Home

Altino Loureiro
Professor at the University of Coimbra

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Resume of the Curriculum Vitae

Altino J. R. Loureiro
Born in Figueira da Foz, Portugal
on 18 June 1954

Professor at the Mechanical Engineering Department of the Coimbra University
Coimbra, Portugal, Pinhal de Marrocos, 3030-201 Coimbra, Portugal.
Tel: + 351 239 790745 (Office), Fax: + 351 239 790701
E-mail:

I - Academic Degrees

- Graduation in Mechanical Engineering (Production)
University of Coimbra, Faculty of Sciences and Technology, August 1976.

- Master Degree in Materials and Manufacturing Processes
University of Porto, Faculty of Engineering, November 1986.
(Heat-affected zone toughness of welds in a C-Mn steel)

- PhD in Mechanical Engineering (Manufacturing Technologies)
University of Coimbra, July 1991.
(Heat-affected zone toughness of welds in high strength quenched and tempered steels)

- Aggregation in Mechanical Engineering
University of Coimbra, September 2004.
I Report of the program, content and teaching methods of a Course – "Joining of Materials"
II Summary of the synthesis lecture – "Effect of welding parameters on mechanical properties of welded joints"

II - Other Degrees

- Graduation in Welding Engineering
Portuguese Welding Institute, 1979

III – Professional positions

Academic:

- From 1976 to 1978 – Invited Lecturer
University of Coimbra, Faculty of Sciences and Technology.

- From 1978 to 1991 – Assistant professor
University of Coimbra, Faculty of Sciences and Technology

- From 1991 – Auxiliary professor
University of Coimbra, Faculty of Sciences and Technology

Industry:

- From 1976 to 1977 - Production Engineer

Shipyard Estaleiros Navais do Mondego, Figueira da Foz

- From 1979 – 1983 – Head of quality Control Department

Manufacturer of boilers and pressure vessels – Equipamentos Térmicos de Coimbra

IV – Areas of interest

Main scientific area of research:

- Joining of Materials:
- Metallurgy of welding;
- Fusion and solid-state welding processes;
- Weldability of steels, aluminium alloys, copper alloys and reactive materials;
- Residual stresses.

Other scientific areas of interest:

- Automation of welding processes
- Adaptive systems

V – Participation in scientific events

Participation in more than 45 international events, such as congresses, conferences, workshops and exhibitions. 10 invited talks in national and international scientific events

Member of the organizing and scientific committees of 10 scientific and technical events

V – Participation in Research and industrial projects

Participation in 8 projects, from which was scientific responsible of 5.

VI – Publications

120 research works published, 30 of them in International Journals of the Science Citation Index.

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Research

Research Work

Topics of research

1984-90

Study of the heat-affected zone toughness of welds in C-Mn and high strength quenched and tempered steels.

1991-2001

Development of vision and adaptive systems for robotic welding processes.

2002-2005

Study of structural integrity of welded joints – modelling and numerical simulation.

Study of residual stress fields in welded joints.

Since 2005

Homogeneous and heterogeneous friction-stir welding of aluminium, copper, brass and zinc alloys.

Supervising

Ph'D Thesis

Concluded

- Dulce Maria Esteves Rodrigues – "Mechanical behaviour of welded joints – modelling and numerical simulation" (finished in 2001) (co-supervision).

- António Mário Velindro dos Santos Rodrigues – Improvement in productivity of TIG welding of stainless steels (finished in 2005)

In course

- Rui Manuel Ferreira Leal – "Friction stir welding of thin sheet metals" (finishing in 2009) (co-supervision).
-

MSc Thesis

Concluded

- Carlos Alberto dos Santos Soares – "Effect of weld metal strength on the mechanical behaviour of welded joints" (finished 1996).
- António Mário Velindro Santos Rodrigues – "Weld geometry in robotic MIG welding" (finished 1997).
- Francisco Manuel de Jesus Neves – "The influence of welding parameters on weld bead geometry" – (finished 1998).
- Arlindo Augusto Marques Ferreira – "Factors influencing toughness in welds in high strength steels" - (finished 1999).
- Celestino Tavares da Veiga – "Residual stress fields in welded joints – effect of joint geometry and repair procedure" - (finished 2001).
- José Ribeiro Gonçalves Neves – "Mechanical behaviour of welds with large structural heterogeneity" - (finished 2003).
- Pedro Miguel Soares Ferreira – "Development of parametric control system for welding robots" - (finished 2003) (co-supervision).
- Rui Manuel Ferreira Leal – "Friction stir welding and diode laser welding of aluminium alloys" - (finished 2004).

