



## Adding colour to life

Enclosed is a collection of drawings exploring the unexpected beauty of your body at a tiny scale. Take a look, learn about yourself and add colours to reveal patterns. The collection is organised around size, with views compared with the width of a human hair. We start with molecules, which are the tiniest and well beyond our vision, but make up our bodies and influence us in so many ways. Drawings of molecules are based on models, whilst moving up in scale it's possible to start glimpsing the striking regular structures of viruses through electron microscopy. Next are the building blocks of life – cells – which come together to form tissues in your body and can be seen using light microscopy.

These drawings are all based on real specimens. Your body mostly lacks colour at the microscopic scale so dyes are needed to reveal the detail within. Since there is no colour, you are free to choose whatever colours you wish. Red blood cells are an exception, but their concave shape offers much potential for colouring.

The subject for this book may seem surprising: 'pathology', which means the study of disease, deriving from the Greek 'pathos' (suffering) and 'ology' (study of). Pathologists are involved in the diagnosis of diseases affecting every organ in the body. They work to prevent, identify, treat and monitor diseases. Some pathologists are vets who specialise in diagnosing and treating disease in animals. Most images show healthy specimens, as you need to understand what is normal before identifying what can go wrong. Pathologists examine samples from the body for signs of disease. Their findings lead to the right treatment being given to restore the body's tissues and organs to health. Surprisingly though, causes of disease, such as viruses, can be beautiful when looked at closely.

I hope these images will excite curiosity, learning and delight with beautiful patterns emerging with colour. Maybe they can even provide comfort, and show that what we may fear can also be surprisingly beautiful and fascinating.

## Colouring for relaxation

Working with adults in hospital first brought to my attention how much colouring-in can be enjoyed to help combat anxiety, loneliness and boredom. *The Anatomy Colouring Book* has been popular with medical students since 1977. More recently adult colouring-in books have become widespread, giving permission for us all to be playful for relaxation. They often focus on intricate patterns, so I wanted to create a collection of drawings for colouring-in that not only provides patterns and details but also the opportunity to learn about yourself and view glimpses of the natural world inside your own body. Like a pathologist applying dyes, you too can reveal the beautiful structures inside your body through adding colour. This book celebrates our health and how science brings hope and understanding.

## About the author

Following a doctorate, and fellowship in cancer research at the University of Oxford, Dr Lizzie Burns became a full-time science-based artist and communicator in 2002, exploring the beauty and wonder of life and how medicine helps. As well as her own artwork, including illustrations for *The Brain as a Tool* by Ray Guillery, Lizzie has worked on many outreach projects encouraging young people to get inspired by pathology for the Royal College of Pathologists. Lizzie also works regularly with adults in University College Hospital as a Creative Specialist within Oncology. Lizzie started the Anti-boredom Campaign to raise awareness of boredom in hospitals and encourage people to create resources to improve wellbeing by providing a much needed 'holiday for the mind'.

"I hope these resources can be useful for learning and relaxation whatever your age, situation or background. Your body is amazing."

- Dr Lizzie Burns