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## Curriculum Vitae Europass

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Professore Associato di Tecnologie e Sistemi di Lavorazione  
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## Contatti

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## Esperienza professionale

01-10-2022 – in corso **Professore Associato** di Tecnologie e Sistemi di Lavorazione (S.S.D. ING-IND/16). Dipartimento Management, Finanza e Tecnologia, Università LUM Giuseppe Degennaro, Casamassima, Bari.

08-10-2020 – 30-09-2022 Ricercatrice a tempo determinato di Tecnologie e Sistemi di Lavorazione (S.S.D. ING-IND/16). Dipartimento di Ingegneria dell'Innovazione, Università del Salento, Lecce.

01-05-2015 – 29-08-2020, assegnista di ricerca per il S.S.D. ING-IND/22 – Scienza e Tecnologia dei Materiali presso i Dipartimenti di Ingegneria Informatica, Modellistica, Elettronica e Sistemistica e di Ingegneria per l'Ambiente e il Territorio e Ingegneria Chimica dell'Università della Calabria, Rende (CS).

1-11-2013 – 30-04-2015, assegnista di ricerca per il S.S.D. ING-IND/14 – Progettazione Meccanica e Costruzione di Macchine presso il Dipartimento di Ingegneria Meccanica, Energetica e Gestionale dell'Università della Calabria, Rende (CS).

01-02-2014 – 30-09-2014: Visiting Postdoc presso l'Università TDU di Dresda ed il Fraunhofer IWS di Dresda (Dresda, Germania) dove ha svolto attività sperimentale e di ricerca riguardante l'analisi dei cambiamenti microstrutturali legati a trattamenti superficiali per il miglioramento dell'adesione e la realizzazione di giunti incollati.

01-02-2011 – 31-07-2012: Visiting Scholar (PhD student) presso Institute for Sustainable Manufacturing, University of Kentucky (Lexington, KY, USA), dove ha svolto attività di ricerca riguardante l'integrità superficiale di leghe di alluminio e titanio tornite mediante processi convenzionali e di lubro-refrigerazione avanzati (criogenico, MQL).

01-09-2008 – 20-12-2008: Visiting Student presso Tokyo Denki University e la Tokyo Institute of Technology (Tokyo, Giappone) con attività di ricerca e tesi finalizzata alla modifica superficiale su nano scala di substrati polimerici per il controllo della bagnabilità e dell'adesione superficiale.

## Istruzione e formazione

22-12-2020 Abilitazione Scientifica Nazionale alle funzioni di professore associato (II fascia) in Tecnologie e Sistemi di Lavorazione S.S.D. ING-IND/16

01-02-2013 Dottorato di ricerca in Sistemi di Produzione e Design Industriale Politecnico di Torino, Torino.

16-01-2019 Laurea Magistrale in Ingegneria Meccanica, 110/110 E LODE, Università della Calabria, Rende (CS).



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Diploma di Maturità scientifica conseguito nell'anno 2003 presso il Liceo scientifico statale "L. Costanzo" di Decollatura (CZ), con votazione 100/100.

**Accreditamento presso albi**

2010 – in corso Iscritta all'Albo degli Ingegneri della Provincia di Cosenza al n°6424.

**Didattica universitaria**

AA 2020-21, 2021-22 Advanced Technologies in Manufacturing (II anno del corso di Laurea in Ingegneria Gestionale Università del Salento, LE) lingua inglese.

AA 2019-20; 2020-21, 2021-22 Biomeccanica (III anno del corso di Laurea in Ingegneria Biomedica Università Magna Graecia CZ).

AA 2018-19 Strumentazione biomedica (III anno del corso di Laurea in Ingegneria Biomedica Università Magna Graecia CZ).

2013 Corso di formazione di II livello in Sistemi e materiali innovativi per la produzione e lo stoccaggio di energia rinnovabile (EOMAT):

- Conoscenze sui fenomeni di usura e sui criteri di progettazione di rivestimenti antiusura in componenti meccanici;
- Concetti di base relativi al dimensionamento e al cedimento di componenti meccanici per usura, usura/corrosione.

