PharmaDrug Announces Addition of Dr. Cindy Hutnik, President of the Canadian Glaucoma Society to Their Scientific Advisory Board to Enhance Ongoing DMT Studies to Treat Glaucoma

Toronto, Ontario--(Newsfile Corp. - December 13, 2021) - PharmaDrug Inc. (CSE: PHRX) (OTCQB: LMLLF) ("**PharmaDrug**" or the "**Company**"), a specialty pharmaceutical company focused on the development and commercialization of controlled-substances and natural medicines such as psychedelics, cannabis and naturally-derived approved drugs, pleased to announce the addition of Dr. Cindy Hutnik to its scientific and clinical advisory board. Dr. Hutnik will assist the Company in its ongoing efforts to develop N,N-dimethyltryptamine ("DMT") and other related tryptamine analogues as a potential treatment for glaucoma.

Dr. Hutnik, a full professor in the Departments of Ophthalmology and Pathology at the Schulich School of Medicine and Dentistry, is internationally recognized for the significant contributions she has made in understanding the basic pathophysiology of glaucoma, as well as the practical application of this knowledge in her clinical practice. Dr. Hutnik is the current President of the Canadian Glaucoma Society and is a Board member of the Glaucoma Research Society of Canada. Previously, she served as Medical Director of the Ophthalmology Basic Science Laboratory at the Lawson Health Research Institute in the Center for Clinical Investigation and Therapeutics for 18 years, and Chair of Research in the Department of Ophthalmology for 15 years. Her major research interest is focused on the pathophysiology and management of glaucoma with a sub-interest in ocular surface and macular disease. She has supervised and mentored in focused research activities more than 175 students at all levels of training ranging from high school to graduate science and medicine. Her work has been presented and published both nationally and internationally and has been recognized with over 90 awards. With deep industry connections, Dr. Hutnik continues to have keen interest in translating novel discoveries into innovative treatments for patients with glaucoma.

Dr. Hutnik, commented, "I am very excited to work with PharmaDrug in supporting their research and development initiatives in discovering novel uses and formulations of 5-HT receptor agonists, as a potential treatment of glaucoma and other underserved ophthalmology indications. PharmaDrug's candidate molecule studies, currently being conducted at the renowned Terasaki Institute, represent an exciting, paradigm shifting approach to improving outcomes for patients suffering from glaucoma."

PharmaDrug's Candidate DMT-Analogue Molecules Display Low Cytotoxicity

Under an ongoing sponsored research agreement with Terasaki Institute of Biomedical Innovation, the Company has initiated *in vitro* studies to assess the impact (cytotoxicity, potency and duration of activity) of its two candidate molecules on specific cell types known to regulate pressure disequilibrium in the eyes of patients suffering from glaucoma. Initial *in vitro* cytotoxicity studies on the Company's two candidate tryptamine molecules have now been completed and the data shows exceedingly low/absent impact on cellular viability across a concentration range that exceeds what is expected to be used clinically. Further functional data from the ongoing 2-dimensional cell culture studies is expected in January. Those data will be extended by investigating the impact of the lead candidate molecule in 3-dimensional microtissue studies aimed at specifically assessing smooth muscle contractility; a response understood to be critical in maintenance of healthy eye function.

The company believes with the engagement of Dr. Hutnik, its access to world class basic science and clinical expertise in ophthalmology has been significantly enhanced. Following the completion of *in vitro*

studies, the company will proceed to IND-enabling efficacy studies using a well accepted animal model of glaucoma. The *in vivo* studies are expected to begin in the second quarter with a focus on evaluating tolerability and efficacy (ability to lower intraocular pressure "IOP") when applied as a topical eyedrop in animal models of glaucoma. These studies will then be followed by development and testing of a purpose-built medical device capable of delivering sustained, local, sub-psychotropic levels of the development candidate to patients afflicted with glaucoma.

"We are very pleased to have Dr. Hutnik join us as a scientific and clinical advisor for our ophthalmology program, and we look forward to her contributions as we advance the research and development of our novel formulation in the treatment of glaucoma," said Daniel Cohen, Chairman and CEO of PharmaDrug. "Dr. Hutnik is a highly regarded, leader in the field of glaucoma, and she brings invaluable guidance and clinical trial experience having served as Principal Investigator on various clinical trials in the glaucoma space."

Unmet Medical Need For Glaucoma

Glaucoma is the second most common cause of blindness around the world. The global prevalence of glaucoma in people aged 40-80 years is estimated to be 3.5%[1]. Currently there are over 3 million people living with glaucoma in the US. In addition to the significant personal toll glaucoma takes on sufferers, the related costs and productivity losses now approach $3 billion in the US annually[2]. Increased IOP is a common feature noted in multiple types of glaucoma, that when left untreated, results in progressive and irreversible vision loss as a result of damage to the optic nerve.

Current treatments for glaucoma consist of surgery and/or topically administered eye drops that are aimed at lowering IOP. Despite widespread use of topical agents, protection from the cumulative harm of elevated IOP remains significant. As such, opportunities related to improved patient care and outcomes are sorely needed. Development of novel IOP lowering agents formulated using approaches that reduce common side effects and improve patient compliance continue to represent the cornerstone of novel treatments.

The Potential For DMT In Ophthalmology

Serotonin receptor 2a (aka 5-HT2a) is prominently displayed in areas of the eye that are known to be vital in the control of IOP. Basic research has shown that topical application of 5-HT2A agonists, including several analogues of DMT, potently reduce IOP in animal models of glaucoma[3]. DMT belongs to a class of compounds collectively referred to as tryptamines. Multiple different tryptamine family members have previously been shown to improve experimental models of glaucoma, however poor metabolic stability and solubility made them poor development candidates[3]. Leveraging existing knowhow in the DMT space, PharmaDrug intends to develop a metabolically stable, controlled release analogue of DMT for lowering elevated IOP. Our formulation will reduce the need for frequent re-application and in so doing, improve patient convenience and compliance.

