



13th International Conference on the Scientific and Clinical Applications of Magnetic Carriers - London, UK

Tuesday, June 14, 2022

12:00	Registration desk opens in the Wilkins Building, North Cloisters		
	Opening Session - Cruciform Building, Auditorium B304 - LT1		
13:00	Parkin, Ivan	Opening of the conference and welcome address by Prof. Ivan Parkin the Dean of UCL MAPS (Faculty of Math Applied Phys Sci)	Intro
13:10	Hafeli, Urs	Short review of the last 4 years of magnetic carriers research	Vancouver, BC, Canada Talk 0
	Session 1	Nanoparticle Synthesis I	<i>Chair: Thompson Mefford</i>
13:30	Hannon, Gary	Safety and efficacy assessment of iron oxide nanoparticles intended for magnetic hyperthermia: a translational story	Dublin, Ireland Poster 105
14:00	Besenhard, Maximilian	Novel Reactor Concepts for the Reproducible and Scalable Synthesis of Fine-Tuned Magnetic Nanoparticles	London, UK Talk 3
14:15	Bleul, Regina	Micromixer synthesis for optimized manufacturing of single-core magnetic nanoparticles with tailored properties for versatile biomedical and clinical applications	Mainz, Germany Talk 4
14:30	Coffee break - Wilkins Building North & South Cloisters and Upper Terrace		
	Session 2	Nanoparticle Synthesis II	<i>Chair: Nguyen Thanh</i>
15:15	Durhuus, Frederik	Simulated clustering dynamics of magnetic nanoparticles	Copenhagen, Denmark Talk 5
15:30	Mefford, Thompson	Synthesis of polymer modified substituted ferrite nanomaterials guided by density functional theory and machine learning	Clemson, USA Talk 6
15:45	Roca, Alejandro	Fe ₃ O ₄ Nanocubes as Multifunctional Theranostic Agents	Cerdantola del Valles, Spain Talk 7
16:00	Zabow, Gary	Micropatterning Magnetic Microparticles	Boulder, USA Talk 8
16:15	Ablets, Yevhen	Synthesis and properties of Fe ₃ N nanoparticles as alternative material for magnetic fluid hyperthermia	Darmstadt, Germany Talk 1
16:30	Discussion with speakers from the Nanoparticle Synthesis session: Do we really still need new magnetic nanoparticle types?		
17:15	Poster session I (Posters 1-52) - in North Cloisters and Jeremy Bentham Room		
18:30	Reception in the Wilkins Building Upper Terrace with drinks and snacks. Generously sponsored by nanotherics!		

Wednesday, June 15, 2022

8:30	Registration desk opens in the Wilkins Building, North Cloisters		
8:45	Livesey, Karen	Tutorial about the basics of magnetic particles - Part I	Newcastle, Australia Tutorial 1
	Session 3	Magnetic Imaging / MPI / MRI I	<i>Chair: Thilo Viereck</i>
9:15	Schier, Peter	Quantitative Imaging of Magnetic Nanoparticles in Large Body Regions using Nonlinear Magnetorelaxometry	Hall in Tirol, Austria Talk 10
9:30	Rinaldi-Ramos, Carlos	Labeling T cells with a new tracer tailored for sensitive tracking using magnetic particle imaging (MPI)	Gainesville, USA Talk 11
9:45	Kim, Hohyeon	MPI image-based cancer hyperthermia therapy	Gwangju, South Korea Talk 12
10:00	Coffee break - Wilkins Building North Cloisters, JBR and Upper Terrace		
	Session 4	Magnetic Imaging / MPI / MRI II	<i>Chair: Carlos Rinaldo</i>
10:45	Löwa, Norbert	Establishment of metabolic tracer based magnetic particle imaging	Berlin, Germany Talk 13
11:00	Arsalani, Soudabeh	Developing Magnetorelaxometry Imaging for Human Applications	Berlin, Germany Talk 14
11:15	Dutz, Silvio	A dynamic bolus phantom for the evaluation of the spatio-temporal resolution of MPI scanners	Ilmenau, Germany Talk 15
11:22	Oberdick, Samuel	Iron Oxide Nanoparticles as T1 Agents for Low-Field MRI	Boulder, CO, USA Talk 16
11:30	Schürle-Finke, Simone	Engineering Magnetic Nanorobots for Medicine	Zurich, Switzerland Invited Talk 1
12:15	Lunch		

