

# • EATRIS (Coordinator) - The Netherlands

EATRIS is the European infrastructure for translational medicine that brings together resources and services for research communities to translate scientific discoveries into benefits for patients. For REMEDi4ALL, EATRIS is the project coordinator and is responsible for the delivery of a sustainable medicines repurposing platform in Europe in collaboration with the 24 partners and external (global and EU) stakeholders. EATRIS will lead the user project profiling, operations and regulatory planning (WP2) to implement best practices for medicines repurposing. It will lead the internationalization and networking activities (WP12) to promote crosstalk between relevant initiatives and policy-makers to improve the conditions for medicines repurposing. Finally, EATRIS will coordinate the clinical and non-clinical demonstrator projects that will focus on the (patient-centric) translation of repurposing candidates towards clinical application, while exploiting and developing the REMEDi4ALL platform technical and operational capacities. https://eatris.eu/

## • Fraunhofer-Gesellschaft - Germany

The Fraunhofer-Gesellschaft based in Germany is the world's leading applied research organization. Prioritizing key future-relevant technologies and commercializing its findings in business and industry, it plays a major role in the innovation process. Founded in 1949, the Fraunhofer-Gesellschaft currently operates 76 institutes and research units throughout Germany. Over 30,000 employees, predominantly scientists and engineers, work with an annual research budget of  $\in 2.9$ billion. The three Fraunhofer institutes participating in REMEDi4ALL, Fraunhofer Institute for Translational Medicine and Pharmacology ITMP, Fraunhofer Institute for Cell Therapy and Immunology IZI and Fraunhofer Institute for Algorithms and Scientific Computing SCAI, combine expertise in the realization of in-silico and in-vitro driven drug repurposing programs, the design of predictive in vivo models, the execution of clinical trials and the application of computational science with a focus on algorithm development for the analysis of drug discovery data. Fraunhofer will lead several tasks to support the whole EU-wide consortium as well as one work package for in vitro discovery services and take responsibility for the Clinical Phase I/II open label repurposing trial for treatment of patients with multiple sulfatase deficiency.

www.fraunhofer.de

### • Helsingin yliopisto (FIMM-UH) - Finland

Institute for Molecular Medicine Finland FIMM is a translational research institute focusing on human genomics and personalized medicine at the Helsinki Institute for Life Science of the University of Helsinki. In REMEDi4ALL, FIMM researchers lead the in-silico drug repurposing WP in which scientists from Tero Aittokallio's group and FIMM's high-throughput biomedicine core unit will work together to provide a sustainable catalogue of open-source AI tools and open-access datasets for supporting user-driven in silico discovery and repurposing applications. In particular, the team will develop and experimentally test computational approaches to drug-target mapping, prediction of drug combinations fighting cancers and COVID-19, as well as implement web-based portals that support drug repurposing and drug screening data analytics. https://www.fimm.fi

### • European Clinical Research Infrastructure Network (ECRIN) - France

ECRIN-ERIC is a European Research Infrastructure facilitating multinational clinical research, through the provision of advice and services for the set-up and management of investigator or SME led clinical studies in Europe. ECRIN will lead the work package on clinical development and implementation in which an inventory of resources and gap analysis will be carried out, recommendations and a blueprint for the establishment of a clinical repurposing platform will be developed, a dedicated services platform will be created. Provision of services for the clinical demonstrator(s) will be the opportunity to validate and refine the service offer. https://ecrin.org/

### • Istituto Di Ricerche Farmacologiche Mario Negri (IRFMN) - Italy

The Mario Negri Institute for Pharmacological Research has a wide range of expertise along the drug development and repurposing chain, from the discovery phase to the preclinical and clinical development. In REMEDI4ALL, our group, coordinated by Maddalena Fratelli, will contribute by participating in four domains:

1. The activities of the Repurposing Development Team, will create development plans for the prioritised projects.

2. The creation of a sustainable repository of open-source AI tools and open access datasets for supporting user-driven in silico discovery applications.