2013 Master universitario di II livello in Servizi di Prototipazione e Ricerca per le Nuove Tecnologie e i nuovi materiali (SPRINT) nell'ambito dei seguenti insegnamenti:

- Caratterizzazione Meccanica dei Materiali;
- Tecnologia Meccanica.

2013 Master universitario di II livello in Strutture, Componenti Innovativi Light per Applicazioni Metro (SCILLA-M) nell'ambito dei seguenti insegnamenti:

- Comportamento Meccanico dei Materiali.

**Lingue****Italiano**

Madrelingua

**Inglese**

| Comprensione |         | Parlato           |                  | Scritto |    |
|--------------|---------|-------------------|------------------|---------|----|
| Ascolto      | Lettura | Interazione orale | Produzione orale |         |    |
| C1           | C1      | C1                | C1               |         | C1 |

**Capacità e competenze tecniche**

L'attività di ricerca può riassumersi in quattro principali tematiche: i) integrità superficiale di componenti a seguito di processi di deformazione plastica, fisici e chimici ii) sostenibilità dei processi per asportazione di truciolo, iii) modifiche superficiali per la realizzazione di componenti automobilistici e biomedicali, iv) funzionalizzazione superficiale

**competenze pratiche:**

- Caratterizzazione meccanica mediante macchine di prova (trazione, compressione, flessione, fatica, impatto);
- Prove di caratterizzazione mediante indentazione strumentata (micro indentazione, nano indentazione, scratch test);
- Prove di bagnabilità ed acquisizione di immagini (DIC, angolo di contatto, microscopia ottica);
- Prove di tribologia ed integrità superficiale (prove metallografiche, tribometro per prove di usura ball on disk, microscopia ottica e microscopio a forza atomica, Focussed Ion Beam, SEM);
- Prove di adesione e deposizione di rivestimenti sottili (dip-coating, SPIN coating, prove di adesione con resina epossidica, Floating roller peel tests, T peel test, Single lap shear test Double cantilever beam test, Tapered double cantilever beam test).

L'attività di ricerca, svolta in modo continuativo negli anni si è tradotta in pubblicazioni internazionali e nazionali con specifico impatto entro le comunità scientifiche di riferimento:

- Oltre 1200 citazioni dal 2010 a oggi
- H-index pari a 20
- Il profilo completo è consultabile al seguente url:  
<https://scholar.google.com/citations?user=x5svgOoAAAAJ&hl=it>

**Award & Grants**

1. **Premio Giovane Ricercatore “Edoardo Capello”** durante il XIV Convegno dell'Associazione Italiana di Tecnologie Manifatturiere (9-11 Settembre 2019) per il suo lavoro: “Surface modifications induced by roller burnishing of Ti6Al4V under different cooling/lubrication conditions”.
2. Il lavoro “An environmental characterization of the milling process”, di G. Rotella, P. C. Priarone, L. Settineri, presentato da Giovanna Rotella durante il 4th Conference on Sustainable Energy & Environmental Protection (SEEP2010 - June 29th – July 2nd 2010, Bari, Italy), è stato premiato come **Best Conference Paper** durante il congresso.
3. **Most Cited Articles 2016** dal Journal of Manufacturing Processes per il lavoro “ Finite Element Modeling of Microstructural Changes in Turning of AA7075-T651 alloy”.
4. L'articolo “ Finite Element Modeling of Microstructural Changes in Turning of AA7075-T651 alloy” pubblicato su Journal of Manufacturing processes è stato classificato come **#6 nella lista Top 25 Hottest Artcles su Science Direct**.

**Membership**

- 2014 – in corso Membro A.I.Te.M. (Associazione Italiana di Tecnologie Manifatturiere).
- 2020 – in corso Membro S.I.B. (Società Italiana Biomateriali).

