Programme of BJ2024

Author underlined → presenting author
* Plenary lecture

Thursday 5 December 2024	
8:40	**BJ 2024 Opening (B032)**
	Room B032
9:00*	Bioinspired soft adhesives in biomedical applications **(BJ24_1)** JF Mano (University of Aveiro, Portugal)
	Session 1A – Biomimetic adhesives (Chair: SN Gorb, JF Mano)
	Room B032
9:40	Biomimetic adhesive microstructures as an approach to understand functioning biological systems **(BJ24_3)** SN Gorb (Kiel University, Germany)
10:00	Sea urchin bioadhesion: from characterization to emulation **(BJ24_28)** R Santos (University of Lisbon, Portugal)
10:20	Synergistic effect of combining biomimetic adhesive microstructures of different shapes and functions **(BJ24_45)** H Kasem (Azrieli College of Engineering, Israel), D Badler, R Goldsberg, A Abu-Ammar
10:40-11:00	**COFFEE BREAK**
	Session 2A – Biological adhesives (Chair: AY Stark, U Rothbächer)
	Room B032
11:00	Egg glue of the stinkbug Nezara viridula: Production site, chemo-mechanical properties, and adhesive strength on natural and artificial surfaces **(BJ24_17)** A Baral (University of Perugia, Italy), S Piersanti, S Caponi, M Mattarelli, S Gorb, G Salerno, M Rebora
11:20	Tunicate larval adhesion: Cells, species differences and analyses of their secretions **(BJ24_25)** F Zeng, L Ciampa, U Rothbächer (University Innsbruck, Austria)
11:40	Fish protein-based bio-adhesives for wooden structures **(BJ24_26)** M Zouari (InnoRenew CoE, Slovenia), J G Pečnik, M Schwarzkopf
12:00	Functional amyloids in adhesive secretions from a marine invertebrate? **(BJ24_27)** P Flammang (Université de Mons, Belgium), M Bonneel, E Moe, A Whaite
12:20	Biological adhesive systems in a changing world **(BJ24_37)** AY Stark (Villanova University, PA, USA)
13:00-14:00	**LUNCH BREAK**
	Room B032
14:00*	Bioinspired structured adhesives for various surfaces **(BJ24_2)** L Xue (Wuhan University, China)
	Session 3A – Bioinspired interfaces and surfaces (Chair: E Pierro, KT Turner)
	Room B032
14:40	On the micro-drilling of the rigid substrates: does it always improve adhesion? **(BJ24_12)** E Pierro (University of Basilicata, Italy), G Carbone
15:00	Exploiting disorder in the design of architected interfaces **(BJ24_13)** S Fulco, M Budzik, KT Turner (Aarhus University, Denmark)

15:20	Tuning the mechanical properties of architectured materials: from sandwich beams to triply periodic minimal surface composite lattices **(BJ24_30)** Q Grossman (University of Liège, Belgium), M Lê, L D'Andrea, D Gastaldi, P Vena, D Ruffoni
15:40	Interface thickness and orientation in 3D printed fiber-reinforced composites **(BJ24_31)** T Volders (University of Liege, Belgium), M Contino, F Passoni, L Andena, D Ruffoni
16:00-16:20	**COFFEE BREAK**
	Session 4A – Bioadhesion (Chair: S Wang, EV Gorb)
	Room B032
16:20	Delamination-induced pattern formations of tree bark **(BJ24_14)** T Yamaguchi (The University of Tokyo, Japan), Y Uenobu
16:40	Nanoscale chemical-mechanical characterization of interphase and bondline **(BJ24_18)** S Wang (University of Tennessee, USA)
17:00	Solid lubrication at the micro-scale: the case of insect joints **(BJ24_34)** C Putignano (University of Kiel, Germany), K Nadein, J Thomas, A Kovalev, SN Gorb
17:20	Can hydrogels mimic cartilage to lubricate soft joints? **(BJ24_35)** C Putignano (University of Kiel, Germany), G Carbone
17:40	Unveiling the adhesion mechanisms of an arrow worm (Spadella cephaloptera): Insights into bioadhesives and development **(BJ24_36)** C Barrera (University of Vienna, Austria), T Wollesen
18:00	Damage quantification of thin films on soft substrate **(BJ24_10)** A Singh, R Santoprete (L'Oréal Research and Innovation, France), GS Luengo, C Creton, M Ciccotti
19:00	**Poster session and RECEPTION (Room under the Auditorium)**

Joining of natural materials		
Poster 1	Strength improvements of wooden joints by using tough layer technique **(BJ24_6)**	S Jalali (INEGI, Portugal), EAS Marques, RJC Carbas, LFM da Silva
Biologically inspired joints		
Poster 1	Bio-inspired composite adherends: enhancing adhesive joint toughness under high-rate four-point bending **(BJ24_4)**	H Malekinejad (INEGI, Portugal), RCJ Carbas, EAS Marques, LFM da Silva
Poster 2	Bio-inspired helicoidal CFRP composite behaviour under bending and out of plane loading **(BJ24_38)**	H Malekinejad (INEGI, Portugal), RCJ Carbas, EAS Marques, LFM da Silva
Poster 3	Sustainable design of impact resistant vehicle structures through tailored material and design **(BJ24_24)**	EAS Marques (University of Porto, Portugal), M Kasaei, S Jalali, RJC Carbas, LFM da Silva
Adhesion and adhesives in veterinary		
Poster 4	Adhesives in veterinary medicine: a review **(BJ24_8)**	CMC Ferreira (INEGI, Portugal), BD Simões, EAS Marques, RJC Carbas, LFM da Silva
Bioadhesion		
Poster 5	Attachment ability of Coccinella septempunctata male and female beetles to a smooth substrate **(BJ24_9)**	EV Gorb (Kiel University, Germany), SN Gorb

