

# Nihal E Vrana

## List of Publications by Year in descending order

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104  
papers

4,765  
citations

126907

33  
h-index

102487

66  
g-index

105  
all docs

105  
docs citations

105  
times ranked

7455  
citing authors

#	ARTICLE	IF	CITATIONS
1	Characterization of the Impact of Classical Cell Culture Media on the Response of Electrochemical Sensors. <i>Electroanalysis</i> , 2022, 34, 1201-1211.	2.9	8
2	From 3D printing to 3D bioprinting: the material properties of polymeric material and its derived bioink for achieving tissue specific architectures. <i>Cell and Tissue Banking</i> , 2022, 23, 417-440.	1.1	13
3	Polyarginine as a Simultaneous Antimicrobial, Immunomodulatory, and miRNA Delivery Agent within Polyanionic Hydrogel. <i>Macromolecular Bioscience</i> , 2022, 22, e2200043.	4.1	11
4	In vitro two-step granuloma formation model for testing innate immune response to implants and coatings. , 2022, 138, 212872.		2
5	Basement membrane properties and their recapitulation in organ-on-chip applications. <i>Materials Today Bio</i> , 2022, 15, 100301.	5.5	11
6	New Smart Antimicrobial Hydrogels, Nanomaterials, and Coatings: Earlier Action, More Specific, Better Dosing?. <i>Advanced Healthcare Materials</i> , 2021, 10, e2001199.	7.6	37
7	Recent Advances in Antiinflammatory Material Design. <i>Advanced Healthcare Materials</i> , 2021, 10, e2001373.	7.6	35
8	Biofunctionalization of 3D-printed silicone implants with immunomodulatory hydrogels for controlling the innate immune response: An in vivo model of tracheal defect repair. <i>Biomaterials</i> , 2021, 268, 120549.	11.4	42
9	Basis of Image Analysis for Evaluating Cell Biomaterial Interaction Using Brightfield Microscopy. <i>Cells Tissues Organs</i> , 2021, 210, 77-104.	2.3	9
10	PVA/gelatin-based hydrogel coating of nickel-titanium alloy for improved tissue-implant interface. <i>Applied Physics A: Materials Science and Processing</i> , 2021, 127, 1.	2.3	7
11	Mitigating the foreign body response through "immune-instructive" biomaterials. <i>Journal of Immunology and Regenerative Medicine</i> , 2021, 12, 100040.	0.4	12
12	Biomechanical and functional comparison of moulded and 3D printed medical silicones. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2021, 122, 104649.	3.1	7
13	Prediction of coating thickness for polyelectrolyte multilayers via machine learning. <i>Scientific Reports</i> , 2021, 11, 18702.	3.3	7
14	Reference method for off-line analysis of nitrogen oxides in cell culture media by an ozone-based chemiluminescence detector. <i>Analytical and Bioanalytical Chemistry</i> , 2021, 413, 1383-1393.	3.7	8
15	The role of biomaterials and scaffolds in immune responses in regenerative medicine: macrophage phenotype modulation by biomaterial properties and scaffold architectures. <i>Biomaterials Science</i> , 2021, 9, 8090-8110.	5.4	37
16	3D Printed Biodegradable Polyurethaneurea Elastomer Recapitulates Skeletal Muscle Structure and Function. <i>ACS Biomaterials Science and Engineering</i> , 2021, 7, 5189-5205.	5.2	14
17	Improving the colonization and functions of Wharton's Jelly-derived mesenchymal stem cells by a synergetic combination of porous polyurethane scaffold with an albumin-derived hydrogel. <i>Biomedical Materials (Bristol)</i> , 2021, 16, 015005.	3.3	4
18	Discrete Modelling of Liver Cell Aggregation Using Partial Differential Equations. <i>IFMBE Proceedings</i> , 2020, , 379-384.	0.3	0

