

CEMMPRE

Centre for Mechanical Engineering, Materials and
Processes

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Scientific outputs

2020

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Books and Chapters

International Book Chapters

1. A. Loureiro, G.H.S.F.L. Carvalho, I. Galvão, R.M. Leal, R. Mendes, Explosive welding, 207 – 237, in *Advanced Joining Processes*, Edited by Lucas da Silva, Mohamad El-Zein, and Paulo Martins, ELSEVIER, 2020, Paperback ISBN: 9780128207871, eBook ISBN: 9780128208878.
2. A. Ramalho, A. Silva, M. Gaspar, C. Capela, L. Celorrio-Barragué, D. Ovidiu Glăvan, Enhanced Reconditioning of Heavy-Duty Pulp Industry Equipments: Advantages of Abrasive Waterjet Cutting, Luís Farinha and Daniel Raposo (Eds): *Driving Industrial Competitiveness With Innovative Design Principles*, IGI Global, 2020, 219-235. ISBN10: 1799836282. DOI: 10.4018/978-1-7998-3628-5.
3. N. Klément, C. Silva, A generic decision support tool for planning and assignment problems: Industrial applications and industry 4.0, in *Scheduling in Industry 4.0 and cloud manufacturing*, Springer International Publishing, 2020, 167-192. ISBN: 978-3-030-43176-1
4. P. Vaz, S. richa, M. Reis, C. Silva, Aplicação do Lean Seis Sigma no setor do turismo: Um estudo de caso na indústria hoteleira portuguesa, in *Lean Six Sgma: Iniciativas para a melhoria contínua em operações e serviços*, GlobalSouth Press Inc, 2020, 228-253. ISBN: 978-1-943350-85-5
5. S. Pires, A. Tereso, G. Fernandes, Improving Project Management Practices in a Software Development Team, in *Advances in Intelligent Systems and Computing*, Rocha Á., Adeli H., Reis L., Costanzo S., Orovic I., Moreira F. (eds): *Trends and Innovations in Information Systems and Technologies*. Springer, Cham, 2020, 1159. Springer, Cham. https://doi.org/10.1007/978-3-030-45688-7_11

Edition of International Book

1. L.P. Borrego, J.A.M. Ferreira (Eds.) 1st Virtual Iberian Conference on Structural Integrity. Coimbra, Portugal, March 2020. In: *Anales de Mecánica de la Fractura* 37.
2. M.C. Oliveira, J.V. Fernandes (Eds.), *Modelling and Simulation of Sheet Metal Forming Processes*, 2020. ISBN 978-3-03928-557-0.

Papers in Journals

Papers in International Journals

1. A. C. Fonseca, F. P. W. Melchels, M. J. S. Ferreira, S. R. Moxon, G. Potjewyd, T. R. Dargaville, S. J. Kimber, M. Domingos, Emulating Human Tissues and Organs: A Bioprinting Perspective Toward Personalized Medicine, *Chemical Reviews*, 2020, 120(19), 11093-11139. <https://doi.org/10.1021/acs.chemrev.0c00342>
2. A. C. Pinho, A. M. Amaro, A. P. Piedade, 3D printing goes greener: Study of the properties of post-consumer recycled polymers for the manufacturing of engineering components, *Waste Management*, 2020, 118, 426-434. <https://doi.org/10.1016/j.wasman.2020.09.003>
3. A. C. Pinho, A. P. Piedade, Polymeric coatings with antimicrobial activity: a short review, *Polymers*, 2020, 12(11), 2469. <https://doi.org/10.3390/polym12112469>
4. A. C. Pinho, C. S. Buga, A. P. Piedade, The chemistry behind 4D printing, *Applied Materials Today*, 2020, 19, 100611. <https://doi.org/10.1016/j.apmt.2020.100611>
5. A. E. Marques, P. A. Prates, A. F. G. Pereira, M. C. Oliveira, J. V. Fernandes, B. M. Ribeiro, Performance comparison of parametric and non-parametric regression models for uncertainty analysis of sheet metal forming processes, *Metals*, 2020, 10 (4), 457. <https://doi.org/10.3390/met10040457>
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54. R. Branco, J. Silva, J. M. Ferreira, J. D. Costa, C. Capela, F. Berto, L. Santos, F. V. Antunes, Fatigue behaviour of AISI 18Ni300 samples produced by SLM under constant- and variable-amplitude loading, *First International Symposium on Risk Analysis and Safety of Complex Structures and Components*, Porto, Portugal, 1-2 July 2019. *Procedia Structural Integrity* 22, 10-16. <http://dx.doi.org/10.1016/j.prostr.2020.01.002> , 2020
55. R. Tse, M. Im, S. Tang, L. Menezes, A. Dias, G. Pau, Self-adaptive Sensing IoT Platform for Conserving Historic Buildings and Collections in Museums. In *Proceedings of the 5th International Conference on Internet of Things, Big Data and Security (IoT BDS 2020)*, pages 392-398; <http://dx.doi.org/10.5220/0009470203920398>
56. S. Sabari, I. Galvão, C. Leitão, D.M. Rodrigues, Influence of aluminium alloys relative positioning on dissimilar friction stir lap welds properties, *IOP Conference Series: Materials Science and Engineering*, 2020, 968 (1), 012018. <https://doi.org/10.1088/1757-899X/968/1/012018>
57. T. Febra, J.D. Costa, J.A.M. Ferreira, C. Capela. A study of the interfacial fracture on fabric insert injection overmolding thermoplastic polymers. 1st virtual iberian conference on structural integrity, 25, 26 - 27 March 2020, *Anales de Mecânica de la Fractura*, 37, 171-175.
58. W. MacEk, M. Szala, J. Trembacz, R. Branco, J. Costa, Effect of non-zero mean stress bending-torsion fatigue on fracture surface parameters of 34CrNiMo6 steel notched bars, *Production Engineering Archives*, 2020, Volume 26 (4), 167-173. <https://doi.org/10.30657/pea.2020.26.30>

