

CURRICULUM VITAE

1. GENERAL INFORMATION

PERSONAL INFORMATION

Surname Medrea
Name Carmen
Title Metallurgical Engineer Ph. D.
Date of birth 23/6/1959
Place of birth Tirgu Carbunesti, Dolj, Romania
Citizenship Greek



WORK INFORMATION

Name University of West Attica (UniWA)
School School of Engineering
Department Department of Mechanical Engineering
Position Professor
Address 250 Thivon & P.Ralli Str. GR-122 44 Athens, Hellas
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Phone +30.210.5381165

2. STUDIES

| Year | Title |
|-----------|--|
| 1986-1990 | PhD in Metallurgy in specialty "Plastic Deformation and Heat Treatments", Polytechnic Institute of Cluj-Napoca, School of Mechanical Engineering, Cluj-Napoca, Romania. |
| 1978-1983 | Diploma in Metallurgical Engineering, Polytechnic Institute of Cluj-Napoca, School of Mechanical Engineering, Department of Plastic Deformation and Heat Treatments, Cluj-Napoca, Romania. |

3. WORK EXPERIENCE

Post graduate courses (MSc)

| YEAR | Title |
|-------------------|--|
| 2018- till now | <ul style="list-style-type: none">Advanced Industrial Manufacturing Systems. University of West Attica, School of Engineering, Department of Mechanical Engineering in partnership with Kingston University, Faculty of Science Engineering & Computing, London. |
| 2015-2018 | <ul style="list-style-type: none">Advanced Industrial Manufacturing Systems. Piraeus University of Applied Sciences, Department of Mechanical Engineering in partnership with Kingston University, Faculty of Science Engineering & Computing, London. |

Undergraduate courses

| YEAR | Title |
|-------------------|--|
| 2019- till now | University of West Attica, School of Engineering, Department of Mechanical Engineering <ul style="list-style-type: none">Courses: Technology of Metallic Materials, Heat Treatments of Metallic Materials, Engineering Failure Analysis. |
| 2018-2019 | University of West Attica School of Mechanics <ul style="list-style-type: none">Department of Mechanical Engineering, Courses: Quality Control and Technology of Metallic Materials, Engineering Failure Analysis.Department of Civil Engineering, Course: Technology of Materials in Civil Engineering. |
| 2013-2018 | Piraeus University of Applied Sciences <ul style="list-style-type: none">Department of Mechanical Engineering, Courses: Quality Control and Technology of Metallic Materials, Advanced Materials, and Laboratory Integrated Development in Engineering Applications.Department of Civil Engineering, Course: Quality Control and Technology of Materials in Civil Engineering.Department of Electrical Engineering, Course: Quality Control and technology of Materials in Electrical Engineering. |
| 1994-2013 | Technological Institute of Piraeus, Departments of Physic, Chemistry and Quality Control <ul style="list-style-type: none">Courses: Quality Control and Technology of Materials. |
| 1984 -1990 | Industrial plant of heavy-duty technical equipment manufacturing, Cluj-Napoca, Romania |

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- Forging sector
 - Heat treatment sector
 - Central Laboratory of Quality Control
- 1983 -1984 Industrial Factory of Metal Forming, Cimpia-Turzii, Romania
- Hot rolling sector
 - Cold wires drawing sector

4. RESEARCH EXPERIENCE

4.1. Applied experience

- | Year | Title |
|-----------|--|
| 2000-2017 | Stassinopoulos-Uddeholm Steel Trading SA., 20, Athinon Str., Piraeus, Greece. Company of steel trading and heat treating of metallic materials. Collaboration in assignment and supervising of undergraduate dissertations and in research programs implementation. The main collaboration framework is related with failure analysis of tools made of steel, in several production sectors of the Hellenic industry (cutting and forming of bars and metal sheets, pharmaceutical applications, food industry). |
| 2003-2013 | Halyvourgiki SA Industry of manufacturing steel reinforcing bars, 20th km. EACI, 19200, Elefsina-Greece. Collaboration in assignment and supervising of undergraduate dissertations, in research programs implementation, as well as in educational visits of undergraduate students (step-by-step analyzing the production process of reinforcing concrete steel bars and coils, performing tensile tests to assure compliance to standards). |

