

# Meet a New ASP Member

ASP is pleased to welcome many new members to the Society this year. One of our new members for the start of 2013 is Dr. Ian Acworth, Director, Thermo Fisher Scientific. We are pleased to become more acquainted with him and his fascinating research interests.

By Mr. Dan Kulakowski

## How did you hear about the ASP?

I was looking for a relevant meeting to discuss my data on the measurement of botanicals and natural products using HPLC with either electrochemical array detection or charged aerosol detection. I came across information about the ASP Annual Meeting in San Diego in 2011 and decided to attend the conference and present my data. It was a great experience, a perfect meeting, excellent lecture topics, and very informed presenters.

## Why did you join ASP?

For several reasons: to show my support, to be part of a society that reflects my interests, and to continue my education.

## Do you belong to any other scientific societies?

I used to belong to many more societies than I do now, such as Society for Neuroscience, New York Academy of Sciences, Biochemistry Society UK, and The Oxygen Society (Free Radical Biology and Medicine). Due to budget constraints I have had to be more selective in my choices. Apart from ASP, I am now an active member of the Association of Official Analytical Chemists (AOAC) and the American Chemical Society (ACS).

## What are your current research interests in pharmacognosy?

I have a number of interests. I have always been fascinated by biochemical pathways, especially those for secondary metabolites. I am keen to understand the role of orphan molecules, molecules whose biological significance are currently not fully understood, but are waiting to be discovered. I am interested in applying advanced analytical techniques that can address authentication, adulteration, and contamination of botanicals. Finally, as a neurochemist, I am very interested in the neuropharmacological properties of natural products.

## What is your scientific background?

I have a BA, MA and PhD in biochemistry from the University of Oxford, Oxford,

United Kingdom. My doctoral research examined the link between how changes in peripheral metabolism can affect central neurotransmission leading to central fatigue. Based on my findings, I was invited to be a postdoctoral Fellow at the Department of Brain and Cognitive Sciences at Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts. This allowed me to extend my research to look at the effects of endurance exercise in Boston marathoners in 1987. In order to directly study central neurotransmission, I evaluated and extended a technique called in vivo microdialysis that allows a sampling probe to be placed in living tissue. Samples can then be collected every few minutes and analyzed off-line for changes in analyte levels.

In order to measure the ultra low neurotransmitter levels (typically on the sub-picogram levels) I used a very sensitive and selective approach, HPLC with electrochemical detection. Using this technique, I could then evaluate the effects of exercise on central metabolism, but also to use this model to directly evaluate the effects of drugs on neurotransmission (e.g., was the drug a monoamine oxidase (MAO) inhibitor? An agonist? A re-uptake blocker? etc). I also used this approach to study whether analytes with purported central activity could actually pass through the blood-brain barrier. I was then hired in 1989 by the manufacturer of the electrochemical detector, ESA Inc., to head their applications and support group. Over the years my staff developed a great number of application chemistries for our customers including methods for flavonoids, phytoestrogens, catechins, and carotenoids in a wide variety of matrices including botanical extracts,



Dr. Acworth

MR. BRENT MORRISON.

plasma, and urine. ESA Inc. was acquired by Dionex and is now part of Thermo Fisher Scientific, Chelmsford, Massachusetts.

From 1989 through today, I am also an Adjunct Associate Professor of Pharmacology at The Massachusetts College of Pharmacy and Health Sciences in Boston, Massachusetts.

This allows me to continue my research interests. Interestingly, the famous pharmacognosist, Dr. Norman R. Farnsworth, was a graduate of this school.

## What would you like to achieve through your membership?

Contact with colleagues having similar interests, and active participation in the Society.

## What do you like doing in your spare time?

I like to garden (I specialize in hellebores, *Helleborus* spp., and daylilies, *Hemerocallis* spp.). I also collect mineral specimens from Cornwall and Devon Counties in South West England). This collection is made particularly challenging as I do not visit England often, many of the collecting sites are closed to the public, and there are no actively working mines, meaning specimens have to be acquired from old collections and museums.

## What are you currently reading?

With an eleven year old daughter, I do not have much time to read. I listen to audiobooks when I drive and travel. I am currently listening to many of the classics I was forced to read at school and am enjoying them much more than in my childhood. The last work of fiction I listened to was William Faulkner's *The Sound and the Fury* (I was inspired to do so after attending last year's International Conference on The Science of Botanicals). For non-fiction I am listening to *Why Priests?* by Gary Wills.