447 - EFFECT OF GENETICALLY ENGINEERED MATERIALS SPECIFIC PEPTIDES ON CALCIUM CARBONATE MORPHOLOGIES	452
<i>C. G. Gresswell, M. Sarikaya, C. Tamerler, M. Hnilova, E. E. Oren</i>	
448 - INTERACTION OF BONE MARROW-DERIVED MACROPHAGES WITH HIGHLY ALIGNED ELECTROSPUN FIBER SCAFFOLDS FOR NEURAL ENGINEERING APPLICATIONS	453
<i>H. Wang, E. Hager, S. Wiseman, R. J. Gilbert</i>	
449 - THE INFLUENCE OF FIBROBLAST GROWTH FACTOR IN A BIOMIMETIC HYDROGEL SYSTEM ON ENDOTHELIAL CELL PROLIFERATION	454
<i>Y. Yuan, C. M. Klinge, A. S. Gobin</i>	
450 - BIOMINERALIZATION OF A PEPTIDE HYDROGEL SCAFFOLD FUNCTIONALIZED WITH HYDROXYAPATITE-BINDING PEPTIDE	455
<i>M. Gungormus, M. Branco, F. Fong, C. Tamerler, J. P. Schneider, M. Sarikaya</i>	
451 - THE COMPOSITION OF SILICA-COLLAGEN-CALCIUM PHOSPHATE NANOCOMPOSITES MANIPULATES THE RATIO OF BONE FORMING CELLS TO BONE RESORBING CELLS IN A CO-CULTURE	456
<i>S. Heinemann, C. Heinemann, H. Worch, T. Hanke</i>	
452 - STUDY OF BIOMIMETIC AGGREGAN MATERIALS FOR CHONDROCYTES CULTURE	457
<i>C-W. Lan, C-X. Yang, L-C. Lin, S-M. Kuo, S-J. Chang</i>	
453 - IMPACT OF MECHANICAL CONDITIONING AND ELASTOGENIC FACTORS ON BIOMIMETIC CELL-MEDIATED ELASTIC MATRIX REGENERATION IN 3-D TISSUE CONSTRUCTS	458
<i>L. Venkataraman, A. Ramamurthi</i>	
454 - A NOVEL THREE-DIMENSIONAL COTTON BALL-LIKE ELECTROSPUN NANOFIBROUS SCAFFOLD	459
<i>B. A. Blakene, A. Tambralli, J. M. Anderson, A. Andukuri, D. R. Dean, H-W. Jun</i>	
455 - ELASTIN MIMETIC HYBRID POLYMERS FOR VOCAL FOLD TISSUE ENGINEERING	460
<i>S. E. Grieshaber, A. J. E. Farran, K. L. Küick, X. Jia</i>	
456 - HIGH SURFACE AREA TISSUE ENGINEERING SCAFFOLDS WITH MULTI-GROOVED FIBERS	461
<i>S. Chung, M. Gamcsik, M. W. King</i>	
457 - FABRICATION OF ORIENTED POROUS SCAFFOLD FOR ENGINEERING MYOCARDIAL TISSUE	462
<i>Z. Xiong, T. Zhang, L. Jin, R. Zhang, Y. Yan</i>	
458 - TAILORING PROPERTIES OF MICROSPHERE-BASED POLY(LACTIC-CO-GLYCOLIC ACID) SCAFFOLDS	463
<i>A. Clark, D. Puleo, T. Milbrandt, Z. Hilt</i>	
459 - THE USE OF PEG HYDROGELS TO ANALYZE ANGIOGENIC PROCESSES IN VITRO	464
<i>A. Porter, C. Klinge, A. Gobin</i>	
460 - NANOPARTICLE AND NANOFIBER-BASED SUNDEW (DROSERA) SCAFFOLDS FOR TISSUE ENGINEERING	465
<i>S. Lenaghan, W. He, M. Zhang</i>	
461 - PREPARATION AND CHARACTERIZATION OF SUPERLOWFOULING ELECTROSPUN SCAFFOLDS OF ZWITTERIONIC POLYSULFOBETAINE METHACRYLATE FOR TISSUE ENGINEERING APPLICATIONS	466
<i>R. Lalani</i>	
462 - DEVELOPMENT OF NOVEL INJECTABLE BIODEGRADABLE ELASTOMERS FOR IN SITU TISSUE REGENERATION	467
<i>D. Gyawali, P. Nair, R. Tran, Y. Zhang, N. Kc, J. Yang</i>	
463 - HYDROXYAPATITE BINDING PEPTIDE GENETICALLY FUSED TO GREEN FLUORESCENT PROTEIN FOR MONITORING MINERALIZATION	468
<i>E. Yuca, U. Seker, M. Gungormus, A. Yazgan Karatas, M. Sarikaya, C. Tamerler</i>	

464 - POLYMERIC NANOWIRE TEMPLATES AS SCAFFOLDS FOR IMPROVED NEURONAL CELL FUNCTIONALITY	469
<i>S. L. Bechara, A. C. Judson, K. C. Popat</i>	
465 - ARTIFICIAL EXTRACELLULAR MATRIX PROTEINS WITH ENHANCED BIOLOGICAL ACTIVITY	470
<i>E. W. Fong, D. A. Tirrell</i>	
466 - IN VITRO APATITIC FILM FORMATION ON THE SURFACE OF POLY(METHYL METHACRYLATE)	471
<i>S-M. Choi, J-Y. Han, J-A. Lee, S-Y. Kang, W-K. Lee</i>	
467 - PRODUCTION AND EVALUATION OF PCL/HA BIOLOGICAL SCAFFOLD WITH UNIDIRECTIONALLY ALIGNED PORE CHANNELS	472
<i>W-Y. Choi, H-E. Kim, Y-H. Koh</i>	
468 - SPECIFIC ENDOTHELIAL CELL RESPONSES TO BIOMIMETIC SURFACES IN FIBRIN GELS	473
<i>G. Sabra, P. Vermette</i>	
469 - A NOVEL CELL PERMEABLE TARGET SPECIFIC CYCLIC ADENOSINE MONOPHOSPHATE ANALOGUE FOR BONE TISSUE ENGINEERING	474
<i>W. Lo, C. T. Laurencin</i>	
470 - PRELIMINARY IN VITRO INVESTIGATIONS OF A CERVICAL DISC REPLACEMENT USING A SYNTHETIC HYDROGEL CONTAINED WITHIN WOVEN BICOMPONENT POLYESTER FABRIC	475
<i>J. O. Cooper, J. D. Bumgardner, D. J. Diangelo, J. Pafford, W. O. Haggard</i>	
471 - RELEASE KINETICS OF FITC-DEXTRAN PARTICLES FROM BIOERODIBLE MULTI-LAYERED FIBRIN MATRICES: A STUDY OF PERIPHERAL AND LOCAL DIFFUSION	476
<i>H. S. Duong, B. Wu, B. Tawil</i>	
472 - STRUCTURE AND CHARACTERISTICS OF HYDROXYAPATITE/DEXAMETHASONE-LOADED PLA BILAYERED SCAFFOLD FOR BONE REGENERATION	477
<i>J. Son, G. Teja, M. Appleford, J. Ong, J. Kim, S. Choi, S. Oh</i>	
473 - EFFECT OF OSTEOPONTIN-DERIVED PEPTIDE ON VASCULOGENIC DIFFERENTIATION OF BONE MARROW STROMAL CELLS	478
<i>J. Ma, E. Jabbari</i>	
474 - ELECTRO-THERMALLY POLARIZED HYDROXYAPATITE (HAP) CERAMICS: INFLUENCE OF MGO, SRO, AND ZNO DOPANTS	479
<i>S. Bodhak, S. Bose, A. Bandyopadhyay</i>	

Volume 2

475 - IN SITU FORMING GELATIN-BASED HYDROGELS VIA ENZYME-MEDIATED REACTION FOR TISSUE REGENERATION AND DRUG DELIVERY	480
<i>K. Park, Y. Joung, K. Park</i>	
476 - ENDOTHELIAL CELL ATTACHMENT AND SHEAR DEPENDENT RETENTION ON BIOMIMETIC POLYMER COATED VASCULAR GRAFTS	481
<i>L. Dudash, F. Kligman, K. Kottke-Marchant, R. Marchant</i>	
477 - ENGINEERING A HYDROGEL SYSTEM FOR DENTAL PULP REGENERATION	482
<i>E. Katsanevakis, X. Li, X. Liu, N. Zhang</i>	
478 - CELLULAR BEHAVIOR ON HYDROGELS WITH PATTERNED ELASTICITY IS INFLUENCED BY SUBSTRATE MECHANICS AND LIGAND DENSITY	483
<i>S. Nemir, H. N. Hayenga, J. L. West</i>	
479 - SYNTHESIS AND FOLDING CHARACTERISTICS OF POLYDEPSIPEPTIDES	484
<i>M. M. Nguyen, M. Abdelmelek, K. Masada, D. Campbell, P. Ren, L. Suggs</i>	
480 - ZINC AND MAGNESIUM DOPED CALCIUM PHOSPHATE NANOMATRIX FOR BONE TISSUE ENGINEERING	485
<i>W. Paul, C. P. Sharma</i>	

CANCER DRUG DELIVERY

481 - GROWTH RATE OF MOUSE TUMOR OF LOCAL HYPERTHERMIA TREATED WITH PACLITAXEL COATED DUPLEX STAINLESS STEEL THERMO-RODS	486
<i>Y. Kim, H. Choo, E. Whang, S. Choi</i>	
482 - RELEASE OF CALCEIN FROM LIPOSOMES USING LOW-FREQUENCY ULTRASOUND	487
<i>G. A. Hussein, W. G. Pitt, J. Hartley, T. Atkinson</i>	
483 - CONJUGATION OF POLYETHYLENE GLYCOL TO POLYAMIDOAMINE DENDRIMER THROUGH BIS-ARYL HYDRAZONE LINKAGE FOR ENHANCED GENE DELIVERY	488
<i>Q. Yuan, W. Yeudall, H. Yang</i>	
484 - MINERALIZATION OF HYALURONIC ACID NANOPARTICLES AND THEIR POTENTIAL AS THE ROBUST CARRIER OF DOXORUBICIN	489
<i>S. Han</i>	
485 - COMPETING PROPERTIES OF MUCOADHESIVE FILMS THAT RELEASE IMMUNE RESPONSE MODIFIERS	490
<i>S. K. Ramineni, D. Puleo, L. Cunningham</i>	

486 - PHYSICO-CHEMICAL CHARACTERISTICS OF HYDROTROPIC POLYMER MICELLES BEARING SUPERPARAMAGNETIC IRON OXIDE AND PACLITAXEL	491
<i>H. Yoon, K. Choi, G. Saravanakumar, A. Kim, K. Kim, J. Park, I. Kwon, K. Park</i>	
487 - ENHANCED ANTITUMOR ACTIVITY USING DOXORUBICIN-LOADED MICELLES BASED ON POLY(ETHYLENE OXIDE)-POLY[(R)-3-HYDROXYBUTYRATE]- POLY(ETHYLENE OXIDE) TRIBLOCK COPOLYMERS.	492
<i>T-H. Kim, C. Mount, W. Gombotz, S. H. Pun</i>	
488 - POLYMERIC MICELLES FOR CONTROLLED DELIVERY OF DEXAMETHASONE TO TUMORS	493
<i>M. D. Howard, M. Jay, Y. Bae</i>	
489 - CONTROLLED DELIVERY OF PACLITAXEL AND HEAT FROM POLY(B-AMINO ESTER)-BASED MAGNETIC HYDROGEL NANOCOMPOSITES FOR THE TREATMENT OF CANCER	494
<i>S. A. Meenach, K. W. Anderson, J. Z. Hilt</i>	
490 - POLYELECTROLYTE NEGATIVELY CHARGED HYDROGEL FOR DOXORUBICIN DELIVERY	495
<i>M. Dadsetan, Z. Liu, M. B. Runge, C. Vallejo Giraldo, M. J. Yaszemski</i>	
491 - GOLD NANOPARTICLES WITH A MONOLAYER OF DOXORUBICIN-CONJUGATED AMPHIPHILIC BLOCK COPOLYMER FOR TUMOR-TARGETED DRUG DELIVERY	496
<i>S. Gong, Sr.</i>	
492 - SUSTAINED DELIVERY OF DHT VIA TCPL DELIVERY SYSTEM TO DEVELOP A BPH MODEL IN RATS	497
<i>H. A. Benghuzzi, M. A. Tucci, M. C. Pollan</i>	
493 - DEVELOPMENT AND EVALUATION OF A CHITOSAN BASED INJECTABLE GEL FOR BRAIN CANCER TREATMENT	498
<i>S. Kim, Y. Yang, S. K. Nishimoto, J. D. Bumgardner, W. O. Haggard, M. W. Gaber</i>	

CARDIOVASCULAR BIOMATERIALS SIG

494 - SUTURE PROPERTIES OF SWELLABLE, ABSORBABLE MONOFILAMENTS	499
<i>M. S. Taylor, D. R. Ingram, B. P. Baum, D. E. Linden, K. J. L. Burg, S. W. Shalaby</i>	
495 - CATHEPSINS ARE UPREGULATED IN VASCULAR CALCIFICATION	500
<i>C. Chelivaraju, L. Simpson</i>	

CARDIOVASCULAR CONTROLLED DRUG RELEASE

496 - THE IMPACT OF SEX-BASED DIFFERENCES IN ATHEROSCLEROTIC PLAQUE ON THE RESPONSE TO DRUG ELUTING STENT (DES) IMPLANTATION	501
<i>J. Guo, D. M. Saylor, D. V. Patwardhan</i>	
497 - INVESTIGATIONS INTO THE MORPHOLOGY OF THE XIENCE V[®] DRUG ELUTING STENT COATING	502
<i>G. Abraham, D. Valdemoro, F-W. Tang, S. Pacetti</i>	
498 - FACTORIAL ANALYSIS OF FACTORS GOVERNING SILVER RELEASE FROM A HYDROPHILIC COATING	503
<i>J. L. Simon, E. Pervin, D. Pervin, M. Farrell</i>	
499 - NITRIC OXIDE RELEASING COATINGS FOR MEDICAL DEVICES	504
<i>R. S. Bezwada</i>	
500 - EFFECTS OF TEMPERATURE AND CLEANING ON THE SURFACE CHARACTERISTICS OF CARDIOVASCULAR STAINLESS STEEL STENTS	505
<i>J. R. Hull, D. G. Castner</i>	

CARDIOVASCULAR MATERIAL DEVELOPMENT AND BIOINTERACTIONS

501 - IN SITU GELLING POLYMER SYSTEM FOR VASCULAR EMBOLIZATION: EFFECT OF RADIO-OPAQUE AGENTS ON GELATION	506
<i>C. Riley, R. McLemore, M. C. Preul, B. L. Vernon</i>	
502 - BIOSTABILITY OF A NEW CARDIOVASCULAR MATERIAL	507
<i>J. Tan</i>	
503 - FROM NON-ABSORBABLE TO ABSORBABLE POLYMERS	508
<i>R. S. Bezwada</i>	
504 - REGULATION OF MATERIAL ENDOTHELIALIZATION VIA POLYURETHANE-HYALURONIC ACID COPOLYMERS	509
<i>A. Ruiz, K. S. Masters</i>	
505 - MUSCLE CELLS ALIGN IN 3D WHEN SEEDED IN CHANNELS PATTERNED INTO POROUS HYDROGELS	510
<i>S. M. Lanasa, S. J. Bryant</i>	
506 - NONFOULING POLYURETHANE COATINGS ON CARDIOVASCULAR STENTS TO IMPROVE BLOOD COMPATIBILITY	511
<i>T. A. Horbett, D. Responde, M. Zhang, F. Simonovsky, B. Ratner</i>	