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19	A composite Gelatin/hyaluronic acid hydrogel as an ECM mimic for developing mesenchymal stem cell-derived epithelial tissue patches. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2020, 14, 45-57.	2.7	17
20	Dual growth factor delivery using PLGA nanoparticles in silk fibroin/PEGDMA hydrogels for articular cartilage tissue engineering. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2020, 108, 2041-2062.	3.4	39
21	Glycaemic control in diabetic rats treated with islet transplantation using plasma combined with hydroxypropylmethyl cellulose hydrogel. <i>Acta Biomaterialia</i> , 2020, 102, 259-272.	8.3	16
22	Polyarginine Decorated Polydopamine Nanoparticles With Antimicrobial Properties for Functionalization of Hydrogels. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020, 8, 982.	4.1	11
23	Effect of Preprocessing on Performance of Neural Networks for Microscopy Image Classification. , 2020, , .		4
24	Personalization of medical device interfaces: decreasing implant-related complications by modular coatings and immunoprofiling. <i>Future Science OA</i> , 2020, 6, FSO607.	1.9	3
25	Controlling porous titanium/soft tissue interactions with an innovative surface chemical treatment: Responses of macrophages and fibroblasts. <i>Materials Science and Engineering C</i> , 2020, 112, 110845.	7.3	17
26	Adjustment of Cell Adhesion on Polyurethane Structures via Control of the Hard/Soft Segment Ratio. <i>Macromolecular Materials and Engineering</i> , 2020, 305, 2000093.	3.6	7
27	The Overview of Porous, Bioactive Scaffolds as Instructive Biomaterials for Tissue Regeneration and Their Clinical Translation. <i>Pharmaceutics</i> , 2020, 12, 602.	4.5	81
28	Validation of Milner's visco-elastic theory of sintering for the generation of porous polymers with finely tuned morphology. <i>Soft Matter</i> , 2020, 16, 1810-1824.	2.7	3
29	Introduction to biomaterials for tissue/organ regeneration. , 2020, , 3-17.		0
30	Polyanionic Hydrogels as Reservoirs for Polycationic Antibiotic Substitutes Providing Prolonged Antibacterial Activity. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 19258-19267.	8.0	30
31	The effect of healing phenotype-inducing cytokine formulations within soft hydrogels on encapsulated monocytes and incoming immune cells. <i>RSC Advances</i> , 2019, 9, 21396-21404.	3.6	9
32	Using 3-D Printing and Bioprinting Technologies for Personalized Implants. , 2019, , 269-286.		2
33	A Foreign Body Responseâ€œonâ€œaâ€œChip Platform. <i>Advanced Healthcare Materials</i> , 2019, 8, e1801425.	7.6	51
34	Editorial: Adverse Reactions to Biomaterials: State of the Art in Biomaterial Risk Assessment, Immunomodulation and in vitro Models for Biomaterial Testing. <i>Frontiers in Bioengineering and Biotechnology</i> , 2019, 7, 15.	4.1	8
35	Use of Nanoparticles in Tissue Engineering and Regenerative Medicine. <i>Frontiers in Bioengineering and Biotechnology</i> , 2019, 7, 113.	4.1	222
36	Multifunctional polymeric implant coatings based on gelatin, hyaluronic acid derivative and chain length-controlled poly(arginine). <i>Materials Science and Engineering C</i> , 2019, 104, 109898.	7.3	19