4.2. European Programs

- | Year | Title |
|-----------|---|
| 2003÷2022 | ERASMUS+: Universitatea Tehnică Cluj-Napoca, Romania |
| 2020-2021 | ERASMUS+: Universitatea de Stat a Moldovei, Chişinău, Moldova ERASMUS+: Vilnius Gediminas Technical University, Lithuania ERASMUS+: Technical University of Varna, Bulgaria |
| 2018÷2021 | ERASMUS+: Universiteti Ismail Qemali, Avlona, Albania |
| 2019-2020 | ERASMUS+: "Instituto Tecnológico de Santo Domingo", Dominican Republic ERASMUS+: MENOFA University, Egypt |
| 2018-2019 | ERASMUS+: Mining Institute, Tajikistan |
| 2017-2018 | ERASMUS+: Al-Balqa Applied University, Jordan ERASMUS+: Technical University of Dresden, Germany ERASMUS+: University of Applied Sciences Augsburg, Germany |
| 2016-2017 | "Leonardo da Vinci" Project entitled "Competitive engineering and technologies in the concurrently market". |

5. PUBLICATIONS IN INTERNATIONAL SCIENTIFIC REFEREED JOURNALS AND CONFERENCES

- Title**
1. A. Dragatsis, L. Fragkos-Livanios, D. G. Papageorgiou, C. Medrea, "Investigation of hardness behavior after carburizing and hardening of 15CrNi6 steel", MATEC Web of Conferences 349, 02006, 2021.
 2. J. Mantzoukas, D.G. Papageorgiou, C. Medrea, C. Stergiou," Hardness behavior of W. Nr. 1.7709 steel, oil quenched and tempered between 475oC and 575oC", MATEC Web of Conferences 349, 02006, 2021.
 3. C. Medrea, D.G. Papageorgiou, H. Bravos, I. Chicinaş," Failure analysis of a fan blade holding assemblment, installed on the cooling tower of a power plant", Engineering Failure Analysis, Vol.127, 2021
 4. D.G. Papageorgioua, L. Fragkos-Livanios, A. Dragatsis, C. Medrea," Effect of carburizing parameters on the mechanical properties of 1.5919 steel, suitable for military applications", Journal of Defence Technology, sent for publication.
 5. D.G. Papageorgiou, H. Bravos, C. Medrea," Microscopic examination of a fan blade supporting system premature fractured", Procedia Structural Integrity, Vol.17, 2019, pp.532–538.
 6. C. Medrea, E. Pappa, D.G. Papageorgiou, C. Stergiou, "Analysis of cracks propagated in a tee pipe fitting", Procedia Structural Integrity, Vol.17, 2019, 526–531.
 7. D.G. Papageorgiou, G. Manolas, C. Medrea, I. Chicinaş, "Failure analysis of a lancing tool used in a bridge slot filterpipe machine", Engineering Failure Analysis, Vol.105, 2019, pp.237-245.

