



# NewFrac

## Training Network



### **Deliverable 3.3**

#### **Mid-term report on outreach activities**

**Marie Skłodowska-Curie Actions (MSCA)**

**Innovative Training Networks (ITN)**

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## 1. Dissemination of the research results

The scientific activities of the NEWFRAC network are disseminated through **different channels** to reach the **scientific community** and the **industrial sector**.

The **NEWFRAC Website** (<https://www.newfrac.eu>) is the main tool to gather and disseminate information about the activities of the project. It includes a homepage with a synthetic view of the project, and connected pages with links to the partners' websites, to news, to the training activities, with details about the courses, schools, workshops, mini-symposia, and conferences organized by the network, and to the advertisements of previous vacancies for ESR positions. A further link provides access to publications by the participant groups, working as a database useful for ESRs scientific activities.

The main internal channel of communication between NEWFRAC members is **MS Teams**. The dedicated MS Teams platform, created in May 2020, contains many structured channels on all topics relevant to the successful development of the project, ranging from research to management of the consortium to dissemination activities, and also for communication between ESRs and supervisors, Webinars, Deliverables, etc..

The **NEWFRAC collaborative computational platform** was created in March 2021 in GitLab, <https://gitlab.com/newfrac> and is currently in use and further development. The owners of the repository are the Newfrac Coordinator, Prof. Corrado Maurini (as responsible of the related work package), and Dr. Israel Garcia (as member of the local network coordination team). For a part of the platform the access is restricted to the project participants (ESRs, supervisors, and external collaborators). Within this category of users three subgroups are defined: "esrs" (the Ph.D. students), "supervisors" (the supervisors and co-supervisors of the ESRs), and "external" (collaborators external to the network). Also, a common channel contains computational tools to be shared within the network. The remaining part of the platform is accessible to the general public and will contain computational material such as codes and related documentation to be made publicly available.

The **dissemination strategy** is developed and implemented in Work Package WP3 and monitored by the Dissemination, IP & Exploitation (DIPE) Committee. Based on the first Report on outreach activities, we present bellow an update on the Key Performance Indicators (KPIs) for disseminating the research conducted within the NEWFRAC network.

KPIs for ESRs are included in Annex 2. Table with ESRs details

Channels	KPIs
Target group: Scientific community (including graduated students)	
Action: Open Access (either green or gold) publications of the ESR's work.	

<p><b>High-impact international peer-reviewed journals.</b> (Only scientific journals classified in the first quartile (Q1) by Scimago Journal &amp; Country Rank will be considered as possible publication channels).</p>	<p>A minimum of <b>three publications</b> -even involving more than one beneficiary- for each ESR, leading to at least <b>39 publications</b> at the end of NEWFRAC project.</p>
<p><b>Institutional repositories of the beneficiaries,</b> such as <a href="#">E-prints</a> for IMT, <a href="#">IRIS</a> for POLITO and <a href="#">idUS</a> for US, in addition to <a href="#">arXiv</a> widely used in physics, mathematics and engineering at the international level.</p>	
<p>Action: Presentation of ESR's work</p>	
<p>Participation of ESRs in <b>national/international conferences</b> (oral presentation will be preferred, but poster presentations will be also possible).</p>	<p><b>Three national/international conferences</b> for each ESR (preferably in the second and third year of their doctorate).</p>
<p>Participation in other <b>thematic scientific conferences</b> at regional character (to facilitate the communication with industrial partners).</p>	
<p><b>Publication of the presented works</b> in the conference proceedings will be promoted, especially if they correspond to open-access scientific journals e.g. <i>Procedia Engineering</i>, <i>Procedia Material Science</i>.</p>	

## 2. Exploitation of results and intellectual property

The **NEWFRAC TT Lab** represents a virtual laboratory of shared technology resources and computational tools developed within the network, among all network partners, where all available simulation facilities on computational models and simulation tools for fracture mechanics are listed and ordered based on the technological field of application. More detailed information is contained in the *D3.5 Report on the NEWFRAC Technology Transfer LAB Platform*.

