

PUBLICATION LIST

a) Relevant publications included in the Habilitation file:

1. Takeuchi, O. Famadou, J.C. Read, M.A. Aronova, K.S. Chang, C. Craciunescu, S.E. Lofland, M. Wuttig, F.C. Wellstood, L. Knauss and A. Orozco - Identification of novel compositions of ferromagnetic shape-memory alloys using composition spreads, **Nature Materials**, Vol.2, March (2003)180-184.
2. M. Wutig, J.Li, C.M. Craciunescu - A New Ferromagnetic Shape Memory Alloy System - **Scripta Materialia**, vol 44 (2001) 2393-2397.
3. C.M. Craciunescu, Y. Kishi, M.Wuttig Martensitic - Transformations in Co₂NiGa Ferromagnetic Shape Memory Alloy System, **Scripta Materialia**, vol 47/4 (2002) 285-288.
4. C.M. Craciunescu, J.Li, M.Wuttig - Thermoelastic Stress-Induced Thin Film Martensites, **Scripta Materialia**, vol 48/1 (2003) 65-70.
5. C.M. Craciunescu, M. Wutig Extraordinary damping of Ni-Ti double layer films- **Thin Solid Films**, vol 379 (2000) 173-175.
6. C.M. Craciunescu, J.Li si M.Wuttig - Constrained Martensitic Transformations in TiNiCu Films, **Thin Solid Films** 434 (2003) 271-275.
7. H. Rumpf, C. M. Crăciunescu, H. Modrow, Kh. Olimov, E. Quandt, M. Wuttig - Successive Occurrence of Ferromagnetic and Shape Memory Properties during Crystallization of NiMnGa Freestanding Films, **Journal of Magnetism and Magnetic Materials**, Volume 302, Issue 2 (2006) 421-428
8. C.M. Craciunescu, R. Miranda, Rui J. Silva, E. Assuncao, F.M. Braz Fernandes - Laser interaction with NiMnGa ferromagnetic shape memory alloys, **Optics and Lasers in Engineering**, Vol. 49, Iss.11 (2011) 1289-1293.
9. J. R. Hatrick-Simpers, D. Hunter, C. M. Craciunescu, K.S. Jang, M. Murakami, J. Cullen, M. Wuttig, I. Takeuchi, S. E. Lofland, L. Benderksy, N. Woo, R. B. Van Dover, T. Takahashi, Y. Furuya - Combinatorial Investigation of Magnetostriction in Fe-Ga and Fe-Ga-Al, **Applied Physics Letters** 93, (2008) 102507.
10. S. I. Patil, D. Tan, S.E. Lofland, S.M. Bhagat, I Takeuchi, O. Famadou, J.C. Read, K.S. Chang, C. Craciunescu, M. Wuttig Ferromagnetic Resonance in Ni-Mn-Ga Films- **Applied Physics Letters**, vol 81 No. 77 (2002)1279-128.

b) PhD Thesis:

Research on copper-based shape memory alloys, defended in December 1996 in "Politehnica" University of Timisoara; adviser Prof. Dr. Ing. Marin Trusculescu.

c) Patents:

1. C.M. Crăciunescu, C. Cărpinișan, M. Bach – Assembling device - Romanian Pat no. RO101955/1991.
2. C.M. Crăciunescu, C. Cărpinișan - Metal sheet positioning machine for rotor assembling|, Romanian Patent Number: RO108122-B1.
3. M. Trusculescu, I. Bivolaru, V.A. Șerban, A. Răduță, P. Murgu, C.M. Crăciunescu - Fabricator of amorphous metal strips Romanian Patent Number: RO109041-B1.
4. Craciunescu C. M.; Vlascici M. P. - Process and equipment for in-situ exploration of thermal action capacity of compositional distributions, Romanian Pat no.RO125929.

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d) Books and Chapters in books (relevant publications):

- R.M. Miranda, F.M. Braz Fernandes, **C.M. Craciunescu**, L. Quintino, L. Albery Vieira – *Shape Memory Alloys: Existing and Emerging Applications*, in Maryann C. Wythers, editor; Advances in Materials Science Research. Volume 6, Nova Publishers, 2011.
- C.M. Craciunescu** – *Shape memory alloys micro and nanoengineering*, Ed. Politehnica, Timisoara, Romania, 2005 (in Romanian).
- C.M. Craciunescu** – *Composite materials*, Ed. Sedona, Colectia Tech, 1998 (in Romanian).
- V. Budau, **C.M. Craciunescu** – *A material facing the XXI Century. Shape memory alloys*, Ed. Marineasa 1994 (in Romanian).

e) ISI indexed papers (relevant publications):