507 - CATALYTIC NITRIC OXIDE GENERATION VIA LAYER-BY-LAYER ASSEMBLY ON METAL SURFACES	512
<i>J. Yang, W. Cai</i>	
508 - FUNCTIONALIZED POLY(ETHYLENE GLYCOL) DIMETHACRYLATE HYDROGELS WITH ENGINEERED SURFACE TOPOGRAPHY TO PROMOTE RE-ENDOTHELIALIZATION OF SMALL DIAMETER VASCULAR GRAFTS	513
<i>C. M. Magin, A. B. Brennan</i>	
509 - A HIGH THROUGHPUT ASSAY FOR OPTIMIZATION OF ENDOTHELIALIZATION OF MECHANICAL HEART VALVE PROSTHESES	514
<i>S. M. Tucker, J. Butcher, A. García</i>	
510 - NONFOULING POLYCARBOXYBETAINE-GRAFTED SURFACES BY NITROXIDE MEDIATED FREE RADICAL POLYMERIZATION	515
<i>S. Abraham, L. D. Unsworth</i>	
511 - IMMOBILIZATION OF CORN TRYPSIN INHIBITOR FOR INHIBITION OF THE CONTACT FACTOR PATHWAYS ON BLOOD-CONTACTING MATERIALS	516
<i>S. Alibeik, S. Zhu, J. Yau, J. Weitz, J. Brash</i>	
512 - SHEAR-DEPENDENT ENDOTHELIAL CELL ATTACHMENT TO POLYMERIC BIOMATERIALS	517
<i>X. Wang, D. Heath</i>	
513 - METHOD FOR ELECTROSTATICALLY COATING A MEDICAL DEVICE	518
<i>V. Davé</i>	
514 - TARGETING AND DIFFERENTIATING ENDOTHELIAL PROGENITOR CELLS VIA SURFACE ENGINEERING	519
<i>R. A. Hoshi, G. A. Ameer</i>	
515 - TAILORING THE INTERFACE OF METHACRYLIC TERPOLYMER BIOMATERIALS FOR ENDOTHELIALIZATION	520
<i>D. E. Heath, S. L. Cooper</i>	
516 - INFLUENCE OF POLYETHYLENE OXIDE SPACER ON ANTICOAGULANT PROPERTIES OF IMMOBILIZED ANTITHROMBIN-HEPARIN COMPLEX	521
<i>K. N. Sask, L. R. Berry, A. K. C. Chan, J. L. Brash</i>	
517 - IN VIVO EVALUATION OF THROMBORESISTANCE ON PLLA/PHOSPOLIPID POLYMER BLEND	522
<i>H. Kim, K. Ishihara, M. Takai, T. Konno, J-S. Seo</i>	
518 - CREATING ELASTOGENIC ELECTROSPUN SCAFFOLDS FOR CELL-MEDIATED ELASTIC MATRIX ASSEMBLY BY VASCULAR CELLS	523
<i>C. A. Bashur, A. Ramamurthi</i>	
519 - PEPTIDE SELF-ASSEMBLY AND ITS EFFECT ON HYDROGEL PROPERTIES AND PLATELET ACTIVATION	524
<i>A. Saini, L. Unsworth</i>	

CELL AND TISSUE DERIVED BIOLOGICAL MATERIALS

520 - ACELLULAR EMBRYONIC STEM CELL-DERIVED MATRICES FOR VASCULAR REGENERATION	525
<i>A. V. Ngangan, J. C. Waring, N. A. Joe, T. C. McDevitt</i>	
521 - SURFACE CHARACTERIZATION BY SIMS AND SEM OF DECELLULARIZED PORCINE EXTRACELLULAR MATRIX SCAFFOLDS	526
<i>C. A. Barnes, B. N. Brown, D. G. Castner, B. D. Ratner, S. F. Badylak</i>	
522 - A RAPID DECELLULARIZATION TECHNIQUE FOR THE RECELLULARIZATION OF RENAL ORGAN TISSUE	527
<i>G. Orlando, S-H. Mirmalek-Sani, D. C. Sullivan, P. Baptista, T. Aboushwareb, J. Yoo, A. Atala, S. Soker</i>	
523 - IDENTIFICATION OF NOVEL FIBRONECTIN STRAIN-SPECIFIC BINDING PEPTIDES	528
<i>L. Cao, M. Zeller</i>	
524 - CARTILAGE REGENERATION IN AN IMMUNOCOMPROMISED RAT CRITICAL-SIZE XIPHOID CARTILAGE DEFECT MODEL	529
<i>Y. Wang, L. Xie, H. R. Moyer, A. Nizkorodov, S. Hyzy, Y. Huang, K. Truncalo, R. E. Guldborg, Z. Schwartz, B. D. Boyan</i>	
525 - AMELOGENIN PEPTIDE (FRACTION C) INDUCES OSTEOGENESIS AND CEMENTOGENESIS IN HMSCS	530
<i>R. Olivares-Navarrete, K. Vesper, M. Dard, C. Mauth, R. Ranevski, Z. Schwartz, B. D. Boyan</i>	
526 - SCHWANN CELL GENE EXPRESSION PROFILES AFTER INJECTION INTO DECELLULARIZED COLD-PRESERVED NERVE ALLOGRAFTS	531
<i>N. J. Jesuraj, K. B. Santosa, A. M. Moore, R. Kasukurthi, E. R. Flagg, D. Hunter, G. Borschel, P. J. Johnson, S. E. Mackinnon, S. E. Sakiyama-Elbert</i>	
527 - BIOSCAFFOLDS FOR MENISCUS TRANSPLANTATION: AN IN VIVO SHEEP STUDY	532
<i>J. A. Steen</i>	
528 - TERMINAL STERILIZATION OF BIOLOGICAL TISSUE MATRIX USING SUPERCRITICAL CO₂	533
<i>Q-Q. Qiu, J. Pomerleau, J. Connor</i>	
529 - IN VITRO EXPANDED LIVING SKIN FOR BURN INJURIES	534
<i>M. Ladd, V. Romero, S. Lee, J. Bae, H-W. Kang, A. Atala, J. J. Yoo</i>	
530 - CELL DERIVED BIOMATERIALS FOR BIOMEDICAL APPLICATIONS	535
<i>J. C. Wolchok, P. A. Tresco</i>	

531 - NANOCHEMICALLY ORIENTED ASTROCYTES DIRECT ADJACENT NERVE CELL OUTGROWTH	536
<i>F. Meng, V. Hlady, P. A. Tresco</i>	
532 - MICROENVIRONMENT CHANGES IN THE STEM CELL NICHE INFLUENCE THE DIFFERENTIATION PATHWAY TO BONE	538
<i>H. A. Coan</i>	
533 - DESIGN AND CHARACTERIZATION OF A DECELLULARIZED PERICARDIAL MATRIX GEL FOR CARDIAC TISSUE ENGINEERING	539
<i>S. B. Seif-Naraghi, M. A. Salvatore, P. J. Schup-Magoffin, D. P. Hu, K. L. Christman</i>	
534 - IN VIVO EVALUATION OF AN AUTOLOGOUS GRAFT AND TWO ACELLULAR HUMAN DERMAL MATRICES	540
<i>J. A. Faleris, R. M. C. Hernandez</i>	
535 - ACELLULARIZED SCAFFOLD FOR OSTEOGENIC DIFFERENTIATION OF RABBIT BONE MARROW STROMAL CELLS	541
<i>K. Park, Y.-J. Hong, I. Kim, D. Han</i>	
536 - ANGIOGENESIS IN HYALURONAN TREATED BONE REPAIR	542
<i>A. L. Raines, M. Sunwoo, K. Thacker, R. E. Guldberg, B. D. Boyan, Z. Schwartz</i>	
537 - BIOENGINEERING OF RED BLOOD CELLS BY THE LAYER-BY-LAYER SELF-ASSEMBLY TECHNIQUE	543
<i>S. Mansouri, Y. Merhi, F. M. Winnik, M. Tabrizian</i>	
538 - STUDY OF THE STEM CELLS FROM GOAT BONE MARROW STROMA PLACED ON A BIOLOGICAL GRAFT FOR ARTIFICIAL LIGAMENT	544
<i>Q. Liu, Y. Wang, X. Peng, Y. Lin, B. Xu, X. Guo, G. Xu, B. Gao</i>	
539 - DECELLULARIZED SKELETAL MUSCLES: MODEL SYSTEMS TO STUDY CHANGES IN EXTRACELLULAR MATRIX AND THEIR EFFECT ON STEM CELL DIFFERENTIATION	545
<i>A. Gillies, L. Smith, Y. Hwang, R. L. Lieber, S. Varghese</i>	

CELL FUNCTION IN 2D VS 3D CULTURE

540 - CONTRASTING EFFECTS OF 2D VS. 3D HYDROGEL MICROENVIRONMENTS ON THE BEHAVIOR OF GLOBLASTOMA MULTIFORMES	546
<i>S. S. Rao, J. Dejesus, J. Larison, A. Sarkar, J. O. Winter</i>	
541 - CELL PROLIFERATION AND CELL LOCALIZATION FOLLOWING IN SITU IMMOBILIZATION IN A 3D ALGINATE FOAM MATRIX	547
<i>T. Andersen, H. Heier-Baardson, J. Melvik, M. Dornish</i>	
542 - ENCAPSULATION AND SURVIVAL OF A CHONDROCYTIC CELL LINE WITHIN A POLYSACCHARIDE GUM	548
<i>A. C. Mendes, E. T. Baran, R. C. Pereira, H. S. Azevedo, R. L. Reis</i>	
543 - MATERIAL-DIRECTED HUMAN BONE MARROW STROMAL CELL DIFFERENTIATION IN 2D AND 3D HYDROGEL CULTURES	549
<i>K. Chatterjee, N. M. Moore, S. Lin-Gibson, M. F. Young, C. G. Simon, Jr.</i>	
544 - COLLAGEN COVALENTLY CROSSLINKED TO MICROPATTERNED AGAROSE SCAFFOLDS FOR HEPATOCYTE CULTURE	550
<i>A. Y. Au, J. M. Hasenwinkel, C. G. Fronzoza</i>	
545 - HIGH FIDELITY PHOTOPATTERNING OF THREE-DIMENSIONAL OPF HYDROGELS FOR CO-CULTURE APPLICATIONS	551
<i>N. C. Bloodworth, T. M. Hammoudi, H. Lu, J. S. Temenoff</i>	
546 - NOVEL TEMPERATURE CONTROLLED PRINTING SYSTEM AND MICROFLUIDIC CHIP COUPLED FOR IN VITRO RADIATION STUDY	552
<i>J. Snyder, R. Chang, C. Culbertson, K. Emami, H. Wu, W. Sun</i>	
547 - NOVEL MODULAR PLASTICWARE FOR THREE-DIMENSIONAL (3-D) CELL CULTURE	553
<i>D. Orr, M. Gevaert, R. Drumm</i>	
548 - EFFECTS OF A THREE-DIMENSIONAL POLYSTYRENE ENVIRONMENT ON HEPG2 LIVER CELLS	554
<i>D. Roy, M. K. Bergenstock, Q. Liu, W. Sun</i>	

CELL/ORGAN THERAPIES SIG

549 - A NOVEL BIOMATERIAL FOR THE TARGETED REMOVAL OF ADVANCED GLYCATION END PRODUCTS FROM BLOOD	555
<i>K. A. Lapidos, E. Zhang, S. M. Sprague, G. A. Ameer</i>	

CHEMOSELECTIVE CHEMISTRY FOR BIOMATERIALS

550 - SELF-ASSEMBLED SYNTHETIC ECMS DISPLAYING FUNCTIONAL PROTEIN DOMAINS	556
<i>Y. F. Tian, J. Modica, S. Skarpathiotis, M. Mrksich, J. Collier</i>	
551 - SITE-DIRECTED CONJUGATION OF BIOACTIVE MOLECULES TO POLY(LACTIC-CO-GLYCOLIC) ACID NANOPARTICLES	557
<i>E. B. P. Jabart, B. Helms, L. Sohn, I. Conboy</i>	

COLLAGEN: HOW THE SOURCE AND PROCESS AFFECT THE PRODUCT

552 - RADIOPROTECTION OF TENDON ALLOGRAFTS AND BIOBURDEN INACTIVATION USING EBEAM RADIATION	558
<i>A. Seto, C. J. Gatt, Jr., M. G. Dunn</i>	
553 - COLLAGEN SCAFFOLD POROSITY EFFECTS ITS MECHANICAL, BIODEGRADATION AND INFLAMMATION PROPERTIES	559
<i>V. Zaporozhan, Sr., R. Zhukauskas, E. Shields, P. Bursac</i>	

CONTROLLED RELEASE AND PRESENTATION SYSTEMS FOR REGULATING CELL BEHAVIOR

554 - SYNTHESIS AND CHARACTERIZATION OF A CHARGE-REVERSAL PHOTO-ACTIVE AMPHIPHILE	560
<i>C. M. Lamanna, J. H. Feng, M. W. Grinstaff</i>	
555 - DRUG DELIVERABLE, SELF-ASSEMBLED NANOTUBES FOR BONE TISSUE ENGINEERING	561
<i>S. Song, Y. Chen, T. J. Webster, H. Fenniri</i>	
556 - RUNX2 IMMOBILIZATION ON POLY (EPSI-CAPROLACTONE) ENHANCES OSTEOBLAST DIFFERENTIATION OF BONE MARROW STROMAL CELLS IN VITRO	562
<i>Y. Zhang, X. Deng, E. Scheller, J. Lahann, R. Franceschi, P. Krebsbach</i>	
557 - CONTROLLED MULTI-AGENT DELIVERY OF SMALL MOLECULE THERAPEUTICS FOR APPLICATIONS IN MEDICINE	563
<i>A. Shukla, R. C. Smith, P. T. Hammond</i>	
558 - CALCIUM SULFATE/HYDROGEL SPACE-MAKING COMPOSITES FOR BONE AUGMENTATION	564
<i>B. R. Orellana, A. M. Hawkins, D. A. Puleo, J. Z. Hilt, M. V. Thomas</i>	
559 - BONE TISSUE ENGINEERING USING BMP-2, IFN-γ, AND IL-4 LOADED IN A MICROPOROUS FIBRIN SCAFFOLD	565
<i>J. Cheng, T. Osathanon, O. Horst, E. M. Leaf, M. J. Somerman, C. M. Giachelli</i>	
560 - MODULATING PHOSPHATE METABOLISM FOR PERIODONTAL REGENERATION	566
<i>K. J. Nagatomo, B. L. Foster, T. Osathanon, E. Y. Chu, K. A. Tompkins, H. Fong, D. Matsa-Dunn, C. Guenther, D. M. Kingsley, R. Rutherford, C. M. Giachelli, M. J. Somerman</i>	
561 - THE EFFECT OF ION CONTENT AND PH ON PLASMID DNA DELIVERY FROM DISSOLVING MINERAL COATINGS	567
<i>S. Choi, W. L. Murphy</i>	
562 - MIGRATION OF STROMAL CELLS IN RESPONSE TO SUSTAINED RELEASE OF STROMAL DERIVED FACTOR-1α	568
<i>X. He, E. Jabbari</i>	
563 - CONTROLLED RELEASE OF INSULIN-LIKE GROWTH FACTOR-1 FROM HYDROGELS IMPROVES INTEGRATION WITH CARTILAGE	569
<i>K. L. Spiller, Y. Liu, G. Zhou, W. Liu, Y. Cao, A. M. Lowman</i>	
564 - TISSUE ENGINEERING OF GROWTH PLATE USING IGF-I RELEASING PLGA SCAFFOLDS	570
<i>S. C. Sundararaj, R. D. Cieply, T. A. Milbrandt, D. A. Puleo</i>	
565 - DEVELOPMENT OF AMPHIPHILIC CALCIUM ALGINATE NANOPARTICLES FOR CONTROLLED GENE DELIVERY	571
<i>R. A. Oldinski, J. D. Bryers</i>	
566 - SIGNALING MOLECULES TO RECRUIT ENDOGENOUS STEM CELLS FOR AN ENGINEERED CARTILAGE HEALING RESPONSE	572
<i>W. S. Vanden Berg-Foels, C. Hicks, X. Wen</i>	
567 - A MICRO/NANO PARTICLE PROTEIN DELIVERY SYSTEM FOR AXON REGENERATION IN SPINAL TISSUE	573
<i>J. Coleman, A. Lowman, J. Houle</i>	
568 - HOLLOW HYDROXYAPATITE MICROSPHERES FOR CONTROLLED DELIVERY OF PROTEINS	574
<i>H. Fu, M. Rahaman, D. Day</i>	
569 - LIQUID INJECTABLE POLYMERS BASED ON MODIFIED CAPROLACTONE AS POTENTIAL DRUG DELIVERY VEHICLES	575
<i>I. O. Babasola</i>	
570 - CHARACTERIZATION OF BOVINE TYPE I COLLAGEN MATRIX COMBINED WITH RECOMBINANT HUMAN PLATELET-DERIVED GROWTH FACTOR-BB (RHPDGF-BB) FOR ROTATOR CUFF REPAIR	576
<i>Y. Liu, V. Kery, C. Roden, V. Shah, J. Ratliff, A. Thompson, C. Young, H. Kestler, S. E. Lynch, D. J. Aguiar</i>	
571 - A DEVICE BASED ON AEROGEL SILICA: PHYSICOCHEMICAL CHARACTERIZATION AND ANTIMICROBIAL TEST	577
<i>M. E. Cortes, E. M. G. Raso, N. Mohallen, R. D. Sinisterra</i>	

CRANIOFACIAL TISSUE REGENERATION

572 - GELATIN MICROPARTICLE-INCORPORATING POLY(METHYL METHACRYLATE) CONSTRUCTS FOR CRANIOFACIAL TISSUE ENGINEERING	578
<i>M. Shi, J. D. Kretlow, S. Young, M. E. Wong, F. K. Kasper, A. G. Mikos</i>	

