

Abel Dias dos Santos

Curriculum Vitae

August 2015

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1 Personal data

Name: Abel Dias dos Santos

Date of birth: February, 25th, 1956 - V.N.Gaia, Portugal

Nacionality: Portuguese

Familiar status: married, two children.

Profession: Associate Professor with definite nomination, Faculty of Engineering, University of Porto, Portugal.

Address: R.de João Sá Peixoto 136 , 4250-252 Porto, Portugal

Tel. (+351) 228321984

Tel. (+351) 939881317

e-mail: abel@fe.up.pt

Professional address: DEMec – FEUP, Rua Dr. Roberto Frias, s/n 4200-465 Porto

ORCID: 0000-0003-1345-651X (<http://orcid.org/0000-0003-1345-651X>)

Association Key FCT (public key): J015724QLAI

2 Academic degrees

- Graduation in Mechanical Engineering, 1980, University of Porto
- MSc in Structural Engineering, 1987, University of Porto
- PhD in Mechanical Engineering, 1993, University of Tokyo.
- Equivalence to PhD graduation by University of Porto, January 1994.

3 Fellowships and Prizes

- Fellowship award from Junta Nacional de Investigação Científica e Tecnológica – JNICT (Portuguese Research Foundation), 1982.
- Fellowship award from STA (Science & Technology Agency of Japan), 1990-1992, selected by European Community
- Fellowship award from Riken Institute, Japan, 1992-1993.
- Scientific Support Award FEUP - Faculdade de Engenharia, Universidade do Porto, dia da FEUP, 18 Novembro 2009.
- Prize for PhD dissertation of Pedro M. Cardoso Teixeira, supervisor of Best Thesis in Applied and Computational Mechanics 2011, prize ceremony during APMTAC congress, Bilbao, Spain, June 2013.

- “2013 Best Practices in International Higher Education Award, NASPA – Student Affairs Administrators in Higher Education”, Award from NASPA (Student Affairs Administrators in Higher Education) to the course *The Next Generation Engineer – Global Engineering*, a discipline from Integrated masters in Mechanical Engineering, on category *Global Partnerships*; a cooperation between FEUP – University of Porto and UMBC – University of Maryland, Baltimore County; prize ceremony during NASPA International Symposium, Orlando, Florida, 17 March 2013.

4 Current positions



- Council Member of Department of Mechanical Engineering, Faculty of Engineering, University of Porto; start date: 2010-07-21



- Member of the Scientific Program Committee from Doctoral Program in Mechanical Engineering, Faculty of Engineering, University of Porto; start date: 2011-02-28



- Consultant and Coordinator of INEGI projects (Institute of Mechanical Engineering and Industrial Management) at the Center of Plastic Forming Technologies, a member of R&D Unit funded and evaluated by FCT (Foundation for Science and Technology) "New Technologies and Advanced Processes Production (NOTEPAP), still part as a researcher Associate of Laboratory for Energy, Transport and Aeronautics (LAETA).



- Vice-President of Executive committee IDDRG - International Deep Drawing Research Group (www.iddrg.com); start date: June 2006.



- Representative in Portugal of IDDRG and contact for organization in Iberian Peninsula and Brazil, start date: 2006



- Member of the Technical - Scientific Council of Journal "TecnoMetal" from Association AIMMAP (Association of Industrial Metallurgical and Metalworking, Portugal); start date: October 2007.

5 Profile

- 1980 Graduation in Mechanical Engineering
- 1980-1981 Working in Efacec, a major portuguese company of electric components (e.g. electric motors and lifts), in tooling and machine department, mainly related with manufacturing of tools and components by machining.
- 1981-1982 Military compulsory service, having been nominated instructor of future military at the infantry school in Mafra, near Lisbon.
- 1982-1984 Baviera Comércio de Automóveis Lda, portuguese company representative of BMW cars, MAN and HINO trucks, working in the department of stock management of components.
- 1984-1987 University of Minho (North of Porto), assistant in the department of Production and Systems; areas of activity: production management and quality control.
- 1987 MSc thesis in structural engineering
- 1988-2008 Professor in Faculty of Engineering, University of Porto at the Mechanical Engineering Department; areas of activity: mechanical technology, manufacturing processes, machining, metal forming.
- 1990-1993 researcher in Materials Fabrication Laboratory, RIKEN Institute, Saitama, Japão, being part of the Dr.A.Makinouchi research group in sheet metal forming simulation; involved in the Sheet Forming Simulation Group, a research group which included institutes or universities and companies such as Nissan, Subaru, Mazda, Nippon Steel, etc.
- 2003 PhD thesis in mechanical engineering at Tokyo University
- 1993-2008 Assistant Professor in Mechanical Engineering Department, Faculty of Engineering, University of Porto. Teaching activities in several disciplines of Mechanical Engineering course, Engineering and Industrial Management course, Master of Science course and Integrated Master of Science course in Mechanical Engineering;
- invited lecturer in Institute of Engineering of Porto (1999-2006);
- researcher in INEGI, Institute of Mechanical Engineering and Industrial Management, being involved in research projects and cooperation projects with industry;
- 2014-2015 Associate Professor in Mechanical Engineering Department, Faculty of Engineering, University of Porto.

6 Scientific production

6.1 Books

- [L1] A.Santos,
"Tool Descriptions and Contact Strategies used in the Static Explicit FEM Code ITAS3D for Simulation of 3D Sheet Metal Forming Processes", publication of PhD contents by Sheet Forming Simulation Research Group of Japan.
- [L2] J.Ferreira Duarte, A.Barata da Rocha, Abel D.Santos, "Corte em Ferramenta", ("Die blanking technology" in portuguese), Mechanical Technology Vol.1, Edition INEGI, ISBN: 972-8826-00-1, November 2003.
- [L3] A.Barata da Rocha, Abel D.Santos, J.Ferreira Duarte, "Puncionadoras CNC", ("CNC Punch Press Machines", in portuguese), Mechanical Technology Vol.2, Edition INEGI, ISBN: 972-8826-01-X, April 2005.
- [L4] Abel D.Santos, J.Ferreira Duarte, A.Barata da Rocha, "Tecnologia da Embutidura – Princípios e Aplicações" ("Sheet Metal Forming Technology – Principles and Applications", in portuguese), Mechanical Technology Vol.3, Edition INEGI, ISBN: 972-8826-03-6, May 2005.



6.2 Book Chapters

- [LC1] Abel D. Santos, J.Bessa Pacheco, "Perspectiva Histórica dos Processos e Materiais", do capítulo de Processos Tecnológicos do livro digital (e-book) "Introdução à Engenharia Mecânica", Edição DEMec/DEGI FEUP, 2013.
- [LC2] Abel D. Santos, J.Bessa Pacheco, "Processos de Conformação Plástica", do capítulo de Processos Tecnológicos do livro digital (e-book) "Introdução à Engenharia Mecânica", Edição DEMec/DEGI FEUP, 2013.

6.3 Journals

6.3.1 Internacional Journals

- [RI1] "Development of CAE Software System for 3D Sheet Metal Stamping Processes", Die and Mould Technology, Vol.8, No.8, pp.140-141, July 1993 - Impact Factor of Die and Mould Technology: no Current impact factor.
- [RI2] A.Santos, A.Makinouchi,
"Contact Strategies to deal with different tool descriptions in static explicit FEM for 3D sheet metal forming simulation", Journal of Materials Processing Technology, Vol. 50, issue:1-4, pp. 277-291, March 1995 - Impact factor of Journal of Materials Processing Technology (J Mater Process Tech): 2.041 (2013), 1.953 (2012), 1.783 (2011).
- [RI3] Abel D.Santos, J.F.Duarte, Ana Reis, A.Barata da Rocha, R.Neto, R.Paiva,
"The use of finite element simulation for optimization of metal forming and tool design", Journal of Materials Processing Technology, Vol.119, issue:1-3, pp.152-157, 2001 - Impact factor of Journal of Materials Processing Technology (J Mater Process Tech): 2.041 (2013), 1.953 (2012), 1.783 (2011).
- [RI4] Luísa C. Sousa, Catarina F. Castro, Carlos C. António, Abel D. Santos,
"Industrial forging design using an inverse technique", Int. Journal of Forming Processes, Vol.4, issue: 3-4, pp.463-479, 2001 – Impact Factor of Int. Journal of Forming Processes: no issues after 2008 and no information on impact factor.
- [RI5] Abel D.Santos, J.Ferreira Duarte, Ana Reis, A.Barata da Rocha, Luis F. Menezes, Marta C. Oliveira, Alain Col , T.Ono,
"Towards standard benchmarks and reference data for validation and improvement of numerical simulation in sheet metal forming", Journal of Materials Processing Technology, 125-126, pp.798-805, 2002 - Impact factor of Journal of Materials Processing Technology (J Mater Process Tech): 2.041 (2013), 1.953 (2012), 1.783 (2011).
- [RI6] L.C. Sousa, C.F. Castro, C.A.C. António, A.D. Santos,
"Inverse methods in design of industrial forging processes", Journal of Materials Processing Technology, Vol.128 nº1-3, pp.266-273, 2002 - Impact factor of Journal of Materials Processing Technology (J Mater Process Tech): 2.041 (2013), 1.953 (2012), 1.783 (2011).
- [RI7] Ana Reis, A.D.Santos, J.F.Duarte, A.B.Rocha, Sai-yi Li, E. Hoferlin, A.Van Bael, P.Van Houtte, C. Teodosiu,

- "Finite Element Simulation and Experimental Validation of a Plasticity Model of Texture and Strain Induced Anisotropy", "Advanced Materials Forum I", Trans Tech Publications, Switzerland, doi: 10.4028/ www.scientific.net/ KEM.230-232.501, Key Engineering Materials Vols. 230-232, pp 501-504, 2002 - Impact factor of Key Engineering Materials Journal: 2014/15 (0.19), 2005 (0.224), 2004 (0.278), 2003 (0.284), 2002 (0.497)
- [RI8] Ana Reis, Pedro Teixeira, J. Ferreira Duarte, Abel Santos, A. Barata da Rocha, A.A. Fernandes, "Tailored Welded Blanks' – an experimental and numerical study in Sheet Metal Forming on the effect of welding", Int. Journ. Computers & Structures, Volume 82, Issues 17-19 , pp. 1435-1442, July 2004 - Impact Factor of Computers & Structures Journal: 2013/2014 (2.178), 2012 (1.509), 2011 (1.874), 2005 (0.632), 2004 (0.741)
- [RI9] Abel D. Santos, Ana Reis, J.F. Duarte, Pedro Teixeira, A.Barata Rocha, M.C.Oliveira, J.L. Alves, Luis Menezes, "A Benchmark for Validation of Numerical Results in Sheet Metal Forming", Journal of Materials Processing Technology, 155-156, pp.1980-1985, 2004 - - Impact factor of Journal of Materials Processing Technology (J Mater Process Tech): 2.041 (2013), 1.953 (2012), 1.783 (2011).
- [RI10] A. Santos, J.F. Duarte, Ana Reis, P. Teixeira, A.B. Rocha, A.Ajmar, M. Bertero, S. Saporita, "Reference experimental tests to be used to validate numerical results in sheet metal forming", Materials Science Forum, TransTech Publications, Switzerland, doi: 10.4028/ www.scientific.net/ MSF.455-456.707, Vols.455-456, pp.707-710, 2004 - Impact Factor of Materials Science Forum: no Current impact factor.
- [RI11] A.D. Santos, P. Teixeira, "Geometrias de referencia experimental en procesos de conformación plástica de chapas y su modelación numérica", CIT - Información Tecnológica – revista internacional, www.scielo.cl, ISSN 0716-8756, pp.51-54, Vol.17 nº5, 2006 - Impact factor of CIT - Información Tecnológica: 2.041 (2013), 1.953 (2012), 1.783 (2011).
- [RI12] P. Teixeira, A.D. Santos, F.M. Andrade Pires, J. César de Sá, "Finite element prediction of ductile fracture in sheet metal forming processes", Journal of Materials Processing Technology, Vol.177, Issues 1-3, pp.278-281, 2006 - Impact factor of Journal of Materials Processing Technology (J Mater Process Tech): 0.41 (2014), 0.34 (2013), 0.037 (2006).
- [RI13] A. Reis, Z. A. Xu, R. V. Tol, Y. Houbaert, J. F. Duarte, A. D. Santos, A. B. Magalhaes, "Model for prediction of shrinkage defects in long and short freezing range materials", International Journal of Cast Metals Research,