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8. D. G. Papageorgiou, K. A. Kovsenoglou, P. Bournelis, C. Medrea, "Fracture analysis of a cooling water pump shaft", MATEC Web of Conferences 188, 04022, 2018.
9. C. Medrea, L. Fragkos-Livanios, K. I. Giannakopoulos, D. Statharas, "Failure analysis of two cold-working cutting tools. Case studies", MATEC Web of Conferences 188, 04026, 2018.
10. C. Medrea, A. Loukopoulos, I. Chicinaş, D. G. Papageorgiou, "Welding failure examination on a fuel tank of a 650cc motorbike", Engineering Failure Analysis, Vol.80, 2017, pp. 210-217. D.G.
11. Papageorgiou, S. Varvagiannis, J. Sideris, C. Medrea:" Fracture analysis of a cutting tool used in a straightening and twin bended system for coiled re-bars machine", Engineering Failure Analysis, Vol.59, 2016, pp.347-353.
12. S. Leptidis, D.G. Papageorgiou, C. Medrea, I. Chicinaş: "Failure analysis of an EDM machined mould-printing die used for the production of truck spare parts", Engineering Failure Analysis, Vol. 61, 2016, pp.62-68.
13. C. Medrea, A. Kalfopoulos, D. Papageorgiou, I. Chicinaş: "Metallographic examination of an AISI H11 mandrel of a bridge die used in hot extrusion - Case study", International Journal for Structural Integrity, Vol.6, No.5, 2015, pp.578-588.
14. C. Medrea, J. Sideris, I. Chicinaş, S. Ventouris:" Analysis of fracture and cracks of oldham's couplings used in anchor hoisting. Case study", Engineering Failure Analysis, Elsevier, Vol.35, 2013, pp.590-596.
15. D. Papageorgiou, C. Medrea, N. Kyriakou:" Failure Analysis of H13 Working Die Used in Plastic Injection Moulding", Engineering Failure Analysis, Elsevier, Vol.35, 2013, pp.355-259.
16. A. Maragiannis, D. Papageorgiou, C. Medrea, I. Chicinaş: "Microscopic Examination of a Tool Used in Tire Waste Recycling", Engineering Failure Analysis, Elsevier, Vol.35, 2013, pp.247-252.
17. N. Stavridis, D. Rigos, J. Sideris, I. Chicinas, C. Medrea: "Failure Analysis of a cutting die used for the production of car racks", Engineering Failure Analysis, Elsevier, Vol.18, 2011, pp.783-788.
18. D. Statharas, J. Sideris, C. Medrea, I. Chicinaş: "Microscopic examination of the fracture surfaces of a cold working die due to premature failure", Engineering Failure Analysis, Vol.18, 2011, pp.759-765.
19. N. Kiriakou, D. Papageorgiou, S. Kalogeropoulou, C. Medrea: "Preliminary failure examination of a plastic - injection mould part", Technologies in Machine Building, Vol.5, 2010, pp.27-32.
