Curriculum

Nome Name:	Giovanni
Cognome Surname:	BOLELLI

ORCID:	0000-0001-7894-9476
Scopus Author ID:	11638871400
WOS Author ID:	ENA-4540-2022
Sito WEB WEB site:	https://personale.unimore.it/rubrica/dettaglio/gbolelli

POSIZIONE PROFESSIONALE ATTUALE / CURRENT PROFESSIONAL POSITION:

Posizione attuale Current position:	In servizio
Qualifica Qualification:	Professore Associato (L. 240/10)
Ateneo/Ente/Azienda University/Institution/Company:	Università degli Studi di MODENA e REGGIO EMILIA
Nazione Ateneo/Ente/Azienda University/Institution/Company Country:	ITA
Anno inizio Start Year:	2022
Anno fine End Year:	n.d.

PRECEDENTI ESPERIENZE LAVORATIVE (ULTIMI 10 ANNI) / PREVIOUS WORK EXPERIENCE (LAST 10 YEARS):

Qualifica Qualification:	Ricercatore a t.d. - t.pieno (art. 24 c.3-b L. 240/10)

Ateneo/Ente/Azienda University/Institution/Company	Università degli Studi di MODENA e REGGIO EMILIA
Posizione Sede Lavorativi (indicare Nazione e Città) Workplace Location (specify Country and City):	Modena, MO, Italia
Anno inizio Start Year:	2019
Anno fine End Year:	2022
Descrizione Description:	

LINGUE / LANGUAGES:

Lingua Language:	Italiano
Scrittura Writing:	madrelingua
Comunicazione Comunication:	madrelingua

Lingua Language:	Inglese
Scrittura Writing:	C1
Comunicazione Comunication:	B2

Lingua Language:	Tedesco
Scrittura Writing:	B1
Comunicazione Comunication:	B1

AREA/SETTORE SCIENTIFICO-DISCIPLINARE / AREA/SECTOR SCIENTIFIC-DISCIPLINARY

Area scientifico-disciplinare Area scientific-disciplinary:	Ingegneria industriale e dell'informazione
Area scientifico-disciplinare codice Area scientific-disciplinary code:	09
Settore scientifico-disciplinare codice Sector scientific-disciplinary code:	-Scienza e tecnologia dei materiali
Settore scientifico-disciplinare codice Sector scientific-disciplinary code:	-IMAT-01/A

DESCRIZIONE DEI PRINCIPALI RISULTATI SCIENTIFICI CONSEGUITI NEGLI ULTIMI 10 ANNI (CON ANNESSO ELENCO DI MASSIMO 10 PUBBLICAZIONI) / DESCRIPTION OF THE MAIN SCIENTIFIC RESULTS ACHIEVED IN THE LAST 10 YEARS (WITH ATTACHED LIST OF MAXIMUM 10 PUBLICATIONS):

Descrizione Description:	*During the last 10 years, the main research activities and results have been as follows: - Development of thermally-sprayed hardmetal coatings free of critical and/or hazardous materials (e.g., Co and W), focusing on TiC- or NbC-based hardmetals in NiCr- and FeCr-based matrices and, more recently, high-entropy alloy matrices. - Optimization of the surface pre-treatment of additive manufactured (AM) parts for the deposition of both thick thermally-sprayed coatings and thin films (e.g., diamond-like carbon films) to maximize adhesion and minimize materials loss, preserving the near-net-shape nature of AM. - Enhancing the resistance of plasma-sprayed thermal barrier coatings against corrosion by molten silicates by studying the effect of the manufacturing route of the feedstock powder, the architecture of the coating, and the performance of novel rare-earth zirconate materials. - Optimization of the tribological performance of PTFE-based composites by identifying the interplay between the reinforcement type, the counterface, and the operating conditions. - Comparative assessment of the performance of superelastic NiTi endodontic files, in collaboration with endodontics specialists. - Metallurgical assessment of the effect of heat treatments on the microstructure and properties of additively manufactured Al- and Ti-alloys.*

PUBBLICAZIONI / PUBLICATIONS:

