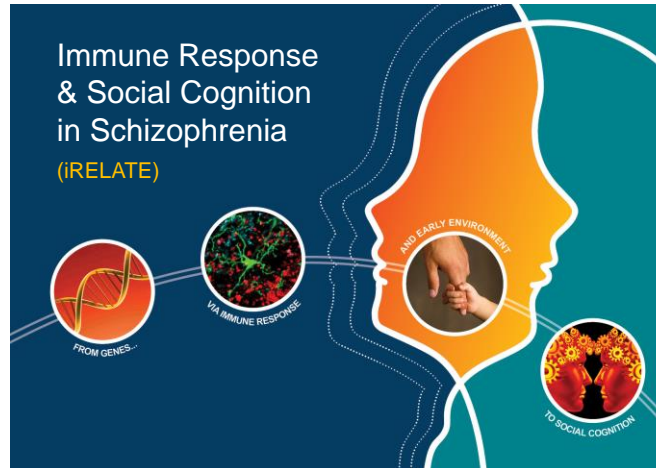


# Student Traineeship working with the iRELATE team

September 2018 – May 2019.



## 'iRELATE' Project Background:

Schizophrenia is a chronic psychiatric disorder that affects close to 21 million people worldwide and is estimated to be the 8th leading cause of disability worldwide in the 15-44 age group. The disease is associated with a range of symptoms, that are divided into three broad groupings, namely positive (hallucinations, delusions), negative (apathy, lack of emotion) and cognitive (disorganised thoughts, memory problems) symptoms. Considerable effort has gone into attempting to find the causes of schizophrenia. Evidence suggests that prenatal influenza infection may increase vulnerability for the development of schizophrenia, such that subsequent exposure to risk factors such as social isolation in early postnatal life is more likely to precipitate a schizophrenic episode.

The purpose of this project is to assist in the development of a dual-hit mouse model of schizophrenia that will enable both cognitive behaviours and immune parameters to be evaluated. The model will be produced by administering a compound that activates the immune system known as polyribosinosinic-polyribocytidilic acid (Poly I:C) to pregnant mice (hit 1), followed by exposing the resultant offspring to post-weaning social isolation (hit 2). The adult offspring will be assessed in behavioural tests of exploration (open field test), recognition memory (novel object recognition test) and social cognition (3-chambered social test). Cultured splenocytes from these mice will be stimulated with Poly I:C *in vitro* to assess the effects of prenatal and postnatal environmental factors on the immune system.

## Learning Outcomes:

During the course of the project the student will complete the following courses and attain a number of valuable scientific laboratory skills as described below.

- Complete a 2-day Laboratory Animal Science & Training (LAST) course in September 2018: Students will learn about the biology and husbandry of laboratory rodents. Following the successful completion of a short MCQ-based exam, the student will receive a LAST certificate enabling them to be able to work with laboratory animals.

- Complete Experimental Methods in Pharmacology Module (Semester 1, 2018): At the end of this Module you will have acquired skills in laboratory techniques, experimental design, application of statistics and the presentation of experimental findings in a variety of formats.
- Conduct and record mouse behavioural testing including
  - Open field test
  - Novel object recognition test
  - 3-chambered social memory test
- Learn how to analyse mouse behaviour from video files using the latest automated mouse tracking software (Ethovision, TrackSys, UK).
- Learn how to conduct *in vitro* cell culturing of mouse splenocytes.
- Submission of a project report

To express your interest in this traineeship please contact either Dr. Lieve Desbonnet [lieve.desbonnet@nuigalway.ie](mailto:lieve.desbonnet@nuigalway.ie) or Prof. Gary Donohoe [gary.donohoe@nuigalway.ie](mailto:gary.donohoe@nuigalway.ie)