



# SYMPOSIUMS

## Serotonin type 6 receptor antagonists: recent progress in sustainable synthesis methods and novel therapeutic applications

14–15 juin 2022

Centre Scientifique de l'Académie Polonaise des Sciences à Paris

Paweł Zajdel

Jagiellonian University

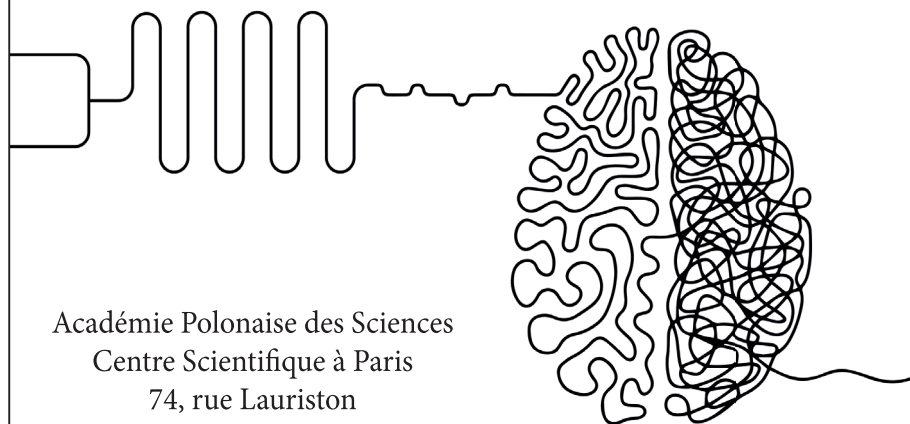
The area of research on neurodegenerative and psychiatric diseases is one of the main research priorities of the European Union programs. As a multidisciplinary exchange platform in the fields of medical chemistry, structural and molecular biology and pharmacology, the symposium was an opportunity to discuss the directions for the development of new therapeutic approaches in the treatment of central nervous system diseases. In order to develop more comprehensive strategies for searching for compounds with biological activity, the meeting focused on increasing the synergy between the activities of distributed research teams from various fields.

The aim of the two-day symposium was to discuss the achievements and challenges related to the development of drugs for the treatment of civilization diseases, with particular emphasis on issues related to i) methods of synthesizing biologically active compounds, i.e. flow chemistry and mechanochemistry, ii) new indications for original molecules in neurodegenerative diseases, psychiatric disease and neuropathic pain; and iii) analysis of potential biological targets for the development of new drugs for the treatment of multifactorial CNS diseases. The above goals were discussed in the context of the sustainable development of society.

The symposium was co-organized by the the Polish Academy of Sciences – Scientific Center in Paris, the Jagiellonian University-Collegium Medicum, the University of Montpellier, The Institute Max Mousseron of Biomecules (IBMM) and the Institute of Functional Genomics of Montpellier (IGF).

# SEROTONIN TYPE 6 RECEPTOR ANTAGONISTS: recent progress in sustainable synthesis methods and novel therapeutic applications

14-15/06/2022



Académie Polonaise des Sciences  
Centre Scientifique à Paris  
74, rue Lauriston  
75116 Paris

## Organizers:



ACADEMIE POLONAISE  
DES SCIENCES  
Centre Scientifique à Paris



UNIWERSYTET JAGIELLOŃSKI  
COLLEGIUM MEDICUM

## Partners:



Affiche

 PROGRAMME

**14/06/2022**

Opening session

- 09:45-10:00 REGISTRATION
- 10:00-10:05 **Magdalena Sajdak**, Polish Academy of Sciences –  
Scientific Center in Paris  
*Welcome Speech*
- 10:05-10:30 **Frédéric Lamaty**, Institut des Biomolécules Max  
Mousseron, University of Montpellier  
**Gilles Subra**, Institut des Biomolécules Max  
Mousseron, University of Montpellier  
**Philippe Marin**, Institut of Functional Genomics, ISERM  
**Paweł Zajdel**, Jagiellonian University Medical College

*Session 1: Sustainable synthetic approaches*

- 10:30-10:55 **Xavier Bantreil**, Institut des Biomolécules Max  
Mousseron, University of Montpellier  
*Biologically active molecules and Enabling Technologies:  
the Future in Motion?*
- 10:55-11:20 **Vittorio Canale**, Jagiellonian University Medical College  
*Medicinal mechanochemistry approach for a sustainable  
synthesis of 5-HT<sub>6</sub> receptor antagonists*
- 11:20-11:45 **Ophélie Bento**, Institut des Biomolécules Max  
Mousseron, University of Montpellier  
*When mechanochemistry meets biology: synthesis and  
characterization of the pharmacological properties of  
5-HT<sub>6</sub> receptor ligands*

11:45-12:15 COFFEE BREAK

*Session 2: Multitargeted approaches involving 5-HT<sub>6</sub>  
and 5-HT<sub>3</sub> receptor modalities*

12:15-12:40 **Katarzyna Grychowska**, Jagiellonian University  
Medical College  
*From selective 5-HT<sub>6</sub>Rs antagonists to dually-acting  
5-HT<sub>3</sub>/5-HT<sub>6</sub>Rs antagonists: a story of 1H-pyrrolo[3,2-c]  
quinoline*

12:40-13:05 **Christophe Rochais**, Centre d'Etudes et de Recherche  
sur le Médicament de Normandie  
*Polypharmacology approaches directed to 5-HT<sub>6</sub>Rs  
in Alzheimer's disease: from MTDL to pleiotropic  
prodrugs*

13:05-13:30 **Karolina Pytka**, Jagiellonian University  
Medical College  
*HBK-15 – a unique multimodal compound showing fast  
antidepressant-like and procognitive effects*

13:30-15:30 LUNCH BREAK

*Session 3: Structural Biology, interactomics and signalling*

15:30-15:55 **Hugues Nury**, Institut de Biologie Structurale,  
University of Grenoble  
*Conformational transitions of a serotonin receptor  
and a nicotinic one*

15:55-16:20 **Séverine Chaumont-Dubel**, Institut of Functional Genomics, ISERM  
*The 5-HT<sub>6</sub> receptor in neurodevelopment: From embryo to adult, location and partners are paramount*

16:20-16:45 DISCUSSION

**15/06/2022**

09:15-09:30 REGISTRATION

*Session 4: Selective 5-HT<sub>6</sub>R inverse agonists - novel therapeutic opportunities*

09:30-09:55 **Carine Bécamel**, Institut of Functional Genomics, ISERM  
*5-HT<sub>6</sub> receptor-operated mTOR signaling as target for disease modifiers preventing onset of cognitive deficits in schizophrenia*

09:55-10:20 **Christine Courteix**, Université Clermont Auvergne, INSERM U1107, NEURO-DOL  
*5-HT<sub>6</sub>R inverse agonists, a new strategy in the treatment of neuropathic pain*

10:20-10:40 COFFEE BREAK

10:40-11:05 **Laurent Givalois**, INSERM U1198, University of Montpellier  
*Evaluation of two 5-HT<sub>6</sub>R antagonists in an acute model of Alzheimer's disease*

- 11:05-11:30 **Julie Le Merrer & Jerome Becker, INSERM U1253**  
“Imaging and Brain”  
*The two faces of the 5-HT6 receptor in autism spectrum disorders: beneficial or deleterious*
- 11:30-12:15 DISCUSSION & CLOSING REMARKS
- 12:15-14:00 LUNCH BREAK