573 - DELIVERY OF SIRNA USING CATIONIC STAR POLYMERS TO SUPPRESS RUNT RELATED TRANSCRIPTION FACTOR 2 AND OSTERIX IN VITRO	579
<i>B. Bober, J. Leung, E. Shyr, A. Srinivasan, H. Cho, K. Krzysztof Matyjaszewski, J. Hollinger</i>	
574 - MECHANICAL, CHEMICAL, AND IN VIVO CHARACTERIZATION OF BIPHASIC HA/BTCP 3-D PRINTED SCAFFOLDS FOR CUSTOM BONE REPAIR APPLICATIONS	580
<i>L. Witek, A. Murriky, E. Clark, M. Pines, J. Smay, N. Silva, J. Ricci</i>	
575 - POTENTIAL OF POLY(ϵ-CAPROLACTONE FUMARATE) AS A BONE TISSUE ENGINEERING SCAFFOLD	581
<i>A. Sharma, J. Kim, M. B. Runge, P. Alvarez-Urena, M. Dadsetan, M. J. Yaszemski, J. O. Hollinger</i>	
576 - IN VITRO EVALUATION OF MESH-REINFORCED ABSORBABLE SELF-SETTING COMPOSITE ADHESIVE BONE CEMENT	582
<i>K. D. Gray, Jr., S. J. Peniston, R. T. Pace, S. W. Shalaby</i>	
577 - A COMPARISON OF CALCIUM SULFATE POLYMER COMPOSITES FOR THE RECONSTRUCTION OF BONE	583
<i>P. Lee, N. Tovar, M. Sachin, H. Alexander, M. Pines, J. Ricci</i>	
578 - EFFECT OF BASIC FIBROBLAST GROWTH FACTOR-LOADED BIOMINERAL/AGAROSE COMPOSITE GELS ON BONE REGENERATION	584
<i>N. Mizuta</i>	

DENTAL MATERIALS

579 - IN SITU REACTIVE ELECTROSPINNING OF PLA-MONETITE NANOCOMPOSITE SCAFFOLDS FOR DENTAL TISSUE ENGINEERING	585
<i>A. H. Ahmed, S. B. Bhaduri</i>	
580 - AN INVESTIGATION ON IN VIVO DEGRADATION OF POLYDIOXANONE FILMS IN A RAT MODEL	586
<i>M. Deng, T. Poandl, M. Mooney, K. Hristov, S. Karoly</i>	
581 - MICROSTRUCTURE DEVELOPMENT AND IN VITRO DISSOLUTION BEHAVIOR OF SiO_2-MGO-Al_2O_3-K_2O-B_2O_3-F GLASS-CERAMICS	587
<i>B. Basu, S. Roy</i>	
582 - PERI-IMPLANT AND PERIOSTEAL RESPONSES OF TITANIUM AND ZIRCONIA IMPLANTS IN A RABBIT MODEL	588
<i>D. Shin, S. B. Blanchard, M. Ito, T-M. G. Chu</i>	
583 - DEACTIVATION OF ORAL BACTERIA USING AN ATMOSPHERIC PLASMA BRUSH	589
<i>A. C. Ritts, B. Yang, J. Chen, Y. Kim, H. Li, L. Hong, Y. Wang, M. Chen</i>	

DRUG DELIVERY SIG

584 - MODULATING NOTCH SIGNALING TO ENHANCE NEOVASCULARIZATION AND REPERFUSION IN DIABETIC MICE	590
<i>L. Cao, P. Arany, J. Kim, J. Rivera-Feliciano, Y-S. Wang, Z. He, C. Rask-Madsen, G. L. King, D. J. Mooney</i>	
585 - THERMOREVERSIBLE COPOLYMERS WITH ENZYME-DEPENDENT LOWER CRITICAL SOLUTION TEMPERATURES	591
<i>D. J. Overstreet, H. D. Dhruv, B. L. Vernon</i>	
586 - STUDY OF DOXYCYCLINE RELEASE PROFILES FROM DIFFERENT IN SITU-FORMING POLYMERIC IMPLANTS	592
<i>J. M. Olbrich, S. D. Nagatomi, J. T. Corbett, K. A. Nichter, K. J. L. Burg, S. W. Shalaby</i>	
587 - ANTIBIOTIC-LOADED CHITOSAN SPONGES PREVENT BIOFILM FORMATION BY MRSA IN AN ESTABLISHED MOUSE CATHETER MODEL	593
<i>S. P. N. Noel, K. E. Beenken, M. S. Smeltzer, H. S. Courtney, J. D. Bumgardner, W. O. Haggard</i>	
588 - DEVELOPMENT OF GENTAMICIN CONTAINING BIOACTIVE MACROPOROUS INJECTABLE CALCIUM PHOSPHATE CEMENT	594
<i>A. J. McNally, K. Sly, S. Lin</i>	
589 - BIOSTABLE NON-HORMONAL CONTRACEPTIVE ANTIFUNGAL INTRAVAGINAL RINGED-MESH: A PRELIMINARY STUDY	595
<i>G. T. Hilas, S. D. Nagatomi, K. A. Nichter, S. W. Shalaby</i>	
590 - EFFECT OF DRUG PHYSICOCHEMICAL PROPERTIES ON RELEASE PROFILES FROM AN ABSORBABLE IN SITU-FORMING IMPLANT	596
<i>J. M. Olbrich, D. R. Ingram, S. D. Nagatomi, J. T. Corbett, K. J. L. Burg, S. W. Shalaby</i>	

EMERGING FRONTIERS IN DESIGN AND CHARACTERIZATION OF BIO-INSPIRED NANOSCALE RESEARCH & MATERIALS

591 - PROTEIN NANOPATTERNING ON A HIGHLY-ORIENTED LAMELLAR SURFACE	597
<i>M. Omichi, M. Matsusaki, K. Kadowaki, B. H. Kim, S. O. Kim, I. Maruyama, M. Akashi</i>	
592 - ATOMIC FORCE MICROSCOPIC ANALYSIS OF SUNDEW (DROSERA) ADHESIVE FOR BIOMEDICAL APPLICATIONS	598
<i>S. Lenaghan, L. Xia, W. R. Henson, M. Zhang</i>	

593 - ELECTRIC CHARACTERIZATION OF LIQUID CRYSTAL NANOCOLLOIDS	599
<i>S. Wu, J. Zhou, S. Tsoi, C. Spillmann, J. Naciri, B. Ratna</i>	
594 - DEVELOPMENT OF NEW REDUCIBLE CATIONIC GEMINI SURFACTANT - SS14 - CONTAINING LIPOSOMES FOR GENE DELIVERY	600
<i>G. Candiani, D. Pezzoli, L. Ciani, A. Cigada, R. Chiesa, S. Ristori</i>	
595 - MUSSEL-INSPIRED SURFACE FUNCTIONALIZATION OF GRAPHENE OXIDE	601
<i>S. Kang, D. Kim, H. Lee</i>	
596 - TARGETED IMMOBILIZATION OF NANOSTRUCTURES AND BIOMOLECULES THROUGH PEPTIDE-BASED BIOLINKERS	602
<i>M. Hnilova, C. So, E. E. Oren, T. Kacar, C. Tamerler, M. Sarikaya</i>	
597 - STRUCTURAL RESPONSES OF DNA-DDAB FILMS TO ENVIRONMENTAL TRIGGERS	603
<i>T. Neumann, S. Gajria, L. Jaeger, M. Tirrell</i>	

ENGINEERED IN VITRO TISSUE MODEL FOR DISEASE AND DRUG DISCOVERY STUDIES

598 - TEST SYSTEM FOR MODELING CANCER CELL BEHAVIOR AS A FUNCTION OF SUBSTRATE STIFFNESS	604
<i>E. Bland</i>	
599 - CACO-2 INTESTINAL EPITHELIAL MODEL UTILIZING COLLAGEN BASED SUBSTRATES PATTERNED WITH CRYPT-LIKE TOPOGRAPHY	605
<i>L. Wang, S. K. Murthy, G. A. Barabino, R. L. Carrier</i>	
600 - EXTRACELLULAR MATRIX SURROGATES FOR TUMOROID GENERATION	606
<i>V. Sardana, N. Arya, D. Katti</i>	
601 - FIBROBLASTS AFFECT THE PHENOTYPE OF NORMAL HUMAN BRONCHIAL EPITHELIAL CELLS WHEN CO-CULTURED IN THREE-DIMENSIONAL (3D) ORGANOTYPIC CULTURES	607
<i>S. C. Pageau, M. Maffini, A. Soto, C. Sonnenschein</i>	
602 - SPHERE-TEMPLATED HYDROGELS FOR 3D OBSERVATION OF PROSTATE CANCER CELL GROWTH AND TUMOR FORMATION	608
<i>T. J. Long, C. C. T. Sprenger, S. R. Plymate, B. D. Ratner</i>	
603 - IN VITRO TUBULOGENESIS FROM CELL LINES DERIVED FROM EMBRYONIC KIDNEY MODULATED BY EXTRACELLULAR MATRICES AND GROWTH FACTORS	609
<i>X. Zhang, R. Wang, W. Wu, T. Smith, K. T. Bush, S. K. Nigam</i>	
604 - BIOFABRICATION AND CELL BY CELL DEPOSITION	611
<i>V. Seshadri, K. J. L. Burg</i>	
605 - TISSUE-ENGINEERED SCAFFOLDS FOR SCREENING NANOPARTICLE - CELL INTERACTIONS	612
<i>K. M. Jeerage, E. Mansfield, T. L. Oreskovic, N. S. Goldstein, T. P. Quinn</i>	
606 - MEASUREMENT OF TISSUE ADHERENCE FOR IN SITU FORMED PEG ACRYLATE HYDROGELS	613
<i>S. P. Foster, J. Koepsel, T. Butler, K. Greenawalt, X. Dai, J. Colt, R. Corazzini, O. Syrkina, K. Skinner, J. Kablik, T. Jozefiak</i>	
607 - MODULATING OSTEOGENESIS OF MESENCHYMAL STEM CELLS BY MODIFICATION OF GROWTH FACTOR AVAILABILITY	614
<i>Z. Huang, P-G. Ren, T. Ma, R. S. Lane, S. B. Goodman</i>	
608 - MICROFLUIDIC ENABLED CREATION OF VASCULARIZED 3D MINIATURIZED TISSUE	615
<i>X. Yang, J-H. Lee, Y. Wang, W. Lee, H. Wang</i>	

ENGINEERING IMMUNE INTERACTIONS WITH BIOMATERIALS

609 - IN VITRO ACTIVATION OF DENDRITIC CELLS BY POLYANHYDRIDE NANOPARTICLES	616
<i>L. Petersen, A. Yeager, M. Wannemuehler, B. Narasimhan</i>	
610 - THE FOREIGN BODY RESPONSE TO NERVE CUFFS IS ASSOCIATED WITH PERSISTENT INFLAMMATION AND CHANGES IN NERVE FIBER COMPOSITION	617
<i>M. B. Christensen, P. A. Tresco</i>	
611 - MICROELECTRODES WITH REDUCED SURFACE AREA SHOW A REDUCED FOREIGN BODY RESPONSE	618
<i>J. L. Skousen, B. D. Winslow, S. Merriam, O. Srivannavit, G. E. Perlin, K. D. Wise, P. A. Tresco</i>	
612 - THE ROLE OF OSTEOPONTIN IN MACROPHAGE MEDIATED INFLAMMATION	619
<i>S. A. Lund, C. Giachelli, M. Scatena</i>	
613 - EFFECTS OF SUBSTRATUM ELASTICITY ON DENDRITIC CELL MATURATION	620
<i>C. Yacoob, T. Sangvanich, K. Tran, H. Shen</i>	
614 - DENDRITIC CELL RESPONSES TO SURFACES PRESENTING DEFINED GLYCANS	621
<i>N. A. Hotaling, P. Kou, X. Song, D. Smith, R. Cummings, J. Babensee</i>	
615 - IN VIVO MEASUREMENT AND MODULATION OF CYTOKINE PRODUCTION IN RATS	622
<i>V. Venkatakrishnan, E. Von Grote, J. A. Stenzen</i>	
616 - THE EFFECTS OF CARBON NANOFIBER WETTABILITY ON MACROPHAGE FUNCTIONS	623
<i>Y. Chun, T. J. Webster</i>	
617 - MIGRATION STABILITY OF ANTIOXIDANT CONTAINING ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE AT 75 AND 115 KGY STERILIZATION DOSES	625
<i>A. Senyurt, V. Narayan</i>	
618 - ADHESIVE PEPTIDE GRADIENT REGULATION OF DENDRITIC CELL ACTIVATION	626
<i>N. D. Gallant, A. P. Acharya, B. G. Keselowsky</i>	

619 - DETERMINATION AND MODULATION OF REACTIVE OXYGEN SPECIES PRODUCTION AND RELEASE BY HUMAN PERIPHERAL BLOOD-DERIVED MONOCYTES ADHERED TO POLY(ETHYLENE GLYCOL)-BASED MATERIALS	627
<i>H. Waldeck, W. J. Kao</i>	
620 - PARALLEL PARTICLE PRODUCTION & CELLULAR ARRAYS FOR PARTICLE-VACCINE DEVELOPMENT AND OPTIMIZATION	628
<i>A. P. Acharya, N. Dolgova, J. Lewis, M. J. Clare-Salzler, C-Q. Xia, B. G. Keselowsky</i>	

ENGINEERING THERAPEUTIC DELIVERY FROM BIOMATERIAL SCAFFOLDS FOR CELL THERAPY

621 - NOVEL APPROACH FOR ANCHORING BIOACTIVE PEPTIDES TO BONE REGENERATIVE BIOMATERIALS.....	629
<i>B. K. Culpepper, S. L. Bellis</i>	
622 - TRANSFECTED STEM CELL DELIVERY VIA THERMOREVERSIBLE HYDROGEL FOR IMPROVED CARDIAC FUNCTION	630
<i>B. A. Borden, J. Yockman, S. Kim</i>	
623 - ENHANCED ISLET FUNCTION AND SURVIVAL OF RAT ISLETS IN A BIOMIMETIC SELF-ASSEMBLED NANOMATRIX GEL	631
<i>D-J. Lim, S. Antipenko, J. Anderson, K. Jaimes, B. Stephen, S. Bryant, B. Yancey, J. Contreras, J. Thompson, J. Corbett, H-W. Jun</i>	
624 - CONTROLLING MONOCYTE DIFFERENTIATION TO TREAT ECTOPIC CALCIFICATION	632
<i>A. Moreno-Gonzalez, T. Osathanon, M. Scatena, C. M. Giachelli</i>	
625 - POLYMER - XEROGEL COMPOSITES FOR CONTROLLED RELEASE WOUND DRESSINGS: A RAT INCISIONAL PAIN MODEL STUDY	633
<i>H. Qu, M. Costache, D. Devore, P. Ducheyne</i>	
626 - A COLLAGEN-CHITOSAN SCAFFOLD AS A POSSIBLE HIGHLY VASCULARIZED ECTOPIC SITE FOR PANCREATIC ISLET TRANSPLANTATION	634
<i>B. Vulesevic, C. Deng, C. Ellis, G. S. Korbutt, E. J. Suuronen</i>	
627 - SITE-SPECIFIC OSTEOCLAST-MEDIATED CELL THERAPY FOR VASCULAR CALCIFICATION.....	635
<i>C. L. Simpson, C. Cheluvareju, N. Vyavahare</i>	

ENGINEERING VASCULARIZED TISSUES

628 - COLLOIDAL MICROGELS FOR NEOVASCULARIZATION	636
<i>R. J. Devolder, H. Kong</i>	
629 - BIO-ARTIFICIAL MATRICES FOR THERAPEUTIC VASULARIZATION	637
<i>E. A. Phelps, N. Landázuri, P. M. Thulé, W. R. Taylor, A. J. García</i>	
630 - MODULATING THE BIOLOGICAL MILIEU WITHIN CARDIOVASCULAR BIOMATERIALS USING NOVEL CONSTRUCTS DERIVED FROM FIBRONECTIN	638
<i>M. Sobel, T. R. Kohler, J. Murray, M. Namekata, M. Yagi, E. S. Wijelath</i>	
631 - PHOTOLITHOGRAPHICALLY AND SOFTLITHOGRAPHICALLY MICROFABRICATED POLY(ETHYLENE GLYCOL) HYDROGELS.....	639
<i>M. Cuchiara, J. Miller, A. Allen, T. Chen, R. Villareal, J. West</i>	
632 - MICROCHANNELED AND MICROPOROUS FIBRIN SCAFFOLDS FOR CARDIAC TISSUE ENGINEERING	640
<i>K. S. Thomson, G. D. Robinson, F. S. Korte, M. Linnes, C. M. Giachelli, B. D. Ratner, M. Regnier, M. Scatena</i>	
633 - GUIDED ENDOTHELIAL CELL GROWTH IN THREE-DIMENSIONAL HYDROGELS	641
<i>Y. Aizawa, M. Shoichet</i>	
634 - IDENTIFICATION OF CROSSTALK BETWEEN INFLAMMATION AND ANGIOGENESIS IN BIOACTIVE HYDROGELS	642
<i>A. L. Zachman, C. K. Griffith, S. W. Crowder, S. Patel, J. Kohn, H-J. Sung</i>	
635 - A POLOXAMINE-POLYLYSINE ACRYLATE SCAFFOLD FOR MODULAR TISSUE ENGINEERING	643
<i>E. Ciucurel, M. V. Sefton</i>	
636 - A LAMINATED PERFUSION CHANNEL SCAFFOLD FOR CREATING THICK TISSUE ENGINEERED CONSTRUCTS.....	644
<i>J. P. Kennedy, L. M. Williams, S. P. McCandless, R. W. Hitchcock</i>	