Attendance to National Conference with Presentation

1. A. Ledo, E. Fernandes, C.M.A. Brett, R.M. Barbosa, Diffusion and removal kinetics of hydrogen peroxide in brain tissue – a study using ruthenium purple modified carbon fiber microelectrodes, *Analítica 2020*, 10th Meeting of the Analytical Division of Sociedade Portuguesa de Química, on-line, 26-28 October 2020
2. A.-M. Chiorcea-Paquim, I.G. Fernandes, A.M. Oliveira. Brett, Electrochemistry of The Calcium Channel Blocker Lercanidipine at A Carbon Black Modified Glassy Carbon Electrode, *Analítica 2020*, 10th Meeting of the Analytical Division of Sociedade Portuguesa de Química, on-line, 26-28 October 2020

3. B. Dalkiran, I.P.G. Fernandes, M. David, C.M.A. Brett, Electroactive polymer-deep eutectic solvent/carbon nanomaterials for electrochemical sensors and biosensors, *Analítica 2020*, 10th Meeting of the Analytical Division of Sociedade Portuguesa de Química, on-line, 26-28 October 2020
4. B. M. C. Oliveira, A. P. Piedade, P. J. Ferreira, M. F. Vieira, Thermodynamic and kinetical stability of nanocrystalline copper films, 5th General Meeting PhD Program AdvaMTech, Costa da Caparica, 18 January 2020
5. L. Vicente, F. Moreira, L. C. Alves, P. Nicolau, Prótese Removível com obturador do palato: caso clínico. *Proceedings do Congresso online Nextgen da Sociedade Portuguesa de Estomatologia e Medicina Dentária (SPEMD)*, 2020, *Rev Port Estomatol Med Dent Cir Maxilofac.* 61(S1), 18. doi.org/10.24873/j.rpemd.2020.12.765.
6. M. T. Mendes, L. Vilhena, J. Portugal, J. Caramês, A. L. Ramalho, L. P. Lopes, Wear of titanium implant platforms with different abutment connections and abutment materials: an in vitro study, Congress of the Portuguese Society of Stomatology and Dentistry SPEMD2020
7. P. Freitas Rodrigues, F.M. Braz Fernandes, F.M. Paula, A.S. Ramos, Functionally Graded Orthodontic Archwires, Workshop on Shape Memory Alloys, Lisboa, Portugal, 19/02/2020
8. P. Freitas Rodrigues, P. Lima, A.S. Ramos, J. Domingos da Costa, F. M. Braz Fernandes, M.T. Vieira. Using NiTi wires as crack sensors, Workshop on Shape Memory Alloys, Lisboa, Portugal, 19/02/2020
9. W. da Silva, C.M.A. Brett, Nanostructured poly(phenazine)-deep eutectic solvent/ Fe₂O₃ nanoparticle film modified electrodes for (bio)sensing applications, *Analítica 2020*, 10th Meeting of the Analytical Division of Sociedade Portuguesa de Química, on-line, 26-28 October 2020

Papers in National Proceedings

1. L. Vicente, F. Moreira, L. C. Alves, P. Nicolau, Prótese Removível com obturador do palato: caso clínico. *Proceedings do Congresso online Nextgen da Sociedade Portuguesa de Estomatologia e Medicina Dentária (SPEMD)*, 2020, *Rev Port Estomatol Med Dent Cir Maxilofac.* 61(S1), 18. doi.org/10.24873/j.rpemd.2020.12.765.
2. M. T. Mendes, L. Vilhena, J. Portugal, J. Caramês, A. L. Ramalho, L. P. Lopes, Wear of titanium implant platforms with different abutment connections and abutment materials: an in vitro study, Congress of the Portuguese Society of Stomatology and Dentistry SPEMD2020