A half century ago, with the passing of the Controlled Substances Act, almost all research directed at harnessing the promising therapeutic potential of psychedelics to treat serious, unmet medical needs all but ceased. The recent resurgence of research in psychedelics is just now beginning to take shape. We believe that our ongoing investment in high quality, foundational academic research combined with our translational activities focused outside of the neuropsychiatric space has strong strategic merit and is backed by sound mechanistic understanding.

About PharmaDrug Inc.

PharmaDrug is a specialty pharmaceutical company focused on the research, development and commercialization of controlled-substances and natural medicines such as psychedelics, cannabis and naturally-derived approved drugs. PharmaDrug owns 100% of Pharmadrug Production GmbH ("Pharmadrug Production"), a German medical cannabis distributor, with a Schedule I European Union

narcotics license and German EuGMP certification allowing for the importation and distribution of medical cannabis to pharmacies in Germany and throughout the European Union. PharmaDrug recently acquired Sairiyo Therapeutics ("Sairiyo"), a biotech company that specializes in researching and reformulating established natural medicines with a goal of bringing them through clinical trials and the associated regulatory approval process in the US and Europe. Sairiyo is currently developing its patented reformulation of cepharanthine, a drug that has shown substantial third party validated potential for the treatment of COVID-19 and rare cancers. Sairiyo is also conducting R&D in the psychedelics space for the treatment of non-neuropsychiatric conditions. The Company also owns 100% of Super Smart, a company building a vertically integrated retail business with the goal to elevate the use of functional mushrooms, and psilocybin mushrooms where federally legal, as natural based medicines.

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Caution Regarding Forward-Looking Information:

THE CANADIAN SECURITIES EXCHANGE HAS NOT REVIEWED NOR DOES IT ACCEPT RESPONSIBILITY FOR THE ADEQUACY OR ACCURACY OF THIS RELEASE.

This press release contains "forward-looking information" within the meaning of applicable securities legislation. All statements, other than statements of historical fact, included herein are forward-looking information. Generally, forward-looking information may be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "proposed", "is expected", "budgets", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases, or by the use of words or phrases which state that certain actions, events or results may, could, would, or might occur or be achieved. In particular, this press release contains forward-looking information in relation to: the development and commercialization of cepharanthine, the results of the Company's research and development in the psychedelics space and the development of the Supersmart business . This forward-looking information reflects the Company's current beliefs and is based on information currently available to the Company and on assumptions the Company believes are reasonable. These assumptions include, but are not limited to the ability of the Company to successfully execute on its plans for the Company and its affiliated entities; the ability to obtain required regulatory approvals and the Company's continued response and ability to navigate the COVID-19 pandemic being consistent with, or better than, its ability and response to date.

Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information. Such risks and other factors may include, but are not limited to: general business, economic, competitive, political and social uncertainties; general capital market conditions and market prices for securities; the actual results of the Company's future operations; competition; changes in legislation affecting the Company; the ability to obtain and maintain required permits and approvals, the timing and availability of external financing on acceptable terms; lack of qualified, skilled labour or loss of key individuals; risks related to the COVID-19 pandemic including various recommendations, orders and measures of governmental authorities to try to limit the pandemic, including travel restrictions, border closures, non-essential business closures, service disruptions, quarantines, self-isolations, shelters-in-place and social distancing, disruptions to markets, economic activity, financing, supply chains and sales channels, and a deterioration of general economic conditions; and a deterioration of financial markets that could limit the Company's ability to obtain external financing.

A description of additional risk factors that may cause actual results to differ materially from forward-looking information can be found in the Company's disclosure documents on the SEDAR website at www.sedar.com. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. Accordingly, readers should not place undue reliance on forward-looking information. Readers are cautioned that the foregoing list of factors is not exhaustive. Readers are further cautioned not to place undue reliance on forward-looking information as there can be no assurance that the plans, intentions or expectations upon which they are placed will occur. Such information, although considered reasonable by management at the time of preparation, may prove to be incorrect and actual results may differ materially from those anticipated.

The Company's securities have not been registered under the U.S. Securities Act of 1933, as amended (the "U.S. Securities Act"), or applicable state securities laws, and may not be offered or sold to, or for the account or benefit of, persons in the United States or "U.S. Persons", as such term is defined in Regulations under the U.S. Securities Act, absent registration or an applicable exemption from such registration requirements. This press release shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of the securities in the United States or any jurisdiction in which such offer, solicitation or sale would be unlawful.

Forward-looking information contained in this press release is expressly qualified by this cautionary statement. The forward-looking information contained in this press release represents the expectations of the Company as of the date of this press release and, accordingly, are subject to change after such date. However, the Company expressly disclaims any intention or obligation to update or revise any forward-looking information, whether as a result of newinformation, future events or otherwise, except as expressly required by applicable securities law.

References:

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3) May JA, McLaughlin MA, Sharif NA, Hellberg MR, Dean TR. Evaluation of the ocular hypotensive response of serotonin 5-HT1A and 5-HT2 receptor ligands in conscious ocular hypertensive cynomolgus monkeys. J Pharmacol Exp Ther. 2003 Jul;306(1):301-9. doi: 10.1124/jpet.103.049528. Epub 2003 Apr 3. PMID: 12676887.