GLYCOSAMINOGLYCAN BIOMATERIALS IN MEDICINE

637 - CHARACTERIZATION OF AND CELLULAR RESPONSE TO CHANGES IN COMPOSITION OF A HYALURONIC ACID-BASED HYDROGEL.....	645
<i>K. Davis, C. Clavijo, A. Depoix, B. Mann</i>	
638 - MAST CELLS IN CHITOSAN-MEDIATED WOUND HEALING	646
<i>M. Jung, M. S. Lord, S. McCarthy, J. M. Whitelock</i>	
639 - INCORPORATION OF THEOPHYLLINE IN A HYDROGEL BASED ON POLYELECTROLYTE COMPLEX OF CHITOSAN/CHONDROITIN SULFATE: MECHANICAL PROPERTIES AND RELEASE PROFILES AT DIFFERENT PH CONDITIONS.....	647
<i>E. C. Muniz, Sr., L. C. Lopes, J. F. Piai, A. R. Fajardo, A. F. Rubira</i>	

640 - PLATELET ADHESION TO CHITOSAN MEDIATES WOUND HEALING THROUGH PROTEOGLYCANS AND INTEGRIN RECEPTORS	648
<i>B. Cheng, M. S. Lord, S. McCarthy, J. M. Whitelock</i>	

IMMUNOLOGY OF NANOMATERIALS

641 - THE EFFECT OF CYTOTOXIC PARTICLES ON CELL DAMAGE MOLECULE RELEASE AND PATTERN RECOGNITION RECEPTOR ACTIVATION	649
<i>E. L. Nalvarie-Kostoryz, C. L. Mo, A. E. Holt, M. P. Walker, J. H. Purk, J. D. Eick</i>	
642 - MACROPHAGE RESPONSE TO NANOMETER-SIZE CHROMIUM OXIDE PARTICLES	650
<i>R. Vanos, P. E. Beaulé, I. Catelas</i>	
643 - IMMUNOMODULATORY POLYANHYDRIDE PARTICLE VACCINES TO PROVIDE PROTECTION AGAINST PLAGUE	651
<i>B. D. Ulery, D. Kumar, M. J. Wannemuehler, D. W. Metzger, B. Narasimhan</i>	
644 - BLOOD INTERACTION AND PROTEIN ADSORPTION ON ENGINEERED TITANIA NANOTUBULAR ARRAYS	652
<i>B. S. Smith, S. Yoriya, C. A. Grimes, K. C. Popat</i>	

IMPLANT PATHOLOGY SIG

645 - HISTOLOGY OF ALLOGRAFT-PROSTHESIS COMPOSITES FOR RECONSTRUCTION IN SEVERE BONE LOSS OF THE PROXIMAL FEMUR	653
<i>E. L. Dahlmeier, R. M. Urban, D. J. Hall, C. J. Della Valle, J. O. Galante, J. J. Jacobs</i>	
646 - EFFECTS OF RADIATION THERAPY ON SILICONE PROSTHESES WITH DIFFERENT GEL COHESIVITY	654
<i>L. Altomare, L. Lozza, C. Stucchi, M. Tanzi, M. Nava, S. Fare'</i>	
647 - MODIFYING MACROPHAGE ACTIVATION AND THE FOREIGN BODY RESPONSE TO PEG-BASED HYDROGELS	655
<i>A. D. Lynn, T. R. Kyriakides, L. M. Johnson, C. N. Bowman, S. J. Bryant</i>	
648 - PRECISION STAINING OF HISTOLOGICAL SAMPLES USING THERMAL INKJET TECHNOLOGY	656
<i>M. E. Pepper, C. A. P. Cass, T. C. Burg, R. E. Groff, L. L. Jenkins, K. J. L. Burg</i>	

MICRON AND NANOTECHNOLOGY DERIVED THERANOSTIC BIOMATERIALS

649 - DEVELOPMENT OF MULTIFUNCTIONAL LIPID-PLURONIC NANOBUBBLE ULTRASOUND CONTRAST AGENTS	657
<i>T. M. Krupka, R. E. Wilson, L. Solorio, H. Wu, N. Azar, A. A. Exner</i>	
650 - NANOPARTICULATE GOLD-POLYMER SYSTEMS FOR EXTERNALLY-CONTROLLED DELIVERY	658
<i>M. L. Gran, N. A. Peppas</i>	
651 - METHODOLOGY OF BIODEGRADABLE PHOTOLUMINESCENT POLYMER DEVELOPMENT	659
<i>Y. Zhang, J. Yang</i>	
652 - BIOFILM-DEGRADING ENZYME DELIVERY FROM CHITOSAN NANOPARTICLES	660
<i>L. N. Strotman, A. S. Gobin</i>	
653 - MULTIFUNCTIONAL CALCIUM PHOSPHATE NANOCOMPOSITE FOR SYNCHRONOUS SENSING AND CONTROLLED DRUG DELIVERY	661
<i>S. Banerjee, S. Bose</i>	
654 - SPECIFIC PROTEIN BINDING ON FLUIDIC LIPID BILAYER MICROARRAY CORRALLED BY WELL-DEFINED POLYMER BRUSHES	662
<i>Y. Iwasaki, K. Nakai, K. Morigaki</i>	
655 - SOLID PHASE SYNTHESIS OF THERMALLY RESPONSIVE DENDRITIC MACROMOLECULES FOR DRUG DELIVERY PURPOSES	663
<i>K. Chang, L. A. Bergman, L. J. Taite</i>	

MODELS OF CARDIOVASCULAR MATERIALS BIOCOMPATIBILITY

656 - EVALUATION OF A DEGRADABLE POLAR HYDROPHOBIC IONIC POLYURETHANE DESIGNED FOR VASCULAR GRAFT GENERATION IN AN IN VIVO MOUSE MODEL	664
<i>S. M. McDonald, L. A. Matheson, J. E. McBane, S. Sharifpoor, J. P. Santerre</i>	
657 - VALIDATION OF A NOVEL FLOW CIRCUIT ASSESSING VASCULAR BIOMATERIALS RETENTION OF ENDOTHELIAL CELLS	665
<i>S. Dimitrievska, Jr., M. N. Bureau, Sr.</i>	
658 - FULL-BLOOD THROMBIN GENERATION TIME: A BLOOD COAGULATION ASSAY AS ALTERNATIVE FOR APT AND PT USING FLOWING BLOOD	666
<i>M. L. W. Knetsch, L. H. Koole</i>	

MOLECULAR MECHANISMS MEDIATING PROTEIN-SURFACE AND CELL-SURFACE INTERACTIONS

659 - ACTIVATION OF CYCLIC ADENOSINE MONOPHOSPHATE/PROTEIN KINASE A SIGNALING PATHWAY ENHANCES OSTEOBLAST CELL ADHESION ON BIOMATERIALS FOR BONE TISSUE ENGINEERING APPLICATION	667
<i>W. Lo, C. T. Laurencin</i>	
660 - ADSORPTION AND ACTIVITY OF FIBRINOGEN ON POLYURETHANE BIOMATERIALS SURFACES IN THE PRESENCE OF OTHER PROTEINS	668
<i>L. Xu, C. Siedlecki</i>	
661 - CORRELATION BETWEEN DESORPTION FORCE MEASURED BY ATOMIC FORCE MICROSCOPY (AFM) AND ADSORPTION FREE ENERGY MEASURED BY SURFACE PLASMON RESONANCE (SPR) FOR PEPTIDE-SURFACE INTERACTIONS	669
<i>Y. Wei, R. A. Latour</i>	
662 - COMPUTATIONAL MODELING OF BIOLOGICAL RESPONSES FOR A LARGE LIBRARY OF POLY(METHACRYLATES)	670
<i>J. Ghosh, D. D. Knight, J. Kohn</i>	
663 - MECHANISMS OF THE ANGIOGENIC EFFECT OF POLY(METHACRYLIC ACID-CO-METHYL METHACRYLATE) BEADS	671
<i>L. E. Fitzpatrick, M. V. Sefton</i>	
664 - STRUCTURAL BIOINFORMATICS BASED METHOD FOR PREDICTING THE INITIAL ADSORBED PROTEIN ORIENTATION ON A SURFACE	672
<i>A. A. Thyparambil, R. A. Latour</i>	
665 - CALCULATION OF FREE ENERGY OF PEPTIDE-SURFACE INTERACTIONS USING BIASED - SAMPLING MOLECULAR DYNAMICS	673
<i>N. A. Vellore, J. A. Yancey, S. J. Steven, R. A. Latour, Jr.</i>	
666 - MONOCYTE PHENOTYPIC POLARIZATION ON PEG HYDROGELS, POLYDIMETHYLSILOXANE, AND TCPS IS MEDIATED BY EXOGENOUS SERUM AND SURFACE-ASSOCIATED PROTEINS INCLUDING COMPLEMENT C3, FIBRINOGEN, THROMBIN, AND VITRONECTIN	674
<i>W. Kao, D. Schmidt, E. Joyce, X. Wang</i>	
667 - CONTROLLING CELL BEHAVIOR IN A HYDROGEL ENVIRONMENT BY GENETIC MODIFICATION	675
<i>S. Sahai</i>	
668 - SIMULATED INTERACTIONS BETWEEN STRUCTURED PEPTIDES AND BIOMATERIALS	676
<i>G. Collier, S. J. Stuart, R. A. Latour</i>	
669 - EFFECT OF PRESSURE ON ADSORPTION FREE ENERGY IN PROTEIN ADSORPTION SIMULATIONS	677
<i>J. A. Yancey, N. A. Vellore, S. J. Stuart, R. A. Latour</i>	
670 - CONFORMATIONAL STABILITY OF PROTEINS CONJUGATED WITH WATER-SOLUBLE PHOSPHOLIPID POLYMER FROM HEAT-INDUCED DENATURATION: EFFECT OF THE HYDROPHILICITY OF THE POLYMER MATERIALS	678
<i>J-H. Seo, R. Matsuno, Y. Lee, T. Konno, M. Takai, K. Ishihara</i>	
671 - POLY(ϵ-CAPROLACTONE) ACRYLATE NETWORKS WITH CONTROLLABLE PROPERTIES AND TUNABLE CELL BEHAVIOR	679
<i>S. Wang, L. Cai</i>	
672 - POLY(ϵ-CAPROLACTONE) HOMO-BLENDS WITH CONTROLLABLE PROPERTIES AND CELL BEHAVIOR	680
<i>S. Wang, K. Wang</i>	
673 - SIGNIFICANT PARAMETERS FOR PROTEIN ADSORPTION ON WELL-CONTROLLED POLYMER BRUSH SURFACE	681
<i>T. Nakanishi, Y. Inoue, R. Matsuno, M. Takai, K. Ishihara</i>	
674 - BIOMIMETIC POLYMER BRUSHES TO CONTROL PROTEIN-SURFACE INTERACTIONS	682
<i>R. V. Lerun, H. Bermudez</i>	
675 - CATHODIC VOLTAGE PRECONDITIONING OF TI-6AL-4V IN MEDIA AFFECTS MC3T3 PRE-OSTEOBLAST CELL VIABILITY	683
<i>S. Sivan, E. S. Ouellette, J. L. Gilbert</i>	

MULTI-FACTOR DRUG DELIVERY FOR MUSCULOSKELETAL REGENERATION

676 - CONCURRENT RELEASE OF BMP-2 AND GENTAMICIN IN AN INFECTED OPEN FRACTURE MODEL	684
<i>R. L. Stewart, J. T. Cox, L. Kenan, D. Volgas, J. Stannard, L. Duffy, K. B. Waites, T-M. G. Chu</i>	
677 - EFFECTIVENESS OF A DUAL DRUG DELIVERY CALCIUM SULFATE, CHITOSAN-CALCIUM PHOSPHATE BONE SCAFFOLD	685
<i>H. Doty, W. Haggard, H. Courtney, J. Bumgardner</i>	
678 - CHARACTERIZATION OF A TWO-PHASE DRUG DELIVERY SYSTEM TO TREAT PERTHES DISEASE	686
<i>Y. Zou, J. L. Brooks, T. A. Milbrandt, V. Talwalkar, D. A. Puleo</i>	

679 - CONTROLLED DRUG RELEASE FROM HYDROXYAPATITE-COATED POROUS METAL STRUCTURE.....	687
<i>G. Gupta, A. Bagadia, S. Sundaramurthy</i>	

NANO MATERIALS

680 - STIMULI-RESPONSIVE “SMART” MAGNETIC NANOPARTICLES FOR POINT-OF-CARE DIAGNOSTICS.....	688
<i>J. J. Lai, A. S. Hoffman, P. S. Stayton</i>	
681 - NONCOVALENT MODIFICATION OF PROTEINS USING SMART POLYMER: IMPLICATIONS IN MODULATING ENZYMATIC ACTIVITY AND IMPROVEMENT OF THERMOTORELANT PROPERTY.....	689
<i>S. Ganguli, Iv, K. Yoshimoto, Iv, S. Tomita, Iv, H. Sakuma, Iv, T. Matsuoka, Iv, K. Shiraki, Iv, Y. Nagasaki, Iv</i>	
682 - PREPARATION OF A MAGNETICALLY ATTRACTED POLY(N-ISOPROPYLACRYLAMIDE)-BASED STIMULI-RESPONSIVE COACERVATE FOR BIOSEPARATIONS.....	690
<i>T. Maeda, Y. Kodama, K. Yamamoto, T. Aoyagi</i>	
683 - A NOVEL APPROACH TO PREPARING MULTI STIMULI-RESPONSIVE NANO-ASSEMBLY BY A SIMPLE MIXING OF BLOCK COPOLYMERS.....	691
<i>Y. Kotsuchibashi, M. Ebara, K. Yamamoto, T. Aoyagi</i>	
684 - A RAPID TEST FOR MALARIA UTILIZING A “SMART” MICROFLUIDIC CONCENTRATOR AND IMMUNOASSAY.....	692
<i>A. L. Golden, C. F. Battrell, A. S. Hoffman, P. S. Stayton</i>	
685 - GRAFTING OF PMMA BRUSHES ON CROSS-LINKED PMMA NANOSPHERES FOR USE IN NOVEL TWO-SOLUTION BONE CEMENTS.....	693
<i>D. C. Rodrigues, R. Bader, J. M. Hasenwinkel</i>	
686 - EVALUATE THE CELL ADHESION FORCE FOR HOS AND FIBROBLAST ON THE NANO-METRIC ROUGHNESS OF Ti6AL4V.....	694
<i>M-C. Hsieh, C-C. Wang, T-M. Lee, S-P. Yang</i>	
687 - DECREASED STAPHYLOCOCCUS AUREUS ACTIVITY IN THE PRESENCE OF IRON OXIDE MAGNETIC NANOPARTICLES.....	695
<i>N. Tran, T. Webster</i>	
688 - SURFACE FUNCTIONALIZED CARBON NANOPIPETTES FOR REAL-TIME INTRACELLULAR SIGNALING SENSING.....	696
<i>S. Bhattacharyya, M. Schrlau, H. Bau, P. Ducheyne</i>	
689 - ANTIBACTERIAL PROPERTIES OF SONICATED PIEZOELECTRIC ZINC OXIDE NANOPARTICLES.....	697
<i>J. T. Seil, E. N. Taylor, T. J. Webster</i>	
690 - EVALUATION OF ULTRA THIN PIPAAm LAYER MODIFIED GLASSCOVER SLIPS SURFACES BY USING AFM.....	698
<i>Y. Akiyama, K. Fukumori, M. Yamato, T. Okano</i>	
691 - ASSEMBLY OF ALUMINA NANOPARTICLES USING ENGINEERED PROTEIN LINKER.....	699
<i>N. Chopra, P. Nednoor, J. Li, Y. Wei, V. G. Gavalas, L. G. Bachas</i>	
692 - CHARACTERISTICS OF DSPE-PEG2000 SELF ASSEMBLIES IN PURE WATER AND ISOTONIC BUFFER SOLUTION.....	700
<i>S. P. Drake, K. S. Brandenburg, S. Lim, H. Onyuksel</i>	
693 - LOCAL ENVIRONMENT EFFECTS ON SILVER NANOPARTICLE ANTIMICROBIAL ACTIVITY.....	701
<i>B. J. Dair, D. M. Saylor, S. K. Pollack</i>	
694 - PLASMA PROTEIN INTERACTIONS WITH BOVINE SERUM ALBUMIN NANOPARTICLES.....	702
<i>M. S. Bahniuk</i>	
695 - DESIGN OPTIMIZATION, CHARACTERIZATION, AND BIOACTIVITY ASSESSMENT OF NANOCOMPOSITE SCAFFOLD.....	703
<i>A. M. El-Kady, M. M. Farag, B. M. Abd El-Hadya</i>	
696 - MASKING AND TRIGGERED 'UNMASKING' OF TARGETING LIGANDS IMPROVES LIPOSOMAL DELIVERY TO GLIOMA.....	704
<i>K. McNeeley, E. Karathanasis, A. Annapragada, R. Bellamkonda</i>	
697 - SYNTHESIS OF BIODEGRADABLE NUCLEIC ACID CARRIERS BY RAFT COPOLYMERIZATION OF CATIONIC PEPTIDES WITH HPMA.....	705
<i>R. N. Johnson, R. S. Burke, A. J. Convertine, A. S. Hoffman, P. S. Stayton, S. H. Pun</i>	
698 - NOVEL TRANSLUCENT/TRANSPARENT THERMOPLASTIC ELASTOMERIC NANOCOMPOSITES FOR BREAST PROSTHESIS.....	706
<i>G. Lim, S. E. Porosky, C. Götz, V. Altstädt, J. E. Puskas</i>	
699 - STABILITY OF BIODEGRADABLE PEPTIDE NANOSPHERES WITH PEG BRUSH LAYER FOR HYDROLYSIS AND STERILIZATION.....	707
<i>M. Matsumoto, T. Waku, M. Matsusaki, M. Akashi</i>	
700 - ADDITION OF SILICATE NANOPARTICLES TO POLY(ETHYLENE OXIDE) CONTROLS CELL ADHESION.....	708
<i>P. Schexnailder, A. K. Gaharwar, G. Schmidt</i>	

