First periodic report on dissemination and communication activities

Deliverable 8.4

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1. Introduction

The RollOilFree II Consortium is keen to communicate and disseminate project results across the European steel sector and beyond as a way to maximize the impact of the project by raising the interest of the European steel industry.

This deliverable is the first of a set of 4 deliverables that will be provided at M12, M24, M36 and M42, respectively. Each of these 4 deliverables will describe the dissemination and communication activities implemented by the RollOilFree II Consortium during a period of 12 months, apart from the last one which will also provide a final overview. All these 4 deliverables will also assess the status of achievement of the different dissemination and communication targets established in the Communication and Dissemination Plan (Deliverable D8.1) and will identify possible revisions of the identified Dissemination and Communication strategy, wherever applicable.

The present document summarizes the dissemination and communication activities carried out by the partners of RollOilFree II in the first year of the project. It includes the activities carried out in its social media channels (such as LinkedIn or Twitter) as well as the events targeted by the consortium for dissemination purposes.

Being the project in its first year of activity, most outcomes were not mature enough for dissemination. Nonetheless, the Consortium was active in raising awareness, curiosity, and interest towards the project in the European steel sector by means of the social network and the project website.

The developed activities followed the Communication and Dissemination Plan (Deliverable D8.1), which proved to be well aligned with the aims and scope of the project. The overall strategy established in that document proved to be effective and presently does not need any revision.

1.1 Contents of the document

The remaining part of this document is divided into 6 main sections:

- Section 2 focuses on the activities that were carried out to raise awareness and interest toward the project in the European steel sector and to disseminate some preliminary outcomes.
- Section 3 describes the developed communication activities.
- Section 4 overviews the future events that are targeted by the Consortium to disseminate and communicate the project outcomes.
- Section 5 provides some concluding remarks and considerations for a fine tuning of the established Dissemination and Communication strategy to amplify the project impact and meet the ambitious targets that were identified at the beginning of the project in the Communication and Dissemination Plan (Deliverable D8.1).

2. Dissemination activities

Dissemination is focused on the **public disclosure of the project results to specific target groups,** and has the following main Dissemination Objectives (DOs):

DO1. to raise awareness and interest of potential users on the project results;

DO2. to foster interaction with stakeholders and potential users (the ecosystem) to obtain key feedback and enhance exploitation opportunities.

DO3. to transfer knowledge of the developed solutions to the scientific community and exchange experiences which can support improvements and refining of the research activities;

DO4. to foster the acceptance of the solution offered by RollOilFree II in the EU steel industry;

DO5. to ensure a broad applicability of the project results also beyond the scope considered in the project, possibly even outside the steel sector (e.g. Aluminium sector).

During the first year of the project only a few preliminary results were available for dissemination, but the Consortium showed a positive attitude toward dissemination and tried to exploit the most suitable chance to promote the project within the scientific, technical, and industrial stakeholders. In particular, Leon Jacobs, MSc. from Tata Steel provided a presentation at the *10th International Conference on Tribology in Manufacturing Processes & Advanced Surface Engineering (ICTMP 2024).*

The paper was very appreciated during the Conference and was awarded with the 2nd place in the Best Paper Award of the Conference (see **Figure 1**). Moreover, after the conference conclusion the Authors were invited to submit an extended version of the paper for possible publication within the Special Issue entitled "*Recent Advances in Surface Engineering and Coating Technologies in Manufacturing Processes*" of the International Journal Processes, which is indexed on ISI and SCOPUS database (it received and Impact Factor equal to 2.8 in 2023). The project Consortium accepted the invitation and is committed to submit an extended version of the paper in the second year of the project.

The abstract of the presentation is reported in Subsection 2.1, while the D&C report related to the Conference ICTMP 2024, prepared according to the template available in the Dissemination and Communication Plan, is contained in Appendix I.

Moreover, in August 2024 Quaker Houghton submitted an abstract entitled "*Oil-free lubricants for the steel cold rolling process*" and focused on part of the work developed within RollOilFree II for possible presentation at the AISTech 2025 Conference, which will be held in the USA on May 5-8, 2025. The evaluation process is still ongoing, thus, at the date of delivery of the present document there is no information on the acceptance of the abstract. If the abstract is accepted for presentation, Tata Steel will contribute to the preparation of the associated paper and presentation by providing some information on the results of the first round of pilot trials held in September 2024.

Figure 1. Award received by Leon Jacobs, MSc. at the 10th International Conference on Tribology in Manufacturing Processes & Advanced Surface Engineering (ICTMP 2024)

2.1 Development of Oil Free Lubricants for Cold Rolling of Low-Carbon Steel

Authors

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Keywords: Cold Rolling; Steel; Oil Free Lubricants

Generally, oil-in-water emulsions are used to lubricate the cold rolling process of low-Carbon steel. Besides the obvious advantages of efficient lubrication and cooling of the process, there are also some disadvantages mainly related to emulsion bath maintenance, subsequent production steps and waste

disposal. In some application areas, Oil Free Lubricants (OFL) have shown to be at least equally effective in decreasing friction and wear as conventional lubricants, while resulting in benefits related to waste disposal.

