Laboratory Name	Biomaterials Lab	BIOMAT LAB EGAS MONIZ
Main Goals	Research and development of new dental materials and dental materials properties mainly related to resin composites, adhesive systems and bleaching agents.	

Lab Head	Mário Cruz Polido, PhD
Group	Ana Azul (PhD) Alexandra Pinto (PhD) Inês Caldeira Fernandes (PhD) Ana Vieira (PhD) Ana Paula Serro (PhD) Carla Ascenso (PhD) Pedro Mariano Pereira (PhD) Pedro Melo e Moura (PhD) Joana Vasconcelos e Cruz (MSc) Inês Caetano Santos (MSc) Students
Senior Researchers	
PhD Students	Joana Vasconcelos e Cruz

Research Projects (from 2013)	1. Uma visão molecular da restauração dentária. PTDC/SAU-BMA/122444/2010. De: 01/02/2012 até: 31/07/2015 2. Molecular Design for Dental Restoration. FCT-P2020/SAICT-POL/24288/2016). De: 01/01/2018 até: em curso 3. 3D-DentalPrint – Additive manufacturing of zirconia and nanostructured alumina/zirconia dental prosthesis. 02/SAICT/2016/023940 (FCT). De: 01/10/2017 Até: em curso 4. Formulação de um adesivo dentário universal experimental e estudo das suas propriedades físico-químicas e adesivas. De: 01/04/2015 Até: em curso
Publications (10 most relevant, last 5 years)	1. A new experimental adhesive system containing G-IEMA – Physicochemical properties. JV Cruz, LL Gonçalves, J Brito, M Polido. J Adhesion Science and Techonology. Accepted for publication 13 October 2018. 2. Comparative study of the wear of the pair human teeth/Vita Enamic® vs commonly used dental ceramics through chewing simulation. F. Santos, A. Branco, M. Polido, A.P. Serro, C.G. Figueiredo-Pina. Journal of the Mechanical Behavior of Biomedical Materials, 2018; 88: 251–260. Doi:10.1016/j.jmbbm.2018.08.029 3. Human ex vivo dentin-pulp complex preservation in a full crown model. J Botelho, MA Cavacas, G Borrecho, M Polido, P Oliveira, J Martins Dos Santos. Journal of Oral Biology and Craniofacial Research, 2017; 7(1): 19–22. DOI:10.1016/j.jobcr.2016.12.002 4. Effect of bleaching teeth with hydrogen peroxide on the morphology, hydrophilicity, and mechanical and tribological properties of the enamel. FT Rodrigues, AP Serro, M Polido, A

Ramalho, CG Figueiredo-Pina. Wear, 2017; (374–375): 21-28. DOI:10.1016/j.wear.2016.11.001

Patents

1. Formulação para um Sistema Adesivo Dentário Universal contendo um monómero de reticulação Dentrítico de Segunda Geração. Outubro 2018.

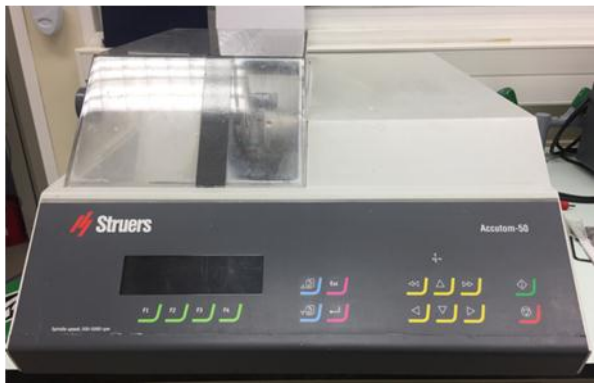
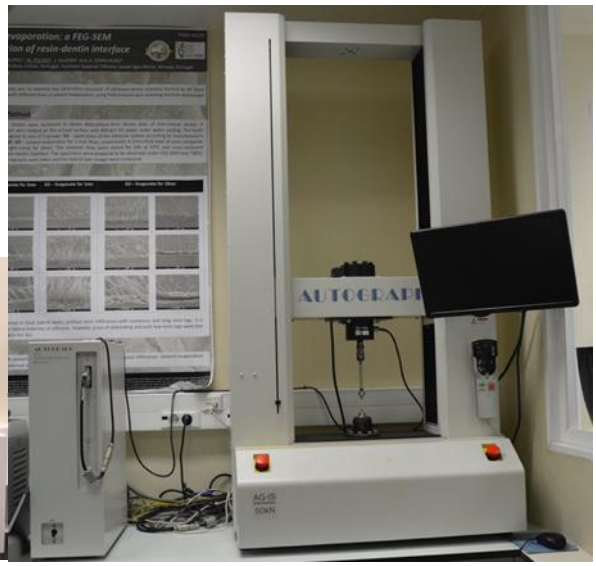
Abstracts publicados em revistas indexadas