- Vol.20, Issue: 3, pp. 171-175, 2007 - Impact Factor of International Journal of Cast Metals Research: 2013/2014 (0.509), 2012 (0.364), 2011 (0.52), 2010 (0.418), 2007 (0.424).
- [RI14] A. Barata da Rocha, Abel D. Santos, P. Teixeira, "Prediction on Localized Necking in Sheet Metal Forming: Finite Element Simulation and Plastic Instability in Complex Industrial Strain Paths", doi: 10.4028/www.scientific.net/KEM.344.825, Key Engineering Materials, Vol. 344, pp. 825-832, 2007 - Impact factor of Key Engineering Materials Journal: 2014/15 (0.19), 2005 (0.224), 2004 (0.278), 2003 (0.284), 2002 (0.497)
- [RI15] A. Reis, Y. Houbaert, Zhian Xu, Rob Van Tol, A.D. Santos, J.F. Duarte, A.B. Magalhaes, "Modeling of shrinkage defects during solidification of long and short freezing materials", Journal of Materials Processing Technology, Vol.202, Issues 1-3, pp.428-434, 2008 - Impact factor of Journal of Materials Processing Technology (J Mater Process Tech): 2.041 (2013), 1.953 (2012), 1.783 (2011).
- [RI16] A. Barata da Rocha, Abel D. Santos, Pedro Teixeira, M.C. Butuc, "Plastic Instability in Complex Strain Paths and Finite Element Simulation for Localized Necking Prediction in Sheet Metal Forming Technology", International Journal of Materials & Product Technology, Volume 32, Issue 4, pp. 434-446, [<http://dx.doi.org/10.1504/IJMPT.2008.022145>], 2008 - Impact Factor of International Journal of Materials and Product Technology: 2013/2014 (0.282), 2012 (0.324), 2009 (0.384), 2008 (0.157), 2007 (0.203).
- [RI17] Abel D. Santos, Pedro Teixeira, "A study on experimental benchmarks and simulation results in sheet metal forming", Journal of Materials Processing Technology, Vol.199, Issues 1-3, pp.327-336, 2008 - Impact factor of Journal of Materials Processing Technology (J Mater Process Tech): 2.041 (2013), 1.953 (2012), 1.783 (2011).
- [RI18] A. Reis, Y. Houbaert, Zhian Xu, Rob Van Tol, A. D. Santos, J. F. Duarte, A. B. Magalhaes, "Modeling of shrinkage defects during solidification of long and short freezing materials", Journal of Materials Processing Technology, Vol. 202, Issue: 1-3, pp. 428-434, 2008 - Impact factor of Journal of Materials Processing Technology (J Mater Process Tech): 2.041 (2013), 1.953 (2012), 1.783 (2011).
- [RI19] Mário Pinto, Abel D. Santos, Pedro Teixeira, P.J. Bolt, "Study on the usability and robustness of polymer and wood materials for tooling in sheet metal forming", Journal of Materials Processing Technology, Vol 202, issue: 1-3,

- pp.47-53, 2008 - Impact factor of Journal of Materials Processing Technology (J Mater Process Tech): 2.041 (2013), 1.953 (2012), 1.783 (2011).
- [RI20] Pedro Teixeira, Abel D. Santos, J. César de Sá, A. Barata da Rocha, "Failure Analysis of Metallic Materials in Sheet Metal Forming Using Finite Element Method", Materials Science Forum, Trans Tech Publications, Switzerland, doi:10.4028/www.scientific.net/MSF.587-588.736, Vols. 587-588, pp 736-740, 2008 - Impact Factor of Materials Science Forum: no Current impact factor.
- [RI21] Pedro Teixeira, Abel D. Santos, J.M.A. César de Sá, F.M.A. Pires, "Evaluation of Ductile Fracture in Sheet Metal Forming using a Damage Model", Steel Research International 79, Special Edition, Volume 2, pp. 397-400, 2008 - Impact Factor of Steel Research International (Steel Res Int): 2013/2014 (1.023), 2012 (0.493), 2011 (0.733), 2010 (0.453), 2009 (0.313), 2008 (0.344).
- [RI22] A. Barata da Rocha, Abel D. Santos, P. Teixeira, M.C. Butuc, "Analysis of plastic flow localization under strain paths changes and its coupling with finite element simulation in sheet metal forming", Journal of Materials Processing Technology, Vol.209, Issue 11, pp. 5097-5109, 2009 - Impact factor of Journal of Materials Processing Technology (J Mater Process Tech): 2.041 (2013), 1.953 (2012), 1.783 (2011).
- [RI23] P. Teixeira, A.D. Santos, J.M.A. César de Sá, F.M. Andrade Pires and A. Barata da Rocha, "Sheet metal formability evaluation using continuous damage mechanics", International Journal of Material Forming, Volume 2, Supplement 1, pp. 463-466, 2009 - Impact Factor of International Journal of Material Forming: 2013/2014 (1.418), 2012 (0.509).
- [RI24] H. Mata, R. Natal Jorge, A. Santos, A.A. Fernandes, R.A.F. Valente, M.P.L. Parente, Modeling of Sandwich Sheets with Metallic Foam, American Institute of Physics, doi: 10.1063/1.3623678, AIP Conf. Proc. 1383, 725, 2011 - Impact Factor of American Institute of Physics: no Current impact factor.
- [RI25] H. Mata, A. Santos, A. A. Fernandes, R. A. F. Valente, M. P. L. Parente, R. Natal Jorge, Analysis of Sandwich Shells with Metallic Foam Cores based on the Uniaxial Tensile Test, American Institute of Physics, doi: 10.1063/1.3589685, AIP Conf. Proc. 1353, 1232, 2011 - Impact Factor of American Institute of Physics: no Current impact factor.
- [RI26] S.H.Wu, Ana Reis, F.M. Andrade Pires, Abel D. Santos, A. Barata da Rocha, "Study of tool trajectory in incremental forming", Advanced Materials Research, Advanced Manufacturing Technology, Trans Tech Publications,

- <http://www.scientific.net/AMR.472-475.1586>, Vols. 472-475, pp. 1586-1591, 2012 - Impact Factor of International Journal of Advanced Manufacturing Technology: 2013/2014 (1.779), 2012 (1.205), 2011 (1.103).
- [RI27] H. Mata, R. Natal Jorge, A. D. Santos, M.P.L. Parente, R. A. F. Valente, A.A. Fernandes, "Numerical Modelling and Experimental Study of Sandwich Shells with Metal Foam Cores", Trans Tech Publications, Switzerland, doi: 10.4028/www.scientific.net/KEM.504-506.449, Key Engineering Materials, Vols. 504-506, pp 449-454, 2012 - Impact factor of Key Engineering Materials Journal: 2014/15 (0.19), 2005 (0.224), 2004 (0.278), 2003 (0.284), 2002 (0.497)
- [RI28] Bruno Martins, Abel D. Santos, Pedro Teixeira, A study on the influence of different variables for determination of flow stress using hydraulic bulge test, Int. J. Materials Engineering Innovation, Vol. 4, No. 2, pp.132-148, 2013 - Impact Factor of Int. J. Materials Engineering Innovation: no Current impact factor.
- [RI29] J. Bessa Pacheco, Abel D. Santos, "A study on the Nose Radius influence in Press Brake Bending Operations by Finite Element Analysis", Trans Tech Publications, Switzerland, doi:10.4028/www.scientific.net/KEM.554-557.1432, Key Engineering Materials, Vols. 554-557, pp 1432-1442, 2013 - Impact factor of Key Engineering Materials Journal: 2014/15 (0.19), 2005 (0.224), 2004 (0.278), 2003 (0.284), 2002 (0.497)
- [RI30] H. Mata, R. Natal Jorge, A. D. Santos, M. P. L. Parente, R. A. F Valente, A. A. Fernandes, "Study of Formability of Sandwich Shells with Metal Foam Cores", Trans Tech Publications, Switzerland, doi: 10.4028/www.scientific.net/KEM.554-557.2252, Key Engineering Materials Vols. 554-557, pp 2252-2255, 2013 - Impact factor of Key Engineering Materials Journal: 2014/15 (0.19), 2005 (0.224), 2004 (0.278), 2003 (0.284), 2002 (0.497)
- [RI31] Bruno Martins, Abel D. Santos, Pedro Teixeira, K. Ito, N. Mori, "Determination of flow curve using bulge test and calibration of damage for Ito-Goya models", Trans Tech Publications, Switzerland, doi: 10.4028/www.scientific.net/KEM.554-557.1432, Key Engineering Materials, Vols. 554-557, pp 182-189, 2013 - Impact factor of Key Engineering Materials Journal: 2014/15 (0.19), 2005 (0.224), 2004 (0.278), 2003 (0.284), 2002 (0.497)
- [RI32] H. Mata, A. D. Santos, M. P. L. Parente, R. A. F. Valente, A. A. Fernandes, R. Natal Jorge, Study on the forming of sandwich shells with closed-cell foam

- cores, *International Journal of Material Forming*, pp. 1-12, DOI 10.1007/s12289-013-1136-9, Springer-Verlag France 2013, June 2013. Vol. 7, Issue 4, pp 413-424 , December 2014 - Impact Factor of *International Journal of Material Forming*: 2013/2014 (1.418), 2012 (0.509).
- [RI33] Helder Mata, Renato Natal Jorge, A. D. Santos, Marco P. Lage Parente, Robert A. Fontes Valente, Antonio Augusto Fernandes, *Caracterização Mecânica dos Materiais que Constituem Estruturas Sandwich com Núcleo de Espuma Metálica*, *RIBIM - Revista Iberoamericana de Ingeniería Mecánica*. Vol. 17, N.º 2, pp. 125-137, 2013 - Impact Factor of *RIBIM - Revista Iberoamericana de Ingeniería Mecánica*: no Current impact factor.
- [RI34] Abel D. Santos, F. Gomes Almeida, Joaquim Mendes, Pedro Teixeira, J. Bessa Pacheco, *Desenvolvimento de um Sistema de Medição Experimental a Utilizar no Ensaio 'Bulge' para a Caracterização de Materiais em Chapa Metálica*, *RIBIM - Revista Iberoamericana de Ingeniería*, Vol. 18, N.º 1, pp. 107-117, 2014 - Impact Factor of *RIBIM - Revista Iberoamericana de Ingeniería Mecánica*: no Current impact factor.
- [RI35] R. Safdarian, H. Moslemi Naeini, R.M. Natal Jorge, Abel D. Santos, M.P.L Parente, *A comparative study of forming limit diagram prediction of tailor welded blanks*, *International Journal of Material Forming*, DOI 10.1007/s12289-014-1168-9, April 2014 - Impact Factor of *International Journal of Material Forming*: 2013/2014 (1.418), 2012 (0.509).

6.3.2 Nacional Journals

- [RN1] Abel Santos, Ana Reis, "Simulação de Processos Tecnológicos", *Tecnometal* n.150, pp.9-11, Jan./Fev. 2004.
- [RN2] M.Pinto, A.D.Santos, P.Teixeira, P.J.Bolt, P.Santos, "Novos materiais para ferramentas de conformação plástica de chapas: estudo da utilização de materiais à base de poliuretano e à base de madeira", *Tecnometal* n.154, pp.11-16, Nov./Dez. 2004.
- [RN3] Abel D.Santos, M.Damasceno, "Drawing the Things to Come – Trends and Advances in Sheet Metal Forming", *Tecnometal* n.161, pp.15-16, Jan./Fev. 2006.
- [RN4] Abel D.Santos, "Drawing the Things to Come – Trends and Advances in Sheet Metal Forming", *Tecnometal* n.166, pp.15-16, Set/Out 2006.