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37	Modulation of Cellular Colonization of Porous Polyurethane Scaffolds via the Control of Pore Interconnection Size and Nanoscale Surface Modifications. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 19819-19829.	8.0	29
38	How to Predict Adverse Immune Reactions to Implantable Biomaterials?. <i>European Journal of Immunology</i> , 2019, 49, 517-520.	2.9	5
39	Creating a 3D microenvironment for monocyte cultivation: ECM-mimicking hydrogels based on gelatine and hyaluronic acid derivatives. <i>RSC Advances</i> , 2018, 8, 7606-7614.	3.6	19
40	Novel Alkali Activation of Titanium Substrates To Grow Thick and Covalently Bound PMMA Layers. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 5967-5977.	8.0	26
41	Enabling personalized implant and controllable biosystem development through 3D printing. <i>Biotechnology Advances</i> , 2018, 36, 521-533.	11.7	90
42	Multimodal Chemosensor-Based, Real-Time Biomaterial/Cell Interface Monitoring. <i>Advanced Biology</i> , 2018, 2, 1700236.	3.0	4
43	Osteogenic nanostructured titanium surfaces with antibacterial properties under conditions that mimic the dynamic situation in the oral cavity. <i>Biomaterials Science</i> , 2018, 6, 1390-1402.	5.4	19
44	Incorporation of resident macrophages in engineered tissues: Multiple cell type response to microenvironment controlled macrophage-laden gelatine hydrogels. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2018, 12, 330-340.	2.7	26
45	Establishing contact between cell-laden hydrogels and metallic implants with a biomimetic adhesive for cell therapy supported implants. <i>Biomedical Materials (Bristol)</i> , 2018, 13, 015015.	3.3	9
46	Review: the potential impact of surface crystalline states of titanium for biomedical applications. <i>Critical Reviews in Biotechnology</i> , 2018, 38, 423-437.	9.0	21
47	Swall-E: A robotic in-vitro simulation of human swallowing. <i>PLoS ONE</i> , 2018, 13, e0208193.	2.5	10
48	Immune Assisted Tissue Engineering via Incorporation of Macrophages in Cell-Laden Hydrogels Under Cytokine Stimulation. <i>Frontiers in Bioengineering and Biotechnology</i> , 2018, 6, 108.	4.1	27
49	Generation of anti-inflammatory macrophages for implants and regenerative medicine using self-standing release systems with a phenotype-fixing cytokine cocktail formulation. <i>Acta Biomaterialia</i> , 2017, 53, 389-398.	8.3	34
50	Investigation of the mechanical and chemical characteristics of nanotubular and nano-pitted anodic films on grade 2 titanium dental implant materials. <i>Materials Science and Engineering C</i> , 2017, 78, 69-78.	7.3	24
51	Unbiased Analysis of the Impact of Micropatterned Biomaterials on Macrophage Behavior Provides Insights beyond Predefined Polarization States. <i>ACS Biomaterials Science and Engineering</i> , 2017, 3, 969-978.	5.2	39
52	Controlling Incoming Macrophages to Implants: Responsiveness of Macrophages to Gelatin Micropatterns under M1/M2 Phenotype Defining Biochemical Stimulations. <i>Advanced Biology</i> , 2017, 1, 1700041.	3.0	12
53	Auxiliary Biomembranes as a Directional Delivery System To Control Biological Events in Cell-Laden Tissue-Engineering Scaffolds. <i>ACS Omega</i> , 2017, 2, 918-929.	3.5	16
54	More on Implantation of an Artificial Larynx after Total Laryngectomy. <i>New England Journal of Medicine</i> , 2017, 376, e29.	27.0	6

