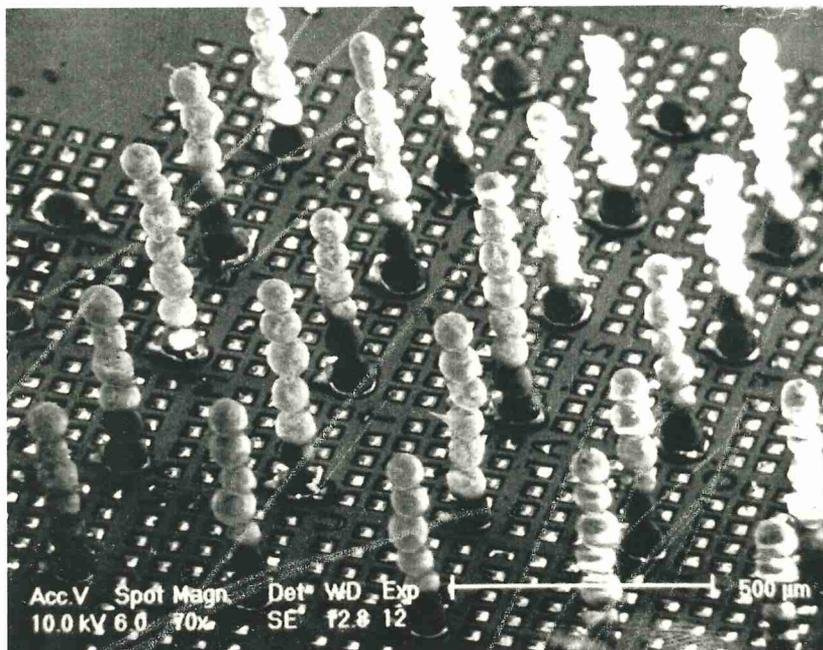


Fourth International Conference on the  
**Scientific and Clinical Applications  
of Magnetic Carriers**

May 9-11, 2002  
Tallahassee, Florida, U.S.A



Biomagnetic  
Engineering  
**LABORATORY**

# Program and Abstracts

The Cleveland Clinic Foundation  
Biomagnetic Engineering Lab  
Institute of Applied Biosciences  
National High Magnetic Field Laboratory

**N**

<http://www.magneticmicrosphere.com>

**S**

Fourth International Conference on the  
**Scientific and Clinical Applications  
Of Magnetic Carriers**  
May 9-11, 2002  
**Tallahassee, Florida, U.S.A.**

Organized by  
The Cleveland Clinic Foundation, Cleveland, Ohio, U.S.A.  
**Urs Hafeli , Maciej Zborowski**

**In Collaboration with:**  
Biomagnetic Engineering Laboratory  
Florida State University, Tallahassee, Florida, U.S.A.  
**Yousef Haik**  
National High Magnetic Field Laboratory, Tallahassee, Florida, U.S.A.  
**Jack Crow**  
IFAB, Rostock, Germany  
**Wolfgang Schuett**

## Program and Abstracts

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<http://www.magneticmicrospheres.com>



**Wednesday, May 8, 2002**

- 17:00 - 21:00 (5 - 9 PM) Registration desk opens / setup of posters
- 19:00 - 21:00 (7 - 9 PM) Informal get together / welcome cocktail (apero) in the Doubletree Hotel (included in registration)

**Thursday, May 9, 2002**

Opening Session	
8:30 Häfeli Urs	U.S.A.
8:45 Crow Jack	U.S.A.
9:30 Browning Valerie	U.S.A.
9:50 Coffee break / poster session / exhibitors	
<b>Session 1: Drug Targeting and Imaging</b>	
10:20 Bulte Jeff	U.S.A.
10:40 Flores George Anthony	U.S.A.
11:00 Topolesky-Gilles <i>Ken Teja</i>	U.S.A.
11:20 Yu Junfeng	U.S.A.
<b>Poster Presentations</b>	
11:40 All poster presenters	Posters
12:00 Lunch in the Doubletree Hotel	
13:00 St. Pierre Tim	Lecture 1 AUSTRALIA
<b>Session 2: Analytical Methods</b>	
13:30 Morais Paulo	Talk 6 BRAZIL
13:50 Coffee break / poster session / exhibitors	
14:20 Gross Christine	Talk 7 GERMANY
14:40 Häfeli Urs	Talk 8 U.S.A.
15:00 Kiz Dario	Talk 9 SWEDEN
15:20 Möller Winfried	Talk 10 GERMANY
15:40 Zhang Huading	Talk 11 U.S.A.
16:00 Bus transfer to the High Magnetic Field Laboratory / Tour of the lab / Grill Party	