- [RN5] Abel D.Santos, "Inovação na Conformação Plástica de Chapas Metálicas", Tecnometal n.166, pp.5-10, Set/Out 2006.
- [RN6] Abel D.Santos, "Tendências actuais nas tecnologias de conformação plástica de chapas - Conferência IDDRG 2007: Gyor – Hungria", Tecnometal n. 171, pp.13-16, Set/Out 2007.
- [RN7] Vasco G. Jorge, Abel D. Santos, J. César de Sá, Francisco Pires, João P. Sousa, "Desenvolvimento de um processo de forjamento a frio em multi-etapas através da modelação numérica por elementos finitos", Tecnometal n. 178, pp.14-24, Set/Out 2008.
- [RN8] Abel D.Santos, "Conferência IDDRG 2008 - "Best In Class Stamping", Olofstrom – Sweden, Tecnometal n. 178, pp.30-33, Set/Out 2008.
- [RN9] Sasaki Yasushi (texto), Abel D.Santos (tradução), " Um outro ponto de vista sobre a problemática: CO2 e o aquecimento global", Tecnometal n. 183, pp.34-38, Jul/Ago 2009.
- [RN10] Abel D.Santos, "Um olhar sobre outra realidade: A Coreia do Sul, a Universidade Postech e o Instituto GIFT", Tecnometal n. 184, pp.42-46, Set/Out 2009.
- [RN11] José Esteves, Abel Santos, Joaquim Mendes, F. Gomes Almeida, Jorge Reis, Pedro Teixeira, "O ensaio "bulge" na caracterização de materiais usados nos processos de conformação plástica de chapas metálicas", Tecnometal n. 186, pp.18-24, Jan/Fev 2010.
- [RN12] Pedro Teixeira, Abel Santos, Francisco Pires, J.César de Sá, A.Barata da Rocha, "Previsão da rotura em componentes obtidos por embutidura", Tecnometal n. 188, pp.12-19, May/June 2010.
- [RN13] Abel D. Santos, "IDDRG 2011 – Towards sustainable sheet forming processes", Tecnometal n. 194, pp.14-17, May/June 2011.
- [RN14] Pedro Teixeira, Abel D.Santos, Aplicações da simulação por elementos finitos nos processos de conformação plástica, INEGI – Boletim Informativo, n.34, Setembro de 2011.
- [RN15] J. Bessa Pacheco, Abel D. Santos, "Processo de Quinagem - a resposta a questões práticas da indústria através da simulação numérica - parte I", Tecnometal n. 196, pp.10-17, September/October 2011.
- [RN16] J. Bessa Pacheco, Abel D. Santos, "Processo de Quinagem - a resposta a questões práticas da indústria através da simulação numérica - parte II", Tecnometal n. 197, pp.10-19, November/December 2011.

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6.6 Thesis

- [T1] Santos A.,
"Calculation of Stress Intensity Factors in mixed mode, using special finite elements", MSc thesis, University of Porto, Portugal, March 1987.
- [T2] Santos A.
"Tool Descriptions and Contact Strategies in Static Explicit FEM for Simulation of 3D Sheet Metal Forming Processes", PhD Dissertation, Tokyo University, September 1993.

6.7 Research Reports

- [RL1] J.Ferreira Duarte, L.Hipolito Reis, A.Santos, A.Barata da Rocha "AB-1: Tensile Testing Benchmark" , NUMISHEET'96, Columbus, Ohio, USA, edited in CD, September 29-October 3, 1996
- [RL2] J.Ferreira Duarte, L.Hipolito Reis, A.Santos, A.Barata da Rocha "AB-3: Forming Limit Diagram Benchmark", NUMISHEET'96, Columbus, Ohio, USA, edited in CD, September 29-October 3, 1996
- [RL3] J.Ferreira Duarte, L.Hipolito Reis, F.Junqueira, A.Santos, A.Barata da Rocha, "EB-1:LDH Geometry Experimental Benchmark", NUMISHEET'96, Columbus, Ohio, USA, edited in CD, September 29-October 3, 1996
- [RL4] J.Ferreira Duarte, L.Hipolito Reis, F.Junqueira, A.Santos, A.Barata da Rocha, "EB-2: S-Rail Experimental Benchmark", NUMISHEET'96, Columbus, Ohio, USA, edited in CD, September 29-October 3, 1996
- [RL5] Nuno Costa, J. Ferreira Duarte, Abel Santos, A. Barata da Rocha, "Tensile Test–CASHFORM Materials", Novembro 1998.
- [RL6] Nuno Costa, J. Ferreira Duarte, Abel Santos, A. Barata da Rocha, "COPERNICUS - Tensile Test – AL 5182 , AL 6016", Dezembro 1998.
- [RL7] Nuno Costa, J. Ferreira Duarte, Abel Santos, A. Barata da Rocha, "Tensile Test – Ti Alloy", Dezembro 1998.
- [RL8] Nuno Costa, J. Ferreira Duarte, Abel Santos, A. Barata da Rocha, "Tensile Test – Steel", Fevereiro 1999.
- [RL9] J.Ferreira Duarte, Abel Santos, A. Barata da Rocha, "*Metodologias de representação de ferramentas*" (*Methodologies of tool representations*), Project PRAXIS N° 2/2.1/TPAR/2055/95, 1997 (in portuguese).

- [RL10] Nuno Costa, J. Ferreira Duarte, Abel Santos, A. Barata da Rocha, "COPERNICUS - Benchmark S-Rail: Experimental and Numerical", September 1999.
- [RL11] Ana Reis, Nuno Costa, J. Ferreira Duarte, Abel Santos, A. Barata da Rocha, "CASHFORM - Basic Test Case", November 1999.
- [RL12] José Ferreira Duarte, Abel Santos, Rui Neto, Ana Reis, António Gomes, Ricardo Paiva, José Augusto Silva, Albano João, Sérgio Silva, José Augusto Silva, "FORJAL - Desenvolvimento e Controlo do Processo de Forjamento de Ligas de Alumínio – Relatório de Execução Final", Abril 2000. (in portuguese)
- [RL13] José Ferreira Duarte, Abel Santos, Rui Neto, Ana Reis, Ricardo Paiva, José Augusto Silva, Albano João, Sérgio Silva, José Augusto Silva, "MAGFORJ - Desenvolvimento e Controlo do Processo de Forjamento de Ligas de Magnésio – Relatório de Execução Final", Setembro 2000 (in portuguese).
- [RL14] A.Santos, J.Duarte, "IMS/3DS - Main information about tools for rails #1 to #4 and experimental benchmarks", September 2000.
- [RL15] K.Kazama, A.Santos, A.Anderson, A.Col, J.Duarte, Deliverable for 3DS Project, "IMS/3DS - Workpackage 2 – experimental benchmarks: Procedures and experimental conditions", June 2002
- [RL16] A.Santos, J.Duarte, "IMS/3DS - Tool manufacturing for rails 1-4", February 2001.
- [RL17] A.Santos, P.Teixeira, J.F.Duarte, A.Col, Deliverable for 3DS Project, "IMS/3DS - Workpackage 2 – experimental benchmarks: Rail 3 – Final Report", September 2003
- [RL18] Ana Reis, Carmen Butuc, P. Teixeira, Fábio Simões, J. F. Duarte, Abel Santos, A. Barata da Rocha, INETFORSMEP, Mid-Term Progress Report, September 2003
- [RL19] Abel Santos, Pedro Teixeira "Análise estrutural de várias soluções de rodas de bicicleta pelo Método dos Elementos Finitos", relatório de participação no concurso da empresa RODI-Metalúrgicas do Eixo Lda, "IDEIAS SOBRE RODAS", March 2004 (in portuguese).
- [RL20] Ana Reis, Carmen Butuc, P. Teixeira, Rui Felix, Fábio Simões, J. F. Duarte, Abel Santos, A. Barata da Rocha, INETFORSMEP, 2nd Year Progress Report, April 2004.
- [RL21] P. Teixeira, F. Braga, Ana Reis, Abel Santos, J. F. Duarte, "INETFORSMEP – Work Package 4 – 4.1 – Design of Devices for Modelling Investigation", July 2004.
- [RL22] P. Teixeira, Abel Santos, F. Braga, J. F. Duarte, A.B.Rocha, Rogerio Santos, Pedro Santos, "INETFORSMEP – Work Package 4 – 4.2 – Manufacturing of devices for Modelling Investigation", July 2004.

- [RL23] Pedro Teixeira, J. Ferreira Duarte, Abel Santos, A. Barata da Rocha, "Laboratory Scale Studies, Influence of Stamping Variables, in final part geometry", Deliverable of Work package 4 – Task 4.3 of Project INETFORSMEP - The Intelligent System For Net Shape Forming of Sheet Metal Products, July 2004.
- [RL24] Pedro Teixeira, J. Ferreira Duarte, Abel Santos, A. Barata da Rocha, "Verification of Results", Deliverable of Work package 4 – Task 4.4 of Project INETFORSMEP - The Intelligent System For Net Shape Forming of Sheet Metal Products, July 2004.
- [RL25] Abel Santos, J. Ferreira Duarte, Pedro Teixeira, A. Barata da Rocha, "Integrated process control and internet connection between partners Verification of Results", Deliverable of Work package 6 of Project INETFORSMEP - The Intelligent System For Net Shape Forming of Sheet Metal Products, July 2004.
- [RL26] Pedro Teixeira, Fernando Braga, Ana Reis, Abel Santos, J. Ferreira Duarte, "Deliverable of Work package 4 - Project INETFORSMEP – Laboratory Scale Study", July 2004.
- [RL27] Wroclav Univ.Tech., Univ. Savoie, Univ. Bacau, INEGI, "Deliverable of Work package 4 - Project INETFORSMEP – Laboratory Scale Study", July 2004
- [RL28] Rogerio Santos, Pedro Santos, Abel Santos, J. Ferreira Duarte, Pedro Teixeira, A. Barata da Rocha, "Analysis of economical prospects", Deliverable of Work package 7 – Task 7.1 of Project INETFORSMEP - The Intelligent System For Net Shape Forming of Sheet Metal Products, March 2005.
- [RL29] Rogério Santos, Pedro Santos, Abel Santos, J. Ferreira Duarte, Pedro Teixeira, A. Barata da Rocha, "Work package 5 - Industrial scale tests of novel NSF system", INETFORSMEP - The Intelligent System for Net Shape Forming of Sheet Metal Products, March 2005.
- [RL30] Ana Reis, Cármen Butuc, Rui Félix, Rui Neto, Ricardo Paiva, Fábio Simões, Miguel Figueiredo Abel Santos, J. Ferreira Duarte, Pedro Teixeira, A. Barata da Rocha, "Final Report - 3TH YEAR PROGRESS REPORT", INETFORSMEP - The Intelligent System for Net Shape Forming of Sheet Metal Products, April 2005.
- [RL31] Abel Santos, Pedro Teixeira, "Tribology tests for 3DS materials - Influence of sliding speed", Project IMS/3DS – Digital Die Design System, March 2005.