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55	Nature of the Polyanion Governs the Antimicrobial Properties of Poly(arginine)/Polyanion Multilayer Films. <i>Chemistry of Materials</i> , 2017, 29, 3195-3201.	6.7	22
56	Implantation of an Artificial Larynx after Total Laryngectomy. <i>New England Journal of Medicine</i> , 2017, 376, 97-98.	27.0	30
57	Electrohydrodynamic printing as a method to micropattern large titanium implant surfaces with photocrosslinkable structures. <i>Biomedical Physics and Engineering Express</i> , 2017, 3, 015002.	1.2	1
58	Analysis of cell behavior on micropatterned surfaces by image processing algorithms. , 2017, , .		2
59	Integrin-Mediated Interactions Control Macrophage Polarization in 3D Hydrogels. <i>Advanced Healthcare Materials</i> , 2017, 6, 1700289.	7.6	169
60	Double thin film-based sandwich-cell carrier design for multicellular tissue engineering. <i>Materials and Design</i> , 2016, 95, 648-655.	7.0	3
61	Engineering Immunomodulatory Biomaterials To Tune the Inflammatory Response. <i>Trends in Biotechnology</i> , 2016, 34, 470-482.	9.3	387
62	Immunomodulatory biomaterials and regenerative immunology. <i>Future Science OA</i> , 2016, 2, FSO146.	1.9	18
63	Polyvinyl Alcohol-Based Cryogels: Tissue Engineering and Regenerative Medicine. , 2016, , 6743-6753.		3
64	Hyaluronic Acid and Its Derivatives in Coating and Delivery Systems: Applications in Tissue Engineering, Regenerative Medicine and Immunomodulation. <i>Advanced Healthcare Materials</i> , 2016, 5, 2841-2855.	7.6	162
65	Unexpected Bactericidal Activity of Poly(arginine)/Hyaluronan Nanolayered Coatings. <i>Chemistry of Materials</i> , 2016, 28, 8700-8709.	6.7	33
66	Immunomodulation with Self-Crosslinked Polyelectrolyte Multilayer-Based Coatings. <i>Biomacromolecules</i> , 2016, 17, 2189-2198.	5.4	29
67	The impact of surface chemistry modification on macrophage polarisation. <i>Immunobiology</i> , 2016, 221, 1237-1246.	1.9	86
68	Cell-laden hydrogel/titanium microhybrids: Site-specific cell delivery to metallic implants for improved integration. <i>Acta Biomaterialia</i> , 2016, 33, 301-310.	8.3	12
69	Harnessing the Multifunctionality in Nature: A Bioactive Agent Release System with Self-Antimicrobial and Immunomodulatory Properties. <i>Advanced Healthcare Materials</i> , 2015, 4, 2026-2036.	7.6	52
70	Controlled implant/soft tissue interaction by nanoscale surface modifications of 3D porous titanium implants. <i>Nanoscale</i> , 2015, 7, 9908-9918.	5.6	39
71	Impact of surface chemistry and topography on the function of antigen presenting cells. <i>Biomaterials Science</i> , 2015, 3, 424-441.	5.4	71
72	Macrophage responses to implants: prospects for personalized medicine. <i>Journal of Leukocyte Biology</i> , 2015, 98, 953-962.	3.3	158

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73	Priming cells for their final destination: microenvironment controlled cell culture by a modular ECM-mimicking feeder film. <i>Biomaterials Science</i> , 2015, 3, 1302-1311.	5.4	22
74	Cell Microenvironment Engineering and Monitoring for Tissue Engineering and Regenerative Medicine: The Recent Advances. <i>BioMed Research International</i> , 2014, 2014, 1-18.	1.9	176
75	Cell/Tissue Microenvironment Engineering and Monitoring in Tissue Engineering, Regenerative Medicine, and In Vitro Tissue Models. <i>BioMed Research International</i> , 2014, 2014, 1-2.	1.9	4
76	Laryngeal replacement with an artificial larynx after total laryngectomy: The possibility of restoring larynx functionality in the future. <i>Head and Neck</i> , 2014, 36, 1669-1673.	2.0	42
77	Fiber-reinforced hydrogel scaffolds for heart valve tissue engineering. <i>Journal of Biomaterials Applications</i> , 2014, 29, 399-410.	2.4	102
78	Titanium Microbead-Based Porous Implants: Bead Size Controls Cell Response and Host Integration. <i>Advanced Healthcare Materials</i> , 2014, 3, 79-87.	7.6	14
79	Direct-write bioprinting of cell-laden methacrylated gelatin hydrogels. <i>Biofabrication</i> , 2014, 6, 024105.	7.1	528
80	Double entrapment of growth factors by nanoparticles loaded into polyelectrolyte multilayer films. <i>Journal of Materials Chemistry B</i> , 2014, 2, 999.	5.8	28
81	Microfluidic techniques for development of 3D vascularized tissue. <i>Biomaterials</i> , 2014, 35, 7308-7325.	11.4	254
82	The Expanding World of Tissue Engineering: The Building Blocks and New Applications of Tissue Engineered Constructs. <i>IEEE Reviews in Biomedical Engineering</i> , 2013, 6, 47-62.	18.0	77
83	Engineering Functional Epithelium for Regenerative Medicine and <i>In Vitro</i> Organ Models: A Review. <i>Tissue Engineering - Part B: Reviews</i> , 2013, 19, 529-543.	4.8	57
84	Multi-Scale Modification of Metallic Implants With Pore Gradients, Polyelectrolytes and Their Indirect Monitoring <i>In vivo</i> . <i>Journal of Visualized Experiments</i> , 2013, , e50533.	0.3	1
85	Interaction of cell culture with composition effects on the mechanical properties of polycaprolactone-hydroxyapatite scaffolds fabricated via selective laser sintering (SLS). <i>Materials Science and Engineering C</i> , 2012, 32, 2250-2257.	7.3	66
86	Collagen-Based Fibrillar Multilayer Films Cross-Linked by a Natural Agent. <i>Biomacromolecules</i> , 2012, 13, 2128-2135.	5.4	69
87	Cell encapsulation and cryostorage in PVA-gelatin cryogels: incorporation of carboxylated $\mu$ -poly-L-lysine as cryoprotectant. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2012, 6, 280-290.	2.7	27
88	Non-linear microscopy of smooth muscle cells in artificial extracellular matrices made of cellulose. <i>Journal of Biophotonics</i> , 2012, 5, 404-414.	2.3	16
89	Modification of macroporous titanium tracheal implants with biodegradable structures: Tracking in vivo integration for determination of optimal in situ epithelialization conditions. <i>Biotechnology and Bioengineering</i> , 2012, 109, 2134-2146.	3.3	18
90	Development of surgical protocol for implantation of tracheal prostheses in sheep. <i>Journal of Rehabilitation Research and Development</i> , 2011, 48, 851.	1.6	12