### 3. Communication and public engagement strategy of the project

To extend the impact beyond the scientific research community, thereby improving the public understanding of science, communication and outreach strategies are developed to engage a large audience. These activities are carried out through different national or international channels, and involve all network members, especially the ESRs who can also benefit from them to potentiate their soft skills.

**European Researchers' Night:** Last 24th September 2021 at 22:15h, the NewFrac ESRs in Seville explained to the public how things break and how the NewFrac Training Network is advancing the prediction of fracture and failure of materials and structures. At the stand: **“Do you want to know when things break?**

- **Can we predict it?”**, the students had 45 minutes to introduce the project with some very interesting videos they created. They also performed in-situ tests with paper and a photoelastic material trying to be as direct and close to the public as possible. More info can be found at: <https://www.newfrac.eu/news/newfrac-ern-seville-2021>

**Marie Curie Alumni Association:** All the ESRs have joined the MCAA, which includes present and past researchers benefiting from any MSCA.

**Press / Public talks on radio/TV:** During the PRO school in February 2021 in Lucca, Italy, an interview was given to the local television NoiTv. More info can be found at: <https://www.newfrac.eu/news/pro-school-noitv-lucca>

**Social networks:** The project has **Facebook** (<https://www.facebook.com/groups/1021664888749000>), **Twitter** (<https://twitter.com/newfrac>) and **Instagram** ([https://www.instagram.com/newfrac\\_itn/](https://www.instagram.com/newfrac_itn/)) **profiles** and a **Researchgate project page** (<https://www.researchgate.net/project/NEWFRAC-Innovative-Training-Network-H2020-MSCA-ITN-2019>).

**Newsletters:** all activities of NEWFRAC have been published in the four **newsletters** already available within the network institutions.

### 4. Issues faced and role of the ESRs

During the period object of this report, no particular issues were faced regarding outreach activities, so no specific measures had to be taken. All ESRs were participating in all outreach activities, including posting news regarding NewFrac on social networks of their choice. ESR4 was designated to take the lead on the social media dissemination and has been quite active in posting herself and stimulating other ESRs to post contents periodically and anytime relevant news were available.

Channels	KPIs	ESR1	ESR2	ESR3	ESR4	ESR5	ESR6	ESR7
Target group: Scientific community (including graduated students)								
Action: Open Access (either green or gold) publications of the ESR's work.								
<p><b>High-impact international peer-reviewed journals.</b> (Only scientific journals classified in the first quartile (Q1) by Scimago Journal &amp; Country Rank will be considered as possible publication channels).</p> <p>Institutional repositories of the beneficiaries, such as <a href="#">Eprints</a> for IMT, <a href="#">IRIS</a> for POLITO and <a href="#">iRUS</a> for US, in addition to <a href="#">arXiv</a> widely used in physics, mathematics and engineering at the international level.</p>	<p>A minimum of <b>three publications</b> -even involving more than one beneficiary- for each ESR, leading to at least <b>39 publications</b> at the end of NEWFRAC project.</p>	<p>Paper submission expected within 3 months.</p>	<p>Currently writing the first paper.</p>	<p>Published paper: S. Jiménez-Alfaro and D. Legullion (2021). Finite Fracture Mechanics at the micro-scale. Application to bending tests of micro cantilever beams. Engineering Fracture Mechanics, 258, 108012 (open access). Currently writing the second paper.</p>	<p>First submission expected by the end of the year.</p>	<p>First submission expected before the summer.</p>	<p>No publication yet due to later start.</p>	<p>Published paper: A. M. Mirzaei, M. Corrado, A. Sapiro, and P. Corretti, "Analytical Modeling of Debonding Mechanism for Long and Short Bond Lengths in Direct Shear Tests Accounting for Residual Strength", Materials, 14(21): 6990 (open access). Currently writing the second paper.</p>
Action: Presentation of ESR's work								
<p>Participation of ESRs in <b>national/international conferences</b> (oral presentation will be preferred, but poster presentations will be also possible).</p> <p>Participation in other thematic scientific conferences at regional character (to facilitate the communication with industrial partners).</p> <p>Publication of the presented works in the conference proceedings will be promoted, especially if they correspond to open-access scientific journals e.g. <i>Procedia Engineering</i>, <i>Procedia Material Science</i>.</p>	<p>Three <b>national/international conferences</b> for each ESR (preferably in the second and third year of their doctorate).</p>	<p>Presentations planned at two upcoming national/international conferences in 2022.</p>	<p>Presentation planned at ECF23 in Madeira in 2022.</p>	<p>Presented at the XXVII Spanish Conference on Fracture (2021), the International Symposium on Notch Mechanics (2021), and the 5th Iberian Conference on Structural Integrity (2022).</p>	<p>Presented at CompTest 2021. Presentations planned at ECF23 in 2022, CompTest 2023 and ICF 2023, additionally 5th Young Researchers meeting of LAETA in Lisbon.</p>	<p>Planned presentations at Congrès de Génies CSMA 2022 and ECF23 – Madeira.</p>	<p>Planned presentations at ECF23 – Madeira and ESMC 22.</p>	<p>Presented at 26th conference of Italian Group of Fracture (IGF26).</p>