3. Genomic data analysis in support of demonstrator projects 1 and 2 (1: drugs and combinations for novel host targets in SARS-Cov-2 infection - Karolinska. 2: proof of concept for the novel combination of the anticonvulsant valproic acid and the cholesterol-lowering agent simvastatin for the treatment of metastatic pancreatic ductal adenocarcinoma - Pascale);

 $4\,.\,$  pharmacokinetic and pharmacodynamic studies in support of demonstrator project 2

IRMN has had a major role in the creation of the whole project, which was promoted by the Small Molecules platform of EATRIS, chaired by Mario Salmona and co-chaired by Alfredo Budillon

### • Istituto Nazionale Tumori Fondazione Pascale (INT-NA) - Italy

The Istituto Nazionale Tumori -IRCCS- Fondazione Pascale, a comprehensive cancer center, beyond being a partner of REMEDI4all project, due to a long time effort in drug repurposing approach in oncology, has been also selected to develop one out of four demonstrator projects to prove the feasibility of the platform, declared Alfredo Budillon, principal investigator and Scientific Director of Institute Pascale- specifically, we proposed to evaluate a new therapeutic strategy based on the use of two repurposed drugs: the anti-convulsant agent valproic acid plus simvastatin, a low-cholesterol agent, in association with conventional chemotherapy, as first line treatment approach for pancreatic cancer, a very poor prognosis disease and an unmet clinical need. https://newportal.istitutotumori.na.it/

https://newportal.istitutotumori.na.it/remedi4all/

### • European Organisation For Rare Diseases (EURORDIS) - France

EURORDIS-Rare Diseases Europe is a unique, non-profit alliance of over 1000 rare disease patient organisations from 74 countries that work together to improve the lives of over 300 million people living with a rare disease globally. EURORDIS believes that by providing support to academics, clinicians and patients to progress through the R&D pathway, repurposing approaches are going to bring suitable and accessible therapeutic solutions to patients. As a project partner, EURORDIS will bring its expertise in patient engagement, therapeutic development, regulatory and policy affairs. We will lead the development of a 'Patient-user co-creation pathway' - helping researchers access patient expertise to support all stages of repurposing and building the overall framework for engaging patients stakeholder communities in the remedi4all platform. and https://www.eurordis.org/

### • Dompé farmaceutici (DOMPÉ) - Italy

Dompé is a private, rapidly scaling international biopharmaceutical company founded in Milan, Italy, with a 130-year legacy of medical innovation. The R&D department of the company is leveraging EXSCALATE, a structure-based virtual screening platform developed in-house and presently one of the most powerful supercomputing and artificial intelligence platforms.

The REMEDi4ALL project will leverage Exscalate, Dompé farmaceutici's Ai and supercomputing drug design platform, to fast-track the identification of new indications for known compounds. Combining in silico drug design and a virtual library of 2 trillion molecules, Exscalate's team will apply its unique polipharmacological approach to identifying the most promising molecules. In REMEDi4ALL, Dompé farmaceutici will also support the entire value chain to streamline the clinical and regulatory aspects of this collective repurposing effort.

https://www.dompe.com/en

### ZonMw - Netherlands

ZonMw is the organisation for health research and development in The Netherlands. ZonMw stimulates health research and care innovation throughout the entire knowledge chain from fundamental research to implementation. Through various subsidy programmes ZonMw promotes and funds development and practical application in the area of prevention improvement, care and health. In REMEDI4ALL, ZonMw has the lead in creating a funders network and 'Think tank' with the aim to discuss policy issues, share best funding practices, co-ordinate (new) funding streams, promote joint calls and develop innovative co-funding models for drug repurposing. ZonMw will also contribute to improving the market access and policy environment for drug repurposing. https://www.zonmw.nl/en/about-zonmw/organisation/

## • Teamit Research - Spain

Teamit Research specialises in creating value through synergies in innovative and collaborative partnerships for the advancement of lifesciences research. The company has wide experience in the management, exploitation and communication aspects involved in the conception, implementation and sustainability of multistakeholder projects, especially complex public private partnerships under Horizon 2020 and now Horizon Europe programmes. It also specialises in scientific study management of pharmacoepidemiology research and regulatory science initiatives through its spinoff Teamit Institute.

At REMEDi4ALL, Teamit Research co-leads together with EATRIS, the operational, communication, international networking and exploitation strategies to maximise long term impact. www.teamitresearch.com

### • Beacon: For Rare Diseases (BEACON) - United Kingdom

Beacon: for rare diseases is a UK-based charity that works extensively with rare disease patient groups helping them to form, grow, and professionalise, so they can ultimately deliver the change needed for their specific rare condition. Beacon has long recognised the power of drug repurposing as a powerful model to drive collaborative drug development for some of the world's most neglected patients. Their experience and expertise will bring patient input to the heart of REMEDI4ALL, while leading the consortium's educational programme on drug repurposing designed to support the international drug repurposing community.

https://www.rarebeacon.org/

### • Medicines For Europe (M4EU) - Belgium

Medicines for Europe represents the generic, biosimilar and value added medicines industries across Europe. Medicines for Europe member companies across Europe are both increasing access to medicines and driving improved health outcomes. They play a key role in creating sustainable European healthcare systems by continuing to provide high quality, effective generic medicines, whilst also innovating to create Value Added Medicines by tackling the targeted portion of patients' needs that remain unmet to this day and delivering additional improvement to the healthcare community as a whole. www.medicinesforeurope.com.