**Progetti e gruppi di ricerca**

Progetto **ADVMAT**, Programma Operativo Regionale (POR) Calabria – FSE 2007/2013 Asse IV (Co-PI)

**GREAT 2020** GReen Engine for Air Transport in 2020, Politecnico di Torino (**partecipante**)

2011 – 2012 sviluppo di uno standard per la definizione di un indice di sostenibilità di processo e di prodotto per pratiche aziendali sostenibili (USA). Progetto finanziato dal National Institute of

**Relatrice a conferenze  
nazionali ed internazionali**

Standards and Technology (USA) Toyota Motor Manufacturing, General Electric – Aviation, e Lexmark International (**partecipante**).

2021 – in corso **coordinatrice nazionale** della sezione AITEM dal titolo: Trattamenti e Funzionalizzazione di Superfici (**REALIZE**). La sezione include componenti accademici ed industriali.

70<sup>th</sup> CIRP General Assembly, Online, August 2020

23<sup>rd</sup> International Conference on Material Forming (FIRST virtual ESAFORM), 4<sup>th</sup>-8<sup>th</sup> May 2020;

XIV Convegno dell'Associazione Italiana di Tecnologie Manifatturiere, Padova, 9-11 Settembre 2019;

17<sup>th</sup> CIRP Conference on Modeling of Machining Operations, Sheffield (UK), 13<sup>th</sup>-14<sup>th</sup> June 2019;

7<sup>th</sup> Advanced Functional Materials and Devices (AFMD), Havana, Cuba, 18<sup>th</sup>-23<sup>rd</sup> December, 2017;

XIV Convegno Nazionale AIMAT 2017, Ischia Porto, 12-15 Luglio 2017;

XIII Convegno Nazionale AIMAT Ischia Porto, 13-15 Luglio 2016;

65<sup>th</sup> CIRP General Assembly, Cape Town (South Africa), 23<sup>rd</sup>-29<sup>th</sup> August 2015;

40<sup>th</sup> North American Manufacturing Research Conference (NAMRC40), University of Notre-Dame, Indiana, USA, 4<sup>th</sup>-8<sup>th</sup> June 2012;

6<sup>th</sup> International Conference on Leading Edge Manufacturing in 21<sup>st</sup> Century, Saitama (Japan), 8<sup>th</sup>-10<sup>th</sup> November 2011;

9<sup>th</sup> CIRP Global Conference on Sustainable Manufacturing, St. Petersburg (Russia), 28<sup>th</sup>-30<sup>th</sup> September 2011;

13<sup>th</sup> CIRP International Workshop on Modeling of Machining Operations, Sintra (Portugal), 12<sup>th</sup>-13<sup>th</sup> May 2011;

18<sup>th</sup> CIRP International Conference on Life Cycle Engineering, Braunschweig (Germany), 2<sup>nd</sup>-4<sup>th</sup> May 2011;

4<sup>th</sup> International Conference on Tribology in Manufacturing Processes (ICTMP 2010), Nice (France), 13-15 June 2010;

4<sup>th</sup> Conference on Sustainable Energy & Environmental Protection (SEEP2010), Bari, Italy, June 29<sup>th</sup> – July 2<sup>nd</sup> 2010;

**Ulteriori informazioni****Principali pubblicazioni  
scientifiche****Riviste internazionali ISI-Scopus**

1. G. Rotella, A. Del Prete (2022) Development of customized physics-based predictive models for improved performance in turning of Ti6Al4V, Journal of Manufacturing Processes, 81, pp. 727-737.
2. R. Franchi, G. Rotella, A. Del Prete (2022) Tool wear characterization in turning of a nickel superalloy through customized pin-on-disk tests and Acoustic Emission signals analysis, Journal of Manufacturing Science and Engineering, in press.