NATURAL-BASED POLYMERIC BIOMATERIALS AND COMPOSITES

701 - BIOMIMETIC DESIGN OF CALCIUM PHOSPHATE- REINFORCED COLLAGEN HYDROGELS FOR BONE TISSUE ENGINEERING	709
<i>X. Chen</i>	
702 - ALGINATE SKIN WOUND DRESSING MANUFACTURED BY RAPID PROTOTYPING TECHNIQUE	710
<i>H-Y. Lin, Y-H. Wang</i>	
703 - CHITOSAN ENHANCES ADHESION AND PROLIFERATION OF OSTEOBLAST CELLS ON NANOCOMPOSITE FILMS	711
<i>A. K. Gaharwar, P. Schexnaïlder, Q. Jin, C-J. Wu, G. Schmidt</i>	
704 - IN VIVO STUDY OF CHITOSAN-SILICA XEROGEL HYBRID MEMBRANE FOR WOUND HEALING	712
<i>E-J. Lee, H-E. Kim</i>	
705 - ALIGNED COLLAGEN-GAG SCAFFOLDS FOR TENDON TISSUE ENGINEERING	713
<i>S. R. Caliarì, M. Ramirez, B. A. C. Harley</i>	
706 - EFFECT OF MOLECULAR WEIGHT OF CHITOSAN DEGRADED BY MICROWAVE IRRADIATION ON BONE TISSUE ENGINEERING APPLICATIONS	714
<i>M. M. Mecwan, T. Burke, S. R. Mishra, W. O. Haggard, J. D. Bumgardner</i>	
707 - COLLAGEN MATRIX POSSESSING SIMILAR STRUCTURE OF THAT OF NATIVE EXTRACELLULAR MATRIX	715
<i>K. Nam, Y. Sakai, T. Kimura, A. Kishida</i>	
708 - EFFECTIVENESS OF A NOVEL POLY(UREA-URETHANE) AS AN ANTIMICROBIAL AND IN REDUCING INFLAMMATION AND PAIN	716
<i>L. L. Swick, J. C. Leung, S. E. Neuville</i>	
709 - BULK BIOMINERALIZATION OF DENSE FIBRILLAR COLLAGEN-BIOGLASS® HYBRID SCAFFOLDS	717
<i>B. Marelli, C. E. Ghezzi, J. E. Barralet, A. R. Boccaccini, S. N. Nazhat</i>	
710 - INTEGRIN-MEDIATED PLATELET ADHESION AS A MECHANISM FOR HEMOSTATIC ACTIVITY OF A KERATIN BIOMATERIAL	718
<i>M. Bahawdory, L. Burnett, R. R. Hantgan, M. E. Van Dyke</i>	
711 - MECHANICAL PROPERTIES OF HYDROXYAPATITE REINFORCED COLLAGEN SCAFFOLDS	719
<i>R. J. Kane, R. K. Roeder</i>	
712 - NOVEL ELECTRO-SPRAY TECHNIQUE FOR APPLYING PHOSPHOLIPID COATINGS TO TITANIUM	720
<i>D. A. Prawel, K. C. Popat, S. P. James</i>	
713 - PREPARATION AND CHARACTERIZATION OF MICROSPHERES CONSTITUTED OF ZEIN AND CHITOSAN, AS POLYMERIC BIOMATERIAL	721
<i>E. C. Muniz, Sr., V. Muller, Sr., J. F. Piai, A. R. Fajardo, Sr., S. L. Favaro, A. F. Rubira, Sr.</i>	
714 - DEVELOPMENT OF A NOVEL IN SITU FORMING TISSUE ENGINEERING SCAFFOLD	722
<i>A. Agawu, S. Banerjee, A. P. Desai, T. D. Sargeant, J. B. Stopek</i>	
715 - ADHESIVE AND PROLIFERATIVE RESPONSE OF PRIMARY MOUSE DERMAL FIBROBLASTS TO HUMAN HAIR KERATINS: AN IN VITRO WOUND HEALING EVALUATION	723
<i>C. V. Gaines, M. Van Dyke</i>	
716 - BIOMECHANICAL STRENGTH COMPARISON OF UNIDIRECTIONAL AND BIDIRECTIONAL BARBED WOUND CLOSURE DEVICES IN DERMAL INCISIONS	724
<i>K. Gingras, J. Zaruby, R. Pennoyer</i>	
717 - EVALUATION OF TWO OSTEOCHONDRAL CONSTRUCTS FOR OSTEOCHONDRAL TISSUE ENGINEERING	725
<i>D. T. Nguyen, S. Maxson, K. J. L. Burg, J. D. Bumgardner</i>	
718 - EVALUATION OF OSTEOGENIC DIFFERENTIATION OF RAT MARROW MESENCHYMAL STROMAL CELLS ON THE BIOMINERAL/AGAROSE COMPOSITE GELS	726
<i>Y. Suzawa, N. Mizuta, T. Funaki, S. Iwai, Y. Yura, T. Nakano, H. Ohgushi, M. Akashi</i>	
719 - PHOTOCROSSLINKABLE COLLAGEN-POLYETHYLENE GLYCOL HYBRID HYDROGELS FOR IN SITU MODIFICATION OF SCAFFOLD STIFFNESS	727
<i>I. Gaudet, D. I. Shreiber</i>	
720 - TAILORING THE MECHANICAL & BIO-RESPONSE PROPERTIES OF A NATURAL TISSUE ADHESIVE USING PHARMACEUTICAL EXCIPIENTS	728
<i>G. Tomer, O. Preiss Bloom</i>	
721 - CHITOSAN-POLYCAPROLACTONE BASED MISCIBLE POLYBLEND NANOFIBROUS CONDUIT FOR PERIPHERAL NERVE REGENERATION	729
<i>N. Bhattarai</i>	

NOVEL APPROACHES FOR RAPID PROTOTYPING OF BIOMATERIALS

722 - FABRICATION OF TISSUE CHIP BY LAYER-BY-LAYER INKJET PRINTING	730
<i>K. Sakaue, K. Kadowaki, M. Matsusaki, M. Akashi</i>	
723 - 3D PRINTING OF AN ELASTIC LAMELLAR SCAFFOLD FOR INTERVERTEBRAL DISC REGENERATION	731
<i>B. R. Whatley, Y. Qiu, B. Damon, J. Kuo, X. Wen</i>	

724 - IN SITU GELATINIZATION MANUFACTURING OF FIBRIN BLOOD VESSEL SCAFFOLDS	732
<i>Z. Xiong, C. Weng, T. Zhang, S. Li, R. Zhang, Y. Yan</i>	
725 - FABRICATION, MECHANICAL AND IN VITRO BIOLOGICAL PROPERTIES OF POROUS TANTALUM FOR BONE IMPLANTS	733
<i>A. Bandyopadhyay, V. K. Balla, S. Bodhak, S. Bose</i>	
726 - REVERSIBLY CROSSLINKED GOLD NANOPARTICLE - HYALURONAN HYDROGELS FOR AUTOMATED VESSEL CONSTRUCT BIOPRINTING	734
<i>A. Skardal, J. Zhang, L. McCoard, S. Oottamasathien, G. D. Prestwich</i>	
727 - FABRICATION OF 3D SCAFFOLDS BY TWO-PHOTON POLYMERIZATION	735
<i>A. Ovsianikov, M. Gruene, L. Koch, M. Pflaum, M. Wilhelmi, A. Haverich, S. Gittard, R. Narayan, B. Chichkov</i>	
728 - WEAR RESISTANCE IMPROVEMENT BY LASER DEPOSITED Ti/TiC COATING	736
<i>D. Justin, Y. Yang, B. Stucker</i>	
729 - RECENT DEVELOPMENTS IN TISSUE ENGINEERING USING THE 3D-BIOPLOTTER™	737
<i>C. Carvalho, R. Van Bernum, A. Siblani</i>	
730 - A SYSTEMATIC METHOD TO QUANTIFY CELL VIABILITY IN THE BIO-MANUFACTURING PROCESS	738
<i>X. B. Chen</i>	
731 - LASER DIRECT WRITING OF MOUSE EMBRYONIC STEM CELLS ENCAPSULATED IN ALGINATE MICROBEADS	739
<i>Y. Xie, N. Abdul Raof, T. Phamduty, X. Guo, N. R. Schiele, D. B. Chrisey, D. T. Corr</i>	
732 - A BIOMIMETIC ‘SENSATE’ UNI-CONDYLAR REPLACEMENT SCAFFOLD FOR KNEE JOINT RESURFACING	740
<i>J. A. Szivek, C. P. Geffre, M. J. Marini, G. J. Heden, P. A. Sante Cruz</i>	
733 - SIMULATION OF EXCIMER LASER MICROFABRICATED TISSUE ENGINEERING SCAFFOLD MICROSTRUCTURAL DEFORMATIONS AND EFFECTIVE STIFFNESS	741
<i>G. C. Engelmayr, Jr., A. Jean</i>	
734 - LASER MICROMACHINING OF DIFFERENTIALLY-ADHERENT SUBSTRATES TO DIRECT CELLULAR GROWTH FOR FUNCTIONAL TISSUE ENGINEERING	742
<i>D. T. Corr, N. R. Schiele, R. A. Koppes, D. B. Chrisey</i>	
735 - DESIGN AND FABRICATION OF IMPLANTS FOR AMPUTATION PROSTHESIS	743
<i>A. Bandyopadhyay, P. Devasconcellos, V. K. Balla, S. Bose, W. S. Dornell</i>	
736 - EFFECT OF POROSITY ON MECHANICAL PROPERTIES AND BIOLOGICAL RESPONSE OF 3D PERIODIC POROUS TITANIUM	744
<i>N. Hrabe, R. Fernandes, P. Heinl, C. Koerner, R. Bordia</i>	
737 - LASER PRINTING OF MULTI-CELLULAR PATTERNS WITH ADJUSTABLE CELL DENSITIES	745
<i>M. Gruene, A. Deiwick, S. Schlie, L. Koch, N. Hofmann, B. Glasmacher, B. N. Chichkov</i>	

NOVEL IMAGING METHODS FOR MAPPING CELL PHENOTYPE

738 - TOWARDS A REPRESENTATIVE PHENOTYPIC REPRESENTATION OF STRUCTURAL COMPONENTS OF VASCULAR SMOOTH MUSCLE CELLS	746
<i>S. T. Wood, B. Dean, D. Dean</i>	

OCULAR DRUG-DELIVERY- A UNIQUE PLATFORM FOR ADVANCED DRUG ADMINISTRATION

739 - THERMOSENSITIVE, INJECTABLE, BIODEGRADABLE POLYMERS FOR OCULAR DRUG DELIVERY	747
<i>S. Garty, N. Kim, A. Galperin, S. Kanayama, T. T. Shen, B. D. Ratner</i>	
740 - PHOTORESPONSIVE HYDROGELS FOR OPHTHALMIC DRUG DELIVERY	748
<i>L. A. Wells, H. Sheardown</i>	
741 - PRELIMINARY IN-VITRO AND IN-VIVO EVALUATION OF PACLITAXEL FROM GLAUCOMA DRAINAGE DEVICE	749
<i>Y. Kwon, E. Arrieta, Y. P. Kato, M. Orozco, M. Aguilar, Y. Zhou, L. Pinchuk, J-M. Parel</i>	
742 - DECREASING APOPTOSIS IN DIABETIC RETINA WITH SUBCONJUNCTIVALLY IMPLANTED HYDROGELS: ONE STEP TOWARD POTENTIAL TREATMENT OF DIABETIC RETINOPATHY	750
<i>G. Misra, H. Imai, T. Gardner, T. Lowe</i>	
743 - CONTROLLED RELEASE OF DRUGS FOR CATARACT SURGERY FROM AN ENGINEERED HYDROGEL DEVICE	751
<i>F. B. Karp, S. Garty, T. T. Shen, B. D. Ratner</i>	

ORTHOPAEDIC BIOMATERIALS SIG

745 - IN VIVO RESPONSE OF NOVEL CALCIUM PHOSPHATE-MULLITE COMPOSITES: RESULTS UPTO 12 WEEKS OF IMPLANTATION	752
<i>S. Nath, B. Basu, M. Mohanty, P. V. Mohanan</i>	
746 - CYTOCOMPATIBILITY AND PHASE ASSEMBLAGE STUDY OF HEAT TREATED POTASSIUM MAGNESIUM PHOSPHATE-SILICATE CERAMICS	753
<i>B. Basu, R. Kumar</i>	

747 - EFFECT OF INCLUSION OF MICROPARTICLE FILLERS ON MECHANICAL PROPERTIES OF PEG-BASED HYDROGELS	754
<i>M. N. Tapp, A. Tsukruk, K. Gall, J. Temenoff</i>	
747 - DENDRIMER HYDROGELS FOR MUCOADHESIVE OCULAR DRUG DELIVERY	755
<i>C. A. Holden, H. Yang</i>	
748 - CO-ALLOY PARTICLES (DAMP'S) INDUCE STRONGER INFLAMMASOME ACTIVATION (IL-1B) IN EARLY MACROPHAGES COMPARED TO FULLY DIFFERENTIATED MACROPHAGES	756
<i>M. S. Caicedo</i>	
749 - WEAR CHARACTERIZATION OF A METAL-ON-METAL CERVICAL DISC UNDER ISO AND ASTM TEST CONDITIONS	757
<i>M. L. Harper, V. Singh, F. W. Chan</i>	
750 - ELECTROCHEMICAL PROPERTIES OF TITANIUM UNDER CATHODIC POLARIZATION AND SIMULATED INFLAMMATORY CONDITIONS	758
<i>M. T. Ehrensberger, G. Rudolph, A. Sobel, V. Capanelli</i>	
751 - WEAR OF METAL-ON-METAL, Si₃N₄-ON-METAL, CERAMIC-ON-METAL AND CERAMIC-ON-CERAMIC IN A HIP SIMULATION STUDY	759
<i>Y-S. Liao, A. Alberts, T. Render</i>	
752 - WEAR SIMULATION OF HIGH-FLEXION ACTIVITIES OF DAILY LIVING: STAIR CLIMBING IN DISPLACEMENT CONTROL	760
<i>J. L. Tikka, T. Render, M. R. Dressler, S. Swope</i>	
753 - A HIGHLY SENSITIVE METHOD FOR ISOLATION AND DISPLAY METALLIC DEBRIS FROM SYNOVIAL FLUID	761
<i>F. Billi, P. Benya, A. Kavanaugh, H. A. McKellop, J. V. Luck, Jr.</i>	
754 - DEVELOPMENT OF A BIOMECHANICAL MODEL TO EVALUATE MECHANICALLY-INDUCED CORROSION OF STAINLESS STEEL POSTERIOR LUMBAR SPINAL IMPLANTS	762
<i>J. L. Turner, P. E. Pare, R. Vance, J. L. Gilbert, B. Wilcox, J. Mirda</i>	
755 - CHARACTERIZATION OF WEAR PARTICLES FROM PERIPROSTHETIC TISSUES FROM TOTAL HIP PATIENTS	763
<i>M. K. Musib, V. Rasquinha, S. Saha</i>	
756 - PREPARATION OF ARTIFICIAL BIOLOGICAL LIGAMENT AND EXPERIMENT IN VIVO AND CELL CULTURE	764
<i>F. Y. Zhong</i>	
757 - CHOOSING THE APPROPRIATE MATERIAL FOR ORTHOPAEDIC INSTRUMENTATION	765
<i>J. L. Cartner, A. Whitten, R. L. Soileau</i>	
758 - BIOCOMPATIBLE PHOSPHOLIPID POLYMER GRAFTING IMPROVES THE WEAR RESISTANCE OF ARTIFICIAL HIP JOINTS REGARDLESS OF THE DEGREE OF CROSS-LINKING	766
<i>T. Moro, Y. Takatori, K. Ishihara, M. Kyomoto, T. Karita, H. Ito, T. Tsunoda, K. Saiga, K. Nakamura, H. Kawaguchi</i>	
759 - EVAPORATIVE ASSEMBLY OF DRUG-ELUTING BIORESORBABLE NANOCOMPOSITE MICROPATTERNS	767
<i>Y. Gu, W. Lee, J-H. Lee, A. Ihnen</i>	
760 - POROUS TITANIUM SCAFFOLDS WITH ALIGNED PORE STRUCTURE FOR BONE TISSUE ENGINEERING	768
<i>S-W. Yook, H-E. Kim, Y-H. Koh</i>	
761 - DESIGN RULES FOR A SELF-HEALING BONE CEMENT	769
<i>A. B. W. Brochu, W. M. Reichert</i>	
762 - A METHOD FOR REDUCING VARIABILITY IN BENDING STRENGTH	770
<i>O. Vesnovsky, H. W. Demian, T. O. Woods, L.D. T. Topoleski</i>	
763 - ELECTROMECHANICAL CHARACTERIZATION OF NOVEL COMPOSITE STRUCTURES FOR SPINE IMPLANTS	771
<i>R. D. Perea, L. Friis</i>	
764 - BIOMIMETIC STRUCTURE OF HYDROXYAPATITE SCAFFOLDS BY CAMPHENE-BASED FREEZE CASTING FOR BONE TISSUE ENGINEERING	772
<i>H-D. Jung, S-W. Yook, H-E. Kim, Y-H. Koh</i>	
765 - DEVELOPMENT OF A NEW SYNTHETIC VERTEBRAL CANCELLOUS BONE	773
<i>J. P. Domann, A. Johnson, J. James, L. A. Friis</i>	
766 - FATIGUE AND WEAR PERFORMANCE OF A HIGH TEMPERATURE TREATED AND CROSS-LINKED POLYETHYLENE	774
<i>E. W. Patten, S. A. Atwood, R. Tsay, J. Zhou, D. Sun</i>	
767 - WEAR RESISTANCE OF POLYCARBONATE URETHANE ACETABULAR CUPS AS COMPARED TO CROSS-LINKED ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE	775
<i>K. R. St. John, M. N. Gupta</i>	
768 - RADIOFREQUENCY NEUROTOMY DOES NOT CAUSE HEATING IN IMPLANT MATERIALS	776
<i>D. Fitch, K. Tanis, J. De Ana</i>	
769 - ENHANCED SURFACE HARDNESS OF ZIRCONIA TOUGHENED ALUMINA (ZTA)	777
<i>Y. Li, H-E. Kim, Y-H. Koh</i>	
770 - MODULATION OF THE PROPERTIES OF P-DIOXANONE COPOLYMERIC MONOFILAMENT SUTURES	778
<i>B. P. Baum, D. R. Ingram, D. E. Linden, M. S. Taylor, K. J. L. Burg, S. W. Shalaby</i>	