In 2018 a project (acronym 'RollOilFree') was started with funding from the Research Fund for Coal and Steel (RFCS). The objective of this project was to develop an OFL as a lubricant for the cold rolling process of low-Carbon steel. A cold rolling lubricant can be evaluated based on many criteria; for some criteria the OFL even outperformed the oil-based emulsion, but it was found that for some rolling conditions the coefficient of friction with the OFL was still too high. In September 2023 a follow-up project, "Transfer of aqueous oil free lubricants into stee cold rolling practice" (acronym 'RollOilFreeII') has begun, also in the RFCS-framework.

Key activities in the RollOilFreeII-project are:

- Development of an optimised OFL by QuakerHoughton.
- Evaluation of OFL's by tribometers, mainly carried out at the laboratories of BFI and QuakerHoughton.
- A work package led by TKSE to define the requirements for the application of OFL's in a rolling mill. This will lead to the necessary monitoring techniques, recycling techniques and waste water treatment possibilities for OFL's.
- The requirements with respect to subsequent production steps will be tested in pilot degreasing units, industrial batch anneal furnaces, pilot temper mills and pilot coating lines (both electrolytic and hot-dip).
- Evaluation of the cold rollability of OFL's will be carried out with a semi-industrial pilot cold rolling mill at Tata Steel.
- The OFL that performs best in the entire test program will be assessed on an industrial tinplate mill of Rasselstein.
- To further support the development of OFL's, trials will be evaluated with a dedicated rolling model that will be developed by SSSA.

This article shortly recapitulates the findings in the RollOilFree-project and describes the objectives and benefits of the RollOilFreeII-project. Furthermore, the main activities in the project will be discussed.

2.2 Achievement status of the established dissemination targets

Dissemination actions mostly rely on the availability of at least partial outcomes of the project. Therefore, the dissemination actions which were carried out in the first year were quite limited, and a much more intense dissemination is expected in the second Year of the project. Nonetheless, some progresses can be registered in the achievement of two target values for the Key Performance Indicators (KPIs) of dissemination actions established within the Dissemination and Communication plan (Deliverable D8.1), such as summarised in **Table 1**.

Moreover, it is worth noting that most members of the Consortium, especially SSSA and BFI are very active in the EU-funded research and are committed to favour synergies with other EU-funded projects, as soon as the research progress will be sufficient to start results sharing.

To sum up, at the present status of the project, the dissemination strategy appears appropriate and does not need revision.

Table 1. Comparison between target and actual values of the established KPIs for dissemination activities.

Dissemination activity	KPI Dissemination	Target	Current value	% vs. target	Status
Scientific and technical papers	No of articles in well reputed scientific Journals in Open Access mode.	3	0	0%	
	Global No of downloads for the published papers	1500	0	0%	
Presentations, lectures, posters in conferences, congresses and workshops	No of papers published in proceedings of international conferences and workshops.	6	1	17%	
	No of presentations/posters discussed in international scientific events	8	1	12%	
	Total No of persons in the general audience reached in the attended scientific events.	3000	60	2%	
Internal seminars and dissemination events	No of internal partners' events.	4	0	0%	
	2 dissemination sessions on usage of OFLs in rolling mills.	2	0	0%	
Webinars and seminars on RollOilFree II	No of webinars and seminars.	3	0	0%	
	No of persons overall attending the held webinars and seminars	150	0	0%	
Attendance to exhibitions/trade fairs	No of exhibitions/trade fairs attended.	2	0	0	
	Total No of experts and industrial representatives reached in the events.	100	0	0	
Presentations in events promoted by EU initiatives, platforms, and associations	No of projects contacted for potential synergies in terms of knowledge exchange and future evolutions.	3	0	0	
	No of joint activities put in place with some of the previously identified and contacted projects.	2	0	0	
Collaboration and synergies with other CSP and HEU projects	No of exhibitions/trade fairs attended.	2	0	0	
	Total No of experts and industrial representatives reached in the events.	100	0	0	
RollOilFree II final Workshop	No of presentations held during the Workshop by both RollOilFree II beneficiaries and external experts.	5	0	0	
	No of attendees	100	0	0	

3. Communication activities

Communication activities mostly aim at **promoting the project itself and its impacts among the identified groups**. The following main Communication Objectives (CO) have been defined:

CO1. to raise awareness in the steel community of the benefits of RollOilFree II in terms of process efficiency, reliability, economic and environmental sustainability of the steel production cycle;

CO2. to raise awareness and favor opportunities for transferring some concepts and solutions elaborated within the project to other industrial sectors;

CO3. to raise awareness among EC, Public Authorities and Policy Makers to foster cooperation in spreading the benefits of RollOilFree II;

CO4. to involve young talents in further development and deployment of the new OFL and create among them awareness on its impact by also promoting connected career opportunities;

CO5. to promote gender equality and integrate gender dimension in R&I activities.

Based on the strategy elaborated at the very beginning of the project, the communication activities implemented by the RollOilFree II Consortium were mostly aimed at raising awareness of the project objectives and potential benefits in the steel community.

The Consortium made the choice to implement communication actions that mostly refer to technical objectives, activities, and outcomes of the project. Consequently, communication activities were limited in number due to lack of mature results to showcase.