Anno della pubblicazione Year of publication:	2025
Citazione Citation:	Bortolotti, L., Ruggiero, G., Bolelli, G., Lusvarghi, L., Morelli, S., Björklund, S., Lanz, O., Joshi, S. (2025). Effect of powder morphology on tribological performance of HVAF-sprayed WC-CoCr coatings. SURFACE & COATINGS TECHNOLOGY, vol. 505, p. 1-26, ISSN: 0257-8972, doi: 10.1016/j.surfcoat.2025.132090

Anno della pubblicazione Year of publication:	2025
Citazione Citation:	Togni, Alessandro, Montagner, Francesco, Miorin, Enrico, Mortalò, Cecilia, Zin, Valentina, Bolelli, Giovanni, Lusvarghi, Luca, Frabboni, Stefano, Gazzadi, Gian Carlo, Armelao, Lidia, Deambrosis, Silvia Maria (2025). Synthesis of AlxCoCrFeNi HEA thin films by high power impulse magnetron sputtering: Effect of substrate bias voltage. SURFACE & COATINGS TECHNOLOGY, vol. 496, p. 1-14, ISSN: 0257-8972, doi:

	10.1016/j.surfcoat.2024.131644

Anno della pubblicazione Year of publication:	2024
Citazione Citation:	Bruera, Alessia, Elsenberg, Andreas, Borghi, Mauro, Dolcetti, Giulia, Bolelli, Giovanni, Gärtner, Frank, Schieda, Mauricio, Klassen, Thomas, Lusvarghi, Luca (2024). Aerosol Deposition of CuFeO2 Photocathode Coatings for Hydrogen Production. JOURNAL OF THERMAL SPRAY TECHNOLOGY, vol. 33, p. 1746-1770, ISSN: 1059-9630, doi: 10.1007/s11666-024-01798-0

Anno della pubblicazione Year of publication:	2024
Citazione Citation:	Bursich S., Morelli S., Bolelli G., Cavazzini G., Rossi E., Mecca F. G., Petruzzi S., Bemporad E., Lusvarghi L. (2024). The effect of ceramic YSZ powder morphology on coating performance for industrial TBCs. SURFACE & COATINGS TECHNOLOGY, vol. 476, p. 1-26, ISSN: 0257-8972, doi: 10.1016/j.surfcoat.2023.130270

Anno della pubblicazione Year of publication:	2023
Citazione Citation:	Ghio E., Bolelli G., Berte A., Cerri E. (2023). Diamond-Like Carbon (DLC) and AlCrN films onto Ti-6Al-4V substrates by Laser-Powder Bed Fusion (L-PBF): Effect of substrate heat treatment and surface finish. SURFACE & COATINGS TECHNOLOGY, vol. 475, p. 1-23, ISSN: 0257-8972, doi: 10.1016/j.surfcoat.2023.130128

Anno della pubblicazione Year of publication:	2022
Citazione Citation:	Morelli S., Rombola G., Bolelli G., Lopresti M., Puddu P., Boccaleri E., Seralessandri L., Palin L., Testa V., Milanesio M., Lusvarghi L. (2022). Hard ultralight systems by thermal spray deposition of WC-CoCr onto AZ31 magnesium alloy. SURFACE & COATINGS TECHNOLOGY, vol. 451, p. 1-26, ISSN: 0257-8972, doi: 10.1016/j.surfcoat.2022.129056

Anno della pubblicazione Year of publication:	2022
Citazione Citation:	Amenta F., Bolelli G., D'Errico F., Ottani F., Pedrazzi S., Allesina G., Bertarini A., Puddu P., Lusvarghi L. (2022). Tribological behaviour of PTFE composites: Interplay between reinforcement type and counterface material. WEAR, vol. 510-511, p. 1-23, ISSN: 0043-1648, doi: 10.1016/j.wear.2022.204498

Anno della pubblicazione Year of publication:	2022
Citazione Citation:	Bolelli G., Bonilauri M. F., Sassatelli P., Bruno F., Franci R., Pulci G., Marra F., Paglia L., Gazzadi G. C., Frabboni S., Lusvarghi L. (2022). Pre-

	treatment of Selective Laser Melting (SLM) surfaces for thermal spray coating. SURFACE & COATINGS TECHNOLOGY, vol. 441, p. 1-22, ISSN: 0257-8972, doi: 10.1016/j.surfcoat.2022.128533