771 - SELF-PRIMED FABRIC IN SELF-REINFORCED UHMW-PE COMPOSITES: A PRELIMINARY STUDY	779
<i>S. J. Peniston, D. E. Carey, S. W. Shalaby</i>	
772 - OBSERVATION OF SLOWED REACTION OF POLYETHYLENE RADICALS IN THE PRESENCE OF VITAMIN E	780
<i>B. M. Walters</i>	
773 - ALTERNATIVE SAMPLE PREPARATION METHOD FOR THE SMALL PUNCH TEST	781
<i>W. P. Rodgers, III, J. A. Marini, S. James</i>	
774 - CYTOTOXICITY AND BONE MINERALIZATION PROPERTIES OF NOVEL CALCIUM PHOSPHATE-MULLITE COMPOSITES	782
<i>S. Nath, S. Kalmodia, B. Basu</i>	
775 - SINTERING, MICROSTRUCTURE, MECHANICAL PROPERTIES AND ANTIMICROBIAL PROPERTY OF HAP-ZNO BIOCOMPOSITES	783
<i>B. Basu, Sr., N. Saha, Sr., E. Suvaci, Sr., K. Keskinbora, Sr.</i>	
776 - IN VITRO PROPERTIES OF LACTIDE-RICH PLGA MULTIFILAMENT BRAIDS	784
<i>J. Thomas, O. Fabian, J. Hotter</i>	
777 - SUTURE PROPERTIES OF SWELLABLE, ABSORBABLE MULTIFILAMENT BRAIDS	785
<i>M. S. Taylor, D. R. Ingram, K. A. Carpenter, M. P. Jaeggli, B. P. Baum, S. W. Shalaby</i>	
778 - ANALYSIS OF MECHANICAL BEHAVIOR OF THE LUMBAR SPINE UNDER HIGH IMPACT LOADING	786
<i>D. Jamison, Iv, M. Cannella, E. Pierce, S. Martin, M. Marcolongo</i>	
779 - EFFECTS OF A NUCLEUS PULPOSUS IMPLANT ON THE DIURNAL BIOMECHANICS OF THE HUMAN INTERVERTEBRAL DISC_A FINITE ELEMENT ANALYSIS STUDY	787
<i>C. J. Massey, C. C. Van Donkelaar, M. Marcolongo</i>	
780 - SYNTHESIS OF COMPOSITE BIOACTIVE GLASS - POLYMERIC MICROSpheres FOR CONTROLLED DRUG RELEASE	788
<i>S. P. Cooper, A. B. Brennan</i>	
781 - NANOSTRUCTURE AND TENSILE PROPERTIES OF UHMWPE AFTER A NOVEL POST-RADIATION THERMAL TREATMENT	789
<i>A. Bellare, D-C. Sun</i>	
782 - THE EFFECT OF UNIAXIAL COMPRESSION AND STRESS RELAXATION ON THE TENSILE PROPERTIES OF UHMWPE	790
<i>A. Bellare, E. Abreu</i>	
783 - ⁷BE IMPLANTATION AS AN ALTERNATIVE TECHNIQUE FOR WEAR MEASUREMENT OF UHMWPE - A PROOF OF PRINCIPLE STUDY	791
<i>M. A. Wimmer, Y. Dwivedi, M. P. Laurent, L. A. Gallardo, E. Rehm, U. Greife</i>	

PLURIPOTENT STEM CELLS IN REGENERATIVE MEDICINE

784 - CO-AXIAL ELECTROSPUN POLYCAPROLACTONE/POLYURETHANE NANOFIBROUS SCAFFOLDS FOR MYOCARDIAL TISSUE ENGINEERING	792
<i>J. M. Gluck, S. Heydarkhan-Hagvall, N. P. Ingle, R. J. Shemin, W. R. MacLellan</i>	
785 - PROGENITOR MOTOR NEURONS FOR TRANSPLANTATION AFTER SPINAL CORD INJURY	793
<i>D. A. McCreedy, S. E. Sakiyama-Elbert</i>	

PROBING THE SURFACE OF BIOLOGY

786 - ALBUMIN ADSORPTION BEHAVIOR ON POLYSTYRENE AND GLASS SURFACES	794
<i>E. Hillenmeyer, T. A. Horbett, W. Thomas, D. G. Castner</i>	
787 - OPTIMIZING 3D MOLECULAR IMAGING WITH TOF-SIMS: A COMPARISON BETWEEN C60 SINGLE BEAM AND BIN/C60 DUAL BEAM DEPTH PROFILING	795
<i>S. Muramoto, J. Brison, D. G. Castner</i>	
788 - AFM STUDY OF MIXED CARBOHYDRATE/OEG SELF-ASSEMBLED MONOLAYERS	796
<i>F. Tantakitti, F. Cheng, R. Egnatchik, D. N. Weiss, D. M. Ratner</i>	
789 - METABOLIC EXPRESSION OF METHACRYLATE-DERIVATIZED SIALIC ACIDS AND SURFACE MODIFICATION ON LIVING CELLS	797
<i>H. Matsuno, Y. Iwasaki</i>	

PROTEIN AND CELLS AT INTERFACES SIG

790 - TIME-CONCENTRATION EQUIVALENCE OF PROTEIN ADSORPTION KINETICS ONTO SURFACES OF METALLIC BIOMATERIALS	798
<i>N. T. Jawrani, J. L. Gilbert</i>	
791 - IN VITRO PROTEIN ADSORPTION ON BINARY MIXED SELF ASSEMBLED MONOALYERS STUDIED BY SURFACE PLASMON RESONANCE	799
<i>C-H. Shen, Z-Y. Chen, J-C. Lin</i>	

SELF-ASSEMBLY IN TISSUE ENGINEERING

792 - BONE EXTRACELLULAR MATRIX-MIMICKING SELF-ASSEMBLED SCAFFOLD FOR DIRECTING OSTEOGENIC DIFFERENTIATION OF HUMAN MESENCHYMAL STEM CELLS WITHOUT SOLUBLE FACTORS	800
<i>J. M. Anderson, J. B. Vines, A. Tambralli, H. Chen, A. Javed, H-W. Jun</i>	
793 - MODULATING FIBRIN MATRICES USING KNOBX-PEG CONJUGATES	801
<i>A. S. C. Soon, C. S. Lee, T. H. Barker</i>	
794 - MICROENGINEERED SCAFFOLDS TO GUIDE CELL ASSEMBLY	802
<i>C-C. Ho, G. Kumar, C. Co</i>	

SMART PEEK BIOMATERIALS: ENGINEERING TRIBOLOGICAL SURFACES AND BIOACTIVE COMPOSITES

795 - POLYETHERETHERKETONE MULTIFILAMENT AND MONOFILAMENT WOVEN TISSUE ENGINEERING SCAFFOLDS	803
<i>S. L. Edwards, J. A. Werkmeister, J. A. M. Ramshaw, K. McLean, M. L. Jarman-Smith</i>	
796 - SELF-INITIATED SURFACE GRAFT POLYMERIZATION FROM PEEK BRINGS SMART ORTHOPAEDIC BIOMATERIALS	804
<i>M. Kyomoto, T. Moro, K. Saiga, H. Onomoto, Y. Takatori, K. Ishihara</i>	
797 - EFFECTS OF ANNEALING ON HYDROXYAPATITE WHISKER REINFORCED POLYETHERETHERKETONE SCAFFOLDS	805
<i>T. L. Conrad, G. L. Converse, R. K. Roeder</i>	

STEM CELL MICROENVIRONMENTS

798 - BIOMIMETIC THYMIC NICHE FOR GENERATING FUNCTIONAL, ANTIGEN-SPECIFIC T CELLS FROM STEM CELLS: CONTROLLING NOTCH AND T CELL RECEPTOR SIGNALING IN 3D SCAFFOLDS	806
<i>M. Kim, J. Lin, K. Roy</i>	
799 - DEFINED SUBSTRATES FOR LONG-TERM HUMAN EMBRYONIC STEM CELL CULTURE	807
<i>H. Nandivada, L. G. Villa-Diaz, G. D. Smith, J. Lahann</i>	
800 - GUIDED DIFFERENTIATION OF MOUSE EMBRYONIC STEM CELLS WITH PROTEIN-IMMOBILIZED BEADS	808
<i>L. R. Geuss, G. Zhang, L. J. Suggs</i>	
801 - DIRECTED ASSEMBLY OF HUMAN BONE MARROW STROMAL CELL-LADEN GELS FOR STUDYING PARACRINE SIGNALING	809
<i>C. Tison, C. Simon, Jr.</i>	
802 - THE EFFECTS OF MICROENVIRONMENT ON THE GROWTH AND DIFFERENTIATION OF HUMAN PULPAL-DERIVED STEM CELLS	810
<i>L. C. Datko, M. Cupelli, M. Kennedy, S. Alapati, D. Dean</i>	
803 - AN AGENT-BASED MODEL OF CORTICAL BONE TO EXPLORE CELLULAR INTERACTION WITH THEIR MICROENVIRONMENT	811
<i>L. Schutte</i>	

STEM CELL-BIOMATERIAL INTERACTIONS

804 - ISOLATION OF CORD BLOOD-DERIVED HEMATOPOIETIC STEM CELLS USING MACROPOROUS AFFINITY CRYOGEL MATRIX	812
<i>A. Srivastava, D. A. Kumar</i>	
805 - POTENTIAL OF N-METHACRYLATE GLYCOL CHITOSAN AS A MATRIX FOR ADIPOSE-DERIVED STEM CELLS ENCAPSULATION	813
<i>A. Sukarto</i>	
806 - ADIPOSE-DERIVED STROMAL CELL BEHAVIORS ON REPLICATED POLYMERIC LOTUS LEAF STRUCTURES	814
<i>K. Cha, K-S. Park, D. Kim, S-H. Lee, T. Kwon</i>	
807 - ENHANCED OSTEOGENESIS OF MESENCHYMAL STEM CELLS IN CALCIUM PHOSPHATE/COLLAGEN/NANOTUBE SCAFFOLDS	815
<i>L. Zhang, H. Fenniri</i>	
808 - PROCESSED LIPOASPIRATE (PLA) CELLS SEEDED ON 3-DIMENSIONAL CALCIUM PHOSPHATE-COLLAGEN-CHITOSAN-BASED SPONGY SCAFFOLDS FOR POTENTIAL BONE TISSUE ENGINEERING APPLICATION	816
<i>V. V. Silva, M. S. Giusta, A. M. Goes</i>	

STIMULI-RESPONSIVE SCAFFOLDS FOR TISSUE ENGINEERING: NEW DEVELOPMENTS

809 - INFLUENCE OF POLYMER SCAFFOLD ARCHITECTURE ON THE SHEAR STRESS DISTRIBUTION AND DYNAMIC CULTURE OF PREOSTEOBLASTIC CELLS	817
<i>S. B. Vangordon, R. S. Voronov, T. B. Blue, R. L. Shambaugh, V. I. Sikavitsas, D. V. Papavassiliou</i>	
810 - ENHANCED CARTILAGINOUS TISSUE FORMATION WITH A CELL AGGREGATE-FIBRIN-POLYMER SCAFFOLD COMPLEX	818
<i>Y. Jung, S-H. Kim, Y. Kim, S. Kim</i>	
811 - MECHANOSTIMULATED WHARTON'S JELLY STEM CELLS SEEDED INTO HUMAN UMBILICAL VEINS FOR TENDON TISSUE ENGINEERING	819
<i>W. Yates, V. I. Sikavitsas</i>	
812 - PLIABLE SEMI-CRYSTALLINE POLYMER SCAFFOLDS WITH CONTROLLED PARALLEL-CHANNEL ARCHITECTURE FOR NERVE REPAIR	820
<i>M. Ebara, T. Muroya, T. Aoyagi</i>	
813 - NEURITE OUTGROWTH IS ADDITIVELY INCREASED BY CO-STIMULATION WITH PHYSIOLOGIC ELECTRIC FIELDS AND SCHWANN CELLS	821
<i>A. N. Eldridge, D. M. Thompson</i>	

SURFACE CHARACTERIZATION AND MODIFICATION SIG

814 - GRAFTING SODIUM STYRENE SULFONATE ONTO TITANIUM SURFACES FOR IMPROVED BIOCOMPATIBILITY	822
<i>G. Zorn, D. G. Castner</i>	
815 - DEGRADATION MECHANISM OF HUMAN EXPLANTED HEAVY WEIGHT POLYPROPYLENE HERNIA MESHES	823
<i>D. N. Grant, S. L. Bachman, B. Ramshaw, D. A. Grant, S. A. Grant</i>	
816 - A STUDY ON SURFACE TOPOLOGY OF POLYDIOXANONE AFTER IN VITRO AND IN VIVO DEGRADATION	824
<i>C-Y. Chiang, M. Deng, O. Rathore</i>	
817 - CHARACTERIZATION OF FUNCTIONALIZED GOLD NANOPARTICLE AND THEIR INTERACTIONS WITH MODEL PEPTIDES AND PROTEIN G	825
<i>S. D. Techane, L. J. Gamble, D. G. Castner</i>	
818 - SURFACE CHARACTERIZATION OF THE VERTEBRAL BODY FOR IN-VITRO WEAR TESTING OF NUCLEUS REPLACEMENT DEVICE	826
<i>V. Singh, J. P. Shorez, P. E. Paré</i>	

SURFACE MODIFICATION AND THE BIOLOGICAL RESPONSE

819 - ENGINEERING NOTCH SIGNALING ACTIVATION FOR GENERATING HUMAN EMBRYONIC STEM CELL-DERIVED CARDIOMYOCYTES	827
<i>J. C. Tung, C. E. Murry, B. D. Ratner, C. M. Giachelli</i>	
820 - ALDEHYDE-AMINE CHEMISTRY ENABLES MODULATED BIOSEALANTS WITH TISSUE-SPECIFIC ADHESION	828
<i>N. Artzi, T. Shazly, A. Baker, A. B. Ramos, E. Edelman</i>	
821 - BIOACTIVE HYBRID NANOMATRIX COMPOSED OF ELECTROSPUN POLYCAPROLACTONE AND SELF-ASSEMBLED PEPTIDE AMPHIPHILES	829
<i>B. A. Blakeney, A. Tambralli, J. M. Anderson, A. Andukuri, D. R. Dean, H-W. Jun</i>	
822 - POLY(ETHYLENE GLYCOL)-GRAFTED POLY(PROPYLENE FUMARATE) NETWORKS FOR REGULATING SURFACE PHYSICOCHEMICAL CHARACTERISTICS AND MC3T3 CELL BEHAVIOR	830
<i>S. Wang, L. Cai</i>	
823 - TOWARDS THROMBORESISTIVE ARTIFICIAL LUNGS: THE ROLE OF COPPER-DOPED NITRIC OXIDE-GENERATING SILICONE FOR BLOOD-CONTACTING SURFACES	831
<i>K. A. Amoako, R. H. Bartlett, K. E. Cook</i>	
824 - ENHANCED CELLULAR ADHESION AND CONTROLLED GENE DELIVERY ON GLYCOL-CHITOSAN-BASED POLYELECTROLYTE MULTILAYER FILMS	832
<i>C. Holmes, M. Tabrizian</i>	
825 - IMPROVEMENT OF BIOCOMPATIBILITY OF BIOMATERIALS BY DOPAMINE TREATMENT	833
<i>H-W. Chien, W-T. Chen, W-B. Tsai</i>	
826 - DECREASED LUNG CARCINOMA CELL DENSITY ON SELECT POLYMER NANOMETER SURFACE FEATURES FOR LUNG REPLACEMENT THERAPIES	834
<i>L. Zhang, T. Webster</i>	
827 - POLY(ETHYLENE GLYCOL) NANOGEL COATED SURFACES DISPLAY ULTRALOW PROTEIN ADSORPTION: QUANTIFICATION BY SINGLE MOLECULE DETECTION	835
<i>C. Donahoe, L. Tessler, Y-S. Jun, R. Mitra, D. Elbert</i>	
828 - NEURONAL PATHFINDING ON DOT GRADIENTS OF MIXED PERMISSIVE AND INHIBITORY PROTEIN CUES	836
<i>T. W. Hsiao, P. A. Tresco, V. Hlady</i>	