Publications

Publications in Journals (IJ)

IJ1. A.J.R. Loureiro and A.A. Fernandes; "Toughness of C. G. HAZs of Welds in Q&T Steels"; Welding Journal, vol. 73 (9) 1994, pp. 225-235.

IJ2. A.J.R. Loureiro, M. Velindro, F. Neves; "The Influence of Heat Input and the Torch Weaving Movement on Robotized MIG Weld Shape"; International Journal for the Joining of Materials, 10 (1998), pp. 86-91.

IJ3. A.J.R. Loureiro and B.F.O. Costa; Elevated temperature failure of heat treatment furnace containers; Materials Science and Technology, 16 (4) (2000), pp. 436 – 444.

IJ4. A.J.R. Loureiro, B.F.O. Costa; A technical note on the phase transformation in furnace container material after a periodic thermo-chemical treatment; Journal of Materials Processing Technology 122 (2002), pp. 363-367.

IJ5. J. Norberto Pires, A. Loureiro, T. Godinho, P. Ferreira, B. Fernando, J. Morgado; Object oriented and distributed software applied to industrial robotic welding; Industrial Robot 29(2) 2002, pp. 149-161.

IJ6. Loureiro, A.; HAZ Toughness of multipass welded joints – Influence of brittle zones; Key Engineering Materials, Vols. 230-232 (2002), pp. 31-35.

IJ7. M. Velindro, A. Loureiro, B. Costa, F. Jesus and A. Lourenço; Effect of the multiple electrode TIG welding process on the metallurgical properties of welds in austenitic stainless steels, Key Engineering Materials, Vols. 230-232 (2002), pp. 140-143.

IJ8. Altino J. R. Loureiro; "Effect of Heat Input on Plastic Deformation of Undermatched Welds"; Journal of Materials Processing Technology 128 (2002), pp. 240-249.

IJ9. C. Veiga, A. Loureiro, J. Pina, A. Castanhola Batista, Residual Stress Distribution in Butt Welded Joints – Effect of the Weld Groove Shape, Materials Science Forum Vols. 404-407 (2002) pp. 387-392.

IJ10. D. M. Rodrigues, L. F. Menezes, A. Loureiro, J. V. Fernandes; Influence of plastic deformation of the heat affected zone on the mechanical behaviour of welds in high strength steels; Key Engineering Materials, vols. 233-236 (2003), pp. 791-796.

IJ11. C. Veiga, A. Loureiro and A. Dias; Residual stress evolution in repair welds; International Journal for Strain Measurement (2003) 39, 57-63.

IJ12. J. Norberto Pires, A. Loureiro, T. Godinho, P. Ferreira, B. Fernando and J. Morgado; "Welding robots"; IEEE Robotics & Automation Magazine, Vol. 10 (2) 2003, pp. 45-55.

IJ13. D.M. Rodrigues, L.F. Menezes, A. Loureiro, J.V. Fernandes; Numerical study of the plastic behaviour in tension of welds in high strength steels; International Journal of Plasticity, 20 (2004), pp. 1-18.

IJ14. D.M. Rodrigues, L.F. Menezes, A. Loureiro, The Influence of the HAZ Softening on the Mechanical Behaviour of Welded Joints Containing Cracks in the Weld Metal, Engineering Fracture Mechanics 71 (2004) 2053-2064.

IJ15. R. Leal and A. Loureiro; Defects formation in friction stir welding of aluminium alloys; Materials Science Fórum Vols. 455-456 (2004) 299-302.

IJ16. A Rodrigues and A. Loureiro; Effect of cooling rate on microstructure and hardness of austenitic stainless steel welds, Materials Science Fórum Vols. 455-456 (2004) 312-316.

