

Study Investigates DNA of Sleep

June 24 2009

A new study at the University of Leicester aims to investigate the DNA of sleep.

The research in the renowned Department of Genetics at the University of Leicester is being carried out by Ms Mobina Khericha and Dr Eran Tauber. It represents a new approach to study the genetics of [sleep](#).

Using fruitflies as models the researchers aim at understanding the genetics of sleep and identifying genes involved in this process.

Ms Khericha said: “Recent studies have revealed the presence of sleep-like state in the fruit-fly *Drosophila melanogaster* that shares striking similarities with mammalian sleep.

“For example, sleep in the fruit fly can be modulated by chemicals such as caffeine, and is characterized by a reduced arousal following sleep deprivation. In older flies sleep becomes shorter and fragmented. [Fruit flies](#) are a powerful model organism that has been extensively used to understand the genetics of human development, behaviour and disease.

“Sleep is ubiquitous in a diverse range of [organisms](#) including reptiles, birds and mammals, and is widely accepted as critical for survival. However, despite intensive research, the [genetic](#) and [molecular mechanisms](#) controlling sleep are largely unknown.

“Our project is mostly focusing on identifying [genetic variation](#) that underlies natural sleep variation between individuals. Analysing the

variation in sleep pattern has already allowed us to identify several genome regions that include [candidate genes](#) that cause natural variation in sleep.”

Experiments are currently being carried to identify the specific DNA variations that cause the changes in sleep pattern. This project addresses the recent initiative of research councils to replace animals protected under the Animals Act 1986 with invertebrate models, and offers an alternative approach to the study of the basic science of sleep, which would otherwise require a large number of rodents or other vertebrate models.

Ms Khericha adds: “My hope is to identify important genes regulating sleep that could then serve as working hypotheses to study the genetic of human sleep disorder”.

Mobina Khericha will be presenting her research at the Festival of Postgraduate Research which is taking place on Thursday 25th June in the Belvoir Suite, Charles Wilson Building, University of Leicester.

Provided by University of Leicester ([news](#) : [web](#))

Citation: Study Investigates DNA of Sleep (2009, June 24) retrieved 24 April 2024 from <https://medicalxpress.com/news/2009-06-dna.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.