The communication strategy mostly exploited the project website and the social media (LinkedIn). One newsletter was issued, mostly devoted to providing basic information on project objectives and Consortium.

3.1 Project website

The RollOilFree II website (https://www.rolloilfree2.eu/) is online since 1st march 2024 was finalised by the end of the first semester of the project (see Deliverable D82), according to the project schedule.

By February 2024, the RollOilFree II website registered 40 total visits from different users, such as depicted in **Figure 2**, which shows the time trend of the visits of the website since the first day it was online until August 2024. **Figure 3** shows the geographical distribution of the visitors of the project website.

The limited number of visits received so far is connected to the very few technical results and documents, which are so far available on the project website. Such number is foreseen to increase when the research work will reach a more mature stage, and results will start to showcase. Nonetheless, a more intensive promotion of the project website is planned for the second year of the

project, for instance, by introducing the link to the website (also in the form of a QR code) in the last slide of all presentations/posters related to the project.

Figure 2. Time trend of the number of visitors of the project website starting from 01.03.2024.

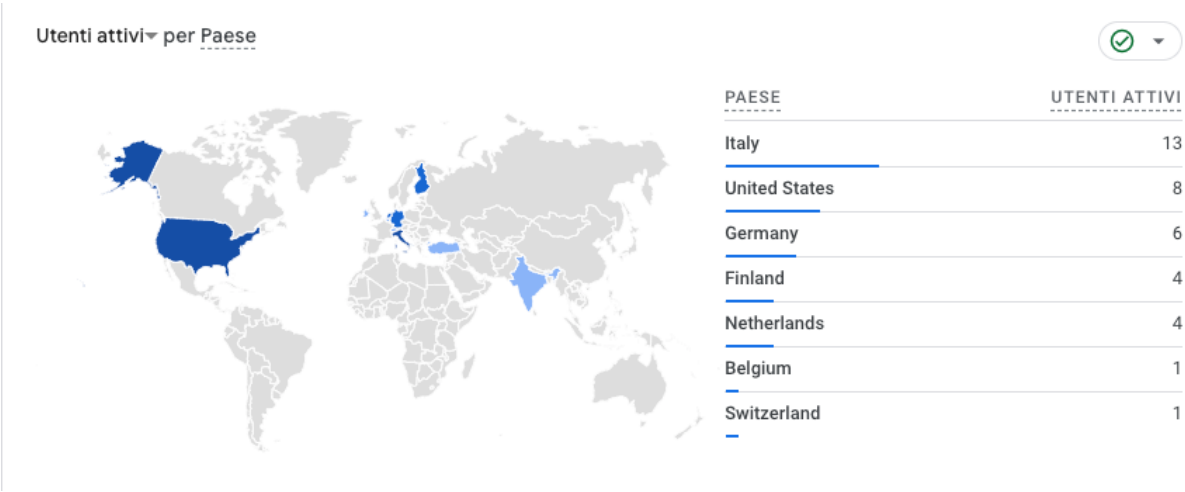

Figure 3. Geographical distribution of the visitors of the project website.

3.2 LinkedIn account

A LinkedIn account was created for the project in October 2023 (see also Deliverable D8.1) and presently holds 135 followers. 9 posts were published, which gathered a total of about 7100 impressions. The time trend of the visitors who accessed the RollOilFree II page on LinkedIn (based on the LinkedIn analytics) is shown in **Figure 4**, while their distribution among different sectors is shown in **Figure 5**.

Figure 4. Time trend of the visitors of the LinkedIn page of the project.

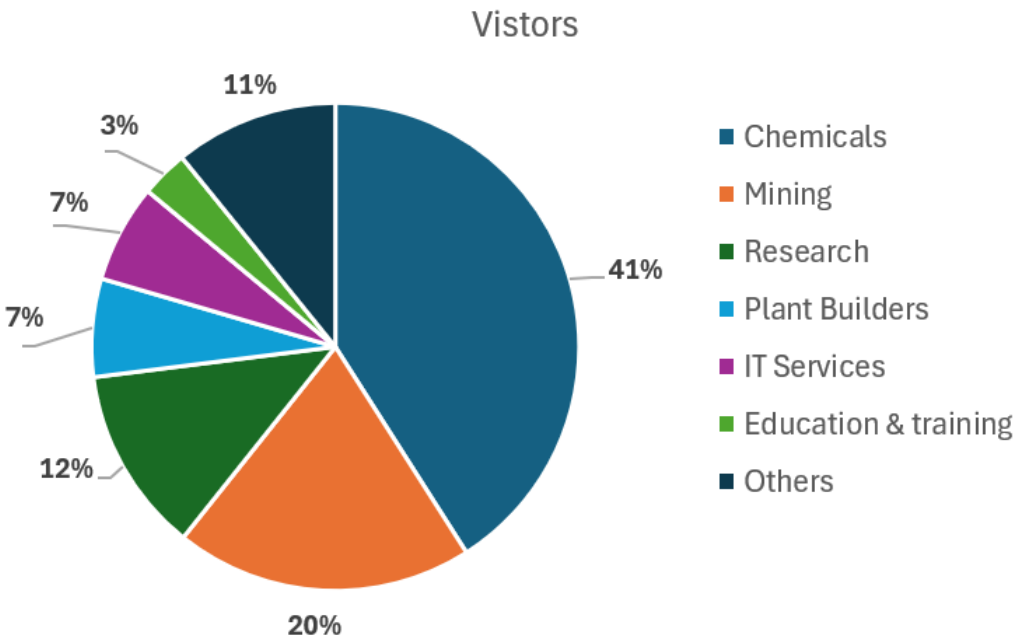

Figure 5. Distribution of the visitors of the Project LinkedIn page among sectors.

