



BRITISH SOCIETY FOR NANOMEDICINE

NEWSLETTER

MARCH
2019
ISSUE 2

Welcome to the British Society for Nanomedicine (BSNM) Newsletter

With the global benefits of the new science of nanomedicine growing each year, the British Society for Nanomedicine has been created to allow open access for industry, academia, clinicians and the public to news and details of ongoing research throughout the UK.

As a registered charity (Charity number 1151497) our mission includes the direct explanation of the ongoing science and commercial developments to allow the public to understand and stay in touch with this exciting area as it impacts future global healthcare. Scientists can also present their latest advances and highlight their work to industry and other researchers.

The Society is affiliated to other leading organisations involved with nanomedicine including: CLINAM, the European Technology Platform for Nanomedicine, the British Pharmacological Society and the American Society for Nanomedicine.

This newsletter will endeavour to keep you up to date with all the various activities of the Society and keep you posted on upcoming conferences and events. If you have any questions regarding this newsletter or any other aspect of the Society as a whole, please don't hesitate to get in touch.

Contact us

The British Society for Nanomedicine (registered charity no. 1151497) is hosted at the University of Liverpool.

For queries or feedback please complete our online enquiry form or contact Jo Sharp, the Secretary of the Society at:

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BRITISH SOCIETY FOR
NANOMEDICINE

2019

5th Annual Early Career Researcher's Meeting

25-26 July 2019, University of Strathclyde (Glasgow)

The annual BSNM meeting connects, develops and encourages Nanomedicine research within the UK

Prizes for oral and poster presentations !

Abstract deadline: 26th April 2019

Earlybird registration deadline: 17th May 2019

For more details: <http://www.britishsocietynanomedicine.org/>

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ENM 2017 Review – Jo Sharp (University of Liverpool)

The European Nanomedicine Meeting (ENM) was held in King's College London, April 3rd – 4th, 2017. The meeting was one of the largest held by the BSNM to date with almost 150 delegates and was sponsored by an array of industrial partners.

The meeting opened with short presentations from all the European nanomedicine groups including The British Society, French Society and the Spanish and German Platforms. The chairman of NanoMed North, Ulf G Andersson also gave a short presentation and there was an overview of the US activities too.

The European Nanomedicine Characterisation Laboratory (EUNCL) session, chaired by Professor Andrew Owen, began with an overview of EUNCL by Dr Simon Baconnier and included presentations on chemical characterisation and biocompatibility

testing. The session concluded with a presentation about the regulatory challenges of nanomedicines which led into a discussion panel.

King's College London was a fantastic venue and the Great Hall held the lunch time poster sessions and all our exhibitors, allowing for networking and continued discussions as well as a lovely lunch.

The afternoon of day 1 started with a Fundamental Nanomedicine session with speakers such as Professor Cameron Alexander from Nottingham, Professor Yuri Volkov from Ireland and a sponsor communication from Postnova. The afternoon ended with presentations on nanosensors, nanopores and nanolithography as well as a sponsor presentation by Malvern.

The evening entertainment was a

fantastic gala dinner, catered for by Food by Dish, held in The Crypt of St Paul's Cathedral. Everyone had a fantastic evening socialising.

The following morning started with a Preclinical Nanomedicine session chaired by Dr May Azzawi. Speakers from Germany, UK, Poland and Scotland presented their work on drug targeting in atherothrombotic disease, nanotheranostics in targeted drug delivery, nanotechnology for medical devices and targeted nanomedicines for cancer therapy, respectively.

After coffee the session continued with presentations on radiolabelling methodology, nanocapsules for microRNA replacement therapy, novel copper-tirapazamine liposomes and a sponsored presentation by IZON. The morning session was followed by a second poster session,



ENM 2017 Review – Continued

allowing over 60 posters to be presented to the judges.

The afternoon started with a Translational Nanomedicine session. Dr Michael Sperling from Germany presented fantastic images of nanoparticles in rat lung tissue and Lea Ann Dailey from Belfast presented her work on making a smooth road to translation in Nanomedicine. Dr Enza Torino from Italy presented her work on nanostructures for therapy and multimodal imaging applications.

After coffee, the afternoon session continued in translational nanomedicine with presentations on magnetic blood purification, polypeptide nanoparticles for sustained delivery and an investigation into IV PEG-liposomal corticosteroids. The session concluded with a sponsor presentation by Precision

Nanosystems.