Adhesion and adhesives in dentistry		
Poster 6	Microscopic inspection at occlusal pits and fissures sealants to enamel interfaces **(BJ24_46)**	R Fidalgo-Pereira, D Abrantes, N Veiga, B Henriques, M Özcan, JCM Souza (Universidade Católica Portuguesa, Portugal)

Friday 6 December 2024	
8:40*	Bio-based adhesives from wood sources - liquefied wood, lignin and tannin **(BJ24_14)** M Šernek (University of Ljubljana, Slovenia)
	Session 5 – Joining of wood I (Chair: M Šernek, LH Carvalho)
	Room B032
9:20	Evaluating the mechanical properties of bio-based polyurethane adhesives in zero-thickness bond applications **(BJ24_5)** S Jalali (INEGI, Portugal), RJC Carbas, EAS Marques, LFM da Silva
9:40	Curing of bio-based adhesives from tannin and lignin, determined by ABES **(BJ24_11)** M Šernek (University of Ljubljana, Slovenia)
10:00	Impact of tannins type on their performance as binder in the production of particleboards **(BJ24_19)** RA Fernandes (Associação Rede Competência em Polímeros, Portugal), N Ferreira, S Lopes, J Santos, JM Martins, LH Carvalho
10:20	Self-crosslinking of lignin as bio-based adhesives for bio-joining of wood **(BJ24_20)** B-D Park (Kyungpook National University, Republic of Korea), ES Wibowo, S Ghahri, EC Watumlawar
10:40-11:00	**COFFEE BREAK**
	Session 6 – Joining of wood II (Chair: T Yamaguchi, LFM da Silva)
	Room B032
11:00	A path for increasing the sustainability of vehicle structural design supported by adhesive bonding **(BJ24_23)** EAS Marques (University of Porto, Portugal), S Jalali, RJC Carbas, M Kasaei, LFM da Silva
11:20	Collagen obtained from the byproduct of the fur industry as an adhesive for wood **(BJ24_29)** S Monteiro (Associação Rede Competência em Polímeros, Portugal), R Fernandes, A Sous, FD Magalhães, J Martins, L Carvalho
11:40	Impact of bioadhesives on formaldehyde and VOC emissions from wood-based panels **(BJ24_40)** ML Almeida, NT Paiva, JM Martins, FD Magalhães, S Adamopoulos, RM Ramos (University of Porto, Portugal), LH Carvalho
12:00	Graphene quantum dots/polyethylenimine as a versatile crosslinker for starch-based adhesives **(BJ24_41)** V Silveira (Swedish University of Agricultural Sciences, Sweden), S Adamopoulos, R Papadakis
12:20	Application of non-conventional Pinus radiata bark extraction methods in the design of bioadhesives for wood-based products **(BJ24_42)** J Santos (Associação Rede Competência em Polímeros, Portugal), D Escobar-Avello, T Oñate-Valdés, V Ferrer, RA Fernandes, C Fuentealba, JM Martins, LH Carvalho
13:00-14:00	**LUNCH BREAK**
14:00*	Rationalizing surface preparations, complexity and eventual outcomes tied to adhesion in dental materials **(BJ24_43)** B Love (The University of Michigan, USA)

	Session 7 – Adhesion and adhesives in dentistry (Chair: B Love, T Pinho)
	Room B032
14:40	Effect of ageing on the mechanical properties of dental resin with and without Bisphenol A **(BJ24_32)** L Lopes-Rocha (CESPU, Portugal), RJC Carbas, LFM da Silva
15:00	Alternative materials in mechanical tests: Impact in dental adhesion protocols **(BJ24_33)** MJ Calheiros-Lobo (CESPU, Portugal), M Calheiros-Lobo, RJC Carbas, LFM da Silva, T Pinho
15:20	Adhesive interface of resin-matrix composite and cements for restorative dentistry: An in vitro study **(BJ24_44)** R Fidalgo-Pereira (Universidade Católica Portuguesa, Portugal), Ó Carvalho, S Catarino, JCM Souza
16:00-16:20	**COFFEE BREAK**
	Session 8 – Adhesion and adhesives in veterinary and medicine (Chair: JC del Real Romero, F Arán Ais)
	Room B032
16:20	Characterization of mechanical properties of a commercial adhesive applied in the equestrian sector **(BJ24_7)** CMC Ferreira (INEGI, Portugal), BD Simões, EAS Marques, RJC Carbas, LFM da Silva
16:40	Electro-adhesive performance of double network hydrogels based on acrylamide and sodium alginate **(BJ24_16)** S Jalali (University of Alberta, Canada), H-J Chung, D Sameoto
17:00	Comparative biomechanical analysis of two tension band wiring methods for transverse patellar fracture fixation **(BJ24_21)** DS Martínez, JC del Real Romero (Comillas Pontifical University, Spain), FL-O Muñoz
17:20	Bioadhesion and cytotoxicity in-vitro evaluation of different 3D printed polymeric biomaterials **(BJ24_22)** MS Lozano, MIA Sánchez, MIM López, F Arán Ais (INESCOP Centre for innovation and technology, Spain)
20:00	**BJ2024 BANQUET at Porto Caves**