Organization of Seminars and Conferences

1. 17th International Conference on Plasma Surface Engineering - Special PSE, Erfurt, Alemanha, 7 – 10 September 2020
2. 1st Virtual Iberian Conference on Structural Integrity. Coimbra, Portugal, March 2020
3. 25th IEEE Conference on Emerging Technologies and Factory Automation, Track: Computer Vision and Human-Machine Interaction in Industry and Factory Automation, IEEE ETFA 2020, September 8-11, Vienna, Austria, 2020
4. Analítica 2020, 10th Meeting of the Analytical Division of Sociedade Portuguesa de Química, on-line, 26-28 October 2020. Co-chair
5. II Jornadas Ibéricas de Tecnologias baixo custo aplicadas ao Treino desportivo e à saúde. Coimbra, Portugal, 18 July 2020
6. SIBAE 2020, XXIV Congresso da Sociedade Iberoamericana de Eletroquímica, Montevideo on-line, Uruguay, 7-10 December 2020
7. Workshop “PLASTICS: think global, think circular, re-think end-of-life!”, Virtual, with the support of COST Action CA18220 and University of Aveiro, 24/09/2020

Theses

PhD theses

1. Ana Sofia Rodrigues Neto, Porous calcium phosphate bone graft scaffolds for advanced therapies, University of Aveiro, September 2020, Supervisors: José Maria da Fonte Ferreira and Jorge Coelho
2. Beatriz Agostinho, New sustainable approaches to eco-recycling of POLyesters WastEs into novel (bio)degradable polyesters, December 2020, Supervisor: Andreia F. Sousa
3. Camila Giacomini Dariva, Development of drug delivery systems based on high wavelength light, University of Coimbra, July 2020, Supervisors: Jorge Coelho, Ana Fonseca and Arménio Serra
4. Júlio André Ramalho da Fonseca, Desenvolvimento e Avaliação Laboratorial e Clínica de um Dispositivo de Distração da Articulação Temporomandibular para Pacientes com Diagnóstico de Distúrbios Articulares, University of Coimbra, January 2020, Supervisors: Pedro Nicolau and Luis Roseiro.
5. Madson Ricardo Everton Santos, Polimerização radicalar por transferência de átomo: estudo de ligantes e preparação de copolímeros de bloco com estrutura controlada para aplicação em revestimentos de alto desempenho, University of Coimbra, November 2020, Supervisors: Jorge Coelho, Patricia Mendonça and Arménio Serra

6. Maria de Fátima da Costa Paulino, Desenvolvimento de Metodologias de Consolidação do Calo Ósseo e de Reabsorção Óssea recorrendo a Sistemas de Fixação Externa e Fixação Interna., July 2020, Supervisors Ana Amaro, Luis Roseiro and Inês Balacó
7. Maria Teresa Almeida Guerra Mendes, Desgaste de Implantes de Titânio sob Efeito de Cargas Cíclicas – Estudo do Efeito de Diferentes Materiais e Diferentes Conexões Pilar/Implante. Universidade de Lisboa, September de 2020. Supervisors: Luís Pires Lopes and Amílcar Ramalho
8. Mohammad Safeea, Safe Collaborative Robotic Manipulators, University of Coimbra, September 2020, Supervisor: Pedro Mariano Simões Neto
9. Neves Manuel, Friction stir welding of T-joints in dissimilar aluminium alloys for naval applications, University of Coimbra, July 2020, Supervisors: Altino de Jesus Roque Loureiro and José Domingos Moreira da Costa
10. Talha Bin Yaqub, Optimzation of Sputtered Mo-Se-C Coatings for efficient self-adaptation during sliding in diverse environments, University of Coimbra, December 2020, Supervisors: Albano Cavaleiro and Stephanie Bruyere
11. Todor Vuchkov, Upscale of magnetron sputtered TMD based thin films for tribological applications, University of Coimbra, October 2020, Supervisors: Albano Cavaleiro

MSc theses

1. Álvaro Manuel Monteiro Almeida, Development, and optimization of a Bicycle Transmission Plate Wear Test – in cooperation with SRAM, 2020, master's in mechanical engineering, University of Coimbra, Supervisor: Luís Vilhena.
2. Amanda Mendonça, Use of microbial biopolymers to improve soil properties by bioclogging, 2020, University of Coimbra, supervisors PV Morais & Paulo V Oliveira
3. Ana Beatriz Vieira Pereira, Improvement proposals in the temperature monitoring process in the dairy industry: a case study, University of Coimbra, December 2020, Supervisor: Telmo Pinto.
4. Ana Carolina Matos Melo Ferraz, Redefinição dos processos de arrumação e de picking de um armazém de matéria-prima do setor farmacêutico, University of Coimbra, Supervisor: Cristóvão Silva
5. Ana Catarina Gomes Bessa, Melhoria do cumprimento das datas de entrega num sistema de produção de componentes para o mercado de bens de luxo, University of Coimbra, Supervisor: Cristóvão Silva
6. Ana Cláudia dos Santos Pereira, A decision support system for the vehicle routing problem with environmental concerns, University of Coimbra, July 2020, Supervisor: Telmo Pinto.