14:45

**Friday, May 10, 2002**

**Session 3: Magnetic Separations**

8:30 Farag Sherif	Invited talk	U.S.A.	<p><b>Chairmen: Jeff Chalmers + Maciej Zborowski</b>                  Current and Emerging Therapies using Cell Separations                  Magnetic immunoassay for rapid assessment of acute myocardial infarction (AMI)                  Immuno-magnetic separation followed by solid-phase cytometry for the rapid detection and enumeration of pathogens in surface water</p>
9:20 Haik Yousef	Talk 12	U.S.A.	
9:40 Legasterois Stephane	Talk 13	FRANCE	

**10:00 Coffee break / poster session / exhibitors**

10:20 Grüttner Cordula	Talk 14	GERMANY	<p>Selective extraction of lanthanides and actinides by magnetic silica particles with CMPO-modified calix[4]arenes on the surface                  Adsorption of dyes on magnetically labeled baker's yeast cells                  Magnetic flow sorting using susceptibility-modified carrier fluids                  High gradient magnetic separation (MACS) for isolation and modification of biomolecules                  Negative depletion cell sorting using a quadrupole magnetic flow cell sorter</p>
10:40 Safarik Ivo	Talk 15	CZECH REP.	
11:00 Moore Lee	Talk 16	U.S.A.	
11:20 Merkel Dirk	Talk 17	GERMANY	
11:40 Lara Oscar	Talk 18	U.S.A.	

12:00 Group picture taken outside the Doubletree Hotel

**12:10 Lunch in the Doubletree Hotel**

13:00 St. Pierre Tim	Lecture 2	AUSTRALIA	<p>Introduction to the physics of magnetic nano- and microparticles                  Carriers for extracorporeal blood purification: From basic research to health care</p>
13:30 Schütt Wolfgang	Talk 19	GERMANY	

**13:50 Coffee break / poster session / exhibitors**

<b>Session 4: Hyperthermia</b>	Invited talk	U.S.A.	<p><b>Chairmen: Kurt Hofer and Wolfgang Schütt</b>                  Hyperthermia in cancer therapy                  Evaluation of ferrifluids containing photosensitizers                  A system for the treatment of liver cancer by targeted hyperthermia using magnetic microspheres                  "Smart" mediators for self-controlled inductive heating                  Novel thermo-responsive magnetic nanoparticles</p>
14:10 Hofer Kurt	Talk 20	RUSSIA	
15:00 Brusenitsova Tatiana	Talk 21	AUSTRALIA	
15:20 Jones Stephen	Talk 22	RUSSIA	
15:40 Kuznetsov Anatoly	Talk 23	JAPAN	

**16:20 Coffee break / poster session / exhibitors**

<b>Session 5: Gene Therapy</b>	Invited talk	U.S.A.	<p><b>Chairman: Urs Häfeli</b>                  Targeted Gene Therapy: Introduction and Prospects                  Magnetofection: Enhancing and targeting gene delivery by magnetic force</p>
16:40 Wolfe John	Talk 24	GERMANY	

**Session 6A: Microcarrier Synthesis and Characterization**

17:50 Ruderhausen Sandra	Talk 25	GERMANY	<p><b>Chairmen: Tom Kent + Winfried Möller</b>                  Multifunctional superparamagnetic nanoparticles for life science applications                  Carbon nanotubes for medical applications                  Statistical analysis of weakest link in chains of magnetic particle carriers for applications in printing biochemical arrays</p>
18:10 Korobko Elena	Talk 26	RUSSIA	
18:30 Yellen Benjamin	Talk 27	U.S.A.	

**18:50 End of session / free evening**

**Saturday, May 11, 2002**

**Session 6B: Microcarrier Synthesis and Characterization**

8:30 Zioło Ron	Invited talk	SPAIN	Chairwomen: Cordula Grünter + Etienne Duguët Self-Stabilized Aqueous Ferrofluids and Their Unusual Particulate Properties Cooking with nanoparticles: A simple method of forming roll, pancake, and breaded polystyrene microparticles Synthesis of polyethylene magnetic nanoparticles
9:20 Anker Jeffrey	Talk 28	U.S.A.	
9:40 Chatterjee Jhunu	Talk 29	U.S.A.	

**10:00 Coffee break / poster session / exhibitors**

10:20 Riffle Judy	Talk 30	U.S.A.	Polystyrene fluid dispersions of cobalt nanoparticles in silica spheres for use in ophthalmic applications Silica coating of cobalt nanoparticles increases their magnetic and chemical stability for biomedical applications Maghemite@silica nanoparticles for biological applications Iron substituted apatites: A resorbable biomaterial with possible magnetic properties Para-magnetic composite microparticles as heavy metals ion-exchangers
10:40 Connolly Joan	Talk 31	AUSTRALIA	
11:00 Duguët Etienne	Talk 32	FRANCE	
11:20 Gross Karlis	Talk 33	AUSTRALIA	
11:40 Phanapavudhikul-Pompan	Talk 34	U.K.	

