

**Third International Conference**

on the

# **Scientific and Clinical Applications of Magnetic Carriers**

**May 3 – 6, 2000**

**Rostock, Germany**

## **Topics:**

Preparation and Modification of Biodegradable Magnetic Particles  
Characterization of Magnetic Particles  
Application in Cell Separation and Analysis  
Applications in Molecular Biology  
Drug Delivery  
Cancer Treatment  
Hyperthermia  
Magnetic Resonance Contrast Enhancement a.o.

## **Organized by:**

Wolfgang Schütt, Cordula Grüttner  
Institute for Applied Biosciences  
Rostock, Germany  
schuett@cob.bioeng.de

Urs Häfeli, Maciej Zborowski  
Cleveland Clinic Foundation  
Cleveland, U.S.A.  
hafeliu@ccf.org

## **Website:**

**<http://www.magneticmicrosphere.com>**

This Meeting is in conjunction with the International Conference about

**Adsorption Technologies and Blood Purification Procedures**

May 5 – 7, 2000 in Rostock, Germany

Website: <http://www.bioeng.de>

## Program:

*Tuesday, May 2, 2000*

20:00 Welcome Reception Hotel Neptun

*Wednesday, May 3, 2000*

### I. Opening Session

- |      |                                     |   |
|------|-------------------------------------|---|
| 8:30 | Wolfgang Schütt<br>Rostock, Germany | Welcome to the 3rd International Magnetic Carrier Meeting                 |
| 8:40 | Horst Klinkmann<br>Rostock, Germany | Opening Speech by the President of the World Apheresis Association        |
| 9:00 | Urs Häfeli<br>Cleveland, U.S.A.     | Happenings of the last 2 years:<br>A very subjective, unscientific review |

### II. Preparation and characterization of magnetic carriers

Chairman: Shlomo Margel, Ramat-Gan, Israel  
Cordula Grüttner, Rostock, Germany

- |       |  |  |
|-------|--|--|
| 9:15  | Ricardo Azevedo<br>Brasilia, U.S.A.                            | Fibrosis induced by a double-coated magnetite-based magnetic fluid in mice   |
| 9:30  | Everett Carpenter<br>Washington, U.S.A.                        | Iron nanoparticles as potential magnetic carriers  |
| 9:45  | Oleg Darashkevitch<br>Minsk, Belarus                           | In vitro kinetic study of cortisol release from magnetically responsive particles coated with dibutylchitin                          |
| 10:00 | Coffee Break / Poster Session / Exhibitors                     |  |
| 10:30 | Tom Kent<br>Arvada, U.S.A.                                     | INVITED TALK:<br>Historical background on magnetic particle drug delivery  |
| 11:00 | Etienne Duguet<br>Bordeaux, France                             | Dissymmetrisation as a first step for new difunctional particles   |
| 11:15 | Martina Koneracka<br>Kosice, Slovakia                          | Direct binding procedure of proteins and enzymes to fine magnetic particles  |
| 11:30 | Paulo Cesar Morais<br>Brasilia, Brazil                         | Synthesis and characterization of cobalt ferrite-based ionic ferrofluids: a nanoparticle size control approach                       |
| 11:45 | Leandro Lacava<br>Brasilia, Brazil                             | Nanoparticle sizing: a comparative study using atomic force microscopy, transmission electron microscopy and ferromagnetic resonance |
| 12:00 | Shlomo Margel<br>Ramat-Gan, Israel                             | Functional magnetic & non-magnetic polymeric nanoparticles of narrow size distribution: design, synthesis & biomedical applications  |
| 12:15 | Lunch on the Boat (sponsored by Merck Eurolab) / Group Picture |  |

### III. Preparation and characterization of magnetic carriers / continued

Chairman: Marcel De Cuyper, Kortrijk, Belgium  
Joachim Teller, Rostock, Germany

- |       |  |  |
|-------|--|--|
| 14:30 | K.V. Rao,<br>Stockholm, Sweden             | INVITED TALK:<br>AC susceptibility techniques to investigate magnetic carriers                             |
| 14:45 | Sandra Rudershausen<br>Rostock, Germany    | Improved properties of magnetic particles by combination of different polymer materials as particle matrix |
| 15:00 | Voigt Andreas<br>Potsdam, Germany          | Novel polyelectrolyte micro- and nanocapsules as magnetic carriers   |
| 15:15 | Judy Riffle<br>Blacksburg, U.S.A.          | Magnetic silicone fluids and films   |
| 15:30 | Panagiotes Voltairas<br>Ioannina, Greece   | Elastic stability of silicone ferrofluid internal tamponade in retinal detachment surgery                  |
| 15:45 | Coffee Break / Poster session / Exhibitors |  |

### IV. Magnetic Liposomes

Chairman: Urs Häfeli, Cleveland, U.S.A.  
K.V. Rao, Stockholm, Sweden

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|-------|--|---|
| 16:15 | Marcel De Cuyper<br>Kortrijk, Belgium  | INVITED TALK:<br>Magnetoliposomes   |
| 16:45 | Peter Babinec<br>Bratislava, Slovakia  | Efficient magnetic targeting of magnetoliposomes  |
| 17:00 | Anatoly A. Kuznetsov<br>Moscow, Russia | Application of liposomes for magnetically guided transport of myorelaxants and anti-cancer photodynamic drugs |
| 17:15 | Regina Reszka<br>Berlin, Germany       | Gene transfer using the cationic lipid-magnetosome-DNA-complexes (CLMDC)                                      |