1. C.M. Craciunescu, J.Li, M.Wuttig -Thermoelastic Stress-Induced Thin Film Martensites, **Scripta Materialia**, vol 48/1 (2003) 65-70.
2. C.M. Craciunescu, Y. Kishi, M.Wuttig Martensitic -Transformations in Co₂NiGa Ferromagnetic Shape Memory Alloy System, **Scripta Materialia**, vol 47/4 (2002) 285-288
3. S. I. Patil, D. Tan, S.E. Lofland, S.M. Bhagat, I Takeuchi, O. Famadou, J.C. Read, K.S. Chang, C. Craciunescu, M. Wuttig Ferromagnetic Resonance in Ni-Mn-Ga Films- **Applied Physics Letters**, vol 81 No. 77 (2002)1279-128.
4. Craciunescu C.M., Y. Kishi, M. DeGraef, T.A. Lograsso, M. Wuttig - Cobalt based ferromagnetic shape memory alloys, **SPIE Proceedings**, vol.4699 (2002) 235-244
5. M. Wutig, J.Li, C.M. Craciunescu A New Ferromagnetic Shape Memory Alloy System - **Scripta Materialia**, vol 44 (2001) 2393-2397.
6. C.M. Craciunescu, M. Wutig Extraordinary damping of Ni-Ti double layer films- **Thin Solid Films**, vol 379 (2000) 173-175.
7. M.Wuttig, C.M. Craciunescu, J.Li Phase -Transformations in Ferromagnetic NiMnGa Shape Memory Films, **Materials Transactions, JIM**, 41, No.8 (2000) 933-937
8. C.M. Craciunescu, J.Li si M.Wuttig - Constrained Martensitic Transformations in TiNiCu Films, **Thin Solid Films** 434 (2003) 271-275.
9. C. Craciunescu, Y. Kishi, L. Saraf, R. Ramesh and M. Wuttig Ferromagnetic NiMnGa and CoNiGa Shape Memory Alloy Films - Materials Science of Microelectromechanical Systems (MEMS) Devices IV. **Materials Research Society Symposium Proc.** Vol.687 (2002) 89-94.
10. Y. Kishi, C. Craciunescu, M. Sato, T. Okazaki, Y. Furuya and M. Wuttig - Microstructures and Magnetic Properties of Rapidly Solidified CoNiGa Ferromagnetic Shape Memory Alloys, **Journal of Magnetism and Magnetic Materials** 262 (2003) L 186-191.
11. C.M. Craciunescu and M. Wuttig - New Ferromagnetic and Functionally Graded Shape Memory Alloys (invited paper), **Journal of Optoelectronics and Advanced Materials**, Vol. 5, No. 1, March 2003, pp. 139-146.
12. Takeuchi, O. Famadou, J.C. Read, M.A. Aronova, K.S. Chang, C. Craciunescu, S.E. Lofland, M. Wuttig, F.C. Wellstood, L. Knauss and A. Orozco -, Identification of novel compositions of ferromagnetic shape-memory alloys using composition spreads, **Nature Materials**, Vol.2, March (2003)180-184.
13. Y. Kishi, M. De Graef, C. Craciunescu, T.A. Lograsso, D.A. Neumann and M. Wuttig, - Microstructures and phase transformation behavior of Cobalt-base ferromagnetic shape memory alloys, *Journal de Physique Coll. C4* (currently - **European Physical Journal ST**), vol 112 (2004)1021-1024.