7. Ana Margarida Verde Pereira Ramos da Silva, Mechanical properties of 3D Printing of Full-Arch Dental Prostheses, University of Coimbra, November 2020, Supervisor: Ana Paula Piedade
8. Ana Micaela Barbosa de Sousa, Evaluation of the properties of 3D printed polymers for mouthguards, University of Coimbra, July 2020, Supervisor: Ana Paula Piedade and Ana Catarina Pinho
9. Ana Rita Mendes Martins, An Exact Optimization Approach for Personnel Scheduling Problems in the Call Center Industry, University of Minho, January 2020, Supervisors: Cláudio Alves, Telmo Pinto
10. Ana Sofia Gonçalves Fernandes, Análise das causas dos desvios no planeamento da produção - O Caso S+C. University of Coimbra, July 2020, Supervisor: Luis Miguel D. F. Ferreira
11. Ana Sofia Jesus Gonçalves, An assessment of the mixed-model assembly line balancing and sequencing problem, University of Coimbra, Supervisor: Cristóvão Silva
12. André Augusto Paiva Barreiros, Planeamento e Gestão de Obra na Instalação de Suiniculturas, December 2020, Politécnico de Leiria, Supervisor: Mário S. Correia
13. Andrews Fontana, Organizational Project Management: identification of patterns by industrial sector, University of Coimbra, July 2020, Supervisor: Gabriela Fernandes
14. António José Rodrigues Oliveira, Characterization of three-dissimilar metal components produced by explosion welding, University of Coimbra, November 2020. Supervisors: Altino Loureiro e Ivan Galvão
15. Beatriz de Carvalho Pires Sacramento, Numerical fatigue life prediction for notched components produced by SLM subject to multiaxial loading histories, University of Coimbra, November 2020, Supervisors: Ricardo Branco, Pedro Prates
16. Beatriz Fidalgo Gonçalves Pereira Rito, Impact of genomic bioprospecting on the optimization of metals obtaining processes in a circular economy perspective, University of Coimbra, 2020, Supervisor: P. V. Morais
17. Bruna Pinto Gomes, Gestão da Produção na Fabricação de Pré-Fabricados em Betão, December 2020, Politécnico de Leiria, Supervisor: Mário S. Correia
18. Bruno Marques Domingues, Caracterização Mecânica e Tribológica de Compósitos de WC-Co e WC-AISI 304. December de 2020. Supervisors: Amílcar Ramalho e Luís Vilhena.
19. Daniel M. F. Borges Pinto, Study of the Cavitation-Erosion of materials obtained by sintering, 2020, master's in mechanical engineering, University of Coimbra, October de 2020. Supervisors: Amílcar Ramalho e Luís Vilhena.
20. Daniela Filipa Figueiredo Marques Metello, Design and characterization of artificial muscles for biomedical applications, University of Coimbra, November 2020, Supervisor Ana Amaro