*o-t-h-e Susan*

**12:00 Lunch in the Doubletree Hotel**

13:00 St. Pierre Tim	Lecture 3	AUSTRALIA	Introduction to the physics of magnetic nano- and microparticles
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**Session 7: Nanotechnology**

13:30 Miller Michael	Talk 35	U.S.A.	Chairmen: Ron Zioło + Michael Miller Magneto-electronics, magnetic labels and biomolecular detection Metal-polymer hybrid microchannels for microfluidic high gradient separations
13:50 Ward Michael	Talk 36	U.S.A.	

**14:10 Short coffee break**

14:20 Durin Gianfranco	Talk 37	ITALY	High sensitivity sensors for magnetic microspheres localization Tuning the SP to FM transition of cobalt nanoparticles in view of biomedical applications Single domain magnets in bio-medical applications
14:40 Puentes Victor	Talk 38	U.S.A.	
15:00 Barbic Mladen	Talk 39	U.S.A.	

**Closing Comments**

15:20 Maciej Zborowski		U.S.A.	Closing remarks
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**15:25 End of the scientific part of the meeting**

15:45 Buses depart from the Doubletree Hotel for the boat trip at Wakulla Springs State Park (Alligators!)

18:30 Buses drive on to Panama at the Gulf of Mexico

19:00 Dinner at Harbour House in Panama

22:00 Return to the Doubletree Hotel

Program as of April 15, 2002

**Posters**

Ali-zade Rasm	AZERBAIJAN	Physical characteristics of polymer microspheres filled with magnetite nanoparticles
Boschke Elke	U.S.A.	Biomonitoring by combination of immunomagnetic separation and direct epifluorescence filter technique
Burns Patricia	U.S.A.	Emulsion/aggregation technology: A process for preparing microspheres of narrow polydispersity
Campos Alex	BRAZIL	A theoretical approach of succimer complexation at the surface of ferrite nanoparticles in order to improve the synthesis of biocompatible magnetic fluids
Da Silva Fatima	BRAZIL	Magnetoliposome evaluation using cytometry and micronucleus test
Fu Lei	U.S.A.	Synthesis and patterning of magnetic nanostructures
Gansau Christian	GERMANY	Novel biocompatible magnetic fluids
Golyenkina Ekaterina	RUSSIA	Development of immunomagnetic reagents for human hematopoietic cell sorting
Gross Christine	GERMANY	Characterization of a ferrofluid by atomic force microscopy and photon correlation spectroscopy after magnetic fractionation
Iacob Gheorghe	ROMANIA	High gradient magnetic separation ordered matrices
Kuznetsov Oleg	U.S.A.	Magnetograviphoresis of statoliths and assessment of viscoelasticity of the Chara cytoplasm
Luo Weili	U.S.A.	Preparation of magneto-vesicles with DOPE/DDAB layers
Morais Paulo	BRAZIL	Synthesis and characterization of magnetite nanoparticles embedded in copolymer microspheres
Mykhaylyk Olga	UKRAINE	On estimation of a characteristic size of aggregates in suspension of nanodispersed magnetics from the decay curves of transmitted light intensity when removing the applied magnetic field
Nechitailo, Galina	RUSSIA	Application of magnetic devices and sorbents in gastro-intestinal surgery
Perez, J. Manuel	U.S.A.	Magnetic nanosensors for DNA analysis
Petri, Alke	SWITZERLAND	Investigation of ferrofluids for biomedical application
Plavins, Juris	LATVIA	Magnetophoretic analysis of cells and magnetic carriers
Safarikova, Mirka	CZECH REP.	Interaction of tricyclic drugs with copper phthalocyanine dye immobilized on magnetic carriers
Safarikova Mirka	CZECH REP.	Magnetic solid-phase extraction of target analytes from large volumes of urine
Santos, J. G.	BRAZIL	Magnetic resonance of dextran- and DMSA-coated magnetite-based magnetic fluids: Particle interaction investigation
Skagestad, Vidar	NORWAY	Innovative automated nucleic acid isolation by the key use of magnetic silica particles
Sustov, Anatoliy	U.S.A.	Synthesis of magnetic cluster nanoparticles
Williams, Stephen	U.S.A.	The Potential of Quadrapole Magnetic Field-Flow Fractionation for Determining Particle Magnetization Distributions
Wilson, Kristen	U.S.A.	A generalized method for magnetite nanoparticle steric stabilization utilizing block copolymers containing carboxylic acids