3. G. Rotella, M.R. Saffioti, M. Sanguedolce, D. Umbrello (2022) Finite element modelling of combined turning/burnishing effects on surface integrity of Ti6Al4V alloy, *International Journal of Advanced Manufacturing Technology*, in press.
4. S. Rinaldi, G. Rotella, A. Del Prete (2021) A physically based constitutive model of microstructural evolution of Ti6Al4V hard machining under different lubri-cooling conditions, *International Journal of Advanced Manufacturing Technology*, 112(5-6), pp. 1641–1659.
5. G. Rotella, S. Caruso, A. Del Prete, L. Filice (2020) Prediction of surface integrity parameters in roller burnishing of Ti6Al4V, *Metals*, Vol. 10(12), 1671, pp.1-17.
6. G. Rotella, L. Filice, F. Micari (2020) Improving Surface Integrity of additively manufactured GP1 stainless steel by roller burnishing, *CIRP Annals - Manufacturing Technology*, Vol. 69/1, pp.513-516.
7. G. Rotella, S. Candamano (2020) Fabrication and Characterization of zeolite coatings on Aluminum and Magnesium alloys, *Engineering Science and Technology, an International Journal*, Vol. 23/5, pp.1273-1278.
8. G. Rotella, A. Del Prete, M. Muzzupappa, D. Umbrello (2020) Innovative manufacturing process of functionalized PA2200 for reduced adhesion properties, *Journal of Manufacturing and Materials Processing*, 4(2), jmpp4020036.
9. S. Imbrogno, G. Rotella, S. Rinaldi (2020) Surface and subsurface modifications of AA7075-T6 induced by dry and cryogenic high speed machining, *International Journal of Advanced Manufacturing Technology*, 107, pp. 905–918.
10. G. Rotella, S. Rinaldi, L. Filice (2020) Roller burnishing of Ti6Al4V under different cooling/lubrication conditions and tool design: effects on surface integrity, *International Journal of Advanced Manufacturing Technology*, 106, pp. 431–440.
11. S. Caruso, G. Rotella, A. Del Prete, D. Umbrello (2020) Finite element modeling of microstructural changes in hard machining of SAE 8620, *Applied Sciences*, 10(1), 121.
12. G. Rotella (2019) Effect of surface integrity induced by machining on high cycle fatigue life of 7075-T6 aluminum alloy, *Journal of Manufacturing Processes*, 41, pp. 83-91.
13. D. Umbrello, G. Rotella (2018) Fatigue life of machined Ti6Al4V alloy under different cooling conditions, *CIRP Annals - Manufacturing Technology*, Vol. 67/1, pp. 99-102.
14. G. Rotella, S. Imbrogno, S. Candamano, D. Umbrello (2018) Surface Integrity of machined additively manufactured Ti alloys, *Journal of Materials Processing Technology*, Vol. 259, pp. 180–185.
15. G. Rotella, L. Orazi, M. Alfano, S. Candamano, I. Gnilitzkyi (2017) Innovative high-speed femtosecond laser nano-patterning for improved adhesive bonding of Ti6Al4V titanium alloy, *CIRP Journal of Manufacturing Science and Technology*, 18, pp. 101-106.
16. G. Rotella, M. Alfano, T. Schiefer, I. Jansen (2016) Evaluation of mechanical and laser surface pre-treatments on the strength of adhesive bonded steel joints for the automotive industry, *Journal of Adhesion Science and Technology*, 30(7), pp. 747-758.
17. G. Rotella, M. Alfano, T. Schiefer, I. Jansen (2015) Enhancement of static strength and long term durability of steel/epoxy joints through a fiber laser surface pre-treatment, *International Journal of Adhesion and Adhesives*, 63, pp. 87-95.
18. G. Rotella, M. Alfano, S. Candamano (2015) Surface modification of Ti6Al4V alloy by pulsed Yb-laser irradiation for enhanced adhesive bonding, *CIRP Annals - Manufacturing Technology*, 64(1), pp. 527-530.
19. D. Umbrello, G. Rotella, T. Matsumura, Y. Musha (2015) Evaluation of microstructural changes by X-ray diffraction peak profile and focused ion beam/scanning ion microscope analysis, *International Journal of Advanced Manufacturing Technology*, 77(5-8), pp. 1465-1474.