IJ17. Dulce Rodrigues, Luís Filipe Menezes and Altino Loureiro; An investigation of the influence of strength mis-matching and HAZ width on the fracture behaviour of welds with cracks in the WM/HAZ interface; Materials Science Forum Vols. 455-456 (2004) 685-689.

IJ18. J. Neves and A Loureiro; Fracture toughness of welds – effect of brittle zones and strength mismatch; Journal of Materials Processing Technology 153-154 (2004) 537-543.

IJ19. D M. Rodrigues,L. F. Menezes, A. Loureiro, Modelling the effect of HAZ undermatching on the crack-tip stress distribution in idealized welds; Int. Journal Mechanical Sciences 46 (2004) 1481-1488.

IJ20. R. M. Leal, A. Loureiro, Soldadura de Ligas de Al. com Laser de Díodos, Revista Ibero-Americana de Ingenieria Mecânica (2004), vol. 8, nº. 2, 91-102.

IJ21. Pires, J. N., Godinho, T., Ferreira, P., Loureiro, A., Industrial robotic system programmed from CAD files – an update, Industrial Robot Vol 32 Nº. 4 (2005) 314-317.

IJ22. A. Rodrigues and A. Loureiro, Effect of shielding gas and activating flux on weld bead geometry in tungsten inert gas welding of austenitic stainless steels, Science and Technology of Welding and Joining (2005), Vol. 10, nº 6, 760-765.

IJ23. C. Veiga, A. Loureiro, J. Pina, A. C. Batista, Efeito de sucessivas reparações por soldadura, Revista Ibero-Americana de Engenharia Mecânica, ISSN 1137-2729, vol. 9, Nº. 3 (2005), 1111-1120.

IJ24. J. P. Nobre, A. C. Batista, A. M. Dias and A. Loureiro, Evaluation of welding residual stresses using the incremental hole-drilling technique, Materials Science Forum (2006), Volume 514 – 516, 768-773.

IJ25. P. Teixeira, A. Loureiro, D. M. Rodrigues and J. Neves, Effect of the HAZ microstructural gradient on the unstable fracture of welds in a high strength structural steel, Materials Science Forum (2006), Volume 514 – 516, 539-543.

IJ26. A.Rodrigues, A. Loureiro and A. C. Batista, Phase Formation in Austenitic Stainless Steel A-TIG Welds, Materials Science Forum (2006), Volume 514 – 516, 549-553.

IJ27. R. M. Leal and A. Loureiro, Microstructure and Mechanical Properties of Friction Stir Welds in Aluminium Alloys 2024-T3, 5083-O and 6063-T6, Materials Science Forum (2006), Volume 514 – 516, 697-701.

IJ28. P. Teixeira, D. M. Rodrigues, A. Loureiro**,** Modelling local brittle zones in welds using the finite element method, Materials Science Forum (2006), Volume 514 - 516, 1419-1423.

IJ29. R. M. Leal and A. Loureiro, Effect of Overlapping FSW Passes in the Quality of Welds of Aluminium Alloys, Materials and Design 29 (2008) 982-991.

IJ30. Loureiro, A., Leal, R. M., Leitão, C., Rodrigues, D. M., Vilaça, P. Friction stir welding of automotive aluminium alloys. Welding in the World 51 (Spec. Iss.), 433-440 (2007).

IJ31. Rodrigues, D.M., Chaparro, B.M., Leitão, C., Baptista, A.J., Loureiro, A., Vilaça, P. Formability of steel and aluminium tailor welded blanks. Welding in the World 51 (SPEC. ISS.), pp. 667-676, 2007.

IJ32. RM Leal, BM Chaparro, DM Rodrigues, A. Loureiro, P. Vilaça, Mechanical behaviour of FSW aluminium tailored blanks, Materials Science Fórum (submited 2007)

IJ33. C Leitão, RM Leal, DM Rodrigues, A Loureiro, P Vilaça. Plastic behaviour of similar and dissimilar AA5182-H111 and AA6016-T4 thin friction stir welds. Materials & Design (accepted 2008).

IJ34. C. Leitão, R. M. Leal, D. M. Rodrigues, P. Vilaça and A. Loureiro. Material flow in Friction Stir Welding. Microscopy and Microanalysis (submited 2008).