Anno della pubblicazione Year of publication:	2022
Citazione Citation:	Morelli, Stefania, Bursich, Simone, Testa, Veronica, Bolelli, Giovanni, Miccichè, Alessandro, Lusvarghi, Luca (2022). CMAS corrosion and thermal cycling fatigue resistance of alternative thermal barrier coating materials and architectures: A comparative evaluation. SURFACE & COATINGS TECHNOLOGY, vol. 439, p. 1-20, ISSN: 0257-8972, doi: 10.1016/j.surfcoat.2022.128433

Anno della pubblicazione Year of publication:	2022
Citazione Citation:	Testa V., Morelli S., Bolelli G., Bosi F., Puddu P., Colella A., Manfredini T., Lusvarghi L. (2022). Corrosion and wear performances of alternative TiC-based thermal spray coatings. SURFACE & COATINGS TECHNOLOGY, vol. 438, p. 128400, ISSN: 0257-8972, doi: 10.1016/j.surfcoat.2022.128400

DESCRIZIONE DEI PRINCIPALI PROGETTI DI RICERCA E PREMI CONSEGUITI NEGLI ULTIMI 10 ANNI (CON ANNESSO ELENCO DI MASSIMO 10 RISULTATI, INCLUDENDO, A TITOLO DI ESEMPIO, PRINCIPAL INVESTIGATOR O COORDINATORE LOCALE DI PROGETTI DI RICERCA COMPETITIVI NAZIONALI O INTERNAZIONALI, SIGNIFICATIVI PREMI CONSEGUITI PER LA PROPRIA ATTIVITÀ DI RICERCA)/ DESCRIPTION OF THE MAIN RESEARCH PROJECTS AND AWARDS AWARDED IN THE LAST 10 YEARS (WITH ATTACHED LIST OF MAXIMUM 10 ACHIEVEMENTS, INCLUDING, FOR EXAMPLE, PRINCIPAL INVESTIGATOR OR LOCAL COORDINATOR OF NATIONAL OR INTERNATIONAL COMPETITIVE RESEARCH PROJECTS, SIGNIFICANT AWARDS AWARDED FOR YOUR RESEARCH ACTIVITY):

Descrizione Description:	*During the last 10 years, I have been the overall coordinator or the local unit coordinator of three nationally or internationally funded research projects: - The "CoBRAIN" project, a Research and Innovation Action (RIA) funded in the Horizon Europe framework programme, which aims to develop novel metal alloy and hardmetal coating formulations for wear- and corrosion-resistant thermal spray coatings to replace more toxic or hazardous materials and technologies like electrolytic chromium plating and thermal-spray deposition of WC-Co hardmetals and Co-based alloys. The project, currently underway, is*

	creating an extensive database of physical modelling and experimental characterization results on which artificial intelligence (AI) models are being trained and validated. The AI models, coupled with a Life Cycle Performance Analysis (LCPA), will underpin a Sustainable Decision Support System (SDSS) that will be employed by industrial users to identify the best material/technology combination starting from the input requirements for each application. - The "GENESIS" project, a PRIN2022 project that is currently developing novel architectures for Environmental Barrier Coatings (EBCs) that are meant to protect SiC-based composites in the next generation of gas turbines for aeronautical propulsion and energy production. SiC-based composites, with their superior high-temperature strength and strength/density ratio, allow a substantial improvement in the thermodynamic efficiency and thrust-to-weight ratio of turbines, with substantial energy and CO2 emissions savings, but need protection against corrosive attack by water vapor and molten silicates. Compared to the state-of-the-art, these protective EBCs need substantial improvements to their environmental and thermal cycling resistance, which can be achieved through optimal coating designs based on finite-element models and experimental validation. - The "CONCERTO" project, a recently concluded PRIN2020 project that developed novel ZrO2-based materials for applications in dental restoration and as thermal barrier coatings (TBCs) for gas turbines. The project demonstrated the possibility to obtain ZrO2-based bulk composites with substantially better toughness than extant materials and, in the part in which I was involved as local unit coordinator, developed a novel suspension/solution precursor plasma spraying process to obtain rare earth-doped ZrO2 materials whose composition and, consequently, performance under thermal cycling and molten silicate corrosion conditions can be flexibly adjusted.