	Session 5	Magnetic Drug Delivery	<i>Chair: Quentin Pankhurst</i>
13:15	Bizeau, Joelle	Innovative nanocomposites for protein release through magnetic hyperthermia	Strasbourg, France Talk 17
13:30	Guidelli, Eder	Superparamagnetic Nanodevices as Singlet Oxygen Carriers for Cancer Therapy	Ribeirão Preto, Brazil Talk 18
13:45	Howard, Faith	Bugs as drugs - Bacterial derived nanomagnets enhance tumour targeting and oncolytic activity of HSV-1 virus	Sheffield, UK Talk 19
14:00	Marquina, Clara	Graphene-Encapsulated Magnetic Nanoparticles for Safe and Steady Delivery of Ferulic Acid in Diabetic Mice	Zaragoza, Spain Talk 20
14:15	Zahn, Diana	Towards drug targeting to the eye using magnetic multicore nanoparticles	Ilmenau, Germany Talk 21
14:30	Coffee break / Change posters to session II		
	Session 6A	Magnetic Hyperthermia	<i>Chair: Silvio Dutz</i>
15:15	Gutiérrez Maruedo, Lucia	Beyond Classical Magnetic Hyperthermia: From Innovative Characterization Approaches to New Therapeutic Alternatives	Zaragoza, Spain Invited Talk 2
16:00	Fratila, Raluca	Critical Parameters to Improve Pancreatic Cancer Treatment Using Magnetic Hyperthermia: Field Conditions, Immune Response, and Particle Biodistribution	Zaragoza, Spain Talk 22
16:15	Ortega, Daniel	In silico safety analysis of different metallic implants in magnetic hyperthermia treatments	Madrid, Spain Talk 23
16:30	Mues, Benedikt	Hyperthermia and Imaging Performance of Hybrid Stents with Incorporated Magnetic Nanoparticles for Tumor Ablation	Aachen, Germany Talk 24
16:45	Storozhuk, Liudmyla	Iron Oxide Nanoflowers as Excellent Heating Agents for Magnetic Hyperthermia Cancer Therapy	London, UK Talk 25
17:00	Telling, Neil	A magneto-optical microscope for investigating magnetisation dynamics of intracellular nanoparticles under hyperthermia conditions	Stoke-on-Trent, UK Talk 26
	Session 6B - Short Talks	Magnetic Hyperthermia	<i>Chair: Silvio Dutz</i>
17:15	Bussolari, Francesca	Magnetic heating to trigger entrapped enzymes activity	Zaragoza, Spain Talk 27
17:22	Cabrera, David	Nanoparticle-mediated magnetic hyperthermia enhances the breakdown of human blood clots by tissue plasminogen activator	Stoke-on-Trent, UK Talk 28
17:30	Brero, Francesca	Magnetic Hyperthermia as an adjuvant cancer therapy in combination with carbon ions, protons and photons irradiation on pancreatic tumour cell cultures	Pavia, Italy Talk 29
17:37	Castro, Jorge	Development of Handheld Induction Heaters for Magnetic Fluid Hyperthermia Applications and In-vitro Evaluation on Ovarian and Prostate Cancer Cells	Mayagüez, Puerto Rico Talk 30
17:45	Millan, Angel	Local temperature gradients in intracellular magnetic hyperthermia	Zaragoza, Spain Talk 31
17:52	Del Sol Fernández, Susel	Composition impacts the structural, magnetic, and heating efficiency of Mn _x Fe _{3-x} O ₄ MNPs. An in vitro and in vivo study.	Zaragoza, Spain Talk 32
18:00	Poster session II (Posters 53-104) - in North Cloisters and Jeremy Bentham Room - with Beer and Pretzels generously sponsored by micromod!		
19:30	Free evening - go and get collaborations going!		

