

Published by Portland Press Limited six times a year
(February, April, June, August, October and December).
The Biochemist © 2022 Biochemical Society
ISSN 1740-1194 (Online)

First Floor
10 Queen Street Place
London EC4R 1BE
email: editorial@portlandpress.com
website: <https://portlandpress.com/biochemist>
Registered charity no. 253894

Science Editor: Heather Doran (University of Dundee, UK)

Editorial Board: David Pye, Shane Hegarty,
Matthew Lloyd, Harriet Groom, Roseanna Hare
and Doug Marshall.

Production Editor: Kimberly Bayley-Tweed

Editorial team: Orla Lappin

Design by Peter Jones

The Editors are pleased to consider items submitted for publication. Opinions expressed in signed articles are not necessarily those of the Society. The information in this issue was correct at the time of publication.

Mitochondria – expanding the role of the powerhouse

by Heather Doran, Leverhulme Research Centre for Forensic Science, University of Dundee

In this issue of *The Biochemist*, we are bringing you articles that cover all the things that you didn't know about mitochondria.

We all know the definition of mitochondria as 'the powerhouse of the cell'. When I first learnt about mitochondria, I was amazed and in awe of learning how chemistry and life connect. I was thrilled to dedicate a whole issue of *The Biochemist* on the topic of mitochondria and I was amazed again when I read the submissions – the knowledge we have about mitochondria has expanded way beyond that high school definition. Take the article from the Picard Lab, which explores how they are investigating the way in which mitochondria might influence mental and physiological functions: pushing the boundaries of how we understand individual elements within biology and how they can contribute to the system they exist within – beyond a singular function.

This issue explores not only the wide-ranging role of mitochondria but also the many ways in which researchers can investigate and think about the role of mitochondria to better understand their function.

It's clear that in biology, individual components cannot be looked at in isolation. In visualizing and considering mitochondria and biological systems, it can be incredibly useful to work with artists and designers to shift the thinking and push research questions into new directions. I was incredibly excited by the article on the collaborative project from the Royal Society of Edinburgh and the Biochemical Society, and subsequent work which has led to the creation of a global collective—a network of researchers, biologists, artists and designers—to reframe how we think about mitochondria. One aspect of this work involved looking to the future of the study of mitochondria and this creative approach might aid researchers in making those next leaps in understanding these important organelle.

I was also pleased to read about the advancements in mitochondrial DNA engineering techniques which are supporting the possibility of treatments for mitochondrial diseases. This area has not been as quick to advance due to the incompatibility of techniques developed for nuclear DNA but now some breakthroughs give hope in this area.

In this edition of *The Biochemist*, you can also find a news section which features important updates on how the publications from the Biochemical Society are moving towards an open scholarship model and the steps that have been taken over the past few years to achieve that.

The Biochemist magazine is, of course, free and available for all to read. The best way to support the publication if you enjoy reading articles is to share via social media and email. ■



Find us on Facebook at [Biochemical Society](#)



Follow us on Twitter [@The_Biochemist](#)