Descrizione Description:	Coordinator: Project number: 101092211 Project name: Integrated Computational-Experimental material Engineering of Thermal Spray coatings Project acronym: CoBRAIN Call: HORIZON-CL4-2022-RESILIENCE-01 Topic: HORIZON-CL4-2022-RESILIENCE-01-19 Type of action: HORIZON Research and Innovation Actions Granting authority: European Health and Digital Executive Agency Project starting date: 1 January 2023 Project end date: 31 December 2026 Project duration: 48 months

Descrizione Description:	Coordinator: PRIN2022 project "Graded Ebcs for Next gEneration gaS turbIne engineS (GENESIS)" - Prot. 2022Y7K7FS - Duration: 28/09/2023 - 28/02/2026.

Descrizione	Local Unit Coordinator: PRIN2020 project "Multiscale modelling/characterisation and

Description:	fabrication of nanocomposite ceramics with improved toughness (CONCERTO)" - Prot. 2020BN5ZW9 - Duration: 25/04/2022 - 25/04/2025

Descrizione Description:	Journal of Thermal Spray Technology Volume 33 Best Paper Award conferred to: “Aerosol Deposition of CuFeO2 Photocathode Coatings for Hydrogen Production” - authors: Alessia Bruera, Andreas Elsenberg, Mauro Borghi, Giulia Dolcetti, Giovanni Bolelli, Frank Gärtner, Mauricio Schieda, Thomas Klassen, Luca Lusvarghi.

DESCRIZIONE DEI PRINCIPALI RISULTATI CONSEGUITI NEGLI ULTIMI 10 ANNI IN TERMINI DI SVILUPPO DI RETI E RELAZIONI SCIENTIFICHE NAZIONALI E INTERNAZIONALI (CON ANNESSO ELENCO DI MASSIMO 5 RISULTATI, INCLUDENDO, A TITOLO DI ESEMPIO, PARTECIPAZIONE O ORGANIZZAZIONE DI CONVEGNI NAZIONALI E INTERNAZIONALI; CONTRIBUTI A CONSORZI DI RICERCA) / DESCRIPTION OF THE MAIN RESULTS ACHIEVED IN THE LAST 10 YEARS IN TERMS OF DEVELOPMENT OF NATIONAL AND INTERNATIONAL SCIENTIFIC NETWORKS AND RELATIONS (WITH ATTACHED LIST OF MAXIMUM 5 RESULTS, INCLUDING, FOR EXAMPLE, PARTICIPATION OR ORGANIZATION OF NATIONAL AND INTERNATIONAL CONFERENCES; CONTRIBUTIONS TO RESEARCH CONSORTIA):

Descrizione Description:	*As the president of the Technical Committee "Coatings and Tribology" (Centro di Studio "Rivestimenti e Tribologia") of the Italian Association of Metallurgy (Associazione Italiana di Metallurgia - AIM), I have been involved in the organization of multiple events promoted by the Association, including multi-day courses and one-day workshops on topics related to the scope of the Committee, primarily aimed to technical personnel in the industry and young academic researchers, with a view to raising the awareness of surface engineering topics and promote industry-academia cooperation and synergies. I have also been involved in the scientific committees of international conferences like the RIPT (Rencontres Internationales de la Projection Thermique) biannual conferences gathering European and international researchers in the field of thermal spraying.*

Descrizione Description:	Coordinatore della Giornata di Studio "Tribocorrosione" organizzata dal Centro di Studio "Rivestimenti e Tribologia" dell'Associazione Italiana di Metallurgia - Modena, 4/02/2025: https://www.aimnet.it/manifestazione.php?id=877&idc=1

Descrizione Description:	Coordinatore del "Corso Rivestimenti - II MODULO - Rivestimenti spessi: placcatura e termospruzzatura" organizzato dal Centro di Studio "Rivestimenti e Tribologia" dell'Associazione Italiana di Metallurgia - Milano, 19-20/06/2024: https://aimnet.it/manifestazione.php?id=833&idc=2

Descrizione Description:	Coordinatore del "Corso Modulare Rivestimenti - Modulo Rivestimenti Sottili: PVD, CVD, ALD" organizzato dal Centro di Studio "Rivestimenti e Tribologia" dell'Associazione Italiana di Metallurgia - Rivoli (TO), 8-9/06/2023: https://www.aimnet.it/manifestazione.php?id=769&idc=2