20. G. Rotella, D. Umbrello (2014) Finite Element Modeling of Microstructural Changes in Dry and Cryogenic Cutting of Ti6Al4V Alloy, CIRP Annals - Manufacturing Technology, (63)1, pp. 69-72.
21. G. Rotella, O.W. Dillon Jr., D. Umbrello, L. Settineri, I. S. Jawahir (2014) The Effects of Cooling Conditions on Surface Integrity and Product Performance in Machining of Ti6Al4V Alloy, International Journal of Advanced Manufacturing Technology, 71(1-4), pp. 47-55.
22. G. Rotella, O.W. Dillon, D. Umbrello, L. Settineri, I.S. Jawahir (2013) Finite Element Modeling of Microstructural Changes in Turning of AA7075-T651 Alloy, Journal of Manufacturing Processes, 15(1), pp. 87-95.
23. G. Rotella, D. Umbrello, O.W. Dillon Jr., I.S. Jawahir (2012) Evaluation of Process Performance for Sustainable Hard Machining, Journal of Advanced Mechanical Design, Systems, and Manufacturing, 6(6), pp. 989-998.
24. D. Umbrello, G. Rotella (2012) Experimental Analysis of the Mechanisms related to White Layer Formation during Hard Turning of AISI 52100 Bearing Steel, Materials Science and Technology, (28)/2, pp. 205-212.
25. A. Attanasio, C. Cappellini, G. Rotella, D. Umbrello, R. M'Saoubi (2012) Tool wear influence on white and dark layer in hard steel turning, Wear, (286-287), pp. 98-107.
26. P.C. Priarone, S. Rizzuti, G. Rotella, L. Settineri (2012) Tool wear and surface quality in milling of a gamma-TiAl intermetallic, International Journal Advanced Manufacturing Technology, 61(1-4), pp. 25-33.
27. C. Cappellini, A. Attanasio, D. Umbrello, G. Rotella (2010) Formation of white and dark layers in hard cutting: influence of tool wear, International Journal of Material Forming, 3(1), pp. 455-458.
28. G.L. Manco, S. Caruso, G. Rotella (2010) FE Modeling of Microstructural Changes in Hard Turning of AISI 52100 Steel, International Journal of Material Forming, 3(1), pp. 447-450.

#### **Pubblicazioni su libri internazionali**

29. G. Rotella, L. Filice (2021) Surface Modifications Induced by Roller Burnishing of Ti6Al4V Under Different Cooling/Lubrication Conditions, Lecture Notes in Mechanical Engineering, pp. 141-151.
30. G. Rotella, T. Lu, L. Settineri, O.W. Dillon Jr, I. S. Jawahir (2011) Dry and Cryogenic Machining: Comparison from the Sustainability Perspective, Sustainable Manufacturing, pp. 95-100.
31. T. Lu, G. Rotella, S.C. Feng, F. Badurdeen, O. W. Dillon, Jr., K. Rouch, I. S. Jawahir (2011) Metrics-based Sustainability Assessment of a Drilling Process, Sustainable Manufacturing, pp. 59-64.

#### **Atti di conferenze internazionali**

32. G. Rotella, M.R. Saffioti, M. Sanguedolce, D. Umbrello, L. Filice (2022) Tribocorrosion Behavior of Ti6Al4V Machined and Burnished Components for Biomedical Application. Key Engineering Materials, vol. 926, Trans Tech Publications, Ltd., 22 July 2022, pp. 1629-1635.
33. M. Sanguedolce, G. Rotella, V. Siciliani, R. Pelaccia, L. Orazi, L. Filice, (2022) Surface Characterization Of Ultra-Short Laser Textured Titanium For Biomedical Application, Procedia CIRP, 110, pp. 128-132.
34. M. Sanguedolce, G. Rotella, L. Filice, F. Micari, Ti6Al4V Surface Modification Techniques to Modulate Bone Cell Response: A Review, Procedia CIRP, 110 pp. 41-46.
35. M.R. Saffioti, M. Sanguedolce, G. Rotella, L. Filice (2021) On the effects of burnishing process on tribological surface resistance of additively manufactured steel, ESAFORM 2021 - 24th International Conference on Material Forming, paper n. 1903.
36. M.R. Saffioti, M. Sanguedolce, G. Rotella, D. Umbrello (2021) Experimental analysis on machining parameters and cooling conditions affecting surface integrity of Ti6Al4V, ESAFORM 2021 - 24th International Conference on Material Forming, paper n. 2459.



