

## Report: 2009 Annual Meeting of the Society for Thermal Medicine (STM)

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At the beginning of April, I hit the road for two weeks' attendance at the 2009 annual meeting of the Society for Thermal Medicine (STM) in Tucson, Arizona, USA. This was my second opportunity as a DPhil student to present a paper at an international conference, and I was fortunate to be supported in this endeavour by a St Anne's travel grant of £300.

My group's work involves killing cancerous tumours using High Intensity Focussed Ultrasound, or HIFU for short. This is the same ultrasound that can be used to see a foetus in the womb, but of much higher energy and focussed into a small region. Using HIFU, it is possible to heat and kill an area of cancerous tissue no larger than a grain of rice while leaving the surrounding, healthy tissue unharmed. This therapy is completely non-invasive and promises to improve the lives of many cancer sufferers. The work I presented at STM focused on a method of quantifying and assessing the effectiveness of a HIFU treatment in a laboratory setting by using a transparent, tissue-mimicking gel with an easily observed indicator of heat delivery.

The theme of the 2009 STM meeting was 'Expanding the Frontiers of Thermal Medicine, Biology and Physics', which encompassed a vast array of interesting and current topics besides the work of my group. On the scientific front, the conference covered advances in areas such as physiology, immunology, biology, and thermal physics, all of which deepened the current knowledge of the mechanisms that underlie thermal therapy. Many clinicians and keynote speakers also presented firsthand experience of the positive effects thermal medicine had on patients, including one instance where a professional American football player was spared a life of quadriplegia thanks to medically induced hypothermia. Finally, the STM meeting linked the clinical and scientific spheres by including presentations on advanced equipment design as well as new treatment monitoring techniques, both of which accelerate the application of scientific knowledge in clinics. More information can be found on the [STM website](#).

The STM conference also included highly useful refresher courses preceding each of the symposia. These 20-minute talks were designed to bring everyone up to speed on the important terminology and concepts associated with that symposium's topic. The refresher courses greatly enhanced most of the subsequent talks by explaining the technical terminology as well as situating the research within the context of a broader topic. Moreover, all presenters took great care to make their topic accessible while also providing a thorough overview of it. Slides from all of the review talks were uploaded online for later viewing, thus allowing these talks to be disseminated within each attendee's research group after the meeting. All told, even without the rest of the conference, the refresher courses alone would have been worth the registration fee.

Another aspect of the STM conference I found especially impressive was that it maintained a clear focus on its theme of advanced thermal medicine but simultaneously managed to cover a wide spectrum of topics within this area and span multiple subject areas. Like most academic research these days, my work is highly interdisciplinary: I'm an electrical engineer by trade, but much of what I do involves biology, medicine, and other branches of engineering science. Hence, the most valuable aspect of the STM conference for me was the ample opportunity I had to meet and interact with specialists in all of these areas. I particularly liked chatting with doctors and clinicians to find out what makes them tick, because ultimately they'll be the ones

who apply what we begin creating in the lab, and often they think about biomedical problems in a completely different way than I do. The STM conference was excellent at facilitating this exchange of ideas: there was even a special session of open discussion between engineers and clinicians, and some of the points arising from this helped me put my research into perspective and sharpened my project's focus.



*Soaking up the desert sun at a group trip organised by the conference to the delightful Sonora Desert Museum, on the outskirts of Tucson, Arizona. Much of the museum consists of living outdoor exhibits of desert fauna and flora.*

*Photo: Sacha Nandall*

The STM meeting also provided ample networking opportunities, which for me is one of the most important reasons for attending a conference to begin with.

Some people approach networking in a strategic way, but personally I just like chatting people up and seeing if I can share a laugh with them. Whether I'm talking to a fellow PhD student, a recent graduate working at a company, or the head of a leading research laboratory, it's nice to connect with people when they're free from the typical demands on their time.

Interestingly, the most memorable and useful experiences I've had at conferences have come from this seemingly random banter rather than the talks themselves. I find that it's easy to miss the finer points of a ten-minute scientific presentation, but talking to someone over lunch usually produces much more candid and memorable discussion. The STM organisers clearly recognised the importance of networking by planning multiple 'meet-and-greet' sessions, including a general networking reception at the start of the conference as well as a lunch specifically for students and young investigators.

In summary, the STM 2009 conference provided me with considerable insight into my research area and ranks among the highlights of my second year as a DPhil student. Travelling to events like these is easily one of my favourite perks of an academic career, and, in this instance, I owe a great deal to St Anne's for making this experience happen.