Descrizione Description:	Coordinatore del "Corso Modulare: Tribologia Industriale" organizzato dal Centro di Studio "Rivestimenti e Tribologia" dell'Associazione Italiana di Metallurgia - webinar, 22-23/06/2022; Modena, 29-30/06/2022: https://www.aimnet.it/manifestazione.php?id=721&idc=2

Descrizione Description:	Coordinatore della giornata di studio "Green Economy e aspetti ambientali per l'industria dei rivestimenti" organizzata dal Centro di Studio "Rivestimenti e Tribologia" dell'Associazione Italiana di Metallurgia - webinar, 17-18/11/2021: https://www.aimnet.it/manifestazione.php?id=691&idc=8

DESCRIZIONE DEI PRINCIPALI RISULTATI CONSEGUITI NEGLI ULTIMI 10 ANNI IN TERMINI DI SUPPORTO ALLA COMUNITÀ SCIENTIFICA (CON ANNESSO ELENCO DI MASSIMO 5 RISULTATI, INCLUDENDO, A TITOLO DI ESEMPIO, RESPONSABILITÀ DI DIREZIONE DI COMITATI EDITORIALI; INCARICHI DI VALUTAZIONE DELLA RICERCA PRESSO ISTITUZIONI NAZIONALI O INTERNAZIONALI; RESPONSABILITÀ ISTITUZIONALI ALL'INTERNO DELL'ISTITUZIONE DI APPARTENENZA O DI ALTRE ISTITUZIONI) / DESCRIPTION OF THE MAIN RESULTS ACHIEVED IN THE LAST 10 YEARS IN TERMS OF SUPPORT TO THE SCIENTIFIC COMMUNITY (WITH ATTACHED LIST OF MAXIMUM 5 RESULTS, INCLUDING, FOR EXAMPLE, MANAGEMENT RESPONSIBILITIES OF EDITORIAL COMMITTEES; RESEARCH EVALUATION ROLES AT NATIONAL OR INTERNATIONAL INSTITUTIONS; INSTITUTIONAL RESPONSIBILITIES WITHIN THE INSTITUTION OF AFFILIATION OR OTHER INSTITUTIONS):

Descrizione Description:	*As the Lead Editor of the Journal of Thermal Spray Technology, my role is to contribute, together with the Editor-in-Chief and the Editorial*

	Committee, to the implementation of the journal's strategy and vision, ensuring the utmost quality of its publications and its growth, and more specifically, I am in charge of managing the editorial workflow of all special issues of the journal: identifying the topic, selecting the guest editors, ensuring an efficient and rigorous editorial workflow, and making the final decision on each submission based on reviewers' and guest editors' input.

Descrizione Description:	Since 1/01/2023: Lead Editor of the Journal of Thermal Spray Technology (Springer Nature, ISSN 1059-9630).

DESCRIZIONE DEI PRINCIPALI RISULTATI CONSEGUITI NEGLI ULTIMI 10 ANNI IN TERMINI VALORIZZAZIONE DELLE CONOSCENZE (CON ANNESSO ELENCO DI MASSIMO 3 RISULTATI, RELATIVI ALLA PARTECIPAZIONE DEL CANDIDATO ALLE ATTIVITÀ DI VALORIZZAZIONE DELLE CONOSCENZE) / DESCRIPTION OF THE MAIN RESULTS ACHIEVED IN THE LAST 10 YEARS IN TERMS OF KNOWLEDGE VALORIZATION (WITH ATTACHED LIST OF MAXIMUM 3 RESULTS, RELATING TO THE CANDIDATE'S PARTICIPATION IN KNOWLEDGE VALORIZATION ACTIVITIES):

Descrizione Description:	

Descrizione Description:	Brevetto: Marco Barbieri, Giovanni Bolelli, Luigi Generali, Luca Lusvarghi, Pietro Puddu, “Metodo e dispositivo per la prova di file endodontici”, brevetto italiano n° 102020000008560 (domanda presentata il 22/04/2020, data di concessione del brevetto 23/05/2022) - titolare del brevetto: Università degli Studi di Modena e Reggio Emilia.

Informazioni aggiornate alla data di candidatura 04-05-2025

Giovanni BOLELLI

Il presente curriculum costituisce allegato e parte integrante dell'incarico sottoscritto