7 Coordination and development of scientific projects

7.1 Research Projects

- Member of Research Institute INEGI - Institute of Mechanical Engineering and Industrial Management, where cooperates in research work, both scientific and industrial projects;
 - Member of R&D Unit for multi-annual funding of FCT (Portuguese Science Foundation), Unit “Novas Tecnologias e Processos Avançados de Produção” (“New Technologies and advanced production processes”);
 - Member of Associated Engineering Laboratory of Transport and Aeronautics (LAETA) (Associated Laboratories: Multi-annual Funding Program), group “New Technologies and Advanced Manufacturing Processes (RG-Norte-Porto-750022-3371)”, INEGI division.
- **Responsible for research projects:**
 - **International**
 - Project IMS - International Manufacturing System, Title: “3DS/ Digital Die Design System”. Partners included in regions of Japan, Europe and Canada. European region included 10 partners: Sollac (France), Mercedes-Benz AG (Germany), Volvo Cars (Sweden), Renault Automobiles, (France), Pechiney CRV (France), Cockerill-Sambre R&D (Belgium), Inpro (Germany), University Paris Nord (France), University of Coimbra (Portugal), FEUP/INEGI (Portugal). Funding to FEUP: 183.000 Euro. Duration: 2000-2003. Project indicators (partner FEUP): 17 congress papers, 4 journal papers, 1 MSc Thesis, experimental prototype of stamping tool.
 - Project of development and assembly of stamping tools for research project IMS/3DS.; customers: Renault, Sollac, Pechiney, FEUP. Project developed in cooperation with Press Kogyo from Japan. Tool total price: 70.000 Euros, total project value: 280.000 Euro. Duration: March 2000 to October 2001
 - Project 1ST Europe. Call title: FP6-2002-Mobility-3, Date of submission: 19/05/2004, Proposal title: Quality breakthrough in manufacturing processes design by advanced approaches in numerical simulations. Proposal submitted by Dr-Ir Jean-Philippe Ponthot, LTAS - Thermomecanique et Milieux Continus, Universite de Liege, Belgium; resulting in a stay of Mrs.Sophie Trichon in INEGI; 2004-2006.
 - **National**
 - Project PBIC/Jovens Doutorados (Young PhD's), PBIC/C/TPR/2557/95. Title: “Simulação de Processos de Conformação Plástica de Chapas Metálicas e sua Validação Experimental” (Numerical simulation of sheet metal forming and experimental validation). Funding to INEGI: 37.500 Euro. Duration: 12/1995 to 12/1998. Project indicators: 5 congress papers, 1 PhD thesis, developed software code of FEM.

- Project Sapiens 99. POCTI/35945/EME/2000. “Simulação Numérica do Processo de Estampagem de Chapas Metálicas - Modelação Mecânica: Métodos Numéricos e Validação Experimental” (Numerical simulation of sheet metal stamping process – mechanical modeling: numerical methods and experimental validation). Partners: University of Coimbra; INEGI - Institute of Mechanical Engineering and Industrial Management; University of Minho. Funding to INEGI: 19.154 Euro. Duration: 2000-2003. Project indicators (partner INEGI): 13 congress papers, 4 journal papers, 1 MSc thesis.
 - Project “Desenvolvimento de um novo transportador/espalhador de emulsões asfálticas” (development of a new transportation/spraying of asphaltic emulsions), Research project of University of Porto, 2006.
 - Project FCT - PTDC/EME-TME/105688/2008, Title: Multi-scale modeling of Hexagonal Closed Pack (HCP) materials with spring-back prediction Multi-scale modeling of Hexagonal Closed Pack (HCP) materials with spring-back prediction; Partners: UA - Universidade de Aveiro (proponente), IDMEC – Instituto de Engenharia Mecânica, INEGI/UP - Instituto de Engenharia Mecânica e Gestão Industrial, Total budget: 139.724,00€, April 2010 - March 2013
 - Project FCT - PTDC/EME-TME/113410/2009, Title: Characterization of the Constitutive Behavior of Metal Sheets from a Single Multi-Path-Experimental Test by Inverse Analysis; Partners: Universidade de Coimbra - CEMUC/FCT/UC (proponente), Universidade de Aveiro - TEMA/UA, INEGI/UP - Instituto de Engenharia Mecânica e Gestão Industrial; Total budget: 171.744,00€, Duração: April 2011 - March 2014.
 - Project PTDC/EMS-TEC/1805/2012, Title: Experimental and Numerical Simulation Analysis in the Optimisation of Cold and Warm Forming of Aluminium Alloys; Partners: Universidade de Coimbra - CEMUC/FCT/UC (proponente), Universidade de Aveiro - TEMA/UA, Universidade do Minho (CT2M/UM)), INEGI/UP - Instituto de Engenharia Mecânica e Gestão Industrial; Total budget: 190.101,00 €, July 2013 - June 2015.
 - Project PTDC/EMS-TEC/2404/2012, Title: Mechanical and microstructural behaviour of advanced high strength steels sheets under monotonic and complex deformation paths; Partners: Universidade de Aveiro - TEMA/UA (proponente), INEGI/UP - Instituto de Engenharia Mecânica e Gestão Industrial; Total budget: 165.350,00 €, June 2013 - April 2015.
- **Participation and responsible for research tasks in projects:**
- Internacional
 - European Project, BRITE-EURAM, contract nºBRPR-CT97-0492 (DG12-RSMT). Title: “An Accurate Plasticity Model of Texture Strain-Path Induced Anisotropy and Forming Limits for Computer Aided Sheet Metal Forming”. Parceiros: University K.U.Leuven (Belgium), University Paris 13 (France), OCAS steel producer (Belgium), Hoogovens aluminium producer (Netherlands), BMW automotive company (Germany), Renault automotive company (France), FEUP (Portugal). Direct involvement in project submission. Funding to FEUP: 300.000 Euro. Duration: 1997-2000. Project indicators (partner FEUP): 4

- congress papers, 1 journal paper, 1 MSc thesis 1 PhD thesis, developed code (FLDCode) to simulation and prediction of forming limit diagrams (FLD's), software code developed to be integrated in a commercial code of finite elements.
- European Project, COPERNICUS ERBIC15CT970708. Title: "The System for Sheet Metal Forming Design". Partners: Technological University of Wroclaw (Poland), University of Savoie (France), University of Bacau (Romania), INEGI (Portugal). Funding to INEGI: 47.000 Euro. Duration: September 1997 - September 2000. Project indicators (partner INEGI): 1 PhD thesis.
 - European Project "Smart Tooling for Sheet Metal Press Forming in Low Production Volumes", Project number: CRAF-1999-70532, Contract number: G1ST-CT2001-50118, funded by the European Community under the 'Competitive and Sustainable Growth' Programme, Duration: 2000-2003. Project indicators (partner INEGI): 1 congress papers, 1 journal paper, manufacturing of a prototype tooling for sheet metal forming
 - European Project INETFORSMEP, Competitive and Sustainable Growth, GIRD-CT-2002-00682. Title: "The Intelligent System for Net Shape Forming of Sheet Metal Products". Partners: Technical University of Wroclaw (Poland), Metal Forming Institute (Poland), Auto Tools Warszawa Sp. Zo. (Poland), University of Bacau (Romania), S.C. Aerostar SA (Romania), S.C. World Machinery Works S.A. (Romania), S.C. Mecanica Ceahlau SA (Romania), Université de Savoie (France), Societe d'Emboutissage Precis (France), P. J. Ferramentas, Lda. (Portugal), INEGI (Portugal). Funding to INEGI: 167.000 Euro global for partners: 1.500.000 Euro, total (additional costs): 2.300.000 Euro. Duration: 2002-2005. Project indicators (partner INEGI): 11 congress papers, 1 MSc thesis, manufacturing of prototype toolings for sheet metal forming.
 - Project Capes_Grices (funded by Ministry of Science and High Education) - Coordenação de Aperfeiçoamento de Pessoal de Nível Superior de colaboração /Gabinete de Relações Internacionais da Ciência e Ensino Superior, Ministério da Ciência e Ensino Superior); submission: 07/2004, Title: "Transform – Tecnologias de Deformação Plástica e os novos Desafios da Indústria Automóvel" (Technologies of metal forming e new challenges to automobile industry); partners: Laboratory of Mechanical Transformation of Federal University of Rio Grande do Sul – Brasil, Laboratory of Mechanical Transformation of University of Caxias do Sul – Brasil, Technical University of Lisbon – Portugal, INEGI - Institute of Mechanical Engineering and Industrial Management, Porto – Portugal. Duration: January 2005 – December 2006.
- National
 - PRAXIS XXI, PRAXIS/2/2.1/TPAR/2055/95. Title: "Modelação Numérica e Análise Experimental do Processo de Estampagem de Chapa" (numerical modelling and experimental analysis of sheet stamping process). Partners: Technical University of Lisbon, University of Coimbra, University of Aveiro and INEGI. Direct involvement in project submission. Funding to INEGI: 37.500 Euro. Duration: June - June 2000. Project indicators (partner INEGI): 2 congress papers, 1 journal paper.
 - Desenvolvimento e Controlo do Processo de Forjamento de Ligas de Alumínio (Development and control of the forging process applied to aluminium alloys, in

- portuguese), Project N° 25/00337, research contract between INEGI and company Ibérica. Duration: 1998-2000. Project indicators: 4 congress papers, 2 journal paper.
- Desenvolvimento e Controlo do Processo de Forjamento de Ligas de Magnésio, (Development and control of the forging process applied to magnesium alloys, in portuguese), Project N° 25/00432. Duration: 1998-2000. Project indicators: 2 congress papers, 1 journal paper.
 - Optimização da Produção de Esboços por Soldadura Laser para a Fabricação de Componentes da Indústria Automóvel (Optimizing the production of tailored welded blanks in components for automobile industry, in portuguese), Project PRAXIS/P/EME/12274/1998, Partners: INEGI, IDMEC – Pólo FEUP, IST. Funding to INEGI: 36.377 Euro. Duration 1st June 1998 – 2001. Project indicators (partner INEGI): 3 congress papers, 1 journal paper, 1 MSc thesis.
 - Project reference: POCTI/EME/61326/2004. Direct involvement in project submission. Title: Optimização da simulação do processo de fundição (Optimization of Casting Simulation, in portuguese), Institutions: University of Porto and INEGI; Funding to INEGI: 70.000Euro. Duration: January 2005 - December 2007. Project indicators: 4 congress papers, 1 journal paper, 1 PhD thesis, software code developed to be integrated in a commercial code of finite volumes.

8 Organization of Scientific groups

8.1 Supervisor of PhD thesis

- Co-supervisor PhD thesis of José Ferreira Duarte, title: "Conformação Plástica de Chapas Metálicas: Simulação Numérica e Caracterização Mecânica" (Sheet metal forming: numerical simulation and mechanical characterization), Faculty of Engineering of University of Porto, 1994 - June 1997.
- Co-supervisor PhD thesis of Ana Rosanete Lourenço Reis, title "Numerical modelling of shrinkage defects induced by the feeding flow in aluminium castings", University of Ghent, Belgium, 2004 – January 2008.
- Supervisor PhD thesis of Pedro Manuel Cardoso Teixeira, title "Previsão de Dano Dúctil em Processos de Conformação Plástica de Chapas Metálicas e Respectiva Validação Experimental" (Prediction of ductile damage in sheet metal forming processes and experimental validation), December 2006 - 10 February 2011.
- Co-Supervisor of PhD student Sophie Trichon, from Prof.J.P.Ponthot, Institut de Mécanique, Université de Liege, BELGIUM; stage in INEGI (Institute of Mechanical Engineering and Industrial Management) and FEUP (Faculty of Engineering of University of Porto) under the cooperation programme "1st Europe", February – March 2006.
- Co-supervisor of PhD student Shenghua Wu, title: "Continuum Modelling and Numerical Simulation of Hexagonal Close-Packed Materials", October 2008 – March 2014, Faculty of Engineering, University of Porto, 28 March de 2014.
- Co-supervisor of PhD student Hélder Tiago Carriço Mata, title: "Estudo de Estruturas Sandwich Hidroformadas Constituídas por Núcleo de Espumas Metálicas"; neste âmbito publicou 6 artigos de revista e 16 artigos congresso; January 2011 - July 2014, Faculty of Engineering, University of Porto, 18 July 2014.
- Supervisor of PhD student and FCT fellowship Bruno Miguel Rodrigues Martins, title: "Characterization of the Constitutive Behavior of Metal Sheets from a Single Multi-Path-Experimental-Test by Inverse Analysis"; 2 artigos revista e 4 artigos congresso; October 2011 – present.
- Co-supervisor of PhD student Luís Carlos Duarte dos Reis, in bilateral cooperation between FEUP and CEMUC da Universidade de Coimbra, supervisor at Univ.Coimbra: Prof. Valdemar Fernandes, title: "Identification of parameters for classical and newly proposed constitutive laws using inverse analysis methodology and experimental tests including bulge tests with different ratios for elliptical dies", 2011 – present.
- Co-supervisor of PhD student Rasoul Safdarian, from Metal forming Lab, Department of Mechanical Engineering, Tarbiat Modares University, Tehran, Iran, title: "Forming Limit Diagram of Tailor Welded Blank Using Fld And Ductile Fracture Criteria", stay in Porto January to July 2012.
- Co-supervisor of PhD student Grigoras Cosmin-Constantin, University University "Vasile Alecsandri" of Bacau, Roménia, supervisor na Univ. Bacau: Prof. Gheorghe Brabie, stay at FEUP, topic "Machining magnesium based alloys for

orthopedically implants”, “FEUP bilateral agreement of cooperation for doctoral studies in the frame of ERASMUS programme”, March - June 2014.