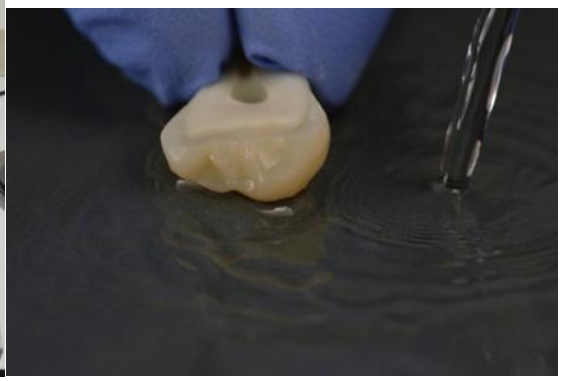
1. IC Santos, TB Salgueiro, JJ Mendes, AHS Delgado, J Brito, AC Azul, M Polido. Microtensile bond strength of a novel resin-modified glass ionomer adhesive. Dental Materials, 2018; 34 (S1), e104. Doi: 10.1016/j.dental.2018.08.217.
2. Inhibitors for matrix metalloproteinases, molecular design for dental restoration. H Silva, R Chaves, H Loronha, Fabiana Vicente, C Branco, K Petrova, AC Azul, M Polido, J Caldeira. Annals of Medicine, Vol. 50:sup 1, S60-S61. (2018). doi.org/10.1080/07853890.2018.1427445
3. Evaluation of microtensile bond strength of an Ormocer adhesive system – Admira Bond. F Marques, M Polido, J Brito, AC Azul. Annals of Medicine, Vol. 50:sup 1, S61-S62. (2018). doi.org/10.1080/07853890.2018.1427445
4. Resin-enamel microtensile bond strength evaluation of two universal adhesive systems in both etch-&-rinse and self-etch approach. M Polido, P Moreno, M Santos, J Brito, AC Azul. Annals of Medicine, Vol. 50:sup 1, S62-S63. (2018). doi.org/10.1080/07853890.2018.1427445
5. Effect of different gel bleaching agents on microtensile bond strength to enamel. IC Santos, Antonio HS Delgado, N Silva, J Brito, M Polido, JJ Mendes. Annals of Medicine, Vol. 50:sup 1, S63-S64. (2018). doi.org/10.1080/07853890.2018.1427445