21. David Miguel Nunes Pereira, Estudo comparativo das propriedades termomecânicas e resistência química de elastómeros utilizados como vedantes, University of Coimbra, November 2020, Supervisor: Ana Clotilde Fonseca, Luísa Durães (DEQ-FCTUC)
22. Diogo Carvalho Homem Ribeiro, Reorganização de um armazém de componentes, University of Coimbra, Supervisor: Cristóvão Silva
23. Diogo Rodrigues de Carvalho Marques da Silva, University of Coimbra, Continuous improvement in hard metal industry: Symbiotic implementation of lean tools, December 2020, Supervisor: Marco Paulo Seabra dos Reis and Samuel Moniz.
24. Duarte Miguel Sias Vivas, Certificação de um sistema de gestão da qualidade segundo a norma NP EN ISO 9001:2015, University of Coimbra, Supervisor: Cristóvão Silva
25. Fábio André Alves Fernandes, Three dissimilar Friction Stir Welded T joints, University of Coimbra, February 2020, Supervisors: Altino Loureiro and José Domingos Costa
26. Fábio José Gouveia Cardoso, Desempenho de revestimentos de carbono tipo-diamante (produzidos pela tecnologia inovadora ne-hipims) sob diferentes regimes de lubrificação, University of Coimbra, November 2020, Supervisors: Fábio Ferreira and Amílcar Ramalho.
27. Fábio Rafael Pinheiro Castelo Ferreira, Previsão da velocidade de propagação de fendas por fadiga na liga Ti-6Al-4V, University of Coimbra, July 2020, Supervisors: Diogo Neto, Fernando Antunes.
28. Fábio Ricardo da Silva Vidal, Preparation and evaluation of polymeric composites reinforced with bacterial cellulose, University of Coimbra, October 2020, Supervisor: Ana Paula Piedade
29. Filipe Tavares Carvalho Viana, The role of geotechnics in the degradation of railway infrastructures, University of Coimbra, March 2020, Supervisor: Isabel Pinto
30. Francisco Ascenso, *Desenvolvimento de uma estratégia para a definição da orientação de uma ferramenta de deposição em tarefas de impressão 3D - simulação em Matlab e realização em Robotstudio*, University of Coimbra, October 2020, Supervisor: J. N. Pires
31. Francisco Fernandes, Desenvolvimento de um sistema de controlo ativo de força para a indústria - eletrónica e software de operação, University of Coimbra, December 2020, Supervisor: J. N. Pires
32. Francisco Monteiro Costa, Reparo de veios de transmissão de aerogeradores utilizando técnicas de soldadura, University of Porto, Supervisor: Manuel Vieira
33. Gonçalo Edgar Bento dos Santos, Fatigue crack growth in titanium Ti6Al4V produced by SLM under mixed-mode I+II, University of Coimbra, October 2020. Supervisor J. A. M Ferreira and J. Silva

34. Helder Silva, Estudo e caracterização do comportamento mecânico e tribológico de revestimentos DLC dopados para aplicação em moldes de injeção de polímeros, University of Coimbra, Start: Setembro 2020, Supervisor: Carlos Wagner Moura e Silva and Manuel Evaristo.
35. Housseem Ben Hamida, Identification of elastoplastic behavior of thin films using hybrid method, FEM -Artificial Neural Network, supported by instrumented nanoindentation test, University of Monastir, Tunisia, January 2020. Supervisor: Ali Khalfallah.
36. Inês Baptista Tenreiro da Cruz, Previsão de defeitos na estampagem de componentes cilíndricos, University of Coimbra, October 2020, Supervisors: Marta Oliveira and Diogo Neto.
37. Inês Faria Rocha, Evaluation of a Component of an Airbus 330 Anti-ice System, University of Coimbra, November 2020, Supervisor: Ana Paula Piedade
38. Inês Gonçalves de Oliveira, Atrasos de voo: Otimização do programa de manutenção da TAP Air Portugal, University of Coimbra, Supervisor: Cristóvão Silva
39. Joana Ferreira Domingues, Risk Management in R&D Programs and Projects in University-Industry Collaboration: a stakeholder perspective, University of Minho, November 2020, Supervisor: Gabriela Fernandes e Anabela Tereso
40. Joana Filipa Simões Costa, Natural based in-situ gelling hydrogels for prolonged drug delivery purposes, University of Coimbra, December 2020, Supervisor: Ana Clotilde Fonseca and Sérgio Simões
41. Joana Isabel Rodrigues da Costa Lavres, Fatigue crack initiation life prediction in high strength steels under bending-torsion loading, University of Coimbra, November 2020, Supervisors: Ricardo Branco and José Domingos Costa
42. João Carvalho, Desenvolvimento de um sistema de controlo ativo de força para a indústria - projecto mecânico e construção, University of Coimbra, December 2020, Supervisor: J. N. Pires
43. João Filipe Marques Cravo, Evaluation of Vehicle Comfort: Influence of the Type of Suspension and Type of Tread, University of Coimbra, November 2020, Supervisors: Augusta Neto e Luis Roseiro
44. João Francisco Vitorino Aniceto, Aplicação de técnicas lean manufacturing no setor da pedra natural, University of Coimbra, Supervisor: Cristóvão Silva
45. João Luís dos Santos Oliveira Gilberto, Melhoria Contínua no Fabrico de Correntes de Rolos, ISEC, July 2020, Supervisor: Luis Filipe Borrego
46. João Manuel Nunes Oliveira Rego; Industrialização de máquina de inspeção automática - Melhoria para tolerância reduzida de folga entre pontas de anel de pistão; supervisor: Luis Menezes
47. João Mateus, Comparison of the mechanical, thermal and oxidation behavior of multilayered TiSiN/TiN(Ag) and TiSiN/Ti(V)N films deposited by sputtering, University of Coimbra. Supervisor: Supervisor Filipe Daniel Fernandes and Abbas Rjoub

