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# WBC 2024

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## Poster Session 4 / May 30 (Thu), 2024

- P4-035 Near-Infrared-Responsive Injectable Photothermal Hydrogel for Synergistic Photothermal Biomaterial Application  
**Hsi-Erh Chen**, National Taiwan University, Chinese Taipei
- P4-036 pH-induced self-polymerisation of tannic acid  
**Motaharesadat Hosseini**, School of Mechanical, Medical and Process Engineering, Faculty of Engineering, Queensland University of Technology, Brisbane, QLD, Australia; ARC Industrial Transformation Training Centre for Multiscale 3D Imaging, Modelling and Manufacturing (M3D), Queensland University of Technology, Brisbane, QLD, Australia., Australia
- P4-037 Enhancing Titanium Surface Functionality with Immobilized Hydrogel for Biomedical Engineering Applications  
**Ghazal Shineh**, School of Biomedical Engineering, University of Sydney, Sydney, New South Wales 2006, Australia, Australia
- P4-038 The Effect of Cobalt Ion on HIF-1 $\alpha$  Activation of Pre-osteoblast  
**Hwaran Lee**, Clemson University, USA
- P4-039 Luminescent europium-containing nanocomposite double-network hydrogels for sensing applications  
**Pin-Han Zeng**, Institute of Polymer Science and Engineering, National Taiwan University, Chinese Taipei
- P4-040 Galvanic coupling of tin-silver alloy to 316L stainless steel at varying surface area ratios  
**Charley Goodwin**, Clemson University, USA
- P4-041 CoCrMo femoral knee retrievals show severe wear, electrocautery damage, and material transfer  
**Peter Kurtz**, Clemson University, USA
- P4-042 Fibroin-based film-forming gels for facial skin protection  
**Aphiradee Boonkham**, Naresuan University, Thailand
- P4-043 A digital twin for degradable Mg-implants  
**Regine Willumeit Roemer**, Helmholtz Center Hereon, Institute for Metallic Biomaterials, Germany
- P4-044 Significantly performance improvement of biodegradable Zn alloys by refining second phase through a novel technology  
**Zhang-Zhi Shi**, University of Science and Technology Beijing, China
- P4-045 Implantation of magnesium cylinders to influence pain in an *in vivo* rabbit model of osteoarthritis.  
**Nina Angrisani**, Hannover Medical School, Germany
- P4-046 Studying dynamic magnesium-based implant biodegradation using *in situ* synchrotron radiation-based tomography and transmission electron microscopy  
**Berit Zeller-Plumhoff**, Helmholtz-Zentrum Hereon, Germany
- P4-047 Corrosion behaviour of the TiNbTaSn titanium beta alloy  
**Jaroslav Fojt**, University of chemistry and technology Prague, Czech Republic
- P4-048 Semi-automated system for fabrication and optimization of customized hydrogel templates for tissue biomanufacturing  
**Deepak Choudhury**, BTI A\*STAR, Singapore, Singapore
- P4-049 Additively manufactured and laser surface textured Ti-13Nb-13Zr for bone implant application  
**Annett Gebert**, Leibniz IFW Dresden, Germany
- P4-050 Co-assembling living material as an *in vitro* lung epithelial infection model  
**Yuanhao Wu**, Wuhan Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, China
- P4-051 Systematic oxide film degradation precedes titanium alloy corrosion  
**Michael Kurtz**, Clemson University, USA
- P4-052 Change in Mechanical Properties of  $\beta$ -type Ti-29Nb-13Ta-4.6Zr with various oxygen contents for Biomedical Applications  
**Takaaki Maruyama**, Meijo University, Japan
- P4-053 Electrochemical preparation of biomimetic coatings on biodegradable zinc alloy  
**Vojtech Hybasek**, University of Chemistry and Technology, Prague, Czech Republic
- P4-054 Mechanical and biological properties of an additively manufactured Ti-20Nb-6Ta implant material with open porous structure  
**Jan-Oliver Sass**, Biomechanics and Implant Technology Research Laboratory, Department of Orthopedics, Rostock University Medical Center, Doberaner Straße 142, D-18057 Rostock, Germany, Germany
- P4-055 Photocrosslinkable and biodegradable hydrogels for the controlled delivery of exosomes  
**Sergio Ayala-Mar**, School of Engineering and Science, Tecnológico de Monterrey, Mexico
- P4-056 Investigating the effect of thickener concentrations on the corrosion behaviour of Pure Mg  
**Manas Ranjan Sahu**, National Institute of Materials Science, Japan

- P4-057 Bioactive biodegradable magnesium alloys for orthopedic applications  
**Shazia Shaikh**, Indian Institute of Technology Kanpur, India
- P4-058 Spontaneous cellular assembly in artificial small diameter blood vessels produced using a novel extrusion-based 3D printing technique  
**Hyoryung Nam**, POSTECH, Korea, Republic of
- P4-059 Engineered hydrogel nerve guidance conduit with draw-spun high-aligned piezoelectric fibrous membrane.  
**Sung-Won Ko**, Department of Bionanotechnology and Bioconvergence Engineering, Graduate School, Jeonbuk National University, Korea, Republic of
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**Kyoungryong Kim**, SungKyunKwan University, Korea, Republic of
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**DongChul Cho**, Postech, Korea, Republic of
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**MIN SEOK KANG**, School of Chemical Engineering, Pusan National University, Korea, Republic of
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**Jae-Hun Kim**, Tech University of Korea, Korea, Republic of
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**Ji Woo Lee**, Department of Nano-Bioengineering, Incheon National University, Incheon, 22012, Korea, Republic of
- P4-065 Development of electrospun fiber-based platforms for trabecular meshwork cell culture  
**MINJI KIM**, Department of Nano-Bioengineering, Incheon National University, 119, Academy-ro, Yeonsu-gu, Incheon, 22012, Republic of Korea, Korea, Republic of
- P4-066 Wearable and flexible glucose sensor based on heterostructure ZnO nanosheets decorated PU/Chitosan-PANI hybrid nano-fiber  
**Devendra Shrestha**, Jeonbuk National University, Korea, Republic of
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**Devendra Shrestha**, Jeonbuk National University, Korea, Republic of
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**Seonmi Jang**, Hanyang University, Korea, Republic of
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**SuHyang Lee**, Department of biomedical engineering, Chonnam National University, Korea, Republic of
- P4-070 Drug delivery via pH-responsive core-shell structured microspheres-landed contact lens for dry eye treatment  
**SEUNG HEE PYEN**, POSTECH, Korea, Republic of
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**GeonA Kim**, Department of biomedical engineering, Chonnam National University, Korea, Republic of
- P4-072 Conductive microneedle electrodes for vital sign monitoring and brain treatment  
**Byeori Kim**, Department of biomedical engineering, Chonnam National University, Korea, Republic of
- P4-073 Development of collagen-based hemostatic microneedle patch incorporated with laponite  
**DoHun Kim**, Department of biomedical engineering, Chonnam National University, Korea, Republic of
- P4-074 3D Concave Electrode for Drug Evaluation of Parkinson's Disease Patient-derived Midbrain Organoids  
**Hyun Seo Kim**, Department of Chemical and Biomolecular Engineering, Sogang University, Korea, Republic of
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**Hwanyong Choi**, Postech, Korea, Republic of