8.2 Supervisor of MSc thesis

- Supervisor of Ana Rosanete Reis, title: “Modelação Numérica por Elementos Finitos de Processos de Conformação Plástica” (Numerical modelling of metal forming processes), Faculty of Engineering of University of Porto, May 2001.
- Supervisor of Pedro Manuel Cardoso Teixeira, title: “Benchmarks experimentais e Modelação Numérica por Elementos Finitos de Processos de Conformação Plástica” (Experimental benchmarks and finite element modelling of metal forming processes), Faculty of Engineering of University of Porto, July 2005.

8.3 Supervisor of MSc thesis (Integrated Master Programme)

- Supervisor of Vasco Guerreiro Jorge, title: “Forjamento de parafusos em multi-etapas – Optimização do processo por modelação numérica” (Forging of bolts in multi-step – process optimization by numerical modelling), cooperation work with company “ETMA - Empresa Técnica de Metalurgia SA”, Braga, 2007-2008, Faculty of Engineering of University of Porto, July 2008.
- Supervisor of Samuel Moura Ramos, title: “Concepção de uma armadura de segurança para um automóvel de competição” (Design of a safety roll cage for a race car, in portuguese), 2007-2008, Faculty of Engineering, University of Porto, July 2008.
- Supervisor of Pedro João Barbosa Ribeiro, title (in portuguese): “Competitividade de máquinas-ferramenta – Conceitos inovadores aplicados a uma quinadora”, trabalho de cooperação com a empresa ADIRA, Porto; co-supervisor: Eng. Tiago Faro; co-supervisor FEUP: Prof.P.Tavares de Castro e Abel Santos; Faculty of Engineering, University of Porto, Setembro 2009 a Fevereiro de 2010.
- Supervisor of Rui Henrique da Silva Pires, title (in portuguese): “Industrialização de uma peça automóvel”, trabalho de cooperação com a empresa GESTAMP, V.N.Cerveira; co-supervisor: Eng. João Pinto; Faculty of Engineering, University of Porto, Setembro 2009 a Fevereiro de 2010.
- Supervisor of Ricardo Alexandre de Sousa Faria, title (in portuguese): “Processo de execução de um condutor de cabo mecânico por laminagem de arame circular”; trabalho de cooperação com a empresa Fico Cables Lda, Maia; co-

- supervisor: Eng. Carlos Duarte; Faculty of Engineering, University of Porto, Janeiro de 2010 a Julho de 2010.
- Supervisor of João Bruno Rodrigues Fragoso, title (in portuguese): “Desenvolvimento e Conceção de Ferramentas de Estampar”, trabalho de cooperação com a empresa Gestamp Aveiro S.A.; co-supervisor: Eng. Nuno Cavaca; Faculty of Engineering, University of Porto, Setembro de 2010 a Fevereiro de 2011.
 - Supervisor of Ricardo Manuel Pinto Ribeiro, title (in portuguese): “Análise Operacional de Rupturas em Ferramentas de Estampagem Progressiva”, trabalho de cooperação com a empresa Gestamp Portugal, Cerveira, co-supervisor: Eng. Santiago Pan, Faculty of Engineering, University of Porto, Setembro de 2010 a Fevereiro de 2011.
 - Co-orientador of Tiago Samuel Freitas Alves, title (in portuguese): “Desenvolvimento da Evolução do Desafio Único FEUP. Conceção e Análise de Armação de Segurança para um Automóvel de Competição”, Fevereiro de 2011 a Junho de 2011, Faculty of Engineering, University of Porto, 27 Julho de 2011.
 - Supervisor do Estudante Diogo Afonso Trindade Araújo Regalo, title (in portuguese): “Desenvolver e implementar ‘Lean Production’ a um módulo de produção”, trabalho de cooperação com a empresa Simoldes, Oliveira de Azeméis; co-supervisor: Eng. Manuel Silva, Faculty of Engineering, University of Porto, Setembro de 2011 a Fevereiro de 2012.
 - Supervisor of Luís Norberto Teixeira Malheiro, title (in portuguese): “Caracterização Mecânica de Materiais em Chapa Metálica e Problemas de Formabilidade em Componentes para Automóveis”, trabalho de cooperação com a empresa IM-Inapal Metal S.A., Trofa; co-supervisor: Eng. João Meireles, Faculty of Engineering, University of Porto, Setembro de 2011 a Julho de 2012.
 - Supervisor of **Marco Luís Leal Azevedo**, title (in portuguese): “Aplicação da Simulação Numérica na Indústria de Componentes Estampados”, trabalho de cooperação com a empresa Gestamp Portugal Lda, V.N.Cerveira, co-supervisor: Eng. Ricardo Ribeiro, Faculty of Engineering, University of Porto, Setembro de 2012 a Fevereiro 2013.
 - Supervisor of **Rui Ricardo Loureiro Amaral**, title (in portuguese): “Modelação Numérica de Processos de Conformação Plástica de Chapas - Caracterização Mecânica e Previsão de Retorno Elástico”, Faculty of Engineering, University of Porto, Fevereiro a Julho 2013.
 - Co-orientador of **Pedro Miguel Vieira Bastardo**, title (in portuguese): “Previsão de comportamentos típicos e análise do Processo de Quinagem pelo

- Método dos Elementos Finitos”, Faculty of Engineering, University of Porto, Fevereiro a Julho 2013.
- Co-orientador of **Nicolas Fernandes Venâncio**, title (in portuguese): “Projeto de um monolugar: análise do chassis”, Faculty of Engineering, University of Porto, Fevereiro a Julho 2013.
 - Supervisor of **Tiago João Lourenço Pintado Vaz**, title (in portuguese): “Modelação Numérica de Processos de Conformação Plástica de Chapas - Caraterização Mecânica e Aplicações a Casos Práticos”, Faculty of Engineering, University of Porto, Fevereiro a Julho 2013.
 - Supervisor of **Pedro Miguel Vieira da Silva**, title (in portuguese): “Caraterização do processo de corte e dobragem de componentes eletrónicos”, trabalho de cooperação com a empresa Efacec, Maia, co-supervisor: Eng. Pedro Borges Marinho, Faculty of Engineering, University of Porto, 3 julho 2014, arguente: Prof. J.Dores Castro, presidente: Prof.A.Monteiro Baptista, Setembro de 2013 a Fevereiro 2014.
 - Supervisor of **Elder Filipe Duarte Vintena**, title (in portuguese): “Otimização de Processo para Estampagem de Chapa”, trabalho de cooperação com a empresa BorgWarner, V.N.Cerveira, co-supervisor: Eng. António Cid, Faculty of Engineering, University of Porto, 10 julho 2014, arguente: Prof. J.Dores Castro, presidente: Prof.A.Monteiro Baptista, Fevereiro de 2014 a Julho 2014.
 - Supervisor of **João Gaspar Almeida Heleno**, title (in portuguese): “Optimização de fluxos internos de material”, trabalho de cooperação com a empresa Gestamp, V.N.Cerveira, co-supervisor: Eng. Ricardo Duarte, Faculty of Engineering, University of Porto, 14 julho 2014, arguente: Prof. J.Dores Castro, presidente: Prof. Lucas Silva, Fevereiro de 2014 a Julho 2014.
 - Co-orientador of **André Xavier Figueiredo da Silva**, title (in portuguese): “Estudo do processo de soldadura a laser em “Tailor Welded Blanks (TWB)” de Ligas de Alumínio”, trabalho de cooperação com a empresa Edaetech, Esposende, co-supervisor FEUP: Prof. A.Augusto Fernandes, co-supervisor: Eng. António Morais, Faculty of Engineering, University of Porto, 16 julho 2014, arguente: Eng.Tiago Faro, presidente: Prof.J.Ferreira Duarte, Fevereiro de 2014 a Julho 2014.
 - Supervisor of **Sara Esmeralda Silva Correia de Miranda**, title (in portuguese): “Análise do Processo de Quinagem: Desenvolvimentos Analíticos e Numéricos para a sua Caraterização”, co-supervisor: Eng. A. Bessa Pacheco e Prof.Romano Barbosa, Faculty of Engineering, University of Porto, 17 julho 2014, arguente: Prof.Queirós de Melo, presidente: Prof.J.Lino Alves, Fevereiro de 2014 a Julho 2014.

- Co-orientador of **Nuno Leite de Sousa da Silva Pires**, title (in portuguese): "Projeto e otimização de sistemas de alimentação e gitagem para peças em aluminetos de titânio", trabalho de cooperação com INEGI, co-supervisor: Eng. Rui Neto, Faculty of Engineering, University of Porto, 10 julho 2014, arguente: Prof. Silva Ribeiro, presidente: Prof.A.Monteiro Baptista, Fevereiro de 2014 a Julho 2014.
- Co-orientador of **Pedro Fernandes de Ataíde e Melo**, title (in portuguese): "Enchimento e solidificação de peças em ligas de cobre obtidas por baixa pressão", trabalho de cooperação com INEGI, co-supervisor: Eng. Rui Neto, Faculty of Engineering, University of Porto, 14 julho 2014, arguente: Prof. Carmen Lobo, ISEP, presidente: Prof.Lucas Silva, Fevereiro de 2014 a Julho 2014.
- Co-orientador of **Dipak Gopinath Wagre**, title (in portuguese): "Characterization of formability of sheet metals in deep drawing with added lubricant", trabalho de cooperação com a empresa Inapal Metal, Trofa, co-supervisor FEUP: Prof. A.Monteiro Baptista, co-supervisor: Eng. Luis Malheiro, orientador no Indian Institute of Technology Delhi: P. V. Madhusudhan Rao, Faculty of Engineering, University of Porto, 15 julho 2014, arguente: Prof. Francisco Silva, presidente: Prof. Lucas Silva, September 2013 - July 2014.
- Supervisor of **Luís Miguel Moura Frade Vaz Pinto**, title (in portuguese): "Industrialização de um suporte de roda do eixo traseiro para veículos ligeiros", trabalho de cooperação com a empresa Gestamp Portugal Lda, V.N.Cerveira, co-supervisor: Eng. José Tiago Rocha, Faculty of Engineering, University of Porto, 20 julho 2015, arguente: Prof. Jorge D. Castro (ISEP), presidente: Prof. José Marafona, February 2015 - July 2015.
- Supervisor of **Bruno Alexandre Oliveira Ferreira**, title (in portuguese): "Integração de metodologias de análise do processo de Quinagem", co-supervisor: Eng. A. Bessa Pacheco, Faculty of Engineering, University of Porto, 20 julho 2015, arguente: Prof.Queirós de Melo (U.Aveiro), presidente: Prof. José Marafona, February 2015 - July 2015.
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8.4 Other programmes

- Supervisor of french student Pascal Montel, do ENIB - École Nationale d'Ingenieurs de Brest – under programme COMETT, 1994 - 1995.