37. M. Sanguedolce, M.R. Saffioti, G. Rotella, D. Umbrello, L. Filice (2021) Numerical Simulation of Nanoindentation Process on Pre-stressed Ti6Al4V Alloy for Residual Stresses Evaluation, *Procedia CIRP*, 102, pp. 121-125 (18th CIRP Conference on Modeling of Machining Operations, 15 - 17 June 2021).
38. M. Sanguedolce, G. Rotella, M.R. Saffioti, L. Filice (2021) Functionalized additively manufactured parts for the manufacturing of the future, *Procedia Computer Science*, 180, pp. 358-365 (2nd International Conference on Industry 4.0 and Smart Manufacturing, ISM 2020).
39. G. Rotella, M.R. Saffioti, M. Sanguedolce, L. Filice (2021) Influence of roughness and curing temperature on the strength of aluminum adhesively bonded joints, *Key Engineering Materials*, 883, pp. 227-233 (19th International Conference on Sheet Metal, SheMet 2021, 29 - 31 March 2021).
40. S. Rinaldi, G. Rotella, D. Umbrello, L. Filice (2020) A physically based model of Ti6Al4V turning process to predict surface integrity improvements, *Procedia CIRP*, 87, pp. 497-502 (5th CIRP Conference on Surface Integrity, 1-5 June 2020).
41. G. Rotella, M. Sanguedolce, M.R. Saffioti, L. Filice, F. Testa (2020) Strategies for shaping of different ceramic foams, *Procedia Manufacturing*, 47, pp. 493 - 497 (23rd International Conference on Material Forming, 4-8 May 2020).
42. S. Rinaldi, D. Umbrello, G. Rotella, A. Del Prete (2020) A physically based model to predict microstructural modifications in Inconel 718 high speed machining, *Procedia Manufacturing*, 47, pp. 487 - 492 (23rd International Conference on Material Forming, 4-8 May 2020).
43. S. Rinaldi, S. Imbrogno, G. Rotella, D. Umbrello, L. Filice (2019) Physics based modeling of machining Inconel 718 to predict surface integrity modification, *Procedia CIRP*, 82, pp. 350-355 (Proceedings of 17th CIRP Conference on Modeling of Machining Operations, 13-14 June 2019).
44. S. Rinaldi, G. Rotella, D. Umbrello (2019) Experimental and numerical analysis of roller burnishing of Waspaloy, 47th SME North American Manufacturing Research Conference, 34, pp. 65-72.
45. G. Rotella, F. Crea, M. Muzzupappa, Functionalization of PA 2200 by surface modification for biomedical applications, 7th Advanced Functional Materials and Devices (AFMD), Havana, Cuba during December 18-23, 2017
46. S. Imbrogno, S. Rinaldi, B. Seara, P.J. Arrazola, G. Rotella, D. Umbrello (2016) 2D Finite Element Model and Microstructural Changes During Cutting of Ti6Al4V in Dry Condition, AIP Conference Proceedings, 1769, 080010 (19th ESAFORM Conference, Nantes, (France), 26-28 April 2016).
47. K. Rana, S. Rinaldi, S. Imbrogno, G. Rotella, D. Umbrello, R. M' Saoubi, S. Ayvar-Soberanis (2016), 2D FE prediction of surface alteration of Inconel 718 under machining condition, *Procedia CIRP*, 45, pp. 227-230 (3rd CIRP Conference on Surface Integrity, 8 - 10 June 2016 - Charlotte, NC, USA).
48. G. Rotella, S. Candamano, F. Crea, D. Umbrello, (2015), On the influence of cooling techniques on the final performance of machined component: A process - Product perspective, Proceedings of the 8th International Conference on Leading Edge Manufacturing in 21st Century, LEM 2015 Kyoto, Japan, 18-22 October 2015, Proceedings on CD. Code 121427.
49. S. Caruso, S. Imbrogno, G. Rotella, M. Imaz Ciaran, P.J. Arrazola, L. Filice, D. Umbrello (2015) Numerical simulation of surface modification during machining of nickel-based superalloy, *Procedia CIRP*, 31, pp. 130-135 (15th CIRP Conference on Modelling of Machining Operations, CMMO 2015; Karlsruhe; Germany; 11-12 June 2015).
50. A. Bordin, S. Imbrogno, G. Rotella, S. Bruschi, A. Ghiotti, D. Umbrello (2015) Finite Element Simulation of Semi-finishing Turning of Electron Beam Melted Ti6Al4V Under Dry and Cryogenic Cooling, *Procedia CIRP*, 31, pp. 551-556 (15th CIRP Conference on Modelling of Machining Operations, CMMO 2015, Karlsruhe, Germany; 11-12 June 2015).
51. G. Rotella, D. Umbrello (2014), Numerical Simulation of Surface Modification in Dry and Cryogenic Machining of AA7075 Alloy, *Procedia CIRP*, 13, pp. 327-332 (2nd CIRP Conference on Surface Integrity (CSI), Nottingham, UK, 28th - 30th May, 2014).
52. S. Imbrogno, G. Rotella, D. Umbrello (2014) On the Flow Stress Model selection for Finite Element Simulations of Machining of Ti6Al4V, *Key Engineering Materials*, 611-612, pp. 1274-1281 (17th Esaform Conference, Espoo (Finland) May 7th -9th, 2014).



