



## World Leading Drug Delivery Researcher Professor Ryan Donnelly Joins PharmaTher as Scientific and Technical Advisor

- *Focus on expanding the delivery of controlled-substances in a microneedle patch.*
- *Evaluating potential uses of a microneedle patch for infectious diseases.*
- *Strengthening capabilities in the manufacturing of microneedle patches for FDA clinical studies and commercialization.*

TORONTO, Oct. 27, 2021 (GLOBE NEWSWIRE) -- PharmaTher Holdings Ltd. (the "Company" or "PharmaTher") (OTCQB: PHRRF) (CSE: PHRM), a clinical-stage psychedelics biotech company, is pleased to announce the appointment of Professor Ryan Donnelly, a world leader in the research and development of microneedle delivery technologies, as scientific and technical advisor for PharmaTher's microneedle patch delivery programs involving controlled-substances such as ketamine and compounds treating infectious diseases.

Professor Donnelly currently leads the Company's research program to develop a patented hydrogel-forming microneedle patch to deliver ketamine and KETABET™, a patented ketamine formulation, which represents a potential next-generation treatment for neuropsychiatric, neurodegenerative and pain disorders. Professor Donnelly's lab successfully completed research and published a paper titled "Hydrogel-forming microneedle arrays as a therapeutic option for transdermal esketamine delivery." His research validates the delivery of esketamine, the S(+) enantiomer of ketamine, in a novel microneedle patch which may overcome the drawbacks associated with ketamine administration in an intravenous or nasal spray format.<sup>1</sup> In addition, Professor Donnelly has successfully published research in the delivery of drugs to treat certain infectious diseases via a microneedle patch.

Professor Ryan Donnelly is the Chair of Pharmaceutical Technology at QUB. He is a leading expert and researcher in the field of transdermal delivery with a primary focus on microneedle drug delivery and its applications on improving therapeutic outcomes for patients. He has authored over 600 peer-reviewed publications, including several granted patents, 5 textbooks and approximately 250 full papers. His work has attracted numerous awards, including the Academy of Pharmaceutical Sciences Innovative Science Award in 2020, the Controlled Release Society Young Investigator Award in 2016, BBSRC Innovator of the Year in 2013, the GSK Emerging Scientist Award in 2012 and the Royal Pharmaceutical Society Science Award in 2011. He graduated with a B.Sc. degree in pharmacy (1999) and a Ph.D. in pharmaceutics (2003) from QUB.

Professor Ryan Donnelly commented, "I am delighted to expand my role with PharmaTher in the research, development and manufacturing of a next generation microneedle patch for the intradermal delivery of controlled-substances and compounds to treat infectious diseases. I have been involved in the research of microneedle drug delivery technologies for over 10 years and the potential for delivering controlled-substances, such as ketamine, via a microneedle patch offers a superior alternative delivery method that can overcome the limitations of delivery options faced with controlled-substances without comprising the safety and compliance of patients."

"We have been working with Ryan closely this year to advance the development of our patented microneedle patch to deliver ketamine and KETABET™ as a potential treatment for mental health, neurological and pain disorders. He brings extensive experience in microneedle patch development and he will be essential in guiding us into our next stage of clinical and commercial development of our microneedle patch for our product pipeline and future pharmaceutical partners," said Fabio Chianelli, CEO of PharmaTher.

PharmaTher continues to focus on developing and manufacturing a microneedle patch for FDA approval to deliver better controlled-substances for mental health, neurological and pain disorders, and compounds that treat infectious diseases that may overcome the potential drawbacks of oral administration, subcutaneous injections, topical and nasal delivery systems.

### About PharmaTher Holdings Ltd.

PharmaTher Holdings Ltd. (OTCQB: PHRRF) (CSE: PHRM) is a clinical-stage psychedelics biotech company focused on the research, development and commercialization of novel uses, formulations and delivery methods of psychedelics, such as ketamine, to treat mental health, neurological and pain disorders. PharmaTher is currently advancing an FDA approved phase 2 clinical study with ketamine to treat Parkinson's disease and is developing a novel microneedle patch for the intradermal delivery of psychedelics and infectious disease treatments.

Learn more at: [PharmaTher.com](https://www.pharmather.com) and follow us on [Twitter](#) and [LinkedIn](#).

For more information about PharmaTher, please contact:

Fabio Chianelli  
Chief Executive Officer  
PharmaTher Holdings Ltd.  
Tel: 1-888-846-3171  
Email: [info@pharmather.com](mailto:info@pharmather.com)  
Website: [www.pharmather.com](https://www.pharmather.com)

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### References:

1. Courtenay, et al. Hydrogel-forming microneedle arrays as a therapeutic option for transdermal esketamine delivery, *Journal of Controlled Release*, Volume 322, 2020, Pages 177-186.