- Co-supervisor of french students Frédéric Vallenet e Nuno da Costa da ENSAM - École Nationale Supérieure d'Arts et Métiers - de Paris under programme ERASMUS, January– June 1997
- Co-supervisor of italian student Nguyen Van under interchange programme "Leonardo Da Vinci Program " com o Erdisu Trieste - Centro MOVE de Itália, working in the organization group of congresses Numiform2007 and CMNE2007, September 2006 – February 2007.
- Supervisor of MSc student Jurgis Mikolainis, under an interchange programme with Lithuania; student from Kaunas University of Technology, department of Mechanical engineering and Mechatronics; master thesis project in computer integrated manufacturing systems (CIM) and a work in "numerical modelling and experimental validation of "Ring Roll Bending", September 2006 – December 2006.
- Supervisor in PRODEP training program of student Luís Filipe Gomes Simões, Planificação de superfícies: um método integrado com o Desenho Assistido por Computador (surface prediction: an integrated method with Computer Aided Design), October 1995 to March 1996.
- Supervisor in PRODEP training of students José Tiago Pacheco e Luís Miguel Costa Ferreira, Simulação Numérica por Elementos Finitos (Numerical simulation using Finite Element Method), January to September 1997.
- Supervisor in PRODEP training of Graça Sobral, Forjamento em Matriz Fechada - Simulação Numérica e Trabalho Experimental (Open die forging: numerical simulation and experimental validation), October 2000 to March 2001.
- Supervisor of scholarship from FEUP, Pedro Manuel Cardoso Teixeira, in sheet metal forming and numerical simulation domain, 2001 a 2003.
- Supervisor of scholarship from INEGI, Eng.Tec.Gonçalo Castro, in sheet metal forming and numerical simulation domain, 2002 a 2003.
- Supervisor of students Artur Oliveira, Pedro Maia, Pedro Renato, project Universidade do Porto/Fundação Ilídio Pinho, "Desenvolvimento de um Transportador/espalhador de emulsões asfálticas" (Development of a transportation and spreading machine of asphaltic emulsions), January 2004 to March 2005.
- Co-supervisor of student Duarte Nuno Moreira Ferro Arriscado e Rocha, with a scholarship in INEGI, from Product Design course of "Escola Superior de Tecnologia e Gestão do Instituto Superior Politécnico de Viana do Castelo", January 2005 to June 2005.
- Supervisor of several graduation works (5th year, Mechanical Engineering Degree), 1994-2006.

9 Intervention in Scientific and Professional Communities

9.1 Current Positions / Participation in Scientific and Professional Organizations

- Vice-President of Executive Committee of IDDRG – International Deep Drawing Research Group. IDDRG (www.iddrg.com) has been created in 1958; among other activities is responsible for the organization of an important congress in sheet metal forming, every year;
- Member of Technical-Scientific Council of Journal “TecnoMetal” from AIMMAP – Association of Metallurgical and Metal-mechanical Industries of Portugal;

9.2 Participation in academic juries

9.2.1 PhD Thesis

- Member of jury, PhD thesis of **José Ferreira Duarte**, title: “Conformação Plástica de Chapas Metálicas: Simulação Numérica e Caracterização Mecânica” (Sheet metal forming: numerical simulation and mechanical characterization), Faculty of Engineering of University of Porto, June 23, 1997;
- Member of jury, PhD thesis of **Catarina Rosa Santos Ferreira de Castro**, title: “Métodos Inversos em Processos de Enformação Plástica” (Inverse methods in metal forming processes), Faculty of Engineering of University of Porto, March 2000;
- Examiner, PhD thesis of **José Luís de Carvalho Martins Alves**, title: “Simulação Numérica do Processo de Estampagem de Chapas Metálicas - Modelação Mecânica e Métodos Numéricos” (Numerical simulation of sheet metal forming – numerical modelling and numerical modelling), School of Engineering, University of Minho, November 2003;
- Examiner, PhD thesis of **Marilena Carmen Butuc**, title: “Forming Limit Diagrams. Definition of Plastic Instability Criteria”, Faculty of Engineering of University of Porto, July 2004;
- Member of jury, PhD thesis of **Adelino Mendes Cabral da Trindade**, title: “Indentação de Revestimentos Finos: Análise Experimental e Numérica” (Indentation of thin coatings: experimental and numerical analysis), University of Coimbra, November 2004;
- Examiner, PhD thesis of **António Manuel Rincón de Aguiar Vieira**, title: “Aspectos Termo-Mecânicos na Maquinagem por Abrasão de materiais de Construção Mecânica” (Thermo-mechanical aspects in abrasion machining of mechanical construction materials), Faculty of Engineering of University of Porto, February 2005;
- Examiner, PhD thesis of **Marta Cristina Cardoso de Oliveira**, title: “Algoritmos e Estratégias de Gestão do Problema de Contacto com Atrito em Grandes Deformações” (algorithms and management strategies of contact problems with friction in large deformations), University of Coimbra, July 2005;

- Examiner, PhD thesis of **António José Caetano Baptista**, title: “Modelação Mecânica e Simulação Numérica do Processo de Estampagem Multi-Etapas” (mechanical modelling and numerical modelling of the stamping process in multi-steps), University of Coimbra, January 2007;
- Member of jury, first meeting of PhD thesis of **Ana Rosanete Lourenço Reis**, title: “Numerical modelling of shrinkage defects induced by the feeding flow in aluminium castings”, University of Gent, January 2008;
- Member of jury, final meeting of PhD thesis of **Ana Rosanete Lourenço Reis**, title: “Numerical modelling of shrinkage defects induced by the feeding flow in aluminium castings”, University of Gent, February 2008;
- Member of jury, PhD thesis of **Pedro Cardoso Teixeira**, “Ductile Damage Prediction in Sheet Metal Forming and Experimental Validation”, Júri: Prof. A.Torres Marques, Prof. J. César de Sá, Prof. Luis Filipe Menezes, Prof. José Luís Alves, Prof. Renato Natal Jorge, Prof. Francisco A. Pires, University of Porto, 10 February 2011.
- Member of jury, PhD thesis of **Raquel Cristina Soares de Carvalho e Silva**, “Development of numerical methodologies for parameter identification and shape optimization in metal forming simulations”, Júri: Prof. Maria H. Deulender Correia Amado Lauret, Univ. Aveiro, Prof. Luís F. M. Menezes, Univ. Coimbra, Prof. Sandrine Thuillier, Univ. Bretagne Sud, França, Prof. Marta Cardoso de Oliveira, Univ. Coimbra, Prof. A. Gil d'Orsey de Andrade Campos, Univ. Aveiro, Prof. Robertt Ângelo F. Valente, University of Aveiro, 21 December 2012.
- Member of jury, PhD thesis of **Lucival Malcher**, "Continuum Modelling and Numerical Simulation of Damage for Ductile Materials", Júri: Prof. António Torres Marques, Prof. Marta Cristina Cardoso de Oliveira, Prof. Rui Pedro Ramos Cardoso, Prof. José Manuel Almeida César de Sá, Prof. Francisco Manuel Andrade Pires, University of Porto, 01 March 2013.
- Examiner, PhD thesis of **Saeed Tamini**, “Asymmetric rolling of 5182 aluminum alloy and interstitial free steel sheets”, Júri: Prof. António Correia – U.Aveiro, Prof. José de Almeida Grácio – U.Aveiro, Prof. Marta Cardoso de Oliveira – U.Coimbra, Prof. António de Bastos Pereira, U.Aveiro, Prof. Fábio Jorge Simões, UI.P. Leiria, Prof. Gabriela Tamara Vincze, University of Aveiro, 03 July 2013.
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9.2.2 MSc Thesis

- Examiner, MSc thesis of **Filipe Miguel Horta e Vale Teixeira Dias**, title: “Simulações Numéricas de Ensaios de Tracção e de Corte em Deformação e Tensão Planos” (Numerical simulations of shear and tension tests in plane stress and plane strain), University of Coimbra., March 1995.
- Member of jury, MSc thesis of **Ana Rosanete Reis**, title: “Modelação Numérica por Elementos Finitos de Processos de Conformação Plástica” (Numerical modelling by FEM of metal forming processes), Faculty of Engineering of University of Porto, May 2001.
- Member of jury, MSc thesis of **Pedro Manuel Cardoso Teixeira**, title: “Benchmarks Experimentais e Modelação Numérica por Elementos Finitos de

Processos de Conformação Plástica” (Experimental benchmarks and finite element modelling of metal forming processes), Faculty of Engineering of University of Porto, July 2005.

9.2.3 Other

- Examiner, final dissertation of student Eduardo Jorge Gonçalves da Silva Teixeira, in his final graduation thesis: “Finite Element Simulation of Chip Formation, under programme Sócrates/Erasmus”, carried out in Università degli Studi di Napoli “Federico II”, Italy, May 2002.
- Examiner, final dissertation of student **António Bernardo Rosas Ferreira**, in his final graduation thesis: “Study of the Springback Effect using Finite Element Analysis Programs”, under programme Erasmus”, carried out in Università degli Studi di Napoli “Federico II”, research center “Elasis”, Italy, October 2004.
- Examiner, final dissertation of student **André Lopes Gama da Fonseca e Tiago Miguel Vilela Peixoto de Faria**, in his final graduation thesis: “Finite Element Simulation of Springback in Stamping Advanced High Strength Steel Sheets for Automotive Industry”, under programme Erasmus”, carried out in Università degli Studi di Napoli “Federico II”, research center “Elasis”, Italy, September 2005.
- Member of jury, prize for articles published in area of Innovation and Design, Journal Tecnometal, February 2009.

9.3 Referee of Scientific papers

9.3.1 International Journals

- Referee of paper, Journal “Materials Science Forum”, May 2005.
- Referee of paper, Journal “**Materials Science Forum**”, April 2005.
- Referee of paper, Journal “**Materials Science Forum**”, May 2005.
- Referee of paper, Journal “**Materials Science Forum**”, June 2005
- Referee of paper, Journal **Centro de Información Tecnológica (CIT)**, Chile, October 2005
- Referee of paper, Journal **Journal of Materials Processing Technology**, December 2005.
- Referee of paper, Journal **Centro de Información Tecnológica (CIT)**, Chile, March 2006.
- Referee of paper, **Journal of Biomedical Materials Research**, March 2006
- Referee of paper, **Journal of Materials Processing Technology**, July 2006.
- Referee of paper, **Journal of Materials Processing Technology**, July 2006.
- Referee of paper, **Journal of Materials Processing Technology**, October 2006.
- Referee of paper, **Journal of Strain Analysis for Engineering Design**, October 2007.

- Referee of paper, **Journal of Strain Analysis for Engineering Design**, November 2007.
- Referee of 3 papers, **Materials Science Forum**, Dezembro de 2007.
- Referee of paper, **Journal of Strain Analysis for Engineering Design**, Maio de 2008.
- Referee of paper, **Journal of Engineering Manufacture**, Setembro de 2009.
- Referee of paper, **Journal of Engineering Manufacture**, Outubro de 2009.
- Referee of paper, **International Journal of Material Forming**, Julho de 2010.
- Referee of paper, **The Journal of Strain Analysis for Engineering Design**, Janeiro de 2011
- Referee of paper, **Scientific Journal "Mechanika, Kaunas University of Technology, Lithuania**, Abril de 2011.
- Referee of paper, **The Journal of Strain Analysis for Engineering Design**, Maio de 2011.
- Referee of paper, **IJEM - Indian Journal of Engineering & Materials Sciences**, January 2012.
- Referee of paper, **Journal of Strain Analysis for Engineering Design**, Fevereiro de 2012.
- Referee of paper, **IJEM - Indian Journal of Engineering & Materials Sciences**, February 2012.
- Referee of paper, **Journal of Neural Computing and Applications**, Springer, September 2012.
- Referee of paper, **The Journal of Strain Analysis for Engineering Design**, Impact Factor: 1.085 , Sage Journals, October 2012.
- Referee of paper, **International Journal of Mechanical Sciences**, Elsevier, July 2013.
- Referee of paper, **Mechanics of Materials International Journal**, Elsevier, November 2013.
- Referee of paper, **revista de ingeniería DYNA**, www.revistadyna.com, Setembro 2014.
- Referee of paper, **Scientia Iranica - Int. Journal of Science and Technology**, <http://www.scientiairanica.com/>, Setembro 2014.
- Referee of paper, **Journal of Materials Design and Applications**, March 2015.