Figure 4 clearly highlights the need to revitalise the LinkedIn account via new posts, that will be published at a higher frequency as soon as some results of the research work become available. This is indeed a task for the second year of the project, following the development of the technical activities in the different work packages of the project.

3.3 Newsletter

One newsletter was released in the first year of the project to present the overall concept of the project, its main objectives, and the Consortium. The newsletter was spread through the project website and the project Linkedin page.

The publication of the newsletter was not as frequent as it should have been, but the Consortium is committed to release more numerous newsletters in the incoming months and on a more regular basis.

3.4 Achievement status of the established communication targets

Table 2 present the current value of the established KPIs for communication activities and compares them with the target values established in the Dissemination and Communication Plan (Deliverable D8.1). Such values are very ambitious, and their trend cannot be "linear" throughout the project duration, as communication initiatives are expected to be more numerous and effective as soon as concrete results will be available. However, especially the activity on social media (LinkedIn) proved to be effective.

It should be underlined that the Consortium plans to publish newsletter on a more regular basis in the future and, with respect to the initial communication strategy, it was decided that they should not necessarily overview all the activities carried out on a certain period. In other words, also "thematic" newsletters could be published additionally to the more "comprehensive" ones, which focus on one specific WP or research topic.

No press release was delivered in the first year of the project, as it is not easy to reach attention of press and media when very few results are available. The Consortium is committed to enforce its strategy on this side and all the partners are planning to mobilise local press in the future.

The presentations in events organized by or relevant to EU, platforms, and associations. Publications in EC's communication channels and the communications and seminars dedicated to students and young minds as well as to gender equality are clearly foreseen mostly for the last two years of the project.

Table 2. KPIs and target values identified for the dissemination activities foreseen in the project.

Communication activity	KPI Communication	Target	Current value	% vs. target	Status
Project website with dedicated contents. Link to partners' website. Sharing public deliverables, reports, and training material	No of views of the project website by M42.	10000	40	0.4%	
	No of documents downloads.	1000	0	0	
	Overall No of persons reached.	30000	40	0.1%	
Newsletters and bulletins	No of press releases	2	0	0%	
	No of newsletters	2	1	50%	
	No of readers	5000	102*	2%	
Press releases to newspapers and social media.	No of social media followers.	500	135	27%	
	No of people in the reached audience	5000	0	0%	
Presentations in events organized by or relevant to EU, platforms, and associations. Publications on EC's communication channels	No of attended clustering events at EU level.	1	0	0%	
	No of publications on EC communication means.	1	0	0%	
Attendance to exhibitions/trade fairs	No of exhibitions or trade fairs attended.	2	0	0%	
	Overall number of the audience of the attended exhibitions and trade fairs.	2000	0	0%	
Communications and seminars dedicated to students and young minds	Overall No of students reached in the seminars.	300	0	0%	
Communications and seminars dedicated to gender equality	No of presentations on gender equality in project event	1	0	0%	
	No of sessions on career opportunities.	1	0	0%	

* This value is estimated assuming that 20% of the impressions of the LinkedIn posts containing the newsletter.

4. Future targeted events

During regular meetings and, more in general, during the project execution, the RollOilFree II consortium periodically analyses the events being planned and update the list of potential targets for the project. The target events include conferences, workshops, exhibitions and other dissemination and communication opportunities, where the Consortium can make presentations to share the results of the work carried out in RollOilFree II, as well as trade fairs, exhibitions and dissemination and communication initiatives organised by the EU.

In the Dissemination and Communication Plan established at the beginning of the project (Deliverable D8.1) an initial list of events was provided. In such list the event initially identified for the first year of the project was attended.

This list of potentially relevant events has been revised at the end of the first year to reflect future opportunities for disseminating and communicating the project outcomes, and **Table 3** provides the list of future events identified by the Consortium at the date of delivery of the present document.

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Table 3. Preliminary list of relevant events (question marks are included when the exact dates or locations are still not defined).