Channels	KPIs	ESR8	ESR9	ESR10	ESR11	ESR12	ESR13
Target group: Scientific community (including graduated students)							
Action: Open Access (either green or gold) publications of the ESR's work.							
High-impact international peer-reviewed journals. (Only scientific journals classified in the first quartile (Q1) by Scimago Journal & Country Rank will be considered as possible publication channels).	A minimum of <b>three publications</b> -even involving more than one beneficiary- for each ESR, leading to <b>at least 39 publications</b> at the end of NEWFRAC project.	First submission expected by the end of the year.	Published paper: Z. Liu, J. Reinoso, M. Paggi (2022), A humidity dose-CZM formulation to simulate new end-of-life recycling methods for photovoltaic laminates. Engineering Fracture Mechanics, 259, 108125 (open access).	First paper submitted in January 2022, currently under review.	First submission expected by the end of the year.	No publication yet.	Published paper: A. Chao Correias, M. Corrado, A. Sapora, P. Cornetti (2021), Size-effect on the apparent tensile strength of brittle materials with spherical cavities. Theoretical and Applied Fracture Mechanics, 116, 103120. Second paper has been submitted and is currently under review. Currently writing the third paper.
Institutional repositories of the beneficiaries, such as i-journals for IMA, iMS for POLITO and iMS for IS, in addition to <i>arXiv</i> widely used in physics, mathematics and engineering at the international level.							
Action: Presentation of ESR's work							
Participation of ESRs in national/international conferences (oral presentation will be preferred, but poster presentations will be also possible).							
Participation in other thematic scientific conferences at regional character (to facilitate the communication with industrial partners).	<b>Three national/international conferences</b> for each ESR (preferably in the second and third year of their doctorate).	Planned presentation at ECF23 - Madeira in 2022.	Planned presentations at ECF23 in Madeira and ICF15 in Atlanta.	Planned presentations at ECF23 and ESMC2022.	Planned presentations at MATCOMP21 and ECF23 in 2022, and at ICF15, ICCM23, ICCS26, CFRAC2023 in 2023.	Planned presentations at the Meeting of the Young Researchers of LAETA, and ECF23 in Madeira.	Presented at the IGF26 conference in 2021. Poster participation at STAMS2022. Planned presentation at ECF23.
Publication of the presented works in the conference proceedings will be promoted, especially if they correspond to open-access scientific journals e.g. Procedia Engineering, Procedia Material Science.							