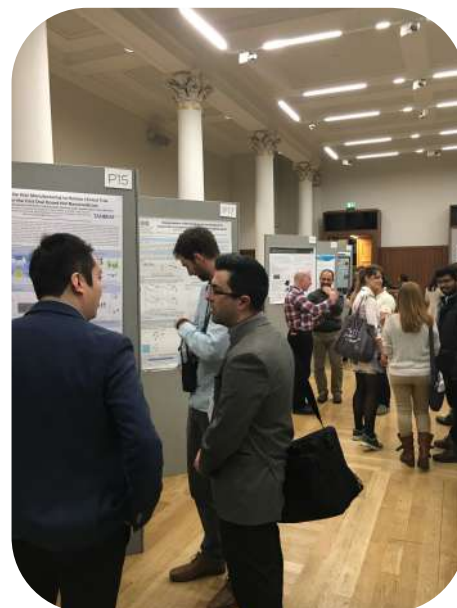
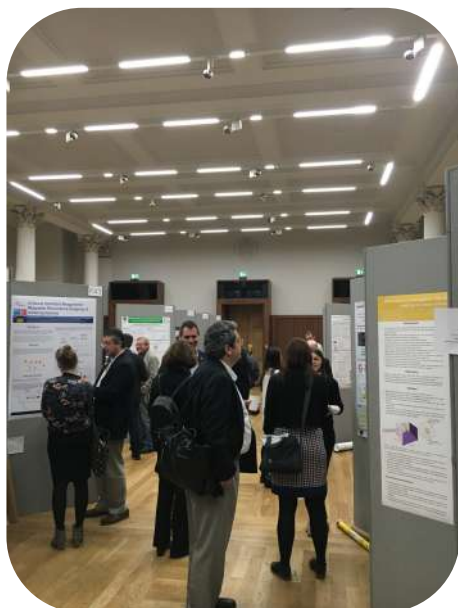
As day 2 came to a close, Professor Steve Conlan chaired the final session discussing the future needs from nanomedicine including presentations from Professor Chris Scott about the future direction of nanomedicine therapeutics, Professor Patrick Boisseau talked about the ETPN nanomedicine translation hub and Alex Saxon from Research Councils UK discussed pathways in nanomedicine in the UK.

NanomedTAB (the first European Nanomedicine Translation Advisory Board) also held simultaneous drop-in sessions during the second day to allow face-to-face meetings to discuss how the most promising projects could be helped through translation to market. This free of charge guidance from experts was invaluable to our attendees.

Prizes of £500 each were awarded for the best two oral presentations, sponsored by the BSNM and SFNano and prizes of £250 each were awarded to the two best poster presentations, sponsored by the Spanish and German Nanomedicine Platforms. Our congratulations go to those prize winners!

The ENM 2017 was an interesting, collaborative meeting which allowed for both seasoned speakers and early career researchers to take to the stage and present their latest work or for work to be presented as posters in the Great Hall alongside the sponsors and exhibitors.

We would like to thank our sponsors of this event and we hope to hold another similar event in years to come.



BSNM ECRM 2017 Review – Adam Leach (QUB)

The 3rd annual BSNM Early Career Researchers Meeting took place 10-11 August 2017 in Queen's University Belfast. This event gives young researchers of all levels whether PhD, postdoctoral or early stage fellows an opportunity to present their work in a laidback, inclusive and supportive environment.

Nanomedicine is an inherently interdisciplinary and applied field and the keynote lectures reflected this well: Fred Currell (QUB) delved into

the interface of physics and medicine in his keynote lecture about irradiation of heavy atom nanoparticles. Adriele Prina-Mello (Trinity College Dublin) emphasised the importance of standardised characterisation to improve clinical translation of nanomedicines which has been notably lacking so far despite the large amount of basic research performed.

Talks and posters from the young(er) researchers spanned the breadth of

nanomedicine: from organic to inorganic nanomaterials, drug delivery to biosensors, cancer to regenerative medicine. There were many opportunities for discussion of research among nano-focused researchers, a rarity as few conferences focus specifically on nanomedicine. The traditional ceilidh after the conference dinner also proved to be a great (if tiring) icebreaker and was a great way to get to know the BSNM community.



5th July 2019

5th Annual Keele Nanopharmaceutics Symposium

Keele University,
Sustainability Hub

No registration fee

If you are planning to attend please email Dr Clare Hoskins: c.hoskins@keele.ac.uk to register



NANOMED 2018 Review - Cai Astley and May Azzawi (Manchester Metropolitan University)

In its 5th year running, this highly successful conference was held in Manchester in June 2018. The three-day event was attended by delegates worldwide, supported by the Nanosmat, the Polish Biomaterial Societies and British Society for Nanomedicine, representing an important platform for networking and exchanging knowledge. Over twenty experts and international invited speakers, delivered keynote and plenary talks in a number of parallel sessions, focusing on key areas in the application of nanotechnology in medicine including, Biomaterial science; Diagnostics and Imaging; Drug Delivery; and Tissue Engineering.