Event	Date	Location	Description
AISTech 2025	5-8.05.2025	Nashville (USA)	Main outcomes related to WPs 2 and first round of pilot trials developed in WP3
ESTAD 2025	5-9.10.2025	Verona (Italy)	Main outcomes related to WPs 2-4
I3M 2025 International Multidisciplinary Modelling & Simulation Multiconference	17-19.09.2025	Fes (Morocco)	Main outcomes related to WP 4
The Iron & Steel Technology Conference and Exposition	05.2026	?? (USA)	Main outcomes related to WPs 4-7
22st IFAC Workshop Symposium on Control, Optimization and Automation in Mining, Mineral and Metal Processing MMM2026	2026	To be defined	Final project results
41th Congress of the Italian Association of Metallurgy	09.2026	Italy	Final project results
Cold Rolling Day	2026	Europe	Final project results
Tinplating Symposium	2026	Europe	Final project results

5. Conclusions

In the first year of the project, also considering the limited availability of concrete results, the RollOilFree II consortium developed a sufficient Dissemination and Communication activity. The elaborated Dissemination and Communication plan proved to be effective and, in general, the partners showed a positive and collaborative attitude in spreading research objectives, ambitions, concepts and preliminary outcomes. This enabled a good progress on the achievement of the established target values of some of the identified KPIs for Dissemination and Communication.

Moreover, the Consortium is seeking connections and identifying opportunities for synergies with other EU-funded research initiatives.

The Consortium also identified some margins for improvements to be stressed for communication activities, also based on the expected development of activities and availability of partial results, especially as regard to:

- development of press releases with national and international visibility;
- more numerous and more “regular” publication of newsletters, also focused on specific topics;
- intensification of the frequency of the LinkedIn posts.

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Appendix I

Event information	
Event name (and acronym)	10th International Conference on Tribology in Manufacturing Processes & Advanced Surface Engineering (ICTMP 2024)
Type of event	Conference
Date	June 26-28, 2024
Location	Alcoy (Spain)
Geographic coverage	World
Type of audience	RTOs, Academia, Steel Companies, OEMs, Associations.
Approximate size of audience	60
Short description	The conference brought together scientists from engineering and industry to discuss significant recent developments in tribology. It gathered an interdisciplinary community to discuss applied research in manufacturing processes. More specifically, the 2024 edition focused on 10 thematic areas of tribology: • Advanced Lubricants and Lubrication Techniques. • Surface Engineering and Coatings. • Friction, Wear, and Contact Mechanics. • Joining Technologies and Tribology. • Tribology in Additive Manufacturing. • Tribology in Machining and Forming Processes. • Modelling, Simulation, and Experimental Techniques. • Industrial Applications and Case Studies. • Environmentally Friendly Tribological Solutions. • Other Topics related to Tribological Phenomena.
Information about dissemination activity	
Presentation title	Development of Oil Free Lubricants for Cold Rolling of Low-Carbon Steel
Presenter	Leon Jacobs
Other partners involved	ALL
Hashtag(s) for social media	#rolling #steel #lubricants #sustainability
Attachments (e.g. agenda, invitation)	Detailed program of the conference

OFFICIAL PROGRAM

GENERALITAT VALENCIANA
Conselleria d'Educació, Universitats i Ocupació

IRGTM
International Research Group of Tribology in Manufacturing

MECHLAB

UNIVERSITAT POLITÈCNICA DE VALÈNCIA
CAMPUS D'ALCOI

General Program

10th ICTMP 2024 - ALCOY (SPAIN)

PROGRAM TIMETABLE

	WEDNESDAY, JUNE 26th 2024	THURSDAY, JUNE 27th 2024	FRIDAY, JUNE 28th 2024
8:00 - 8:30			
8:30 - 9:00			REGISTRATION
9:00 - 9:15		REGISTRATION	KEYNOTE TALK
9:15 - 10:00		PLENARY TALK	
10:00 - 10:30	REGISTRATION	SESSION 2	SESSION 6
10:30 - 11:00			
11:00 - 11:30			
11:30 - 12:00	SECRETARY - GROUND FLOOR	COFFEE BREAK - POSTER SESSION (GROUND FLOOR)	COFFEE BREAK - POSTER SESSION (GROUND FLOOR)
12:00 - 12:30		SESSION 3	SESSION 7
12:30 - 13:00			
13:00 - 13:30			
13:30 - 14:00		LUNCH Cafeteria	LUNCH Cafeteria
14:00 - 14:30			
14:30 - 15:00			
15:00 - 15:30		PLENARY TALK	CLOSING SESSION
15:30 - 16:00			IRGTM EXECUTIVE COMMITTEE MEETING
16:00 - 16:30	OPENING SESSION OPENING LECTURE - KEYNOTE TALK	SESSION 4	
16:30 - 17:00			
17:00 - 17:30	COFFEE BREAK - POSTER SESSION (GROUND FLOOR)	COFFEE BREAK - POSTER SESSION (GROUND FLOOR)	
17:30 - 18:00	SESSION 1	SESSION 5	
18:00 - 18:30			
18:30 - 19:00			
19:00 - 19:30	SOCIAL EVENT - MEDIEVAL ROUTE AND FIESTA MUSEUM		FONT ROJA TOUR - WINE TASTING EVENT
19:30 - 20:00		SOCIAL EVENT - MODERNISM ROUTE	
20:00 - 20:30			
20:30 - 21:00			
21:00 - 21:30	DINNER FILÀ VASCOS	GALA DINNER LA GRUTA	
21:30 - 22:00			
22:00 - 22:30			
22:30 - 23:00			
23:00 - 23:30			

Carbonell Building Floor Maps

UNIVERSITAT POLITÈCNICA DE VALÈNCIA
CAMPUS D'ALCOI

10th International Conference on Tribology in Manufacturing Processes (ICTMP2024)
June 26-28, 2024 – Alcoy, Spain