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91	Hybrid Titanium/Biodegradable Polymer Implants with an Hierarchical Pore Structure as a Means to Control Selective Cell Movement. PLoS ONE, 2011, 6, e20480.	2.5	23
92	CARS and SHG microscopy of artificial bioengineered tissues. , 2010, , .		1
93	Endothelialization of PVA/gelatin cryogels for vascular tissue engineering: Effect of disturbed shear stress conditions. Journal of Biomedical Materials Research - Part A, 2010, 94A, 1080-1090.	4.0	33
94	Ionogel-based light-actuated valves for controlling liquid flow in micro-fluidic manifolds. Lab on A Chip, 2010, 10, 195-201.	6.0	94
95	Physically crosslinked composite hydrogels of PVA with natural macromolecules: Structure, mechanical properties, and endothelial cell compatibility. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2009, 90B, 492-502.	3.4	149
96	Cell encapsulation within PVA-based hydrogels via freeze-thawing: a one-step scaffold formation and cell storage technique. Journal of Tissue Engineering and Regenerative Medicine, 2009, 3, 567-572.	2.7	55
97	Contact guidance enhances the quality of a tissue engineered corneal stroma. Journal of Biomedical Materials Research - Part A, 2008, 84A, 454-463.	4.0	33
98	Characterization of Poly(vinyl alcohol)/Chitosan Hydrogels as Vascular Tissue Engineering Scaffolds. Macromolecular Symposia, 2008, 269, 106-110.	0.7	65
99	Development of a Reconstructed Cornea from Collagenâ€“Chondroitin Sulfate Foams and Human Cell Cultures. , 2008, 49, 5325.		83
100	EDC/NHS cross-linked collagen foams as scaffolds for artificial corneal stroma. Journal of Biomaterials Science, Polymer Edition, 2007, 18, 1527-1545.	3.5	52
101	Effect of human corneal keratocytes and retinal pigment epithelial cells on the mechanical properties of micropatterned collagen films. Biomaterials, 2007, 28, 4303-4310.	11.4	55
102	EDC/NHS cross-linked collagen foams as scaffolds for artificial corneal stroma. Journal of Biomaterials Science, Polymer Edition, 2007, 18, 1527-45.	3.5	14
103	Nanobiomaterials: a review of the existing science and technology, and new approaches. Journal of Biomaterials Science, Polymer Edition, 2006, 17, 1241-1268.	3.5	92
104	Prospects and challenges in engineering functional respiratory epithelium for in vitro and in vivo applications. Microphysiological Systems, 0, 1, 1-1.	2.0	7