EDITORIAL

Advancing Drug Repurposing Science—The Road Ahead

Harald H. H. W. Schmidt[1],* and **Hermann Mucke[2]**

[1]Maastricht University, Maastricht, The Netherlands
[2]H.M. Pharma Consultancy, 1160 Vienna, Austria

*Correspondence to:** Harald H. H. W. Schmidt, E-mail: hschmidt@ppmlab.net

NOVEL USES – NOVEL TOOLS

The field of drug repurposing is rapidly emerging as a pivotal contributor to modern therapeutic innovation. In this second edition of *Drug Repurposing*, the official journal of the REPO4EU Consortium, we present an exciting array of articles that highlight the breadth and depth of ongoing efforts to uncover novel uses for existing drugs, optimize clinical efficacy, and leverage cutting-edge tools for discovery and implementation. These contributions not only advance the scientific frontier but also underscore the transformative potential of collaborative, interdisciplinary research.

The first featured article, "DrugRepoChatter: A Drug Repurposing Expert Chatbot Curated by the REPO4EU Consortium,"[1] introduces an innovative tool designed to bridge the knowledge gap in the drug repurposing landscape. By integrating expert-curated data and leveraging the power of conversational artificial intelligence (AI), this chatbot represents a valuable resource for researchers and clinicians alike, streamlining access to critical information and fostering more informed decision-making.

In "Clinical Efficacy Landscaping in Genetic Obesity: A Meta-analysis in Prader-Willi Syndrome (PWS),"[2] the authors provide a comprehensive analysis of the clinical efficacy of repurposed drugs in this rare genetic disorder. By identifying therapeutic patterns and gaps, this work underscores the importance of targeted research to address unmet needs in specialized patient populations.

The second installment of "International Drug Repurposing Patent Landscaping"[3] shifts focus to the early months of the Covid-19 pandemic. This critical examination highlights the surge of intellectual property activity surrounding repurposed drugs during a global health crisis, offering insights into the intersection of innovation, regulation, and societal need.

In a practical guide, "Unlocking Drug Repurposing Clinical Trials: Resources for Investigators"[4] equips researchers with tools and methodologies to overcome barriers to launching successful clinical trials. From regulatory considerations to patient recruitment strategies, this article serves as a blueprint for accelerating the translation of repurposing discoveries into clinical realities.

The integration of AI into research and ethical frameworks is explored in "Developing Project-Specific Consent Documents: A Registered Report for a Multi-step Approach Using LLMs."[5] By employing large language models to streamline the development of ethically robust consent forms, the authors present a replicable and scalable approach that addresses the unique complexities of drug repurposing studies.

Finally, "Advancing Drug Discovery through Integrative Computational Models and AI Technologies"[6] highlights the transformative potential of computational models and AI in identifying and validating repurposing candidates. By merging data-driven methodologies with biological insights, this article underscores the central role of technology in the future of drug discovery.

OUTLOOK: EXPANDING HORIZONS FOR DRUG REPURPOSING

As we look ahead, the journal is poised for significant growth in scope and influence. The coming year will see a dedicated effort to expand the diversity of topics covered, from rare diseases to oncology and neurodegeneration, ensuring that every therapeutic area benefits from the insights and innovations in repurposing science.

We aim to foster greater engagement with policymakers, industry leaders, and patient advocacy groups to translate research into actionable outcomes.

In alignment with the REPO4EU mission, *Drug Repurposing* will continue to prioritize interdisciplinary collaborations, international partnerships, and the inclusion of underrepresented voices in the research community. Additionally, special editions focusing on emerging trends such as personalized medicine in drug repurposing and regulatory advancements are planned.

With a rapidly growing readership and an expanding network of contributors, *Drug Repurposing* is becoming a cornerstone for the dissemination of groundbreaking research and a catalyst for dialogue and innovation. We thank our authors, reviewers, and readers for their invaluable contributions and invite you to join us on this exciting journey. Together, we can transform drug repurposing into a cornerstone of modern medicine, delivering faster, safer, and more effective treatments to patients worldwide.

FUNDING

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