The first day's afternoon symposium 'Nanomedicine for

therapy: *Bench-to-bedside*', was organised by the British Society for Nanomedicine and chaired by May Azzawi and Yvonne Alexander (Manchester Metropolitan University, UK). The five talks highlighted the delivery and applications of novel nanoformulations towards personalised therapy of key chronic conditions, including cancer. In particular, Andrew Owen (University of Liverpool, UK) shared his group's research on the promising application of solid drug nanoparticles (SDNs), as long-acting injectables for the treatment of HIV and malaria, to overcome the problem of drug adherence. Details on the use of a nanogel-based *in situ* forming implant for long acting drug release, were further discussed by Tom McDonald

(University of Liverpool, UK). Novel nanoformulations were also highlighted in the treatment of difficult pathogens; a very inspiring talk delivered by Chris Scott (Queen's University Belfast, UK). Steve Conlan, (Swansea University, UK) discussed his group's key findings in the area of therapeutics and applications of nanomedicines in gynaecological cancers and this was followed by Christine Dufes's talk (University of Strathclyde, UK) on the promising use of targeted dendrimer-lactoferrin biomolecules, encoding the cytokines IL-12 and TNF- α for the regression of prostate tumours in preclinical studies.

The 'Welcome reception', at the end of day one, was addressed by



NANOMED 2018 Review - Continued

Andy Gibson, Pro-vice Chancellor of Manchester Metropolitan University, and encompassed a vibrant poster session that showcased an array of expertise and highlighted the interdisciplinary feel of the conference. The best poster prize (sponsored by the British Society for Nanomedicine) was awarded to Moussa Mahamat Yaya, final year PhD student, from the University of Bradford, for his work on the therapeutic application of organic nanoparticles, entitled: 'Hydrocortisone acetate and sodium succinate liposomal preparations for ophthalmic applications using microfluidics'.

The next two days of the

conference were packed with interesting talks in a number of parallel sessions which often concluded with thought provoking discussions that highlighted key regulatory, safety and ethical issues associated with the use and applications of nanomedicines. Much progress has recently been made, thanks to advancements in analytical and imaging techniques (MRI, optoacoustics *etc.* – *optimised using nanoparticles as a contrast medium/probe*) and its unrealised potential for the diagnosis and treatment of disease is sure to be endorsed in the coming decade.

Conferences such as these provide a valuable platform for early career

researchers to actively engage with the nanomedical community, as well as keeping up-to-date with advancements in the field. The opportunity to receive advice and guidance from members at the forefront of research in key disciplines provides an excellent tool for development and self-reflection towards their entry and progress in academia.



BSNM – Become a Member!

Becoming a member of the BSNM is the best way to stay across all aspects of the Society's activities and the progression of the nanomedicine field in general. Three distinct membership options are available; General, Scientific and Institutional, all of which will allow you to stay up to date and informed on the British nanomedicine scene. The application process is quick and easy, simply choose the membership option that's right for you and complete the online form at www.britishsocietynanomedicine.org/membership. For further details on the membership options available, see below.

General membership—We particularly welcome membership applications from the general public, teachers and students.

- Access the Society's website for breaking news on nanomedicine and its emerging applications
- Download materials for educational purposes
- **No membership fee.**

Scientific membership is open to anyone actively engaged in nanomedicine research holding a higher education degree in any related discipline.

- Access academic and industrial updates on nanomedical therapies, diagnostic tools, commercialization activities, IP issues, etc.
- Attend Society conferences, seminars and webinars
- Participate in an online forums
- Sponsor abstracts on the Society's website
- Receive information on funding opportunities, scientific conferences and activities of the Society
- Receive networking benefits, advertising opportunities and posting of positions
- Apply to become a member of the Society's Executive Group
- **No membership fee**

Institutional membership is open to institutions with an interest in nanomedicine.

- Demonstrate an affiliation to the Society through the use of mutual hyperlinks
- Send representation to Society conferences and seminars
- Negotiate sponsorship and partnership opportunities
- The annual membership fee for institutional or corporate members is £50 per annum. This will be invoiced direct if the membership application is approved by the Trustees