48. João Pedro Cesar Valamatos, Analysis and problem-solving in an automotive assembly line using the TRIZ method, University of Coimbra, July 2020, Supervisor: Samuel Moniz.
49. João Pedro Lopes Moreno, Morphology and mechanical behavior of dissimilar friction stir welded T joints (FSW), University of Coimbra December 2020, Supervisors: Altino Loureiro and José Domingos Costa
50. João Pedro Lopes Moreno, Morphology and mechanical behavior of dissimilar friction stir welded T joints (FSW), University of Coimbra, December 2020, Supervisors: Altino Loureiro and José Domingos Costa
51. João Pedro Martins Gonçalves, Revisão dos fluxos de logística interna numa empresa do setor automóvel, University of Coimbra, July 2020, Supervisor: Cristóvão Silva
52. Jorge Alexandre Almeida Jesus, Avaliação experimental de diferentes mecanismos de retenção para próteses totais mandibulares implanto-suportadas, University of Coimbra, November 2020, Supervisors: Ana Amaro and Ana Messias
53. Jorge António Simões Vargas, Análise dos fatores de produtividade no setor da construção: Um caso de estudo em casas modulares e seu impacto para a construção Lean, University of Coimbra, Supervisor: Cristóvão Silva
54. Jorge Miguel Caessa de Sousa, On the Mechanical and Tribological Characterization of MoSeC Coatings Deposited by Sputtering, University of Coimbra, September 2020, Supervisors: Albano Cavaleiro, Todor Vuchkov
55. Jorge Miguel Nobre Sequeira, Mechanical and Tribological characterization of WC composites with different binders, 2020, master's in mechanical engineering, University of Coimbra, July de 2020. Supervisors: Amílcar Ramalho and Luís Vilhena.
56. José António Assunção Marzia, Influence of the yield criterion in the formability prediction on parts with complex geometry, University of Coimbra, October 2020, Supervisors: Marta Oliveira, Mário Santos.
57. José Eduardo dos Santos Carvalho, Development of a tool for automation and monitoring of performance indicators in production control processes, University of Coimbra, July 2020, Supervisor: Samuel Moniz.
58. José Francisco Vaz Suspiro, Representation of chemical processes through discrete-event simulation, University of Coimbra, February 2020, Supervisor: Samuel Moniz.
59. Juliana Castro e Diniz. Processamento Termomecânico E Caracterização De Uma Liga De NiTi De Elevado Teor Ni. Dissertação (Mestrado em Ciências dos Materiais) - Instituto Militar de Engenharia. CoSupervisor: Patricia Rodrigues
60. Laura Patrícia Conde Pais, Comparação da eficácia de dois protocolos de exercício na melhoria do equilíbrio em indivíduos adultos saudáveis. ESTeSC IPC, September 2020, Supervisor: Luís Cavalheiro and Maria António Castro.

61. Laura Sofia Ferreira Duarte, Human behaviour spotting from event camera data: an approach for collaborative manufacturing, University of Coimbra, 2020, Supervisor: Pedro Neto
62. Luís Manuel Silva Veloso, Soldadura por explosão alumínio-aço inoxidável: Análise do efeito do estado da superfície na qualidade das soldaduras, October 2020, supervisor: Ricardo Mendes and Rui Leal
63. Mafalda Fernandes Manco, Fadiga mecânica de attachments em barra para próteses implanto-suportadas: projeto experimental, University of Coimbra, July 2020, Supervisor: Pedro Nicolau e Rita Reis
64. Manuel Luis Gonçalves Caldas. Fatigue crack growth in notched specimens. University of Coimbra, November 2021, Supervisors: Ricardo Branco, Micael Frias M. F. Borges.
65. Manuel Maria Martins dos Santos Picão Eusébio, The consistent Vehicle routing problem: applications in the pharmaceutical industry, University of Coimbra, July 2020, Supervisor: Telmo Pinto.
66. Mara Raquel Tavares da Seca, Reverse logistics operations management: improvement in a returnable packaging process, University of Coimbra, July 2020, Supervisors: Telmo Pinto, Bruno Gonçalves.
67. Márcia Vanessa Pereira Dias, Web breaks prediction models for the pulp and paper industry, University of Coimbra, July 2020, Supervisor: Samuel Moniz.
68. Marco António Fragoso de Carvalho, Eliminação das orelhas de estampagem na produção de latas de refrigerante, University of Coimbra, October 2020, Supervisors: Marta Oliveira, Diogo Neto.
69. Marco António Lourenço Esteves, Desenvolvimento de um Dispositivo para Controlo da Força em Restaurações Dentárias, Polytechnic of Coimbra, December 2020, Supervisor: Luis Roseiro
70. Maria João Ferreira Freitas, Implementation of SMED methodology in ring spinning machines, University of Coimbra, July 2020, Supervisor: Gabriela Fernandes
71. Maria João Grilo Loureiro, Off-line robot programming for metal additive manufacturing using robot external axes, University of Coimbra, 2020, Supervisor: Pedro Neto
72. Maria Luís Rocha Pinto, Avaliação experimental de sistemas de fixação óssea para ossos longos, University of Coimbra, September 2020, Supervisors: Ana Amaro and Maria Neto
73. Mariana da Costa Campos, Benefits of using Simulation to analyze systems: A Healthcare Case Study, University of Coimbra, December 2020, Supervisor: Samuel Moniz.
74. Marta Isabel Perienes Franco, Optimization and Simulation in Logistics and Production Systems, University of Coimbra, December 2020, Supervisor: Samuel Moniz.