IJ35. R. M. Leal, C Leitão, A. Loureiro, D.M. Rodrigues, P. Vilaça. Material Flow in Heterogeneous Friction Stir Welding of Thin Aluminium Sheets: Effect of shoulder geometry. Acta Materialia (submited 2008).

Publications in Proceedings of Scientific Events (ACTAS)

Actas1. Altino J.R. Loureiro, A. A. Fernandes; "High Strength Steel Weldments Fusion Boundary Notch Toughness"; The 6th European Conference on Fracture, Amsterdam, 1986, pp. 379-392.

Actas2. Altino J.R. Loureiro, A.A. Fernandes; "Estudos de Tenacidade de Juntas Soldadas em Aços de Alta Resistência"; 2º Congresso Ibérico de Soldadura, Lisboa, 1987.

Actas3. Altino Loureiro, A.A. Fernandes and R.L. Apps; "Use of a Buttering Technique to Study the Fracture Toughness of the HAZ of Q/T Structural Steel"; Proceedings of International Conference on the Joining of Materials, Denmark, March, 1989, pp. 249-255.

Actas4. Altino J.R. Loureiro and A.A. Fernandes; "Influence of Structure on Toughness of LBZs of Welds in Q.T. Steels"; International Conference Welding 90, Hamburgo, October 1990, pp. 237-244.

Actas5. Altino J.R. Loureiro and A.A. Fernandes; "Significance of Toughness and Size of LBZs on HAZ Toughness of Welds"; The International Conference on the Joinning of Materials - JOM 5 (Denmark, May 1991, pp. 495-501.

Actas6. A. Loureiro, A. Morão Dias, J.C. Prata Pina et L. Fareleiro; "Influence de l'énergie de soudage sur les contraintes résiduelles" ; Colloque constraintes résiduelles - Portugal-France - Luso, Abril, 1992, pp. 309-321.

Actas7. A. Loureiro e A. Fernandes; "Correlações de Tenacidade na Z.A.C. de Soldaduras Num Aço Temperado e Revenido"; 2º Encuentro Hispano - Luso de Fractura, Março 1993., pp. 217-222.

Actas8. Carlos A.S. Soares e Altino JR Loureiro; "Influência da resistência mecânica do metal depositado na tenacidade da zona afectada pelo calor de soldaduras num aço temperado e revenido"; Actas de III Jornadas Ibéricas de Fractura, Luso, Março de 1996, pp. 185-190.

Actas9. Altino JR Loureiro; "Avaliação da tenacidade em soldaduras com grande heterogeneidade estrutural"; Actas de III Jornadas Ibéricas de Fractura, Luso, Março de 1996, pp. 191-196.

Actas10. Altino JR Loureiro e Carlos A.S. Soares; "Toughness evaluation of welds using COD and tensile tests"; Actas do V Congreso Nacional Propriedades Mecánicas de Sólidos, Barcelona, Julho de 1996, pp. 260 - 265.

Actas11. Fernando Martins, Manuel Crisóstomo, Altino Loureiro, Helder Araújo, Traça De Almeida; "Adaptive robotic welding using real time vision sensing"; Proceedings Int. Conf. Mecatronics 96, Guimarães, 18-20 Sep., 1996, pp. 1-267-272.

Actas12. M. Ferreira and A.J.R. Loureiro, D. M. Rodrigues; "Notch toughness correlations in high strength steel welds"; Proc. Int. Conf. EUROMAT 98, Lisboa, 22-24/7, 1998, pp. 561-568.

Actas13. Dulce Maria Rodrigues, Luís Filipe Menezes and Altino Loureiro; "Mechanical Modelling and Numerical Simulation of the Mechanical Behaviour of Welded Joints"; 9 th International Conference on the Joining of Materials, May 1999, Helsingor, Denmark, pp. 266-270.

Actas14. D. M. Rodrigues, L. F. Menezes, A. Loureiro and J.V. Fernandes; Numerical study on plastic behaviour in tension of weld in high strength steel; Plasticity 2000 – The 8th International Symposium on Plasticity and its Current Applications, Whistler Resort, Canada, 17-21 Jully, 2000, pp. 252–254.