53. G. Rotella, S. Rizzuti, D. Umbrello (2013) Enhancing product performance in machining processes: Statistical analysis and development of predictive models, *Simulation Series* 45(11), pp. 304-311 (Summer Computer Simulation Conference, SCSC 2013 and Work in Progress, WIP 2013, Toronto, ON; Canada; 7-10 July 2013)
54. G. Rotella, O.W. Dillon, D. Umbrello, L. Settineri, I.S. Jawahir (2012) Finite element modeling of microstructural changes in turning of AA7075-T651 alloy and validation, *Transactions of the North American Manufacturing Research Institution of SME*, 40, pp. 481-490 (NAMRC40; Notre Dame, IN; United States; 4-8 June 2012).
55. D. Umbrello, S. Caruso, G. Rotella (2012) Hardness-based flow stress for numerical simulation of machining Inconel 718 alloy, *Key Engineering Materials*, 504-506, pp. 1287-1292 (15th Conference of the European Scientific Association on Material Forming, March 14-16, Erlangen, Germany).
56. X. Zhang, T. Lu, M. Shuaib, G. Rotella, A. Huang, S.C. Feng, K. Rouch, F. Badurdeen, I.S. Jawahir (2012) A Metrics-Based Methodology for Establishing Product Sustainability Index (ProdSI) for Manufactured Products, *Leveraging Technology for a Sustainable World Proceedings of the 19th CIRP Conference on Life Cycle Engineering*, pp 435-441 (LCE, University of California at Berkeley, Berkeley, USA, May 23 - 25, 2012).
57. G. Rotella, T. Lu, L. Settineri, I.S. Jawahir (2012) Machining of AA 7075 Aluminum Alloy: A Process Optimization for Sustainability, *Proceedings of 10th Global Conference on Sustainable Manufacturing Towards Implementing Sustainable Manufacturing Istanbul*, Turkey 31st October – 02nd November, pp. 501-505.
58. T. Lu, G. Rotella, F. Badurdeen, O. Dillon Jr., K. Rouch, I.S. Jawahir (2012) A Metrics-based Sustainability Assessment for Different Coolant Applications in a Turning Process, *Proceedings of 10th Global Conference on Sustainable Manufacturing (GCSM) Towards Implementing Sustainable Manufacturing Istanbul*, Turkey 31st October – 02nd November 2012 GCSM, pp. 570-575.
59. I.S. Jawahir, Z. Pu, S. Yang, G. Rotella, Y. Kaynak, T. Lu, A. Deshpande, D. Umbrello, O.W. Dillon Jr. (2012) Cryogenic Processing of Materials for Enhanced Product life, Performance and Sustainability, *Keynote paper for 15th International Conference on Advances in Materials & Processing Technologies* 23-26 September 2012, Wollongong, Australia.
60. G. Rotella, P.C. Priarone, S. Rizzuti, L. Settineri (2011) Evaluation of the environmental impact of different lubrication conditions in milling of  $\gamma$ -TiAl alloy, *Globalized Solutions for Sustainability in Manufacturing - Proceedings of the 18th CIRP International Conference on Life Cycle Engineering*, pp 365-370 (LCE, Braunschweig; Germany, 2 – 4 May 2011, Braunschweig (Germany)).
61. D. Umbrello, G. Rotella, F. Crea (2011) Experimental Investigation of White Layer formation in Hard Turning, *AIP Conference Proceedings*, 1353, pp. 621-626 (14th ESAFORM Conference, Belfast, (United Kingdom), 27–29 April 2011).
62. G. Rotella, D. Umbrello, O.W. Dillon Jr., I.S. Jawahir (2011) Evaluation of Process Performance for Sustainable Hard Machining, *Proceedings of the 6th International Conference on Leading Edge Manufacturing in 21st Century, LEM 2011*, 6p (LEM 2011; Omiya Sonic City, Saitama; Japan; 8-10 November 2011).
63. P.C. Priarone, S. Rizzuti, G. Rotella, L. Settineri (2011) Technological and environmental aspects in milling of  $\gamma$ -TiAl, *Advanced Materials Research*, 223, pp. 340-349 (13th CIRP International Workshop on Modeling of Machining Operations, 12-13 May 2011, Sintra, Portugal).
64. A. Attanasio, C. Cappellini, S. Caruso, G. Rotella, D. Umbrello R. M'Saoubi (2010) Tool wear influence on white and dark layer in hard steel turning, *Proceedings of the 4th International Conference on Tribology in Manufacturing Processes (ICTMP 2010)*, 13-15 June 2010, Nice (France), Vol. 1 pp. 171-180.
65. G. Rotella, P. C. Priarone, L. Settineri (2010) An environmental characterization of the milling process", *Proceedings of 4th Conference on Sustainable Energy & Environmental Protection (SEEP2010)*, June 29th – July 2nd 2010, Bari, Italy.