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Keynote Speakers

UNIVERSITAT POLITÈCNICA DE VALÈNCIA
CAMPUS D'ALCOI

LAURENT DUBAR
"A PROCESS-CENTERED APPROACH OF LUBRICATION AND WEAR IN COLD AND HOT METAL FORMING"
Université Polytechnique Hauts-de-France, Laboratoire TEMPO

RYO MATSUMOTO
"IMAGE-BASED MACHINE LEARNING OF IN SITU CAPTURED IMAGES OF DIE–WORKPIECE INTERFACE IN FORGING"
Division of Materials and Manufacturing Science, Osaka University

10th International Conference on Tribology in Manufacturing Processes (ICTMP2024)
June 26-28, 2024 – Alcoy, Spain

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Keynote Speakers

LAURENT DUBAR
"A PROCESS-CENTERED APPROACH OF LUBRICATION AND WEAR IN COLD AND HOT METAL FORMING"
Universite Polytechnique Hauts-de-France. Laboratoire TEMPO

RYO MATSUMOTO
"IMAGE-BASED MACHINE LEARNING OF IN SITU CAPTURED IMAGES OF DIE–WORKPIECE INTERFACE IN FORGING"
Division of Materials and Manufacturing Science. Osaka University

10th International Conference on Tribology in Manufacturing Processes (ICTMP2024)
June 26-28, 2024 – Alcoy, Spain

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Plenary Speakers

HSU-WEI FANG
"BIOTRIBOLOGY OF BIOMATERIALS: ORTHOPEDIC, OPHTHALMOLOGIC AND ORAL APPLICATIONS"
Dept. of Chemical Engineering & Biotechnology. National Taipei University of Technology

MAZIAR RAMEZANI
"NOVEL IMPLANT SOLUTIONS FOR DELAYING TOTAL KNEE REPLACEMENT IN YOUNG OSTEOARTHRITIS PATIENTS"
Department of Mechanical Engineering at Auckland University of Technology

10th International Conference on Tribology in Manufacturing Processes (ICTMP2024)
June 26-28, 2024 – Alcoy, Spain

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Detailed Program

UNIVERSITAT POLITÈCNICA DE VALÈNCIA
CAMPUS D'ALCOI

Wednesday, June 26th 2024		
10:00 – 13:00	Registration *(Secretary - Ground Floor)*	
16:00 – 16:15	Opening Session *(Conference Room – Fourth Floor)*	
16:15 – 17:00	Opening Lecture *(Conference Room – Fourth Floor)*	
	IMAGE-BASED MACHINE LEARNING OF IN SITU CAPTURED IMAGES OF DIE–WORKPIECE INTERFACE IN FORGING	Ryo Matsumoto
17:00 – 17:30	Coffee Break – Poster Session *(Ground Floor)*	
17:30 – 18:15	Session 1: Tribology in Additive Manufacturing I *(Conference Room – Fourth Floor)*	Chairman: Maziar Ramezani
17:30	Additively Manufactured Ti6Al4V with Controlled Surface Structure as a Potential Material for Small Joint Implants	Lukáš Odehnal, Matúš Ranuša, Martin Malý, Martin Vrbka
17:45	NanoFW: Low-Force Linear Friction Welding Using Energetic Nanopowders	C. Holene, D. Vrettos, P. Maginn, P. Groche, S.R. Schmid
18:00	Tribological Study on Burnished Surface of Additive Manufactured C300 Metal	Adrián Travieso-Disotuar, Ramón Jerez-Mesa, J. Antonio Travieso-Rodríguez, Montserrat Vilaseca
19:00 – 20:30	Social Event: Medieval Route and Fiesta Museum	*Meeting Point: Ground Floor*
20:45	Dinner (Filà Vascos)	*Location:*

Detailed Program

UNIVERSITAT POLITÈCNICA DE VALÈNCIA
CAMPUS D'ALCOI

Thursday, June 27th 2024		
09:00 – 09:15	Registration *(Secretary - Fourth Floor)*	
09:15 – 10:00	Plenary Talk *(Conference Room – Fourth Floor)*	
	BIOTRIBOLOGY OF BIOMATERIALS: ORTHOPEDIC, OPHTHALMOLOGIC AND ORAL APPLICATIONS	Hsu Wei Fang
10:00 – 11:30	Session 2: Tribology in Machining and Forming Processes I *(Conference Room – Fourth Floor)*	Chairman: Steven R. Schmid
10:00	A Methodological Approach to Evaluate the Tribological Performance of Tool Surface Coating in Aluminum Forming Processes at High Temperatures	Panuwat Soranansri, André Dubois, Philippe Moreau, Tatsuya Funazuka, Kuniaki Dohda, Laurent Dubar
10:15	Dry Cold Forging of AISI316 Bars by Massively Nitrogen Supersaturated CoCrMo Dies	Tatsuhiko Aizawa, Tatsuya Fukuda
10:30	Dry Near-Net Forging of Titanium and Titanium Alloys via Massively Carbon Supersaturated Tool Steel Dies	Tatsuhiko Aizawa, Takeshi Kihara, Tomomi Shiratori
10:45	Effect of Normal Load and Bulk Strain on Real Area of Contact in Aluminum Sheet Forming	Farshid Jalali Moghadas, Matthijn de Rooij, Ton van den Boogaard, Javad Hazrati
11:00	Functional Tool Surfaces with Smooth Diamond-Based Tool Coatings for the Wear-Free Forming of Aluminum Sheets	Peter Scholz, Christian Stein, Kai Weigel, Markus Höfer, Sarah Baron, Mariusz Frankiewicz, Michal Cwikla, Maurycy Kempa
11:15	Temperature Sensing in Cold Forging with Thermochromically Enhanced Lubrication Systems	Christoph Kuhn, Peter Groche
11:30 – 12:00	Coffee Break – Poster Session *(Ground Floor)*	