#### • Syreon Research Institute

Syreon Research Institute is an independent research institute, providing expert services since 2008 in the fields of evidence synthesis, health economics, health policy, health technology assessment (HTA) and public health. In REMEDI4ALL, Syreon will lead WP8 with the aim to review, debate and advance the European regulatory and pharmaceutical policy environment for repurposed medicines. Collaborating with partners of outstanding expertise, Syreon will aim to identify and transform the current policies in off-label use, IP protection, marketing authorization, HTA and reimbursement of repurposed medicines. As a collaborator in WP9, Syreon will also aid in building and strengthening the funding practices of drug repurposing. Additionally, through WP7, Syreon will provide support regarding the health technology assessment of demonstrator and user projects at an early stage to facilitate their timely reimbursement – and through that – wide accessibility for patients.

https://syreon.eu/

- Karolinska Institutet (KI) Sweden
- Chemotargets Spain

Chemotargets is a drug discovery SME that has developed technological platforms to design new pharmaceuticals and to discover their mechanism of action, to predict efficacy and safety of compounds, and to analyze the translational safety of medicinal products. Chemotargets will contribute to the development of the REMEDI4ALL platform using these computational and AI-based technologies.

### • Anticancer Fund (ACF) - Belgium

The Anticancer Fund, a not-for-profit research foundation that has been a leader in the field of repurposing non-cancer drugs as new cancer treatments, has developed expertise in issues around health policy and regulatory obstacles to repurposing. They will be working with other stakeholders to develop new policy recommendations to address these obstacles with a view to improving the process whereby repurposed drugs can be implemented as new standard of care therapies for patients. Additionally, they will focus on clinical research funding for repurposing, looking at ways to increase funding, improve coordination and help develop clinical research programs that more fully support repurposing.

https://www.anticancerfund.org/

## • University of Ljubljana (UL) - Slovenia

University of Ljubljana has broad scientific expertise. With the in vitro screening services, it will support user projects and fill missing gaps in the repurposed drug in vitro properties to better define its efficacy and developability characteristics. In the preclinical development activities, it will contribute to the project with the reformulation of active pharmaceutical ingredients within different pharmaceutical dosage forms in order to support demonstrator project. With the expertise and capacity of adjusting dosing regime and development of alternative delivery systems it will enable tailoring the known drug with new indication to the needs of specific patient groups. https://www.uni-lj.si/eng/

- Bundesinstitut Fur Arzneimittel Und Medizinprodukte (BFARM) Germany
- The University Of Sheffield (USFD) United Kingdom
- Istituto Ortopedico Rizzoli (IOR) Italy
- Servicio Madrileño De Salud (SERMAS) Spain

Biomarkers and Therapeutic Targets Group at IRYCIS/SERMAS will be involved in the Demonstrator 4 devoted to the repurposing of simvastatin and valproic acid in pancreatic cancer therapy. Phase II Clinical trial involving both drugs, identification of response biomarkers and new mechanisms responsible for drugs effects will be addressed by the multidisciplinary IRYCIS/SERMAS Group in REMEDI4ALL Project. https://www.irycis.org/en/research/research-groups/7/biomarkers-and-therapeutics-targets

## • Uppsala Universitet (UU) - Sweden

Uppsala University is a comprehensive research-intensive university with a strong international standing. Our ultimate goal is to conduct education and research of the highest quality and relevance to make a long-term difference in society. In REMEDi4ALL, Uppsala University participates with Ola Spjuth's research group at the Department of Pharmaceutical Biosciences and the national infrastructure Chemical Biology Consortium Sweden (CBCS). UU will contribute to build up the in silico catalogue and AI models relevant for drug repurposing, and support repurposing projects with morphological cell profiling experiments (Cell Painting) and data analysis. WWW.uu.se

- Universitaetsmedizin Goettingen (UMG) Germany
- University Of Hull (UHULL) United Kingdom