# Fast Forward

## General Fund

This project is funded by Fast Forward, LLC, a nonprofit organization established by the National Multiple Sclerosis Society in order to accelerate the development of treatments for MS. Fast Forward will accomplish its mission by connecting university-based MS research with private-sector drug development and by funding small biotechnology/pharmaceutical companies to develop innovative new MS therapies and repurpose FDA-approved drugs as new treatments for MS.

| *Primary Investigator* | *Project Title* | *Amount to be Committed* |
|---|---|---|
| Robin Franklin, PhD, DVM<br>Wellcome Trust and MRC Cambridge Stem Cell Institute<br>University of Cambridge<br>Cambridge, UK | Identification of Retinoic acid gamma agonist 'hit like' molecules | $200,000<br>Term – 12 months |

# *About the Investigator*

Robin Franklin obtained his undergraduate degrees in Physiology and Veterinary Medicine and his PhD in Neuroscience at the University of Cambridge. He a Full Professor of Neuroscience at the University, Director of the UK MS Society Cambridge Centre for Myelin Repair – a consortium of Cambridge-based scientists and clinicians who are collectively working towards stem cell-based therapies for myelin repair and axon protection in myelin disorders – and Director of the Neural Stem Cell Programme within the Wellcome Trust and MRC Cambridge Stem Cell Institute. Dr. Franklin has worked predominantly on the biology of myelin repair and investigating strategies by which this important regenerative process may be enhanced therapeutically.

Fast Forward℠

General Fund

# Project Background & Goals

Initially, when myelin – the material that surrounds and protects nerve fibers – is damaged in MS, spontaneous repair occurs. The attempts to repair myelin, however, do not keep up with the damage. Nerve fibers are damaged as well, which contributes to long-term disability.

Dr. Franklin previously was a member of a Nerve Protection and Repair Initiative team funded through the Society's Promise:2010 campaign. The team identified a molecule that is "turned on" following myelin damage, and which plays a role in forming new myelin. This molecule called RXR-gamma, is found at sites of tissue damage in the nervous systems of people with MS. The team showed that a compound that promotes RXR activity promoted maturation of myelin-forming cells in the lab and in rodent models.

In this project, Dr. Franklin and colleagues at the Universities of Cambridge and Edinburgh are working with Domainex, a drug discovery company that has an exceptional track record of drug candidate delivery. Dr. Franklin's team and Domainex are using a proven virtual screening method that will allow them to identify a library of about 1,000 molecules that can promote RXR-gamma activity.

This effort can identify molecules for future testing that may promote myelin repair, and restore function in people with MS.