Actas15. Loureiro, A.; HAZ Toughness of multipass welded joints – Influence of brittle zones; Materiais 2001 – 1st International Materials Symposium, MAA5 – ManPro 16, p. A13.

Actas16. Velindro, M., Loureiro, A., Costa, B., Jesus, F., Lourenço, A.; Effect of the multiple electrodes TIG welding process on the metallurgical properties of welds in austenitic stainless steels; Materiais 2001 – 1st International Materials Symposium, Post 13 – ManPro 21 P, p. A74.

Actas17. Loureiro, A.J.R.; HAZ Toughness of Welds in High Strength Steels; Proc. Int. Conf. On the Joining of Materials JOM-10, Helsingor-Denmark, 11-14 May 2001, pp. 191-199.

Actas18. Velindro, M., Loureiro, A., Neves, F.; Undercut Formation in Robotic MAG Welding; Proc. Int. Conf. on the Joining of Materials JOM-10, Helsingor-Denmark, 11-14 May 2001, pp. 353-358.

Actas19. J. Norberto Pires, A. Loureiro; Standards in robotics and automation: a way to boost development; AUTOJOIN/IIW Workshop on Control and Monitoring Systems for Welding and Robotic System Standardisation, Oeiras, Portugal, 19th February 2002

Actas20. C. Veiga, A. Loureiro, J. Pina, A. Castanhola Batista, Residual Stress Distribution in Butt Welded Joints – Effect of the Weld Groove Shape, 6th European Conference on Residual Stresses, Materials Science Forum Vols. 404-407 (2002) pp. 387-392.

Actas21. C. Veiga, A. Loureiro, J. Pina, A. Castanhola Batista; Effect of repair welds on residual stress fields; proc. 3rd International HIDA and Integrity Conference – Integrity of High Temperature Repair Welds, Oeiras-Lisboa, 16/18 Sept. 2002, pp. 185-197.

Actas22. A.Loureiro; High Temperature Behaviour of Repaired Welded Joints in Refractory Steels; proc. 3rd International HIDA and Integrity Conference – Integrity of High Temperature Repair Welds, Oeiras-Lisboa, 16/18 Sept. 2002, pp. 327-334.

Actas23. R. Leal and A. Loureiro; Defects formation in friction stir welding of aluminium alloys; International Materials Smposium 2003, 14-16 Maio, Caparica, Book of Abstracts, 82.

Actas24. A Rodrigues and A. Loureiro; Effect of cooling rate on microstructure and hardness of austenitic stainless steel welds, International Materials Smposium 2003, 14-16 Maio, Caparica, Book of Abstracts, 114.

Actas25. Dulce Rodrigues, Luís Filipe Menezes and Altino Loureiro; An investigation of the influence of strength mis-matching and HAZ width on the fracture behaviour of welds with cracks in the WM/HAZ interface; International Materials Smposium 2003, 14-16 Maio, Caparica, Book of Abstracts, 250.

Actas26. J Neves and A Loureiro; Fracture toughness of welds with strength mismatch; Proc. International Conference on Advances in Materials and Processing Technologies, 2003, Dublin, Ed. G. Olabi and S. J. Hashmi, pp. 982-985.

Actas27. A Loureiro; Plastic collapse of welds under quasi-static tensile loading – influence of defects; Proc. International Conference on Advances in Materials and Processing Technologies, 2003, Dublin, Ed. G. Olabi and S. J. Hashmi, pp. 978-981.

Actas28. J. Norberto Pires, P. Ferreira, A. Loureiro, T. Godinho; Desenvolvimento de um Sistema de Controlo Paramétrico de Robô de Soldadura; VI Congresso Ibero-Americano de Engenharia Mecânica, Coimbra, 15/18 Outubro 2003, pp. 815-820.

Actas29. J. Norberto Pires, T. Godinho, P. Ferreira, A. Loureiro, Desenvolvimento de Uma Aplicação para Programação de Robôs com Interface com Ficheiros CAD, VI Congresso Ibero-Americano de Engenharia Mecânica, Coimbra, 15/18 Outubro 2003, pp. 827-832.

Actas30. R. Leal, A Loureiro; Soldadura de ligas de alumínio com laser de díodos; VI Congresso Ibero-Americano de Engenharia Mecânica, Coimbra, 15/18 Outubro 2003, pp. 1121-1126.