20. D. Rigos, N. Stavridis, J. Sideris, C. Medrea:" Preliminary examinations of a premature failure in a cold-working die for sheet-metal cutting", Technologies in Machine Building, Vol.5, 2010, pp.33-38.
21. D. Statharas, D. Papageorgiou, I. Sideris, C. Medrea:" Preliminary examination of the fracture surfaces of cold working die", International Journal of Materials Forming, Vol.1, 2008, pp.431-434.
22. C. Medrea-Bichtas, N. Negrea:" Mechanical and structural properties of AISI 1015 carbon steel nitrided after warm rolling", International Journal of Materials Forming, Vol.1, 2008, pp.73-76.
23. D. Tseronis, I. F. Sideris, C. Medrea, I. Chicinaş: "Microscopic examination of the fracture surfaces of an H13 hot extrusion die due to the failure at the initial usage stage", Key Engineering Materials, Vol.367, 2008, pp.177-184.
24. C. Medrea-Bichtas, N. Negrea:" Microstructural Modifications during Heating of Warm Rolled AISI 1015 Carbon Steel", Technologies in Machine Building, Vol.V, 2006, pp.19-24.
25. C. Medrea-Bichtas, N. Negrea, S. Domşa: "Studies Regarding the Microstructure of Warm Worked Low Carbon Steel", Metalurgia, No 10, 2004, pp.24-28.
26. C. Medrea-Bichtas, N. Negrea, S. Domşa: "Study on mechanical properties of warm-rolled AISI 1015 carbon steel", International Journal of Materials Research and Advanced Techniques, Vol.95, 2004, pp.176-179.
27. C. Medrea-Bichtas, N. Negrea, S. Domşa: "Influence of warm working parameters on deformation behaviour and microstructure of AISI 1015 carbon steel", International Journal for Manufacturing Science and Technology, Vol.4, No2, 2003, pp.38-44.
28. J. Mantzoukas, D.G. Papageorgiou, C. Medrea, C. Stergiou "Hardness behaviour of W. Nr.1.7709 steel, oil quenched and tempered between 475°C and 575°C", 6th International Conference of Engineering Against Failure, ICEAF VI, Spetses, Greece, 23-25 July 2021 (accepted for oral presentation).
29. A. Dragatsis, L. Fragkos-Livanios, D.G. Papageorgiou, C. Medrea," Investigation of hardness behavior after carburizing and hardening of 15CrNi6 steel", 6th International Conference of Engineering Against Failure, ICEAF VI, Spetses, Greece, 23-25 July 2021 (accepted for oral presentation).
30. C. Medrea-Bichtas, I. Chicinaş, S. Domşa: "Study of warm rolling of AISI 1015 carbon steel", International Journal of Materials Research and Advanced Techniques, Vol. 93, 2002, pp.554-558.
31. C. Medrea: "The contribution of non-destructive testing in engineering applications and their