9.3.2 International Congresses

- Referee for conference IDDRG 2006 - International Deep Drawing Research Group, Porto, Portugal, January 2006
- Referee for conference IDDRG 2007 - International Deep Drawing Research Group, Győr, Hungria, January 2007.
- Referee for conference Métodos Numéricos em Engenharia / Congresso Ibero Latino-Americano sobre Métodos Computacionais em Engenharia - CMNE/CILAMCE 2007, Porto, March 2007.

- Referee for conference Numerical Methods in Industrial Forming Processes - NUMIFORM 2007, Porto, March 2007.
- Referee for conference IDDRG 2008 - International Deep Drawing Research Group, Olofstrom, Suécia, Janeiro de 2008.
- Referee for conference IDDRG 2009 - International Deep Drawing Research Group, Golden, CO, Estados Unidos, Janeiro de 2009.
- Referee for conference CMNE 2011 - Congresso de Métodos Numéricos em Engenharia, na área científica de Conformação plástica de chapas e caracterização mecânica/ Sheet metal forming and material characterization, Coimbra, Portugal, Janeiro de 2011.
- Referee for conference IDDRG 2011 - International Deep Drawing Research Group, Bilbao, Spain, Fevereiro de 2011.
- Referee for conference CIBEM10 – X Congresso Ibero-Americano em Engenharia Mecânica, Porto, Portugal, Março de 2011.
- Referee for conference ICEM15 - 15th International Conference on Experimental Mechanics, Faculty of Engineering, University of Porto, (congress: 22-27 July 2012), Dezembro de 2011.
- Referee for conference YIC ECOMAS - First ECCOMAS Young Investigators Conference, Aveiro, Portugal, (congress: 24-27 April 2012), Fevereiro 2012
- Referee for conference IDDRG - International Deep Drawing Research Group 2012, (congress: 25-29 Novembro 2012), Abril 2012.
- Referee for conference “Congress on Numerical Methods in Engineering - CMN 2013”, Session: ST06 Sheet Metal Forming and Material Characterization, Bilbao, Spain, June 25-28. 2013.
- Referee for conference IDDRG - International Deep Drawing Research Group 2014, “Innovations for the sheet metal industry”, Paris, France, June 1-4, 2014.
- Referee de artigo “Mechanical Behaviour of Magnesium Alloy AZ31B under Multiaxial Loading” para o “9º Congresso Nacional de Mecânica Experimental, (Aveiro, 15-17 de Out., 2014), julho de 2014.
- Referee for conference Materiais 2015 – VII International Symposium / XVII Conference of Sociedade Portuguesa de Materiais, FEUP – Universidade do Porto, Porto, Portugal, 21-23 June 2015.

9.4 Referee of Funded Projects

9.4.1 Internacional Projects

- Referee of NASR – National Authority for Scientific Research of Romania, em projectos da Call “POSCCE-A2-O2.1.2-2009-2”, Complex Research Projects Fostering The Participation Of High-Level International Experts, programa de financiamento: “Increase Of Economic Competitiveness”, Priority axis 2 – Research, Technological Development and Innovation for Competitiveness, Operation 2.1.2: Complex research projects fostering the participation of high-level international experts, October 2009.

9.4.2 Nacional Projects

- Referee for proposal of Integrated Cooperation Portuguese-English, common cooperation research, CRUP - Conselho de Reitores das Universidades Portuguesas, January 1997.
- Referee for Projects SIFIDE / ADI - Agência de Inovação, Projecto em Co-Promoção, Sistema de Incentivos à Investigação e Desenvolvimento Tecnológico (SI I&DT); October 2012: applications of 20 companies with funding for 3 million Euros;
- Referee for Projects SIFIDE da ADI - Agência de Inovação, Projecto em Co-Promoção, Sistema de Incentivos à Investigação e Desenvolvimento Tecnológico (SI I&DT); November 2012: applications of 19 companies with funding for 4,8 million Euros;
- Referee for Projects SIFIDE da ADI - Agência de Inovação, Projecto em Co-Promoção, Sistema de Incentivos à Investigação e Desenvolvimento Tecnológico (SI I&DT); January 2013: 3 companies for R&D expenses, 2 million Euros;
- Referee for SIFIDE da ADI - Agência de Inovação, Projecto em Co-Promoção, Sistema de Incentivos à Investigação e Desenvolvimento Tecnológico (SI I&DT); April 2013: 1 company for R&D expenses, 350 thousand Euros
- Referee for proposal of Integrated Cooperation Portuguese-French and Thesis in Co-Tutela, common cooperation research, CRUP - Conselho de Reitores das Universidades Portuguesas, October 2013.

9.5 Participation in Organization of Conferences

9.5.1 Organization

- Involved in the organization of International Conference “Numerical Simulation of 3D Sheet Metal Forming Processes” - NUMISHEET'93, Isehara, Japan, cooperating in the development of numerical and experimental work of benchmarks, 1993.
- Promoter and Chairman of conference IDDRG 2006 - International Deep Drawing Research Group, venue in Faculty of Engineering of University of Porto, 19-21 June 2006.
- Member of organizing committee of Iberian South-American Congress Métodos Numéricos em Engenharia / Congresso Ibero Latino-Americano sobre Métodos Computacionais em Engenharia - CMNE/CILAMCE 2007, venue in Faculty of Engineering of University of Porto, 13-15 June 2007.
- Member of organizing committee of international conference “Numerical Methods in Industrial Forming Processes” - NUMIFORM 2007, venue in Faculty of Engineering of University of Porto, 17-21 June 2007.
- Member of organizing committee of Portuguese Forum “30 years Journal Tecnometal – spreading knowledge promoting innovation”, AIMMAP – Association of Metallurgical and Metalomechanical Industries of Portugal, March 13th, 2009.

9.5.2 Scientific Committee

- Conference IDDRG 2006 - International Deep Drawing Research Group, Faculty of Engineering of University of Porto, 19-21 June 2006.
- Conference IDDRG 2007 - International Deep Drawing Research Group, Audi Hungaria Co., Győr, Hungary, 21-23 May 2007.
- Conference Iberian South-American Métodos Numéricos em Engenharia / Congresso Ibero Latino-Americano sobre Métodos Computacionais em Engenharia - CMNE/CILAMCE 2007, Faculty of Engineering of University of Porto, 13-15 June 2007.
- Conference “Numerical Methods in Industrial Forming Processes” - NUMIFORM 2007, Faculty of Engineering of University of Porto, 17-21 June 2007.
- 5^o Conference Luso-Moçambicano de Engenharia – CLME 2008, Maputo, Mozambique, 2-4 September 2008.
- Conference IDDRG 2008 - International Deep Drawing Research Group, realizada em Olofstrom, Suécia, 16-18 de Junho de 2008.
- Conference IDDRG 2009 - International Deep Drawing Research Group, realizada na Colorado School of Mines, Golden, Estados Unidos, 01-03 Junho 2009.
- Conference IDDRG 2011 - International Deep Drawing Research Group, Institute TECNALIA, Bilbao, Espanha, 05-08 Junho 2011.
- Conference CMNE 2011 – Congresso de Métodos Numéricos em Engenharia, Coimbra, Portugal, 14-17 Junho 2011.

- Conference CIBEM10 – X Congresso Ibero-Americano em Engenharia Mecânica, Faculdade de Engenharia, Universidade do Porto, Porto, Portugal, 4-7 Setembro 2011.
- Conference YIC2012 ECCOMAS association, Young Investigators Conference 2012 - YIC2012 (<http://yic2012.web.ua.pt>), University of Aveiro, 24-27 April, 2012.
- Conference IDDRG 2012 - International Deep Drawing Research Group, IIT Bombay, Mumbai, India, 25-28 November 2012.
- Conference ICEM15, 15th International Conference on Experimental Mechanics, Faculty of Engineering, University of Porto, 22-27 July 2012.
- Conference IDDRG 2012 - International Deep Drawing Research Group, “Lightweighting: Possibilities and Challenges, IIT Bombay, Mumbai, India, November 25-29, 2012.
- Conference IDDRG 2013 - International Deep Drawing Research Group, “Towards Zero Failure Production Methods by Advanced Modeling Techniques and a Process Integrated Virtual Control”, Institute of Virtual Manufacturing, ETH Zurich, Zurich, Switzerland, June 2–5, 2013.
- Conference IDDRG 2014 - International Deep Drawing Research Group, “Innovations for the sheet metal industry”, CETIM - Technical Centre for Mechanical Industries, Paris, France, June 1–4, 2014.
- Conference Materiais 2015 – VII International Symposium / XVII Conference of Sociedade Portuguesa de Materiais, FEUP – Universidade do Porto, Porto, Portugal, 21-23 June 2015
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9.5.3 Organizer of thematic sessions

- Organizer of thematic session ST47 - Processos de Conformação Plástica, under congress Métodos Numéricos em Engenharia / Congresso Ibero Latino-Americano sobre Métodos Computacionais em Engenharia - CMNE/CILAMCE 2007, Faculty of Engineering of University of Porto, 13-15 June 2007.
- Organizer of Thematic Session **ST06 - Conformação plástica de chapas e caracterização mecânica**, realizada em dois dias e três sessões com 16 apresentações, Orgs.: Abel Santos, Marian Gutiérrez, Luis Menezes, no âmbito do Congresso CMNE 2011 – Congresso de Métodos Numéricos em Engenharia, Coimbra, Portugal, 14-17 June 2011.
- Organizer of Thematic Session **ST40: Sheet Metal forming and material characterization**, realizada em duas sessões com 11 apresentações, Orgs.: Abel Santos, Marian Gutiérrez, Luis Menezes no âmbito do Congresso CMN 2013 – Congress on Numerical Methods in Engineering, Bilbao, Espanha, 25-28 June 2013.
- Organizer of Thematic Session **on Sheet Metal forming and material characterization**, Orgs.: Abel Santos, Iñigo Aranguren, Luis Menezes no âmbito do 11th. World Congress on Computational Mechanics (WCCM XI), Barcelona, Espanha, 20-25 July 2014.
- Co- Organizer of **Seminário Técnico Especializado: “Aços de alta resistência”** (temáticas do Design, das aplicações ao nível da Indústria, da conformação e soldadura, bem como no aço e compósitos aplicados na indústria automóvel), uma cooperação com a empresa F.Ramada, a empresa Ruuki (Finlandia) e a FEUP, Orgs.: Joaquim Monteiro (F.Ramada) e Abel D. Santos, 28 May 2014.
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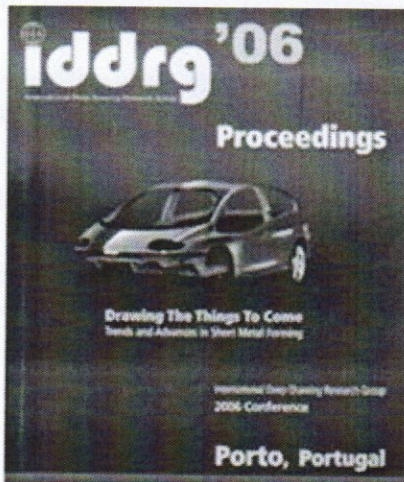
9.5.4 Moderator or ‘chairman’ of sessions in conferences

- “SHEMET’94 - International Conference on Sheet Metal”, University of Ulster, United Kingdom, April 12-13, 1994.
- IDDRG’94 - International Deep Drawing Research Group, 18th biennial Congress, Lisbon, Portugal, May 16-20, 1994.
- 7ºCongresso InterAmericano de Computacion Aplicada a la Industria de Processos, CAIP’2005, Vila Real, Portugal, 12-15 September, 2005.
- Conference IDDRG 2006 - International Deep Drawing Research Group, Porto, 19-21 June 2006.
- Conference IDDRG 2007 - International Deep Drawing Research Group, Gyor, Hungary, 21-23 May, 2007.
- Congress Métodos Numéricos em Engenharia / Congresso Ibero Latino-Americano sobre Métodos Computacionais em Engenharia - CMNE/CILAMCE 2007, 13-15 June, 2007.
- Conference “Numerical Methods in Industrial Forming Processes” - NUMIFORM 2007, Porto, 17-21 June, 2007
- Conference IDDRG 2008 - International Deep Drawing Research Group – “Best in Class Stamping”, Moderator in “Session 2: Modelling and Simulation”, Olofström, Sweden, 16-18 June 2008

- Conference NUMISHEET 2008 - 7th International Conference and Workshop on Numerical Simulation of 3D Sheet Metal Forming Processes, Moderator in Session: Process Modeling, Interlaken, Switzerland, September 1-5, 2008.