6. Surface treatments effect on lTBS of a resin-nano-ceramic. P Monteiro, I Madeira, J Rua, JJ Mendes, AC Azul, M Polido. Annals of Medicine, Vol. 50:sup 1, S64-S65. (2018). doi.org/10.1080/07853890.2018.1427445
7. Physicochemical and dentin adhesion studies of a new experimental universal dental adhesive without Bis-GMA. JV Cruz, LL Gonçalves, M Freire, J Brito, A Aguas, M Polido. Annals of Medicine, Vol. 50:sup 1, S65. (2018). doi.org/10.1080/07853890.2018.1427445
8. Wear resistance evaluation of prosthetic dental materials. AF Santos, M Polido, AP Serro, CG Figueiredo-Pina. Annals of Medicine, Vol. 50:sup 1, S67-S68. (2018). doi.org/10.1080/07853890.2018.1427445
9. Efficacy evaluation of carbamide and hydrogen peroxide as internal bleaching agents. MP Silva, IC Fernandes, A Pinto, I Carpinteiro, M Polido, AC Azul, L Proença. Annals of Medicine, Vol. 50:sup 1, S101-S102. (2018). doi.org/10.1080/07853890.2018.1427445
10. Enamel bleaching with H2O2 solutions: effect of pH. A Branco, M Polido, AP Serro, CG Figueiredo-Pina. Annals of Medicine, Vol. 50:sup 1, S102-S103. (2018). doi.org/10.1080/07853890.2018.1427445
11. Immediate Microleakage in Direct and Indirect Restorative Procedures. J Nunes da Cruz, AC Azul, P Moura, M Polido. J Dent Res 96(Spec Iss B): 0294,2017
12. Comparative Tribological Study of Two Prosthetic Dental Materials: Zirconia and Vita Enamic. Proceedings of BALTTRIB'2017. (2017), conference-abstract DOI: 10.15544/balttrib.2017.29

13. Study of the Effect of H2O2 Used in Whitening Treatments on Human Enamel Wear Resistence. Proceedings of BALTTRIB'2017. (2017) conference-abstract DOI:10.15544/balttrib.2017.22
14. AF Marques, M Polido, AM Azul, J Brito. Estudo das propriedades mecânicas do material de restauração de Ormocer®. Rev Port Estomatol Med Dent Cir Maxilofac 2017; 58 (S1): 33-34. doi.org/10.24873/j.rpemd.2017.12.112
15. B Martins, PM Moura, L Proença, AM Azul, M Polido. Influência de adesivos universais na reparação de cerâmica de dissilicato de lítio. Rev Port Estomatol Med Dent Cir Maxilofac 2017; 58 (S1): 40-41. doi:10.24873/j.rpemd.2017.12.129

Equipment/Techniques	**UNIVERSAL TESTING MACHINE** Equipped with a 50 kN loading cell and a 5 kN loading cell. Shimadzu AG-50kNI SD MS, Shimadzu Corporation, Kyoto, Japan **MICROHARDNESS TESTING MACHINE** Shimadzu HSV-30, Shimadzu Corporation, Kyoto, Japan **HARD TISSUE MICROTOME** Accutom-50, Struers, Denmark **HARD TISSUE MICROTOME** Isomet 1000, Buehler, IL, EUA **POLISHING MACHINE** LaboForce-1, Struers, Denmark **THERMOCYCLING MACHINE** Mechatronik, THE 1100/230, Mechatronik, Germany **INCUBATION OVEN** Memmert INE 400, Memmert, Germany **STERILIZATION OVEN** Memmert UNB 400, Memmert, Germany **Ph METER** Crison GLP 22, Crison Instruments, Barcelona, Spain **RADIOMETER** Demetron 100, Demetron Research Corporation, Danbury, USA **PHOTOPOLIMERIZER** Optilux 501, Kerr, Middleton, USA **PHOTOPOLIMERIZER** Elipar Deep Cure-S, 3M ESPE, USA **HOTTE** Hotte, Industrial Laborum, Portugal **CHEWING SIMULATOR** Chewing Simulator CS-4.2, Mechatronik, Feldkirchen-Westerham, Germany

	SANO CLAV Sano Clav LAS-3-13-MCS-J, Adolf Wolf, Bad Uberkingen, Germany **SPECTROSHADE** Spectroshade Micro Optic, MHT S.p.A, Via Milano, Arbizzano di Negar, Itália Software Version 2.40.
Announcements	
Some Pictures	   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