Detailed Program

UNIVERSITAT POLITÈCNICA DE VALÈNCIA
CAMPUS D'ALCOI

Thursday, June 27th 2024		
12:00 – 13:30	Session 3: Tribology in Machining and Forming Processes II *(Conference Room – Fourth Floor)*	Chairman: Tatsuhiko Aizawa
12:00	About the Possibility to Assess Cutting Fluids Efficiency Using an Instrumented Tribological Approach	Vincent Burnichon, Cédric Courbon, Ferdinando Salvatore, Miguel- Angel Cruz Garcia, Ugo Masciantonio, Joël Rech
12:15	Analysis of Tool Wear Rate during a Rotation of Cutter in Fly Cutting	Takashi Matsumura, Shoichi Tamura, Toshiharu Aiso
12:30	Evaluation of Hot Tribological Properties of AZ80 Alloy by V-Groove Friction Test	Tatsuya Funazuka, Shintaro Hosaka, Kohta Yamazaki, Kuniaki Dohda
12:45	Improved Process Efficiency with Microtextured Blanking Punches Using MHP	Philipp Schumann, Viktor Arne, Peter Groche
13:00	Optimization of Precision Boring Conditions to Enhance the Surface Integrity of a Landing Gear Component	Walid Jomaa, Julie Lévesque, Augustin Gakwaya
13:15	Theoretical Modeling of Intertwined Tool Flank Wear and Cutting Forces in Machining Nickel-Based Alloys	Durul Ulutan
13:30 – 15:00	Lunch *(Cafeteria)*	
15:00 – 15:45	Plenary Talk *(Conference Room – Fourth Floor)*	
	NOVEL IMPLANT SOLUTIONS FOR DELAYING TOTAL KNEE REPLACEMENT IN YOUNG OSTEOARTHRITIS PATIENTS	Maziar Ramezani
15:45 – 17:00	Session 4: Modeling, Simulation, and Experimental Techniques *(Conference Room – Fourth Floor)*	Chairman: Peter Groche
15:45	Laser-Induced Fabrication of Pd Nanostructures: A Correlation Study Between their Size and Plasmonic Properties	Chawki Awada, Francesco Ruffino

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Thursday, June 27th 2024		
16:00	Effect of Surface Texture Parameters of Zinc Coated Steel Sheet on its Formability	Javad Hazrati
16:15	Enhancement of Mixed-Lubrication Models for Cold Rolling	Leon Jacobs, Vincent Pater, Matthijn de Rooij
16:30	Enhancing Epoxy Polymer Composites with MXene Nanosheets for Improved Thermal Performance	Ayyaz Ali Janjua, Mohd Shahneel Saharudin, Achukwu Emmanuel Okechukwu, Muhammad Younas, Nadimul Faisal
16:45	Tribo-Corrosion Wear Mechanisms of NiTiNOL60 Alloy in Aqueous Sodium Hydroxide	Anthony Okoani, Ashveen Nand, Maziar Ramezani
17:00 – 17:30	Coffee Break – Poster Session *(Ground Floor)*	
17:30 – 18:45	Session 5: Environmentally Friendly Tribological Solutions *(Conference Room – Fourth Floor)*	Chairman: Christoph Kuhn
17:30	Bio-Inspired Surfaces for Friction Control and Energy Efficiency Purpose	J. Sebastián Rudas, Luis Miguel Ballesteros, Esteban Rave, Cesar Isaza, Alejandro Toro
17:45	Comparison and Sustainability Enhancement of Oxide Coatings by Reactive and Non-Reactive Radio Frequency Magnetron Sputtering Technique	Rishabh Raj Srivastava, S Ghosh, PV Rao
18:00	Development of Oil Free Lubricants for Cold Rolling of Low-Carbon Steel	Leon Jacobs, Delphine Reche, Volker Diegelmann, Valentina Colla, Orlando Toscanelli, Martin Raulf, Martin Schlupp, Bas Smeulders, Mike Cook, Wim Filemon
18:15	Effects on Tool Life and Hole Quality Through Application of Various Cooling Methods within Deep Small Hole Drilling of AISI 304L	John M. Scholey, Krystian K. Wika, Andrew Wright, Tarsem S. Sihra