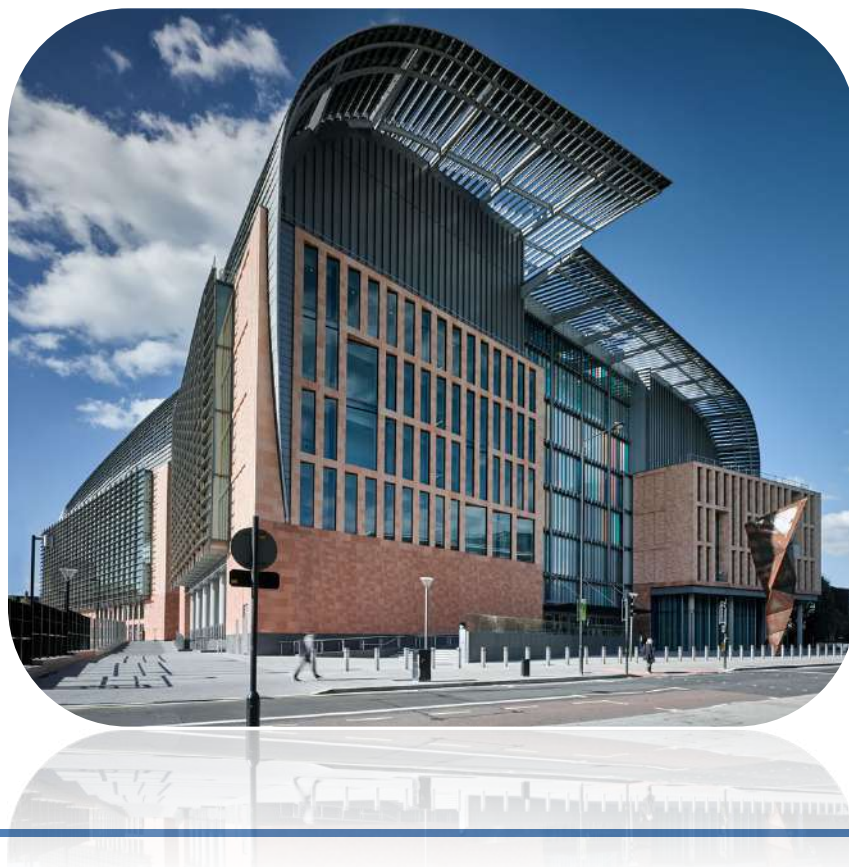
BSNM ECRM 2018 Review - Cai Astely (Manchester Metropolitan University)

The 4th annual meeting organised by the British Society of Nanomedicine (BSNM) was held at the Francis Crick Institute in London this year, bringing experts within the field together for two days of open talks and discussion, covering several themes including: Nanoparticle Interactions with Biological Environments; Nanotechnologies for Detecting, Treating and Imaging Disease; Regenerative Medicine; and Translation of Nanotechnology. Nearly 30 experts in the field delivered plenary talks, including Prof Terry Tetley (Imperial, London), Prof Maya Thanou (KCL, London), Dr Kate Ricketts (UCL, London), Dr Imad Naasani (Nanoco

Technologies Ltd, UK), and Dr Claire Patterson (Astra Zeneca, UK). The annual conference is purposely designed to support Early Career Researchers (ECRs), who delivered their talks during the main sessions and also communicated their findings during daily poster sessions. The BSNM is creating a nanomedicine community that connects interdisciplinary researchers across the UK, increasing the visibility and transparency of nanomedicine and enabling its translation into clinical applications.

As an early career researcher, conferences such as the ECRM, present a unique opportunity to

enhance our understanding of key developments in the field and offers an occasion for engaged discussion, the sharing of ideas and the forging of relationships with like-minded individuals within our respective areas of expertise. Despite the overwhelming feeling due to the presence of high profile nanomedical specialists, the friendly, welcoming and comfortable atmosphere made for a pleasant and enjoyable day of interaction and open dialogue. Conforming to similar conference structures, the day consisted of several talks of mixed duration (20-60 minutes) followed by poster sessions, allowing a mixture of early career researchers (masters, PhD,



BSNM ECRM 2018 Review - Continued

post-doc), as well as established academics, to discuss research amongst ourselves as well as having the opportunity to discuss our work with leading experts in the field. In addition to the technical advice and expertise available, a wealth of advice was on hand on how to navigate the world of academia, addressing several concerns that early career researchers inevitably experience (career progression *etc.*). This event was not only informative, but enjoyable. Talks covered a multitude of nano-related disciplines, ranging from novel drug delivery (Andrés García, UCL) to clinical applications at the forefront of scientific innovation (Alice Spadea, University of Manchester). Between sessions, BSNM trustees were invited to attend a guided-tour of the newly

built, £700m Francis Crick institute, founded by several leading investigative research bodies including; Medical Research Council (MRC), Cancer Research UK, Wellcome Trust, UCL, Imperial College London and King's College London. The tour included a look at the state-of-the-art laboratories, social areas and facilities currently available, housing over 1,500 scientists and support staff, as well as an update on future expansion plans and integration with neighbouring facilities.

In addition to the beverages and appetisers available throughout the day, an evening drinks reception allowed attendees to partake in discussion over the day's proceedings. To conclude the conference, a discussion panel was

hosted to highlight some of the current issues and limitations in the field, with ample suggestions at hand on how to address them as we proceed into the future. The best oral speakers and poster presentations were awarded for their efforts with several prizes presented, greatly incentivising early career researchers to produce results of the highest quality.

The BSNM offers an excellent platform for the integration and communication of industrial, academic and clinical research in the public forum. I hope to have the opportunity to attend again next year and look forward to seeing what developments await in the field.