75. Mateus, João Carlos Mendes, Caracterização de revestimentos auto-lubrificantes dos sistemas multicamada TiSiN/TiN(Ag) e TiSiN/VN, University of Coimbra, Oct 2020, Supervisors: Al-Rjoub, Abbas M.K. Fernandes and Filipe Daniel
76. Matheus de Lima Pulier, Risk Management: case study of a Food Industry, University of Coimbra, July 2020, Supervisor: Gabriela Fernandes
77. Miguel Abranches e Menezes Peixoto de Brito, Variability analysis in the numerical simulation of a U-rail stamping process, University of Coimbra, November 2020, Supervisors: André Pereira and Pedro Prates
78. Miguel Ângelo Reis Pereira, Critical analysis of the welding parameters by friction stir welding of polymeric materials, University of Coimbra, September 2020, Supervisors: Ana Amaro and Paulo Reis
79. Miguel António Fernandes Pereira Ruivo, Numerical study of the square cup stamping process: a stochastic analysis, University of Coimbra, October 2020, Supervisors: André Pereira and Pedro Prates
80. Miguel Bárbara Santos, Soldadura por explosão entre cobre e aço inoxidável: Influência das propriedades físicas, October 2020, supervisor: Ricardo Mendes and Rui Leal
81. Miguel Ferreira da Silva, Explosion welding between aluminum alloys and fiber-reinforced thermoplastic composites, University of Coimbra, November 2020. Supervisors: Altino Loureiro and Ana Amaro
82. Miguel Neves, Reinforcement learning for industrial robotics: a manufacturing use case, University of Coimbra, 2020, Supervisor: Pedro Neto
83. Nicolau da Costa Ribeiro. Numeric Prediction of Fatigue Lifetime for 7075-T651 Aluminium Alloys for Load Stories with Variable Range. University of Coimbra. Supervisors: Ricardo Branco and Pedro Prates.
84. Nuno Miguel Carvalho Barbosa, Comparative study of low cycle fatigue behavior of 7050 and 7075 aluminum alloys, University of Coimbra. Supervisors: Ricardo Branco and Ana Paula Amaro.
85. Pedro Henrique Costa Lucas, A methodology for developing businesses from technology transfer programs, University of Coimbra, July 2020, Supervisor: Gabriela Fernandes
86. Pedro Miguel Pimenta Almeida, Stocks Levelling of Raw Material and Components in an Automotive Industry, University of Coimbra, July 2020, Supervisor: Gabriela Fernandes
87. Pedro Monteiro, Microalgae compounds inhibitors of bacteria growth, University of Coimbra, 2020, supervisors PV Morais & Gabriela Silva
88. Rafael da Costa Gaspar, Torque and temperature analysis in Tafsw of low carbon steels, University of Coimbra, October 2020, Supervisor: Dulce M. Rodrigues and Carlos Leitão
89. Ricardo António Soares Pragosa, Simulação numérica da soldadura por impacto alumínio-aço, University of Coimbra, November 2020, Supervisors: Ricardo Mendes, Ivan Galvão.