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Thursday, June 27th 2024

18:30	Enhancing Machinability of Nimonic 90 Alloy by Micro-Texturing Based Solid Lubricant on AlTiN Coated Carbides: A Sustainable Approach Towards Commercialization	Gaurav Kumar, S. Ghosh, PV Rao
19:30 – 20:30	Social Event: Modernism Route	*Meeting Point: Ground Floor*
20:30	Gala Dinner (Salón Rotonda del Círculo Industrial)	*Location:*

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Friday, June 28th 2024

08:45 – 09:00	Registration *(Secretary - Fourth Floor)*	
09:00 – 09:45	Keynote Talk *(Conference Room – Fourth Floor)*	
	A PROCESS-CENTERED APPROACH OF LUBRICATION AND WEAR IN COLD AND HOT METAL FORMING	Laurent Dubar
09:45 – 11:30	Session 6: Surface Engineering and Coatings *(Conference Room – Fourth Floor)*	Chairman: Tatsuya Funakuza
09:45	Dynamic Mechanical Properties and Corrosion Resistance of Epoxy Coatings Enhanced with MXene and Diverse Nano-Fillers	Mohd Shahneel Saharudin, Nur Ahza Che Nasir, Ayyaz Ali Janjua, Achukwu Emmanuel Okechukwu, Nadimul Faisal Haque, Emy Zairah Ahmad
10:00	Effect of Xenon Ion Irradiation on the Properties of AISI 316 Steel	P. Budzyński, M. Kamiński, Z. Surowiec, M. Wiertel
10:15	Influence of Microtextures on the Lubrication of Joint Implant Articular Surfaces Produced from Ti6Al4V	Matúš Ranuša, Lukáš Odehnal, Ondřej Kučera, Martin Vrbka
10:30	Influence of PTFE as Thin Top Layer on Hydrophobicity and Wear Behaviour of HVOF Sprayed TiC+50%NiCr Coating on SS410 Steel	Anuj Bansal, Vikrant Singh, Anil Kumar Singla
10:45	Investigating the Corrosive Resistance of Ti-Al Coating on Structural Steel Component	Tingzhen Deng, Shahab Ramhormozian, Maziar Ramezani
11:00	Micro-Raman Spectroscopic Study of the Tribology of AlCrN Coated Cemented Tungsten Carbide Pins Dry Sliding on Hardened Steel Discs	Krishna Chaitanya Solasa, Abhijit Bhattacharyya, Palash Roy Choudhury, N.V. Venkataraman
11:15	Surface Wettability Response of Hydroxyapatite-Doped Coatings on Metallic Biomaterials: A Concise Review	Iqtidar Ahmed Gul, Ahmad Majdi Abdul-Rani, Azlan Ahmad, Md Al- Amin, A. A. Aliyu, Elhuseini Garba

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Friday, June 28th 2024		
11:30 – 12:00	Coffee Break – Poster Session *(Ground Floor)*	
12:00 – 13:30	Session 7: Advanced Lubricants and Lubrication Techniques *(Conference Room – Fourth Floor)*	Chairman: Maziar Ramezani
12:00	Effect of Stress during Press-Fitting on Tribological Behavior of Self-Lubricating Composite Liners in Spherical Plain Bearings	Chen Haitang, Zhu Lintin, Huang Xiongrong, Zhang Jingjing, Hu Chengliang
12:15	Effect of Micro-Dimples on Lubrication in Ironing of Stainless Steel	Kazuhiko Kitamura, Takehiko Makino, Masanori Nawa
12:30	Improvement in Surface Quality of Ironing Product Using Low-viscosity Lubricant Oil	Kazuhito Asai, Kazuhiko Kitamura, Takumi Nishi
12:45	Investigating the Potential Lubricating Mechanism of Alginate Acid and Carrageen in Orthokeratology Lenses	You Cheng Changa, Chen Ying Su, Hsu Wei Fang
13:00	Graphene Nano-Lubricant for the improved Rolling Contact Fatigue (RCF) life of AISI 4140 steel under Rolling with Slip Conditions	Ranju M.R., Kesavan D.
13:15	Use of Liquid Lubricant with Glass Microspheres in Suspension to Permanently Improve the Tribological Behavior of PPS	Sergio Garcia Carrasco, Samuel Sánchez-Caballero, Miguel Ángel Sellés Cantó, Sergi Montava-Jordà, Alejandro De La Calle Salas
13:30 – 13:45	Session 1: Tribology in Additive Manufacturing II *(Conference Room – Fourth Floor)*	Chairman: Sergi Montava
13:30	Influence of Post Heat Treatment on Slurry Erosion Behavior of Wire Arc Additive Manufactured (WAAMed) Inconel-625	Jonny Singla, Vikrant Singh, Jagtar Singh, Ranbir Singh Rooprai
13:45 – 15:15	Lunch *(Cafeteria)*	

10th International Conference on Tribology in Manufacturing Processes (ICTMP2024)
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Friday, June 28th 2024		
15:15 – 15:30	Closing session *(Conference Room – Fourth Floor)*	
15:30 – 17:00	IRGTM members meeting *(Conference Room – Fourth Floor)*	
18:30 – 21:00	Social Event: Visit to "La Font Roja" and wine tasting with tapas	*Meeting Point: Ground Floor*

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