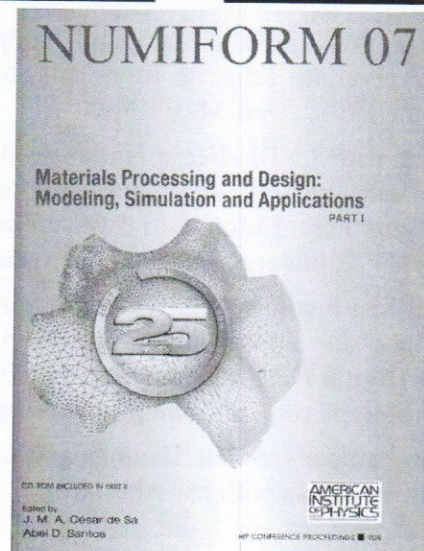
9.6 Edition of Scientific Books

- Abel D. Santos, A. Barata da Rocha, "Drawing The Things to Come – Trends and Advances in Sheet Metal Forming", IDDRG 06 Conference Proceedings, 679 pages, Edition INEGI, ISBN 972-8953-06-2, 2006.
- J.César de Sá, Raimundo Delgado, Abel D.Santos, António Rodriguez-Ferran, Javier Oliver, Paulo R.M.Lyra, José L.D.Alves, "Métodos Numéricos e Computacionais em Engenharia", CMNE/CILAMCE 2007, 783 pages, Publication of APMTAC, SEMNI, ABMEC, ISBN 978-972-8953-16-4, 2007 (in spanish/portuguese).
- J.César de Sá, Abel D.Santos, "Materials Processing and Design: Modeling, Simulation and Applications", Part 1 e Part 2, NUMIFORM'07, AIP Conference Proceedings, Vol. 908, 1626 pages, Publication of AIP-American Institute of Physics, USA, ISBN 978-0-7354-0415-1 / ISSN 0094-243X, 2007.



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9.7 Consulting Activities

- Research participation with company Vulcano to the thermal analysis of gas water heaters in heating/cooling cycles to predicting stresses/strains and its relation to the lifecycle of heater chambers; research area: numerical simulation of process of heating/cooling cycles and prediction of stresses /strains; Aveiro, October – January 2004
- Company Eumel; study of blank definition and processing of complex component obtained by sheet metal forming using numerical modelling.
- Company Veneporte; study of processing of tubular components by numerical modelling.
- Company Atiriz; development of a cutting system to reutilizing wasted parts of leather to manufacturing shoes. Project submitted to program IDEIA, Inovation Agency and approved in August 2004; partners: companies Atiris, Tecmacal - comercialização de máquinas, CTC – Centro Tecnológico do Calçado and INEGI. V.N.Gaia, 2004 - 2006.
- Company Colep; study of numerical modelling of structural behaviour of cylindrical steel container – optimization of geometry and sheet thickness to be used; January-May/2005.
- Company BoaVida; design and study of stamping tool to manufacturing cylindrical steel container – numerical modelling of the process; Matosinhos, September 2006 - June 2007.
- Company CeloPlas; consulting on manufacturing by stamping a car break part Grimancelos, December 2007/January 2008.
- Company ETMA, S.A. – Empresa Técnica de Metalurgia; study on the feasibility of bolt parts by cold forging and design of the processing steps, shape and size of the initial billet; Braga, December 2007- July 2008.

9.8 Cooperation with International Institutions

- Co-responsible of discipline “Welding and Stamping”, cooperation project between University of Porto and University Eduardo Mondlane, Mozambique; April-May 1997, April-May 1998, June 1998, April-May 1999
- Responsible for contacting with ENIB -École Nationale d’Ingenieurs de Brest, in interchange of students with Faculty of Engineering of University of Porto, resulting in a stay of students Pascal Montel in 1994/95 under program COMETT and Prigent Gweltaz in 1997/98, under program Leonard da Vinci.
- Cooperation with Japan: Riken Institute, M&M Research, Press Kogyo, resulting in a participation as partner in international project IMS/3DS – Intelligent Manufacturing Systems / Digital Die Design System; a common project of design and manufacturing of a prototype research stamping tooling.
- Cooperation with France: company Sollac/Usinor; resulting in common research topics and common scientific papers with Mr.Alain Col.

- Cooperation with France: University of Savoie, Annecy; resulting in common research topics and common scientific papers.
- Cooperation with Poland: University of Wroclaw e Institute INOP/Poznan; resulting in common research topics and participation in international projects Inetforsmep.
- Cooperation with Catholic University of Leuven, Belgium, partner in European project Brite; resulting in common research topics, common papers and a stay in Belgium of Prof.Ana Reis.
- Cooperation with Institute CIRRI (ex-CRIF) de Ghent, Belgium; resulting in a common research and a stay of Prof.Ana Reis as well as common publication of scientific papers.
- Cooperation with company UTS, Torino, Italy; resulting in common publication of scientific papers.

10 Coordination of pedagogical projects

Concerning teaching activities, several new disciplines and corresponding curricula have been developed, being responsible for:

- Dinamization and starting of new discipline “Technology of Metal Forming”, 1st year of mechanical engineering degree in a renewed course curriculum; 1997/1998.
- Dinamization and starting of new discipline “Simulation of Technological Processes”, 5th year of mechanical engineering degree in a renewed course curriculum; 1997/1998.
- Dinamization and starting of new discipline “Introduction to Manufacturing Processes and Product Development”, 1st year of mechanical engineering degree in a renewed course curriculum; 2006/2007.
- Dinamization and starting of new discipline “Fabrication Processes I”, 3rd year of mechanical engineering degree in a renewed course curriculum; 2006/2007.

11 Production of Pedagogical Material

11.1 Books

- J.Ferreira Duarte, A.Barata da Rocha, Abel D.Santos, “Corte em Ferramenta”, (“Blanking technology” in portuguese), Mechanical Technology Vol.1, Edition INEGI, ISBN: 972-8826-00-1, November 2003.
- A.Barata da Rocha, Abel D.Santos, J.Ferreira Duarte, “Puncionadoras CNC” (“CNC Punch Press Machines”, in portuguese), Mechanical Technology Vol.2, Edition INEGI, ISBN: 972-8826-01-X, April 2005.
- Abel D.Santos, J.Ferreira Duarte, A.Barata da Rocha, “Tecnologia da Embutidura – Princípios e Aplicações” (“Sheet Metal Forming Technology – Principles and

Aplications”, in portuguese), Mechanical Technology Vol.3, Edition INEGI, ISBN: 972-8826-03-6, May 2005.

11.2 Didactical Texts

- “Planeamento da Produção e Layout” (Production planning and layout, in portuguese), course under an education program to company workers, promoted by University of Minho, 1986.
- “Tecnologia do Corte Fino” (Fine blanking technology, in Portuguese), subject under a course of Metal Forming Technologies, National Laboratory of Engineering and Industrial Technology, 1989.
- Co-author of text book for discipline of “Simulation of Technological Processes”, new discipline corresponding to a renewed course curriculum, 1998.
- Co-author of textbook for discipline of “Technology of Metal Forming”, new discipline corresponding to a renewed course curriculum, 1998.

11.3 Videos

- Production of a video about mechanical testing to discipline of “Mechanical Technology”, Mechanical Engineering Course, Faculty of Engineering, University of Porto, 1989.

12 Pedagogical Dinamization

12.1 University Pedagogical Management Work

- Coordinator of Materials and Technological Processes Section of Mechanical Engineering Department, Faculty of Engineering, University of Porto; 1995-1998.
- Vice-Coordinator of Materials and Technological Processes Section of Mechanical Engineering Department, Faculty of Engineering, University of Porto; 1998-2000.
- Member of CAD/CAM Commission from Mechanical Engineering Department, Faculty of Engineering, University of Porto; 1997-1998.

13 Teaching Activity

Responsible for disciplines defined below.

13.1 Mechanical Engineering Course – Faculty of Engineering, University of Porto

- *Mechanical Technology III, 4th year discipline; 1993/1994, 1994/95, 1999/2000*
- *Technological Processes, 5th year discipline; 1993/1994*
- *Technological Processes, 5th year discipline; 1993/1994, 1994/95*
- *Mechanical Technology I, 1st year discipline; 1994/95, 1995/96*
- *Mechanical Technology II, 1st year discipline; 1993/94, 1994/95*
- *Technology of Metal Forming – Complements, 5th year discipline; 1998/99, 1999/2000, 2003/2004*
- *Course Final Project, 5th year discipline; 1995/96, 1996/97, 1998/99, 1999/2000, 2000/2001, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007*
- *Technology of Metal Forming, 1st year discipline; 1997/98, 1998/99, 1999/2000, 2000/2001, 2002/2003, 2003/2004, 2004/2005, 2005/2006*
- *Simulation of Technological Processes, 5th year discipline; 1997/98, 1998/99, 1999/2000, 2000/2001, 2002/2003, 2003/2004, 2004/2005, 2005/2006, 2006/2007*

13.2 Management and Industrial Engineering Course - Faculty of Engineering, University of Porto

- *Mechanical Technology I, 1st year discipline; 1995/96, 2003/2004, 2004/2005*
- *Mechanical Technology III, 3rd year discipline; 2002/2003.*

13.3 Master of Science in Mechanical Engineering Course - Faculty of Engineering, University of Porto

- *Metal Forming Processes, 1993/1994;*
- *Computation and Technology Seminar, 1998/1999 e 2002/2003;*
- *Technological Processes, 2002/2003;*
- *Simulation of Technological Processes, 2002/2003, 2003/2004;*

13.4 Integrated Master of Science in Mechanical Engineering Course - Faculty of Engineering, University of Porto

- *Introduction to Manufacturing Processes and Product Development, 1st year discipline; 2006/2007, 2007/2008;*
- *FEUP Project, 1st year discipline; 2006/2007, 2007/2008;*
- *Fabrication Processes I, 3rd year discipline; 2006/2007, 2007/2008;*

- *Simulation of Technological Processes, 5th year discipline; 2007/2008;*

13.5 Mechanical Engineering Course – Institute of Engineering of Porto, Higher Education School of Porto

- *Plastic Deformation Processes, 4th year discipline; 1999/2000, 2000/2001, 2002/2003, 2003/2004, 2004/2005, 2005/2006.*