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- perspectives” 11th International Scientific Conference eRa 11, Piraeus, Greece 21-23 September, 2016, Nanotechnology-Non-Destructive Technology Session, pp.8-14.
32. C. Medrea, J. Sideris, D. G. Papageorgiou, I. Chicinaş:” Improving tools design throws failure analysis. Case study in tires recycling process.” 7th International Conference on Engineering Failure Analysis, Leipzig, Germany, 3-6 July, 2016.
 33. D.G. Papageorgiou, G. Manolas, C. Medrea, I. Chicinaş:” Failure analysis of a cutting-forming tool used in a bridge slot filter pipe machine”, 7th International Conference on Engineering Failure Analysis, Leipzig, Germany, 3-6 July, 2016. Conference programme.
 34. C. Medrea, A. Maragiannis, J. Sideris:” Failure analysis of a AISI D2 blade-base used in tire waste recycling machine”, International Journal for Structural Integrity, (the research was presented to 3rd International Conference of Engineering Against Failure), ICEAF III, Kos, Greece, 26-28 June, 2013).
 35. K.P. Moustris, D. G. Papageorgiou, C. Medrea,” Application of Artificial Neural Networks in Steel Carburization”, 10th Conference of Sustainable Environmental Development, Sharm El Sheikh, Egypt, 16-20 March 2019.
 36. E. Pappa, D.G. Papageorgiou, C. Medrea, K. Stergiou,” Preliminary examination of a tee pipe fitting failed in a petroleum refinery unit”, 13th International Scientific Conference, eRa13, Athens, Greece, 21-23 November, 2018.
 37. H. Bravos, D.G. Papageorgiou, C. Medrea, “Preliminary examination of a prematurely fractured fan blade supporting system”, 13th International Scientific Conference, eRa13, Athens, Greece, 21-23 November, 2018.
 38. A. Dragatsis, D.G. Papageorgiou, C. Medrea,” Analysis of the quenching influence during hardening of carburized DIN 15CrNi6 steel”, 13th International Scientific Conference, eRa13, Athens, Greece, 21-23 November, 2018.
 39. K. Kremmida, D.G. Papageorgiou, C. Medrea, C. Stergiou,” Hardness behaviour of 1.7709 steel at after quenching and tempering between 375°C and 475°C”, 13th International Scientific Conference, eRa13, Athens, Greece, 21-23 November, 2018.
 40. C. Ktenas, D.G. Papageorgiou, C. Medrea, C. Stergiou, “The influence of tempering temperature on steel hardness after quenching and tempering at temperatures between 275°C and 375°C”, 13th International Scientific Conference, eRa13, Athens, Greece, 21-23 November, 2018.
 41. K. Tsioumas, D.G. Papageorgiou, C. Medrea, C. Stergiou, “Investigation of hardness distribution during quenching and low temperatures tempering of 1.7709 steel”, 13th International Scientific Conference, eRa13, Athens, Greece, 21-23 November, 2018.
 42. S. Katsimardos, D.G. Papageorgiou, C. Medrea, C. Stergiou, “Methodology to obtain the 1.7709 steel tempering diagram.”, 12th International Scientific Conference, eRa12, Session Engineering I, Athens, Greece, 24-26 October, 2017.
 43. C. Medrea, “The contribution of non-destructive testing in engineering applications and their perspectives” 11th International Scientific Conference, eRa11, Session Engineering I, Athens, Greece, 21-23 September, 2016, pp.16-27.
 44. D.G. Papageorgiou, G. Manolas, C. Medrea, I. Chicinaş,” Failure analysis of a cutting-forming tool used in a bridge slot filterpipe machine”, 7th International Conference on Engineering Failure Analysis, Leipzig, Germany, 3-6 July, 2016. Conference programme.
 45. C. Medrea, J. Sideris, D. G. Papageorgiou, I. Chicinaş,” Improving tools design throws failure analysis. Case study in tires recycling process.” 7th International Conference on Engineering Failure Analysis, Leipzig, Germany, 3-6 July, 2016. Conference programme.
 46. D.G. Papageorgiou, D. Katsaros, M. Koukouli, C. Medrea,” Mechanical Properties Improvement of AISI 3115 Steel through Carburizing and Hardening”, 4th International Conference of Engineering Against Failure, Skiathos, Greece 24-26 June, 2015, pp.1-8.
 47. A. Loukopoulos, D.G. Papageorgiou, J. Sideris, C. Medrea,” Preliminary examination of a failed motorbike fuel tank”, 9th International Scientific Conference eRa 9, Piraeus, Greece 12-24 September, 2014, Engineering session I, pp.1-7.
 48. G. Manolas, D.G. Papageorgiou, J. Sideris, C. Medrea,” Preliminary examination of a cutting-forming tool used in a bridge slot filter pipe machine”, 9th International Scientific Conference eRa 9, Piraeus, Greece 12-24 September, 2014, Engineering session I, pp.8-14.
 49. S. Varvagiannis, D.G. Papageorgiou, D. Statharas, C. Medrea,” Preliminary examination of a cutting tool failed in a coiled re-bars machine”, 9th International Scientific Conference eRa 9, Piraeus, Greece 12-24 September, 2014, Engineering session I, pp.15-23.
 50. J. Sideris, S. Leptidis C. Medrea,” Preliminary examination of a mould-printing die premature failed”, 9th International Scientific Conference eRa 9, Piraeus, Greece 12-24 September, 2014, Engineering session I, pp.24-32.