Actas31. C. Veiga, A. Loureiro, J. Pina, A. C. Batista; Alteração da microestrutura e propriedades mecânicas e do campo de tensões residuais após reparação por soldadura; VI Congresso Ibero-Americano de Engenharia Mecânica, Coimbra, 15/18 Outubro 2003, pp. 1127-1132.

Actas32. J. Norberto Pires, T. Godinho, P. Ferreira, A. Loureiro, Experiments using a industrial robotic system programmed from CAD files, Mechatronics & Robotics 2004, Aachen, Germany, September 13 - 15, 2004, pp.1247-1252.

Actas33. Pedro Teixeira, Dulce Rodrigues, Altino Loureiro, José Neves, Effect of the HAZ microstructural gradient on the unstable fracture of welds in a high strength steel, Abstracts of III International Materials Symposium, Aveiro, March 20-23 (2005), p. 40.

Actas34. Rui Leal, Altino Loureiro, Friction stir welding of aluminium alloys 2034-T3, 5083-O and 6063-T6 – effect of welding process on microstructure and mechanical properties, Abstracts of III International Materials Symposium, Aveiro, March 20-23 (2005), p. 159.

Actas35. António Rodrigues, Altino Loureiro, A. C. Batista, Phase formation in austenitic stainless steel A-TIG welds, Abstracts of III International Materials Symposium, Aveiro, March 20-23 (2005), p. 163.

Actas36. J. P. Nobre, Altino Loureiro, A. C. Batista, A. Morão Dias, Welding residual stresses evaluation by the hole-drilling technique, Abstracts of III International Materials Symposium, Aveiro, March 20-23 (2005), p.181.

Actas37. Pedro Teixeira, Dulce Rodrigues, Altino Loureiro, Modelling local brittle zones in welds using the finite element method, Abstracts of III International Materials Symposium, Aveiro, March 20-23 (2005), p.311.

Actas38. Rodrigues A., Loureiro A., Batista A., Effect of activating fluxes on bead geometry and on microstructure of A-TIG welds, Proc. 58th Annual Assembly and International Conference of International Institute of Welding, 10-15 July 2005, Prague, Czech Republic, pp. 415-425.

Actas39. A. Loureiro, D.M. Rodrigues, P. Teixeira, Effect of brittle zones on fracture toughness of welds, Proceedings of the 6th European Conference on Welding, Joining and Cutting, June (2006), Santiago de Compostela, pp. 569-575.

Actas40. A.J. Baptista, A. Loureiro, D.M. Rodrigues, L.F. Menezes, Formability of laser welded steel sheets, Proceedings of the 6th European Conference on Welding, Joining and Cutting, June (2006), Santiago de Compostela, pp. 125-132.

Actas41. R. M. Leal, B. M. Chaparro, D. M. Rodrigues, A. Loureiro, P. Vilaça, Mechanical Behaviour of FSW aluminium tailored blanks, Poster Session 19, Materials for Transport and Mechanical Engineering Applications, IV International Materials Syposium, Porto, 1-4 Abril 2007.

Actas42. A. Loureiro and A. Rodrigues, A-TIG welding of an austenitic stainless steel, Poster Session 5, Metals and Alloys, IV International Materials Syposium, Porto, 1-4 Abril 2007.

Actas43. R. M. Leal, A. Loureiro and D. Rodrigues, Effect of FSW and DLW Processes on Microstructure and Mechanical Properties of Welds in Aluminium alloys, JOM 14 – Fourteenth Internatinal Conference On the Joining of Materials, Helsingor – Denmark, 29 Apr. – 2 May (2007), session 5.

Actas44. A Loureiro, RM Leal, C Leitão, DM Rodrigues, P Vilaça, Friction Stir Welding of Automotive Aluminium Alloys, Proceedings of 60th International conference of International Institute of Welding, Croatia, 6-8 July 2007. Ed. Zoran Kozuh, Croatian Welding Society, Dubrovnik, 2007, 433-440.