Thursday, June 16, 2022			
8:30	Registration desk opens in the Wilkins Building, North Cloisters		
8:45	Livesey, Karen	Tutorial about the basics of magnetic particles - Part II	Newcastle, Australia Tutorial 2
	Session 7	Analytical Techniques	<i>Chair: Ron Goldfarb</i>
9:15	Scagnoli, Valerio	Mapping the Structure and Behaviour of 3D Nanomagnetic Systems	Zurich, Switzerland Invited Talk 3
10:00	Feoktystov, Artem	On the mechanisms of magnetization reduction in iron oxide nanoparticles	Garching, Germany Talk 33
10:15	Coffee break		
11:00	Agarwal, Gunjan	Multimodal Magnetic Force Microscopy	Columbus, USA Talk 34
11:15	Radon, Patricia	Harmonizing of static magnetization measurements using two commercial SQUID devices of the same type	Berlin, Germany Talk 35
	Session 8	Magnetic Force Optimizations	<i>Chair: Frank Wiekhorst</i>
11:30	Van Durme, Rikkert	Magnetic Force Optimization for Improved Magnetic Particle Targeting	Ghent, Belgium Talk 36
11:45	Villanueva Alvaro, Danny	Navigation control of Magnetotactic Bacteria by magnetic fields	Bilbao, Spain Talk 37
12:00	Li, Ning	Magnetic resonance navigation system for supra-selective embolization of the liver: in vivo demonstration with SPIONs	Montreal, Canada Talk 38
12:15	Lunch - BBQ generously sponsored by nanoScale Biomagnetics!		
	Session 9	Towards Gene Regulation and Editing	<i>Chair: Thompson Mefford</i>
13:15	Hart, Stephen	CRISPR - An Introduction to Gene Editing	London, England Invited Talk 4
14:00	Idiogo-López, Javier	Combining bioorthogonal click chemistry and magnetic hyperthermia for siRNA transfection	Zaragoza, Spain Talk 39
14:15	Mostarac, Deniz	Characterisation of DNA Nano-Chamber Magnetic Filaments	Wien, Austria Talk 40
14:30	Siaugue, Jean-Michel	Strain promoted azide alkyne click chemistry, an efficient surface functionalization strategy for microRNAs magnetic separation	Paris, France Talk 41
14:45	Proulx, Robert	Magnetic Nanoparticles for Diagnostic Imaging: Getting Into the Clinic	San Diego, USA Talk 42
15:00	Coffee break		
	Session 10	Biosensors	<i>Chair: Wolfgang Schütt</i>

15:45	Deroo, Maikane	Innovative dynamic detection for early diagnosis with a lab-on-a-chip based on two-stage giant magnetoresistance sensors	Gif-sur-Yvette, France	Talk 43
16:00	Rösch, Enja	Sensitive DNA detection via strand displacement mediated disassembly of magnetic nanoclusters	Braunschweig, Germany	Talk 44
16:15	Christiansen, Michael	Development of Inductively Detectable Probes for Proteolytic Activity	Zurich, Switzerland	Talk 45
16:30	Wang, Jian-Ping	Handheld Magnetic Particle Spectroscopy (MPS) for Rapid, One-step, Wash-free Detection of SARS-CoV-2 Spike and Nucleocapsid Proteins in Liquid Phase	Minneapolis, MN, USA	Talk 46
16:45	Oh, Seungjun	Development of Magnetic Particle Spectroscopy That Integrates Both Conventional and Mixing Methods for Virus Detection	Gwangju, South Korea	Talk 47
17:00	Talks will stop punctually at 17:00. Then transfer to the boat by Double Decker Bus.			
18:30	Boat tour with dinner from the Butler's Wharf Pier generously sponsored by Imagion Biosystems! And the New Orleans type band "Blind Tigers" is sponsored by Chemicell!			
22:30	Return to the Tower Millenium Pier (different pier!), travel back to UCL by Double Decker Bus.			