90. Ricardo Jorge da Silva Viola, Wire Arc Additive Manufacturing (WAAM) Process Analysis on Stainless Steel Built Samples, Polytechnic of Leiria, January 2020, Supervisor: Mário S. Correia
91. Rita Margarida Cruz Pereira, Application and analysis of a stock management model in the ceramic industry, University of Coimbra, July 2020, Supervisor: Samuel Moniz.
92. Rita Pina Bicho da Cruz Andrade, Evaluation criteria for quality of urban green spaces, University of Coimbra, February 2020, Supervisor: Isabel Pinto
93. Rúben Filipe Pragosa Almeida, Otimização de um Dispositivo de Compensação para Ciclismo Adaptado, Polytechnic of Coimbra, November 2020, Supervisor: Luis Roseiro
94. Rui Diogo Gomes Rodrigues Pereira, Estudo da sensibilidade de equipamento de técnica barkhausen e da metodologia para o fabrico de blocos-padrão, Faculdade de Engenharia da Universidade do Porto, Supervisor: Manuel Vieira
95. Rui Filipe Vaz Cruz Santos Fernandes, Produção de Ferramentas para Prensas de Extrusão de Alumínio, ISEC, february 2020, Supervisor: Luis Filipe Borrego
96. Rute Marlene Pereira da Silva, Previsão de compras e gestão de stocks numa empresa de produção de linhas de costura, University of Coimbra, Supervisor: Cristóvão Silva
97. Samuel José dos Reis Alves, Design and manufacturing of soft robotic mechanisms: improving the reliability of pneumatic-based solutions, University of Coimbra, 2020, Supervisor: Pedro Neto
98. Sandra Isabel Nunes de Barros, Improvement of the Transport Management Process: A Case Study, University of Coimbra, July 2020, Supervisor: Gabriela Fernandes
99. Sara Ferreira Machado Pina, Overview and systematic review on sports mouthguards, University of Coimbra, July 2020, Supervisor: Ana Paula Piedade
100. Sara Maria Santos Soares Dias, Caracterização do comportamento térmico e mecânico de painéis sandwich para câmaras climáticas de elevada performance. Dissertação do Mestrado em Engenharia de Materiais. University of Coimbra, July 2020. Supervisors: Amílcar Ramalho e António Tadeu.
101. Sérgio Rafael Pascoal Rodrigues, Development of device for experimental evaluation of the impact resistance of mouthguards for sports use, University of Coimbra, November 2020, Supervisors: Ana Amaro and Ana Messias
102. Sofia Isabel Barroso Dias, Determinação da capacidade real de equipamentos recorrendo a dados históricos de produção: Um caso de estudo na indústria da pasta e do papel, University of Coimbra, Supervisor: Cristóvão Silva
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Software algorithmic

1. AMCONTROL - integrated application for planning and controlling Additive-manufacturing tasks (2020)
2. DD3IMP continuous development with implementation of: an algorithm to represent the metal sheet thickness variability, based on the average value and standard deviation; an algorithm for generating non-conformal hexaedral finite element meshes taking into account the heat source path for the numerical simulation of additive manufacturing processes; an algorithm for treating hanging nodes associated with non-conformal finite element meshes (2020).
3. Digital-Twin for the WAAM and LMD prototypes (2020)
4. MATLAB KUKA Sunrise toolbox (2020), continuous updating <https://www.mathworks.com/matlabcentral/fileexchange/65446-kuka-sunrise-toolbox>

Laboratory prototypes

1. 3D ceramic structure with antifouling film
2. Desenvolvimento de um protótipo de dispositivo mecânico (carrossel) para otimização da câmara de deposição Hartec (2020).
3. Desenvolvimento de um protótipo de dispositivo mecânico (carrossel) para otimização da câmara de deposição Nanoclusters (2020).
4. Development of a laboratory prototype of a isostatic pressure system (max 200 MPa) (2020).

5. jnpArm - 4 axis robot for training and education applications (2020)
6. Robotic-based Laser Metal Deposition Manufacturing System for metal parts (2020)
7. Robotic-based Wire Arc Additive Manufacturing System for metal parts (2020)

Pilot Plan

1. Clinical investigation plan: development of a medical device based on ultrasounds for objective cataract characterization and optimal phacoemulsification energy evaluation

Patents

1. EP 3 418 321 B1- Process for the preparation of a granulated plasticiser formulation, containing a long-chain branched alcohol and polypropylene, formulation thus obtained and process for the plasticisation of polylactic acid using the referred formulation. Jorge Fernando Jordão Coelho, Arménio Coimbra Serra, Augusto De Sá Alves Da Silva, publication date 15.07.2020
2. Patent N°116862, Methods and apparatus for cognitive robotic additive manufacturing system based on the directed energy deposition (DED) technology, Pires, J.N., Amin S. Azar, Trayana Tankova, 30/10/2020
3. Provisional Patent Application n° 116336: INPI, Eye Scan Ultrasound System - University of Coimbra e Instituto de Telecomunicações - Jaime Santos, Luís Miguel da Luz Caixinha Duarte, Fernando Manuel dos Santos Perdigão, Marco Alexandre Cravo Gomes, Mário João Simões Ferreira dos Santos, António Miguel Lino Santos Morgado, Sandrina Gonçalves Nunes, Lorena Itati Petrella, Carlos Daniel Silva Pinto (2020).
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5. Provisional Patent Application PCT/IB2019/051669 - WO 2019/167016 A1: Mechanical Device for Temporomandibular Joint Distraction - University of Coimbra and Polytechnic of Coimbra - Luis Roseiro, Júlio Fonseca, Pedro Nicolau, João Oliveira (2020).