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14. H. Rumpf, C. M. Craciunescu, J. Feydt, A. Gilles, M. Wuttig, and E. Quandt - Fabrication and characterization of free-standing NiMnGa thin films, *Materials and Devices for Smart Systems*, **Materials Research Society Proceedings**, Vol. 785 (2003)195-199.
15. C. M. Crăciunescu, I. Mihalca, V. Budău Trimorph - Actuation based on Shape Memory Alloys, **Journal of Optoelectronics and Advanced Materials**, Vol.7, Nr.2 (2005) 315.
16. H. Rumpf, C. M. Crăciunescu, H. Modrow, Kh. Olimov, E. Quandt, M. Wuttig - Successive Occurrence of Ferromagnetic and Shape Memory Properties during Crystallization of NiMnGa Freestanding Films, **Journal of Magnetism and Magnetic Materials**, Volume 302, Issue 2 (2006) 421-428.
17. C.M. Craciunescu, I. Mihalca, V. Budau, Signal modulation by martensitic control of shape memory alloy thin film architectures, **Device Applications of Nonlinear Dynamics** (S. Baglio, A. Bulsara eds.) – **Springer Verlag** (2006)52-65.
18. C. M. Craciunescu I. Mihalca A. Ercuta Structural - Transformations in Ti-Ni-Cu Shape Memory Ribbons, **Journal of Optoelectronics and Advanced Materials**, vol.9, Nr. 12 / (2007).
19. I.Mihalca, C. M. Craciunescu - Rapid Solidified Bulk Shape Memory Alloys, **Journal of Optoelectronics and Advanced Materials**, vol. 10, Nr. 1 (2008).
20. M.Valeanu, G Filoti, V.Kuncser, F. Tolea, B.Popescu, A.Galatanu, G.Schinteie A.D.Jianu, I. Mitelea, D. Schinle, C.M. Craciunescu - Shape Memory and Associated Properties in Fe-Mn-Si based Ribbons Produced by Melt- Spinning, **Journal of Magnetism and Magnetic Materials**, 320 (14), 2008, pp. e164-e167.
21. C. M. Craciunescu, A. Ercuta, I. Mitelea, M. Valeanu, V.S. Teodorescu, N. Lupu, H. Chiriac Rapidly Solidified Ferromagnetic Shape Memory Alloys, **The European Physical Journal ST**158 (2008) 161-165.
22. J. R. Hattrick-Simpers, D. Hunter, C. M. Craciunescu, K.S. Jang, M. Murakami, J. Cullen, M. Wuttig, I. Takeuchi, S. E. Lofland, L. Benderksy, N. Woo, R. B. Van Dover, T. Takahashi, Y. Furuya Combinatorial Investigation of Magnetostriction in Fe-Ga and Fe-Ga-Al, **Applied Physics Letters** 93, (2008) 102507.
23. C.M. Craciunescu, O. Oanca, D. Dehelean, Shape Memory Assemblies using Ultrasonic Welding, **Solid State Phenomena** Vol. 154 (2009) 71-76.
24. I.Mitelea, C.M. Craciunescu, Parameter influence on friction welding of dissimilar surface-carburized/volume-hardened alloyed steels, **Materials & Design**, Vol. 31, Issue 4 (2010) 2181-2186.
25. I.Mitelea, C.M. Craciunescu, Friction welding structures of carburized steels, **Materials Science Forum** Vols. 638-642 (2010) pp 3781-3786.
26. I. Mitelea, C.M. Craciunescu, R. Gugu, Interfacial behavior of dissimilar friction welded nodular cast irons with low carbon steels, **Materials Science Forum** Vols. 638-642 (2010)3757-3762.
27. C.M. Craciunescu - Actuation in Shape Memory Layer-engineered Film-based Architectures, **Surface Engineering** Vol 26, No 7 (2010) 536-539.
28. D. Dehelean, O. Oanca, Cr. Toma, Cl. Dorohoi, V. Budau, C.M. Craciunescu - Advanced Materials Welding using a Hybrid Ultrasonic-Electric Resistance Technique, **Journal of Optoelectronics and Advanced Materials**, JOAM Iss.9 (2010).
29. I.Mitelea, C.M. Craciunescu - Investigations on joining surface hardened steels by friction welding, **Materials Testing / MaterialPruefung** 53 (2011) 1-2.

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30. C.M. Craciunescu, R. Miranda, Rui J. Silva, E. Assuncao, F.M. Braz Fernandes - Laser interaction with NiMnGa ferromagnetic shape memory alloys, **Optics and Lasers in Engineering**, 2011, Volume: 49 Issue: 11 Pages: 1289-1293.

f) Publications in conferences (recent international conferences, not yet ISI indexed):

1. Mitelea, Cl. Dorohoi, C.M. Craciunescu - Microstructure of Cu-Zn-Al shape memory alloy joined by electric stored-energy welding, Solid-to-Solid Phase Transformation in Inorganic Materials Conference, June 6-10, 2010 Avignon, France, published in **Solid State Phenomenon** 172-174, 2011, 208-213.
2. Mitelea, C.M. Craciunescu - Phase transformations on friction welding of dissimilar thermochemically treated steels, Solid-to-Solid Phase Transformation in Inorganic Materials Conference, June 6-10, 2010 Avignon, France, **Solid State Phenomenon** 172-174, 2011, 916-921.
3. C.M. Craciunescu, K.K. Mahesh, F.M. Braz Fernandes - Phase transitions and deformation behavior in Co-Ni-Ga ferromagnetic shape memory alloy system, Solid-to-Solid Phase Transformation in Inorganic Materials Conference, June 6-10, 2010 Avignon, France, **Solid State Phenomenon** 172-174, 2011, 202-207.

g) other works and scientific contributions:

- 6 innovation patents;
- numerous experimental stands developed for research and teaching purposes.

Scientific profile: <http://www.researcherid.com/rid/B-8890-2011>
h-index: **11**
total number of ISI citations: **589** (April, 2012)

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Corneliu M. Craciunescu