Friday, June 17, 2022				
8:30	Registration desk opens in the Wilkins Building, North Cloisters			
8:45	Livesey, Karen	Tutorial about the basics of magnetic particles - Part III	Newcastle, Australia	Tutorial 3
	Session 11	Biocompatibility Studies	Chair: Clara Marquina	
9:15	Ma, Yunn-Hwa	PEGylated Magnetic Nanoparticle-Induced Acute Hypersensitivity Reaction: Role of Bioactive Corona	Tao-Yuan, Taiwan	Talk 48
9:30	Mickoleit, Frank	Biocompatibility studies and cellular interactions of biogenic magnetic nanoparticles	Bayreuth, Germany	Talk 49
9:45	Friedrich, Bernhard	Biomimetic capturing of pathogens using SPIONs functionalized with salivary agglutinin (GP-340)-derived peptides	Erlangen, Germany	Talk 50
10:00	Manshian, Bella	NP-cellular hitchhiking system for targeted combination therapy and diagnosis of glioblastoma	Leuven, Belgium	Talk 51
10:07	Gandarias, Lucia	Intracellular degradation of biosynthesized magnetic nanoparticles	Leloa, Spain	Talk 52
10:15	Coffee break			
	Session 12	Magnetic Characterization and Separation	Chair: Maciej Zborowski	
11:00	Boelens, Peter	Use of peptide functionalized Dynabeads for the magnetic carrier separation of Rare Earth phosphors in low and high magnetic field gradients	Dresden, Germany	Talk 53
11:15	Makridis, Antonios	3D Printing of Polymer-Bonded Magnets	Thessaloniki, Greece	Talk 54
11:30	Goldfarb, Ron	Problems in Magnetic Characterization of Nanoparticles	Boulder, CO, USA	Invited Talk 5
12:15	Lunch			
	Session 13	Biological Applications I	Chair: Anna Roig	
13:15	Block, Findan	Magnetic bucket brigade networks as rails for single cell transportation	Kiel, Germany	Talk 55
13:30	Clement, Joachim	Passage of magnetic nanoparticles through a differentiating blood-placenta barrier	Jena, Germany	Talk 56
13:45	Fernández-Castané, Alfred	Biomanufacturing magnetosomes: nanocarriers with versatile functionalisation for imaging and drug delivery applications	Birmingham, UK	Talk 57
14:00	Freis, Barbara	Active Targeting of Head and Neck Cancer Cells with Dendronized Iron Oxide Nanoparticles and Effect of the Size and Shape of Nanoparticles for Promoting Multimodal Therapy	Strasbourg, France	Talk 58
14:15	Coffee break			
	Session 14	Biological Applications II	Chair: Lucia Gutierrez	
15:00	Romero Uribe, Gabriela	Nanomagnetic Actuators for Neural Modulation	San Antonio, TX, USA	Invited Talk 6
15:45	Gárces, Víctor	Heterobimetallic probiotic bacteria as new oral magneto-optical hyperthermia agents	Granada, Spain	Talk 59
16:00	Horák, Daniel	Antioxidant and Antibacterial Magnetic Nanoparticles: Design, Synthesis and Biological Effects	Prague, Czechia	Talk 60
16:15	Pasek-Allen, Jacqueline	Advancing Rewarming for Cryopreservation through Scalable Polymer Coating of Iron Oxide Nanoparticles	Minneapolis, MN, USA	Talk 61
16:30	El Mousli, Sirine	Synthesis, Characterization and Cellular Internalization of Anisotropic Magnetic Nanoparticles	Paris, France	Talk 62
16:45	Closing Comments: Nguyen Thanh & Urs Hafeli			
17:00	Meeting ends			