829 - THE CA²⁺-DEPENDENT BUT NOT THE CANONICAL WNT PATHWAY ENHANCES OSTEOBLAST MATURATION ON TITANIUMMICROSTRUCTURED SURFACES	837
<i>R. Olivares-Navarrete, D. Hutton, G. Dunn, S. Hyzy, M. Dard, A. Molenberg, B. D. Boyan, Z. Schwartz</i>	
830 - SURVIVAL AND APOPTOSIS IN VITRO OF OSTEOBLASTIC CELLS IN CONTACT WITH SYNTHETIC BONE GRAFTS	838
<i>J. Kim, G. Berger, R. Gildenhaar, I. Shapiro, P. Ducheyne, C. Knabe</i>	
831 - STRONG RESISTANCE TO PROTEIN ADSORPTION BY (TRIDECAFLUORO-1,1,2,2-TETRAHYDROOCTYL)TRIETHOXYSILANE NANOFILM	839
<i>C. Alluri, H. Ji, P. Sit</i>	
832 - MICROFABRICATION AND PATTERNING OF PROTEIN ARRAYS	840
<i>B. R. Whatley, B. Damon, X. Wen</i>	
833 - DEVELOPMENT OF MASKLESS PHOTOLITHOGRAPHY METHOD WITH AN LCD-PROJECTOR FOR FABRICATION OF MICROPATTERNED SURFACES	841
<i>K. Itoga, J. Kobayashi, M. Yamato, T. Okano</i>	
834 - IMPLANT COATINGS BASED ON ENZYMES IMPROVE OSTEOGENIC RESPONSES IN VIVO	842
<i>J. Van Den Beucken, C. Schouten, L. De Jonge, E. Bronckhorst, G. Meijer, J. Jansen</i>	
835 - EFFECT OF MICROTOPOGRAPHY AND SURFACE MODULUS ON PHEOCHROMOCYTOMA (PC12) CELL NEURITE OUTGROWTH	843
<i>S. H. Jarivala, J. M. Hasenwinkel</i>	
836 - ANTI-MICROBIAL COATINGS FOR UROLOGICAL APPLICATIONS	844
<i>E. E. M. Van Den Bosch, P. Wyman, L. Bremer, O. J. Gelling</i>	
837 - BLOOD COMPATIBILITY OF POLY(ETHYLENE GLYCOL)-METHACRYLATE /ACRYLIC ACID COPOLYMER COATED SURFACES	845
<i>C-W. Chang, W-H. Kuo, M-J. Wang, W-B. Tsai</i>	
838 - THE FABRICATION OF MULTIFACETED PATTERNED SURFACES USING LASER SCANNING LITHOGRAPHY	846
<i>J. H. Slater, J. S. Miller, S. S. Yu, J. L. West</i>	
839 - MATRIX HYDROPHOBICITY AFFECTS TEMPLATED MINERALIZATION OF POLYMERIC HYDROGEL SCAFFOLD MATERIALS	847
<i>A. Phadke, C. Zhang, S. Varghese</i>	
840 - PEGYLATED-PEPTIDE COATINGS FOR THE INHIBITION OF PATHOGENIC BIOFILMS ON TITANIUM METAL	848
<i>X. Khoo, G. O'Toole, Jr., D. Kenan, M. Grinstaff</i>	
841 - DESIGNING NANOSTRUCTURED SURFACES FOR ENHANCED BIOCOMPATIBILITY	849
<i>F. Namavar, R. F. Sabirianov, A. Rubinstein, J. D. Jackson, J. Sharp, H. Haider, K. L. Garvin</i>	
842 - DECREASED INFECTION AND EPITHELIAL CELL ATTACHMENT TO LUBRICIN COATED INTRAOCULAR LENSES	850
<i>G. E. Aninwene, II, E. Taylor, Sr., T. J. Webster, G. D. Jay</i>	
843 - IN VITRO AND IN VIVO CHARACTERIZATIONS OF INDUCTION PLASMA SPRAYED HYDROXYAPATITE COATING ON TI FOR LOAD BEARING IMPLANTS	851
<i>M. Roy, A. Bandyopadhyay, S. Bose</i>	
844 - ENCAPSULATION OF B-FGF IN SILICA XEROGEL/CHITOSAN HYBRID COATING FOR CONTROLLED RELEASE	852
<i>S-H. Jun, E-J. Lee, H-E. Kim, J-H. Jang</i>	
845 - CHARACTERIZATION AND MODIFICATION OF SURFACE INTEGRITY BY LASER PEENING BIODEGRADABLE MAGNESIUM-CALCIUM ALLOYS	853
<i>Y. Guo, M. Sealy</i>	
846 - SIZE-SENSITIVE PROTEIN ADSORPTION ON SILICON SURFACES GRAFTED WITH POLY (N-ISOPROPYLACRYLAMIDE)	854
<i>H. Chen, Q. Yu, Y. Zhang, Z. Wu, H. Huang, C. Cheng</i>	
847 - BIOACTIVITY AND CORROSION RESISTANCE OF NOVEL COATINGS CONTAINING STRONTIUM BY ANODIC OXIDATION	855
<i>K-C. Kung, T-M. Lee, T-S. Lui</i>	
848 - BLOOD COMPATIBILITY ON POLY(ACRYLIC ACID- SULFOBETAINE METHACRYLATE) POLYELECTROLYTE MULTILAYER MODIFIED SURFACES	856
<i>W-H. Kuo, M-J. Wang, W-B. Tsai, C. Lee</i>	
849 - RADIOPAQUE MICROSPHERES CONTAINING ACROLEIN FOR PROTEIN ATTACHMENT TO IMPROVE CELL ADHESION AND BLOOD COAGULATION	857
<i>K. Saralidze, M. L. W. Knetsch, L. H. Koole</i>	
850 - CHARACTERISTICS AND BIOLOGICAL RESPONSES OF NOVEL COATINGS CONTAINING STRONTIUM BY MICRO-ARC OXIDATION	858
<i>T-M. Lee, K-C. Kung, T-S. Lui</i>	
851 - ANODIZED MICRO AND NANOPOROUS TITANIA LAYER FOR CONTROLLED DRUG RELEASE	859
<i>C-M. Han, E-J. Lee, H-E. Kim, J-H. Jang</i>	
852 - MICROSTRUCTURAL ANALYSIS ON BIOLOGICAL DISINTEGRATION OF HYDROXYAPATITE	860
<i>D. Seo, Y. Ko, J. Lee</i>	
853 - LIPOSOME MEDIATED UPTAKE OF MACROPHAGES USING SURFACE MODIFICATION	861
<i>D. Davalian, H. Ma, M. Trollsas, S. Hossainy</i>	
854 - BIODEGRADABLE POLYMERS FOR STEALTH NEURAL PROBES	862
<i>D. Lewitus, K. L. Smith, W. Shain, J. Kohn</i>	

855 - CELLULAR BEHAVIOR ON ANODIZED VS. NON-ANODIZED TITANIUM UNDER CATHODIC POLARIZATION	863
<i>M. Haeri, J. L. Gilbert</i>	
856 - A STUDY OF THE EFFECT OF SAMPLE ORIENTATION ON PLATELET ADHESION USING NEGATIVE CHARGE DENSITY GRADIENTS	864
<i>L. E. Corum</i>	
857 - BOTTOM-UP MODIFICATION OF BIOMATERIAL SURFACE FOR CONTROL OF CELL ADHESION AND ALIGNMENT	865
<i>S-Y. Choh, C. Wang</i>	
858 - MICROPATTERNING OF HYDROGELS BY VISIBLE LIGHT IRRADIATION WITH MASKLESS PHOTOLITHOGRAPHY DEVICE	866
<i>J. Kobayashi, K. Itoga, M. Yamato, T. Okano</i>	
859 - BIO-FUNCTIONALIZATION OF INORGANIC SURFACES THROUGH INORGANIC BINDING PEPTIDES	867
<i>D. Khatayevich, M. Gungormus, C. So, S. Cetinel, C. Tamerler, M. Sarikaya</i>	
860 - EVALUATION OF CHITOSAN COATED ON TITANIUM TO DELIVER VASCULAR ENDOTHELIAL GROWTH FACTOR-121 AND ENHANCE SAOS-2 CELL MINERALIZATION IN VITRO	868
<i>M. R. Leedy, J. D. Bumgardner, W. O. Haggard</i>	
861 - REMOVING ENDOTOXIN FROM METALLIC BIOMATERIALS WITH COMPRESSED CARBON DIOXIDE-BASED MIXTURES	869
<i>M. A. Matthews, P. J. Tarafa, J. Zhang, S. Panvelker, E. Williams</i>	
862 - HEPARIN IMMOBILIZATION ONTO PLASMA MODIFIED POLYETHYLENE TEREPHTHALATE TO IMPROVE BLOOD COMPATIBILITY	870
<i>S. Eftekhari</i>	
863 - OSTEOBLAST-FIBROBLAST CO-CULTURE ON ANODIZED TITANIUM WITH ELECTRICAL STIMULATION FOR ORTHOPEDIC APPLICATIONS	871
<i>C. D. Hartman, B. Ercan, T. J. Webster</i>	
864 - ENHANCEMENT OF CELL ADHESION AND PROLIFERATION ON POLYETHERETHERKETONE BY USING PLASMA SURFACE MODIFICATION	872
<i>K. Yeung, S. C. Lui, P. K. Chu, K. Luk, K. Cheung</i>	
865 - SOL-GEL MULTILAYER HYDROXYAPATITE COATING FOR DENTAL IMPLANTS OSSEointegration	873
<i>R. Chiesa, C. Della Valle, G. Moretti, L. De Nardo, G. Candiani, I. Alfieri, A. Cigada, A. Montenero</i>	
866 - COMPARISON OF POLY(ETHYLENE GLYCOL) AND SULFobetaine CHEMICAL MOIETIES FOR THE SUPPRESSION OF BIOMATERIAL FOULING	874
<i>D. E. Heath, S. L. Cooper</i>	
867 - E-BEAM DEPOSITED CALCIUM PHOSPHATE COATING LAYER AS AN ACTIVE SURFACE TO INDUCE BIOACTIVE MOLECULE-APATITE COMPOSITE	875
<i>C. Chen, I-S. Lee, S-M. Zhang, H-C. Yang, S-H. Choi, S-M. Chung</i>	
868 - REDUCTION OF THE CORROSION RATE OF BIODEGRADABLE METALLIC MATERIALS BY AL2O3 PIII SURFACE TREATMENT	876
<i>H. M. Wong, K. Yeung, K. O. Lam, P. K. Chu, K. Luk, K. Cheung</i>	
869 - PROBING COMPLEX CELL BEHAVIOR ON INDIVIDUAL POLYSTYRENE NANOFIBERS	877
<i>J. A. Zimmerlin, M. C. Weiger, M. T. Cicerone</i>	
870 - COMPOSITIONALLY GRADED HYDROXYAPATITE/TRICALCIUM PHOSPHATE COATING ON TI USING LASER AND INDUCTION PLASMA SPRAY FOR LOAD BEARING IMPLANTS	878
<i>M. Roy, A. Bandyopadhyay, S. Bose</i>	
871 - SELECTIVE PROTEIN ADSORPTION INFLUENCED BY EXPOSURE OF ELECTRICAL CHARGES ALONG GRAIN BOUNDARIES ON METALS	879
<i>D. Marton, A. Choubey, E. A. Sprague</i>	
872 - THE EFFECTS OF PLASMA ION IMMERSION IMPLANTATION ON THE TRIBOLOGICAL PERFORMANCE OF A MEDICAL GRADE TI ALLOY	880
<i>G. Chiu, W. Tsai, C. Ai, R. Tsay</i>	
873 - NOVEL CONTROLLABLE-WETTABILITY GRADIENTS ON POLYPROPYLENE SURFACES FOR CELL SCREENING	881
<i>D. Mangindaan, S-L. Wang, M-J. Wang</i>	
874 - EFFECT OF SURFACE TREATMENTS ON LOCALIZED CORROSION BEHAVIOR OF NITINOL ALLOYS	882
<i>W. Haider, N. Munroe, V. Tek, P. Gill, C. Pulletikurthi, S. Pandya</i>	
875 - NITRIC OXIDE-RELEASING, BUT NOT NITRIC OXIDE-GENERATING, POLYMER COATING PRESERVES PLATELET COUNT AND FUNCTION IN EXTRACORPOREAL CIRCULATIONS	883
<i>T. C. Major, D. O. Brant, M. M. Reynolds, R. H. Bartlett, M. E. Meyerhoff, H. Handa, G. Annich</i>	
876 - COMBINED ANTIMICROBIAL AND ANTITHROMBOGENIC PROPERTIES OF BETAINE POLYMERS ON CARBOTHANE@ SUBSTRATES	884
<i>Z. Zhang, C. Hival, M. Bouchard, J. Li, V. E. Wagner, C. R. Loose</i>	
877 - A REVIEW ON THE TECHNOLOGIES FOR MICRO-PATTERNING SELF-ASSEMBLED MONOLAYERS TO UNDERSTAND INTERACTIONS OF BIOMATERIALS WITH SURFACES	885
<i>R. Shadnam</i>	

878 - HYDROPHOBIC ELASTOMERIC FIBER MATS FOR SOFT TISSUE ENGINEERING AND WOUND CARE	886
<i>G. Lim, M. S. Casiano-Maldonado, X. Li, C. Wesdemiotis, D. H. Reneker, J. E. Puskas</i>	
879 - THE RELATIONSHIP BETWEEN FIBRONECTIN CONFORMATION AND OSTEOBLAST CELL MORPHOLOGY ON IODINE CONTAINING TYROSINE-DERIVED POLYCARBONATE BLENDS	887
<i>K. A. Amer, K. Genson, J. Kohn, M. L. Becker</i>	

SURFACE MODIFICATION OF THREE DIMENSIONAL SCAFFOLDS FOR TISSUE ENGINEERING APPLICATIONS

880 - CALCIUM PHOSPHATE COATING OF EBM MANUFACTURED THREE-DIMENSIONAL TITANIUM SCAFFOLDS VIA ALKALI HEAT TREATMENT	888
<i>N. J. Castro, M. Cooke</i>	
881 - 2.5D CONSTRUCTS FOR SURFACE EVALUATION OF 3D SCAFFOLDS IN TISSUE ENGINEERING	889
<i>J. E. Marszalek, A. Karim, A. G. Basnakian, C. Simon</i>	
882 - PLASMA SURFACE MODIFICATION OF ELECTROSPUN POLY(E-CAPROLACTONE) NANOFIBERS FOR POTENTIAL TISSUE ENGINEERING SCAFFOLD APPLICATIONS	890
<i>J. E. Jones, H. Li, Q. Yu</i>	
883 - A NOVEL SINGLE-SPECIES SELF-ASSEMBLY PROCESS TO FABRICATE COLLAGEN-LIKE NANO-FIBROUS POLY(L-LACTIC ACID) SCAFFOLDS	891
<i>X. Liu, J. Wang, P. X. Ma</i>	

SURFACE OPTIMIZATION TO MAXIMIZE BIOSENSOR PERFORMANCE

884 - PROTEIN RECOGNITIVE HYDROGEL SYSTEMS FOR BIOSENSOR APPLICATIONS	892
<i>D. Kryscio, N. Peppas</i>	
885 - ABSORBANCE-BASED PH SENSOR UTILIZING A SOL-GEL MATRIX SUFFERS FROM LEACHING BASED UPON FORM OF DYE	893
<i>M. Nielsen, Y. Qi, M. C. Frost</i>	
886 - OPTIMIZING CARBOHYDRATE MICROARRAY FABRICATION	894
<i>F. Cheng, J. Shang, D. M. Ratner</i>	
887 - A SIMPLE AND VERSATILE METHOD TO FABRICATE GLYCAN ARRAYS	895
<i>J. Shang, F. Cheng, D. M. Ratner</i>	
888 - USE OF CD SPECTROSCOPY TO ASSESS THE BIOCOMPATIBILITY OF SILICA-BASED MATERIALS	896
<i>D. K. Eggers, G. R. Abel, Jr., P. J. Calabretta, M. C. Chancellor, C. Torres</i>	