**Atti di conferenze nazionali**

66. M. Sanguedolce, G. Rotella, L. Filice (2022) Surface functionalization of substrates for biomedical applications, Atti del XV Convegno AITeM, 17-19 gennaio 2022, Milano.
67. R. Franchi, G. Rotella, A. Begher, A. Del Prete (2022) Analysis of tool wear evolution and component surface changes during turning by condition monitoring systems, Atti del XV Convegno AITeM, 17-19 gennaio 2022, Milano.
68. G. Rotella, S. Candamano, M. Alfano, F. Crea (2017) Chemical treatment for improved adhesion of magnesium alloy, XIV Convegno Nazionale AIMAT 2017, Ischia Porto, 12-15 Luglio 2017.
69. G. Rotella, S. Candamano, M. Alfano, F. Crea F. (2016) Surface modification of Ti6Al4V substrates by Yb fiber laser for structural adhesive bonding, XIII Convegno Nazionale AIMAT Ischia Porto 13-15 Luglio 2016.
70. P.C. Priarone, S. Rizzuti, G. Rotella, L. Settineri (2011) Milling experiments on  $\gamma$ -TiAl, Atti del X Convegno AITeM, 12-14 settembre 2011, Napoli, pp. 78-88.
71. A. Aloise, G. Rotella, F. Ciuchi, F. Crea, D. Umbrello (2010) Impiego di Tecniche Sperimentali per l'Analisi della Formazione di White Layer in seguito al Processo per Asportazione di Truciolo su acciai Induriti, Atti del 10° Convegno Nazionale AIMAT, 5 – 8 settembre 2010, Capo Vaticano (VV), pp. 13-16.

**Poster in conferenze internazionali**

72. G. Rotella, T. Lu (2011) Cryogenic Machining of AA7075-T651 for Improved Sustainability 2nd Annual Research Showcase & the UK Environmental Seminar Series, Lexington KY, November 3<sup>rd</sup> 2011.