Actas45. Rodrigues, D.M., Chaparro, B.M., Leitão, C, Batista, A.J., Loureiro, A., Vilaça, P. Formability of steel and aluminium tailor welded blanks. Proceedings of 60th International conference of International Institute of Welding, Croatia, 6-8 July 2007. Ed. Zoran Kozuh, Croatian Welding Society, Dubrovnik, 2007, 667-676.

Actas46. A Loureiro, DM Rodrigues, P Vilaça, R Leal, C Leitão. Friction stir welding of automotive aluminium alloys. in Proceedings of the IIW International Conference – Welding and Materials: Technical, Econimic and Ecological Aspects, 60th IIW Annual Asembly and International Conference, Ed. Zoran Kozuh, Croatian Welding Society, Dubrovnick, 2007, pp. 433-440.

Actas47. RM Leal, BM Chaparro, J.M. Antunes, .P Vilaça, DM Rodrigues, A Loureiro; Mechanical Behaviour of FSW aluminium tailored blanks, Materiais 2007.

Actas48. C. Leitão, RM Leal, DM Rodrigues, A Loureiro; Material flow in Friction Stir Welding. XLII Congress of the Portuguese Microscopy Society. Coimbra. 6 e 7 de Dezembro de 2007.

Projects

Concluded

"**Development of a vision system for robotic welding processes**" – Project **PBICC/TPR/1247/92** (1992-95). Participation of DEM and DEE (Departments of Mechenical and Electrical Engineerings) of FCTUC, Departament of Mechanical Engineering of Porto University. Project responsible.

"**Hadaptive control system for robotic welding**" – **projecto PBIC/C/TPR/2568/95** (1996-99). Participation of DEM and DEE (Departments of Mechenical and Electrical Engineerings) of FCTUC.

"**European Network on Control of Joining Technologies**" - **Contract BRRT-CT98-5102** (1999-2004). **Universities:** Instituto Superior Técnico, Faculdade de Engenharia da Universidade do Porto, Cranfield University (I), University of Liverpool (I), Technical University of Aachen (A); **Research centres and associations:** European Centre of Mechatronics (A), British Robot Association (I), German Welding Society (A), Institut fûr Fugetechnik und Werkstoffprûfung (A), IDMEC (P), INEGI (P) e ISQ (P). **Companies:** Meta Technology Ltd (I), MEDCEN Ltd (I), KRUPP Camford Ltd (I), Dimler Benz (A), KUKA (A), LINDE (A), AR LÍQUIDO AS (P), AJN – Projectos Mecânicos e Fabris, Lda (P). Project responsible in UC.

"**Structural integrity of welded joints – modelling and numerical simulation**" - **Project POCTI/EME/35949/2000** (2001-05). Participation of DEM-FCTUC. Project responsible.

"**Formability of friction stir welding aluminium sheets** " – **project POCI/EME/57623/2004 - FORTAB** (2005-08).). Participation of DEM (Departments of Mechanical Engineering) of FCTUC, Departament of Mechanical Engineering of IST and IPT.

In course

"**Friction tool design**" – **PTDC/EME-TME/69999/2006** (2007-2010) - Participation of DEM (Departments of Mechanical Engineering) of FCTUC, Departament of Mechanical Engineering of IST, ISQ and IPT. Project responsible.

"**SMARTFRICTION**" – Development of an intelligent system for automatic selection of friction stir welding parameters (2007-2008) – Project IDEIA.

"**HISTWIN - High Strength Steel Tower for Wind Turbines**", project PTDC/ECM/64217/2006. Participants: Departments of Civil and Mechanical Engineering of FCTUC.

Education

Education courses

Disciplinas do Mestrado Integrado em Engª Mecânica (MIEM)

Presentemente lecciona as disciplinas de Tecnologia Mecânica II e IV referentes respectivamente aos 4º e 5º ano do MIEM.

Disciplinas do Mestrado em Engª e Gestão Industrial (MEGI)

Lecciona a disciplina de Complementos de Tecnologia do 1º ano do MEGI.

Disciplinas do Mestrado em Construção Metálica e Mista (MCMM)

Lecciona a disciplina de Tecnologia do aço, soldadura, fadiga e corrosão do 1º ano do MCMM. Este mestrado resulta da colaboração entre os departamentos de Engenharia Civil da FCTUC e do IST.