Model Matchmaking via the Rare Diseases Models & Mechanisms Network (RDMM-Europe)

**Solve-RD - Solving the Unsolved Rare Diseases**

is a research project funded by the European Commission with the aim to solve large numbers of rare diseases (RD), for which a molecular cause is not known yet.

Solve-RD follows three main approaches:

- Massive data collection and re-analysis
- Sophisticated combined novel-omics approaches
- Candidate gene validation in model organisms / systems

The **Rare Diseases Models & Mechanisms Network (RDMM-Europe)** was established within Solve-RD to fill the gap between RD gene discovery and functional validation. Solve-RD provides Seeding Grant funding of 20,000 EUR for up to 50 gene validation projects.

**RDMM Model Matchmaking Pipeline**

For selection of candidate genes and model matchmaking, a two-committee process and a registry were set up using the structures of the successful Canadian RDMM Network as role model. Connection Applications on novel RD candidate genes are submitted by Solve-RD clinicians and are evaluated and approved by a Clinical Advisory Committee. Upon approval, the project management office opens a call for tender to find best matching model organism investigators (MOIs) for the requested validation work and invites them to submit Seeding Grant Applications. They are evaluated by a Scientific Advisory Committee and approved for funding.

**RDMM Registry**

The RDMM-Europe registry is a database that allows all interested MOIs to register the genes and model organisms they work with. Registrants express interest in getting linked to clinicians representing patients with RD and collaborating in projects funded by Solve-RD.

**New Connections to Advance RD Research**

We connect Solve-RD clinicians that have discovered new disease-causing genes with model organism investigators (MOIs) that can study the mechanistic role of the given genes in health and disease by using an appropriate model organism or cell culture system. To date, we have awarded 23 Seeding Grants to MOIs and have linked Solve-RD scientists to model researchers in eight European countries, Canada, USA, Qatar and Australia. Linking scientists across borders via the RDMM network and supporting these joint projects will advance RD research and will benefit patients and families living with RD.

**Please get registered here:**
https://rdmm.imagag.de/registration

---

Ellwanger Kornelia1, Bermejo-Sanchez Eva2, Evangelista Teresinha3, Hoogerbrugge Nicoline4, Nigro Vincenzo5, Schüle Rebecca1, Verloes Alain6, Brunner Han4, Campeau Philippe M7, Lasko Paul8, Zurek Birte1, Graessner Holm1, Riess Ola1

1University of Tübingen, Tübingen, 2Instituto de Salud Carlos III, Madrid, 3Institute of Myology, Paris, 4Radboud UMC, Nijmegen, 5Telethon Institute of Genetics and Medicine, Pozzuoli, 6Kaposi Robert DEBRE, Paris, 7University of Montreal, Montreal, 8McGill University, Montreal.

*correspondence: kornelia.ellwanger@med.uni-tuebingen.de*