TARGETED DRUG DELIVERY/ POLYMER CONJUGATES

889 - CELL-BASED OPG GENE MODIFICATION ON ASEPTIC KNEE IMPLANT LOOSENING IN A MOUSE MODEL	897
<i>S-Y. Yang, L. Zhang, A. Chong, H. Yu, P. H. Wooley</i>	
890 - NOVEL ANTI-OXYDATIVE STRESS NANOPARTICLE FOR ISCHEMIA REPERFUSION INJURY	898
<i>Y. Nagasaki</i>	
891 - ANGIOGENESIS IMAGING OF TUMOR XENOGRAPTS BY ALPHA V BETA 3 - TARGETED, DUAL-MODALITY MICELLAR NANOPROBES	899
<i>C. W. Kessinger, C. Khemtong, O. Togao, M. Takahashi, B. D. Sumer, J. Gao</i>	
892 - TARGETING OF GRAM-POSITIVE PATHOGENS TO PHAGOCYTES BY MULTIVALENT ARTIFICIAL OPGONINS	900
<i>K. N. Katzenmeyer, J. D. Bryers</i>	
893 - TUNABLE RELEASE OF DOXORUBICIN IN CANCER TUMORS USING POLYMERIC MICELLES	901
<i>A. G. Ponta, Y. Bae</i>	
894 - AMPHIPHILIC HYAURONIC ACID DERIVATES AS A POTENTIAL CARRIER FOR PROTEIN DRUG	902
<i>A. Kang</i>	
895 - MUCOADHESIVE ALGINATE/POLY-L-LYSINE/THIOLATED ALGINATE MICROCAPSULES FOR ORAL DELIVERY OF LACTOBACILLUS SALIVARIUS 29	903
<i>M. A. Islam</i>	
896 - SELF-ASSEMBLY OF HYALURONATE-CUCURBITURIL CONJUGATE FOR CONTROLLED DRUG DELIVERY APPLICATIONS	904
<i>J. Yang, K. Park, H. Jung, K. Kim, S. Hahn</i>	
897 - TARGET SPECIFIC AND LONG-ACTING DELIVERY OF BIOPHARMACEUTICALS USING HYALURONIC ACID DERIVATIVES	905
<i>S. Hahn, E. Oh, K. Park, K. Kim, J-A. Yang</i>	
898 - ANTI-INFLAMMATORY AND ANTI-OXIDANT ACTIVITY OF NOVEL BIODEGRADABLE COPOLYOXALATE NANOPARTICLES	906
<i>D. Lee, H. Park, H. Seo, S. Kim, Y. Lee</i>	

899 - CONTROLLED DELIVERY OF EPIDERMAL GROWTH FACTOR FOR NEURAL STEM CELL STIMULATION AFTER STROKE	907
<i>Y. Wang</i>	
900 - SYNTHESIS OF HIGH TRANSITION TEMPERATURE HYPERBRANCHED POLY(N-ISOPROPYL ACRYLAMIDE)	908
<i>K. Chang, L. J. Taite</i>	
901 - EFFECT OF PRESSURE TREATMENT ON LIPOPLEX FORMATION AND THEIR TRANSFECTION	909
<i>T. Kimura, H. Konno, A. Sano, T. Fujisato, A. Kishida</i>	
902 - PREPARATION OF SIZE-CONTROLLED AMPHIPHILIC POLY(AMINO ACID) NANOPARTICLES FOR VACCINE DELIVERY AND ADJUVANT	910
<i>T. Akagi, H. Kim, T. Uto, M. Baba, M. Akashi</i>	
903 - THERAPEUTIC RESPONSE IN A XENOGRAFT MICE MODEL BY FOLATED PEG-PCL-PEI/TAM67 COMPLEXES	912
<i>R. B. Arrote, S-K. Hwang, H-L. Jiang, Y-K. Kim, M-H. Cho, C-S. Cho</i>	
904 - POLYPYRROLE-COATED NANOSTRUCTURED ELECTRODES TO IMPROVE IMPEDANCE AND CONTROLLED LOCAL ANTI-INFLAMMATORY DRUG DELIVERY	913
<i>L. Leprince</i>	
905 - TUMOR-TARGETING, PH-RESPONSIVE AND STABLE UNIMOLECULAR MICELLES AS DRUG NANOCARRIERS FOR TARGETED CANCER THERAPY	914
<i>S. Gong</i>	
906 - MULTIFUNCTIONAL, POLYMERIC WORM-LIKE VESICLES BASED ON TRIBLOCK COPOLYMERS FOR TUMOR-TARGETED IMAGING AND DRUG DELIVERY	915
<i>S. Gong</i>	
907 - NOVEL POLY(ETHYLENE GLYCOL) DENDRIMERS FOR DRUG DELIVERY APPLICATIONS	916
<i>K. Seo, J. E. Puskas, M. Casiano, C. Wesdemiotis</i>	
908 - POLYOXALATE NANOPARTICLES AS NEW BIODEGRADABLE AND NON-INFLAMMATORY DRUG DELIVERY SYSTEMS	917
<i>D. Lee, S. Kim, K. Seong, E. Lee, O. Kim</i>	
909 - A FACILE METHOD TO CONSTRUCT PH-RESPONSIVE DRUG DELIVERY SYSTEM USING CHITOSAN-BASED POLYMERS	918
<i>L-Q. Wang, Q. Cai, H. Jiang, K. Tu, K. Zhu</i>	
910 - GRAFTED BLOCK COPOLYMER NANO-ASSEMBLY (GNA) DRUG CARRIERS	919
<i>H. Lee, Y. Bae</i>	
911 - ENZYMATICALLY-DEGRADABLE, SULFATED POLY(N-ISOPROPYLACRYLAMIDE) NANOPARTICLES FOR DRUG DELIVERY APPLICATIONS	920
<i>R. L. Bartlett, II, M. R. Medow, B. L. Seal</i>	
912 - CELL TYPE-DEPENDENT UPTAKE OF PEG-YLATED NANOPARTICLES	921
<i>K. K. Tran, A. Sheih, H. Dinh, H. Shen</i>	
913 - CORTICOSTEROIDS FUNCTIONALIZED POLY(N-VINYL PYRROLIDONE) AS A PH-SENSITIVE DRUG DELIVERY SYSTEM AT NEURAL INTERFACE	922
<i>Y. Cao, W. He</i>	
914 - AMINO ACID BASED POLYESTERAMIDES AND POLYESTERURETHANES : CELL RESPONSIVE MATRICES FOR DRUG DELIVERY	923
<i>A. A. Dias</i>	
915 - ELASTOMER IMPREGNATED WITH SILVER IONS USING A UNIQUE MIXTURE OF SOLVENTS IMPARTS UNIQUE SILVER ION ELUTION CHARACTERISTICS	924
<i>B. Luchsinger, T. Meyer</i>	
916 - BIODEGRADABLE NANOPARTICLES FOR RECEPTOR-MEDIATED ORAL PROTEIN DELIVERY	925
<i>E. Brewer, A. Lowman</i>	
917 - NEURON-SPECIFIC POLYMERIC MICELLE NANOTHERAPEUTICS FOR CNS REGENERATION	926
<i>J. Lee, J. Zhang, K. Webb</i>	
918 - SYNTHESIS, CHARACTERIZATION AND LYMPHATIC TRAFFICKING OF POLYMERIC NANOPARTICLES	927
<i>K. V. Zubris, O. Khullar, J. V. Frangioni, Y. L. Colson, M. W. Grinstaff</i>	
919 - FEMTOSECOND LASER PHOTOPORATION OF NANOPARTICLES INTO VITAL CELLS	928
<i>P. Soman, W. Zhang, S. Chen</i>	
920 - TARGETED NITRIC OXIDE DONORS FOR ENHANCED DRUG DELIVERY AND TREATMENT OF GLIOBLASTOMA MULTIFORME	929
<i>S. Safdar, L. J. Taite</i>	
921 - CONVECTION-ENHANCED DELIVERY OF CANCER-TARGETING BIOMACROMOLECULES	930
<i>M. R. Caplan, J. M. Stukel, A. Gizzi, C. Cherubini, S. Filippi</i>	
922 - QUANTUM DOT-LABELED DENDRIMER-TRIGLYCINE-EGF NANOPARTICLES FOR TARGETED IMAGING AND NUCLEIC ACID DELIVERY	931
<i>Q. Yuan, E. Lee, W. Yeudall, H. Yang</i>	

TISSUE ENGINEERED DISEASE MODELS

923 - AN ELECTRO-MECHANICAL BIOREACTOR FOR ENGINEERING DISEASED CARDIAC TISSUE MODELS	932
<i>R. A. Lasher, M. K. Parikh, F. B. Sachse, R. W. Hitchcock</i>	
924 - TOWARDS CELL-MEDIATED REGENERATION OF ELASTIC MATRIX STRUCTURES IN DE-ELASTICIZED BLOOD VESSELS	933
<i>C. E. Gacchina, A. Ramamurthi</i>	
925 - MACROPHAGES SYSTEMIC RECRUITMENT INDUCED BY CONTINUOUSLY INFUSED UHMWPE PARTICLES IN NUDE MICE	934
<i>P-G. Ren, A. Irani, Z. Huang, T. Ma, S. Biswal, R. L. Smith, S. B. Goodman</i>	
926 - TOWARD IN SITU TISSUE ENGINEERING OF ELASTIC MATRIX STRUCTURES IN DOXYCYCLINE-STABILIZED VASCULAR ANEURYSMS	935
<i>E. L. Ongstad, A. Ramamurthi</i>	
927 - HOST RESPONSE TO BIOMATERIAL SCAFFOLDS IMPLANTED INTO OSTEOCHONDRAL DEFECTS IN RABBIT KNEES WITH RHEUMATOID ARTHRITIS	936
<i>J. Park, R. A. Patel, C. L. Oliver, A. S. P. Lin, L. O'Farrell, R. Guldborg, J. E. Babensee</i>	
928 - IN VITRO CULTURE MODELS ELUCIDATE A ROLE FOR PLANAR CELL POLARITY SIGNALING IN ENDOTHELIAL CELL MIGRATION	937
<i>A. P. McGuigan, Z. Jiang, G. Rizvi, E. Vldar, D. Antic, J. Axelrod</i>	
929 - HISTOLOGICAL AND μCT ANALYSIS OF BIOMATERIAL SCAFFOLDS IMPLANTED INTO OSTEOCHONDRAL DEFECTS IN RABBIT KNEES WITH RHEUMATOID ARTHRITIS	938
<i>R. A. Patel, J. Park, C. L. Oliver, A. Lin, L. O'Farrell, R. E. Guldborg, J. Babensee</i>	
930 - FUNCTIONAL REPAIR OF SKELETAL MUSCLE DEFECTS USING TISSUE ENGINEERED SKELETAL MUSCLE CREATED FROM MYOBLASTS SEEDED ON BLADDER ACELLULAR MATRIX AND PRECONDITIONED IN A BIOREACTOR	939
<i>M. Machingal, B. Corona, V. Kesireddy, K. Andersson, M. Herco, S. Vishwajit, B. Bishwokarma, W. Zhao, J. J. Yoo, G. J. Christ</i>	

TISSUE ENGINEERING SIG

931- BIODEGRADATION OF POLYURETHANE TISSUE ENGINEERING SCAFFOLDS	940
<i>A. E. Hafeman, K. J. Zienkiewicz, L. M. Nanney, J. M. Davidson, S. A. Guelcher</i>	
932 - DESIGN AND DEVELOPMENT OF A HIGHLY MACROPOROUS, PROTEIN COATED SILICONE SCAFFOLD AS A BIOARTIFICIAL PANCREAS FORTYPE 1 DIABETES	941
<i>E. Pedraza, A-C. Brady, A. Pileggi, C. L. Stabler</i>	
933 - DEVELOPMENT OF A HIGH THROUGHPUT SCREEN TO CREATE AN OPTIMIZED BIOMATERIAL FOR PERIPHERAL NERVE INJURY	942
<i>A. N. Eldridge, C. M. Dumont, G. Singh, V. D. Alphonse, P. Karande, D. Thompson</i>	
934 - INTEGRATION OF A PHOTO-INDUCED PH-JUMP REACTION INTO PH-RESPONSIVE HYDROGELS FOR LOCAL GEL SHRINKING	943
<i>P. Techawanitchai, M. Ebara, T. Aoyagi</i>	
935 - RAT MODEL FOR TRAUMATIC VOLUMETRIC MUSCLE LOSS: A PLATFORM FOR TESTING ENGINEERED SKELETAL MUSCLE	944
<i>T. J. Walters, R. J. Christy, X. Wu</i>	
936 - PREDICTION OF COLLAGEN AND GLYCOSAMINOGLYCAN CONTENT BY ACOUSTIC MICROSCOPY	945
<i>J. R. Popp, C. M. Flannery, T. L. Oreskovic, J. B. Recknor, K. S. Anseth, T. P. Quinn</i>	
937 - EFFECT OF A YOUNG'S MODULUS GRADIENT ON NEURITE EXTENSION IN PC12 CELLS	946
<i>P. S. Varde, J. M. Hasenwinkel</i>	
938 - RESPONSE OF OSTEOBLAST PRECURSOR CELLS TO CYCLIC COMPRESSIVE AND TENSILE STRAIN ON A TITANIUM SUBSTRATE	947
<i>A. P. Noblett, W. O. Haggard, J. D. Bumgardner</i>	
939 - THE ELECTROACTIVITY AND STABILITY OF CONDUCTIVE PPY/HE/PLLA MEMBRANES	948
<i>Z. Zhang, L. Zhang</i>	

TRANSCATHETER HEART VALVE PROSTHESES AND OTHER BIOMATERIAL INNOVATIONS FOR TREATING HEART VALVE DISEASE

940 - MINIMALLY INVASIVE IMPLANTATION OF TISSUE ENGINEERED LIVING AUTOLOGOUS SELF-EXPANDABLE HEART VALVES IN AN ANIMAL MODEL	949
<i>B. Weber, D. Schmidt, R. Stenger, B. Odermatt, G. Zund, S. P. Hoerstrup</i>	
941 - PREVENTION OF BIOPROSTHETIC CALCIFICATION WITH TRIGLYCIDYLAMINE (TGA) AND ETHANOL (ETOH) PRETREATMENT	950
<i>J. M. Connolly, M. A. Bakay, H. S. Kruth, P. E. Ashworth, S. J. Stachelek, R. W. Bianco, F. J. Schoen, R. Gorman, J. Gorman, III, R. J. Levy</i>	
942 - CHANGES IN FLEXURAL MECHANICAL BEHAVIOR OF NEOMYCIN TREATED GLUT FIXED AORTIC VALVE TISSUE	951
<i>M. D. McCall, C. E. Eckert, V. M. Friebe, N. R. Vyavahare, M. S. Sacks</i>	

943 - ATRAUMATIC BRAIDED STENT FOR TEXTILE VALVE ENDOPROSTHESIS	952
<i>F. Heim, C. Marchand</i>	
944 - PHOTOREACTIVE, CHOLESTEROL-CONTAINING POLYMERS ENHANCE BLOOD OUTGROWTH ENDOTHELIAL CELL ATTACHMENT TO POLYURETHANE	954
<i>S. J. Stachelek, I. Alferiev, M. Ueda, J. M. Connolly, R. W. Bianco, R. P. Hebbel, M. S. Sacks, R. J. Levy</i>	
945 - TRANSCATHETER AORTIC VALVE OVERSIZING ADVERSELY IMPACTS LEAFLET KINEMATICS, FLOW FIELD, AND DURABILITY	955
<i>A. Azadani, N. Jaussaud, L. Ge, T. Chuter, E. Tseng</i>	
946 - NEOMYCIN ENHANCES GLUTARALDEHYDE CROSS-LINKING AND GLYCOSAMINOGLYCAN STABILITY IN BIOPROSTHETIC HEART VALVES	956
<i>V. M. Friebe</i>	

UROLOGICAL TISSUE ENGINEERING AND BIOMATERIALS

947 - CHARACTERIZATION OF HYBRID POLOXAMINE/COLLAGEN/HYALURONAN/ HYDROGEL FOR BLADDER TISSUE ENGINEERING	957
<i>R. Ostendorff, B. Fleishman, J. Nagatomi</i>	
948 - INVESTIGATION OF GROWTH FACTOR-IMMOBILIZED BIOACTIVE POROUS BEADS FOR THE TREATMENT OF URINARY INCONTINENCE	958
<i>I. Kim, S. Oh, J. Lee, J. Lee, J. Lee</i>	
949 - BIODEGRADABLE SPHERICAL POROUS POLYURETHANE SCAFFOLD FOR URINARY BLADDER TISSUE ENGINEERING	959
<i>E. A. Lopez, F. I. Simonovsky, J. A. Bassuk, B. D. Ratner</i>	

Author Index