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51. C. Medrea, A. Maragiannis, J. Sideris, "Failure analysis of AISI D2 blade-base used in tire waste recycling machine", 3rd International Conference of Engineering Against Failure, ICEAF III, Kos, Greece, 26-28 June, 2013, pp.435-443.
52. S. Ventouris, D. Papageorgiou, C. Medrea, "Preliminary examination of a failed anchor hoisting assembly", 7th International Scientific Conference eRa 7, Piraeus, Greece 27-30 September, 2012, pp.9-19.
53. N. Stavridis, J. Sideris, K. Zelenitsas, C. Medrea, "Microscopic examination of O1cutting tool due to the premature failure", 6th International Scientific Conference eRa 6, Piraeus, Greece 19-24 September, 2011, pp.44-51.
54. J. Christofilopoulos, A. Kalfopoulos, D. Papageorgiou, C. Medrea, "Preliminary examination of failure in a porthole die for aluminium extrusion", 6th International Scientific Conference eRa 6, Piraeus, Greece 19-24 September, 2011, pp.52-58.
55. N. Kiriakou, J. Sideris, C. Medrea, "Microscopic examination of a hot working tool used for plastic injection", SPE EUROTEC Conference, 14-15 November 2011, Barcelona, Spain, pp.106-110.
56. A. Maragiannis, D. Papageorgiou, C. Medrea, "Preliminary failure examination of a tool used in tyre waste recycling-case study", SPE EUROTEC Conference, 14-15 November 2011, Barcelona, Spain, pp.111-113.
57. D. Statharas, D. Papageorgiou, J. Sideris, C. Medrea, "Microscopic examination of a failed cutting tool's fracture surfaces", 5th International Scientific Conference eRa, Piraeus, Greece 15-18 September 2010, pp.251-257.
58. C. Medrea – Bichtas, G. Negrea, A. Katsapi, A. Marousaki, "Calculation of the activation energy required for recrystallization of warm-rolled carbon steel as a function of the imposed hardness", 5th International Scientific Conference eRa 5, Piraeus, Greece 15-18 September, 2010, pp.85-91.
59. D. Statharas, I. Sideris, D. Papageorgiou, C. Medrea, "Preliminary examination of the fracture surfaces of a cold cutting tool", International Technology, Education and Development Conference, Valencia, Spain, 9-11 March 2009, pp.4101- 4106.
60. C. Medrea, J. Sideris, D. Papageorgiou, D. Statharas, "The role of the design in prevention of steel failures. Cases of study", International Technology, Education and Development Conference, Valencia, 9-11 March 2009, pp.4080-4088.
61. C. Medrea-Bichtas, N. Negrea, S. Domşa, "Research concerning the mechanical and structural properties of warm rolled construction carbon steels", 10th International ESAFORM Conference on Material Forming, Saragossa, Spain, 18-20 April 2007, AIP Conference Proceedings, Vol. 907, 2007, pp.118-123.
62. C. Medrea-Bichtas, G. Negrea, "Influence of warm-working on quality of AISI 1015 carbon steel", 1st International Scientific Conference eRa, Tripolis, Peloponnese, Greece 16-17 September, 2006, pp.249-257.
63. C. Medrea-Bichtas, G. Arghir, "Diffraction analysis of induced stresses/mechanical characteristics independency for warm rolled low carbon steels", International Conference MMA, Taganrog, Russia, 11-14 September 2006, pp.36-43.
64. M. Mousoulis, D. Tseronis, I.F. Sideris, F. Fotopoulos, C. Medrea, "Preliminary examination of the fracture surfaces of an aluminium hot extrusion die, due to the premature failure", The 9th international ESAFORM Conference on Material Forming, Glasgow, Scotland, 26-28 April 2006, pp.503-506.
65. C. Medrea, G. Negrea, "Mathematical modelling of hardness variation of heat-treated pieces after warm-working", 5th International Conference on Industrial Tools, Velenje - Celje, Slovenia, 12-14 April 2005, pp.179-182.
66. C. Medrea, "Computing Model Regarding the Re-Crystallization Activation Energy for the Warm Formed AISI 1015 Steel ", 8th International ESAFORM Conference on Material Forming, Cluj-Napoca, Romania, 27-29 April 2005, pp.233-236.
67. C. Medrea, G. Negrea, "Microstructure Transformations in a Warm Rolled Low Carbon Steel During Subsequent Heating", 2nd International Conference on Thermomechanical Processing of Steels, Liege, Belgium, 15-17 June 2004, pp.67-74.
68. C. Medrea, G. Negrea, "Quantitative microscopy analysis of warm worked 0,15%C steel", 4th International Conference on Industrial Tools, Bled, Slovenia, 8-12 April 2003, pp.145-148

6. SPOKEN LANGUAGES

- Romanian (fluent) Native Language
- Greek (fluent) Diploma in Greek Language Studies, Faculty of Philosophy, University of Athens
- English (very good), Certificate in Competency in English, University of Michigan
- French (sufficient) Certificate in French Language (equivalent DELF1), French Institute of Athens