### V. Hyperthermia with magnetic microspheres

Chairman: Shinkai Masashige, Nagoya, Japan  
Andreas Jordan, Berlin, Germany

- |       |   |  |
|-------|---|--|
| 17:30 | Nikolai A. Brusentsov<br>Moscow, Russia | Evaluation of ferrimagnetic fluids, ferri- and ferromagnetic suspensions for site specific RF-induced hyperthermia of sarcoma cells in vitro |
| 17:45 | Robert Hiergeist,<br>Jena, Germany      | High loss ferromagnetic magnetite suspensions for application in RF-magnetic hyperthermia  |
| 18:00 | Andreas Jordan<br>Berlin, Germany       | Clinical application of magnetic fluid hyperthermia (MFH) for local tumor treatment: rationale and method to intensify local efficacy        |
| 18:15 | Masashige Shinkai<br>Nagoya, Japan      | Intracellular hyperthermia for cancer using functional magnetic particles: applications to brain tumor and tongue tumor                      |

18:30 Explore and enjoy Warnemünde on your own !

Thursday, May 4, 2000

## VI. Magnetic carriers in molecular biology

Chairman: Emilie Lasson, Skoyen, Norway  
Maria de Fatima Da Silva, Brasilia, Brazil

- 8:30 Abdelhamid Elaïssari  
Lyon, France Hydrophilic magnetic latex for nucleic acid extraction, purification and concentration
- 8:45 Eckhard Nordhoff  
Berlin, Germany Magnetic carriers and MALDI-MS - an analytical alliance in genomics and proteomics
- 9:00 Jürgen Oster  
Baesweiler, Germany Novel magnetic beads for rapid and efficient separation of specific or unspecific nucleic acid sequences
- 9:15 Johanna Pietilä  
Turku, Finland Automated purification of PCR products from *Borrelia* species with KingFisher magnetic particle processor prior to the genome sequencing
- 9:30 Holger Rauth  
Berlin, Germany Magnetic beads purification of DNA-new products and applications
- 9:45 Coffee Break / Poster Session / Exhibitors

## VII. Magnetic assays

Chairman: Paul Todd, Greenville, U.S.A.  
Schütt Wolfgang, Rostock, Germany

- 10:15 Joan Connolly  
Nedlands, Australia Biosensors based on time-dependent properties of magnetic fluids
- 10:30 Maria de Fatima Da Silva  
Brasilia, Brazil Use of the ferromagnetic resonance to investigate the Brasilia, time decay of magnetic fluids endovenously administrated in mice
- 10:45 Helene Grossman  
Berkeley, U.S.A. Magneto-Immunoassay using a high-Tc SQUID microscope
- 11:00 Yousef Haik  
Tallahassee, U.S.A. Application of magnetic microspheres in immunoassays: design of point of care device to measure myoglobin levels in blood
- 11:15 Roman Kötz  
Berlin, Germany Analysis of magnetic nanoparticle relaxation signals and application for the detection of biological binding processes
- 11:30 Julia Lange  
Berlin, Germany Magnetic relaxation immunoassays: selected in vitro experiments
- 11:45 Emilie Lasson  
Skoyen, Norway Dynabeads in cancer research and treatment
- 12:00 Lunch

## VIII. Magnetic assays / continued

Chairman: Ivo Safarik, Ceske Budejovice, Czech Rep.  
Holger Rauth, Berlin, Germany

- 13:00 Michael Miller  
Washington, U.S.A. A DNA array sensor utilizing magnetic microbeads and magnetoelectronic detection
- 13:15 Stephane Mornet  
Pessac, France  $Y_3Fe_{(5-x)}Al_xO_{12}$  garnet submicronic particles for biomedical applications
- 13:30 Ivo Safarik  
Ceske Budejovice, Czech Rep. Application of magnetic cross-linked erythrocytes for the isolation and purification of proteolytic enzymes
- 13:45 William Studabaker  
Raleigh, U.S.A. Magnetic particles in coagulation testing

## IX. Therapeutic applications of magnetic carriers

Chairman: Tom Kent, Arvada, U.S.A.  
Oleg A. Kuznetsov, Lafayette, U.S.A.

- 14:00 Christoph Alexiou  
Munich, Germany Cancer treatment with intraarterial "Magnetic drug targeting"
- 14:15 Andrey Belousov  
Kharkov, Ukraine Effects of Belousov's magnet-controlled sorbent on parameters of acid-base equilibrium in blood and processes of glycolysis in erythrocytes
- 14:30 George Anthony Flores  
Long Beach, U.S.A. In-vitro investigation of blood embolization in cancer treatment using magnetorheological fluids
- 14:45 Coffee Break / Poster Session / Exhibitors
- 15:15 Sharon Pulfer  
Philadelphia, U.S.A. INVITED TALK:  
Magnetic brain tumor targeting
- 15:45 Urs Häfeli  
Cleveland, U.S.A. Radiolabeling of magnetic microspheres with Re-188
- 16:00 Stefan Sieben  
Halle, Germany Comparison of different particles and methods for magnetic isolation of circulating tumor cells
- 16:15 Lyubov Kh. Komissarova  
Moscow, Russia Absorptive capacity of new magnetic carriers
- 16:30 Anatoly A. Kuznetsov  
Moscow, Russia Application of magnetic particles in otiatria
- 16:45 Winfried Moeller  
Gauting, Germany Alveolar macrophage functions measured by magnetic microparticles in vivo and in vitro
- 17:00 Olga Mykhaylyk  
Kiev, Ukraine Peculiarities of signal transduction on ecdysterone and cholesterol magnetic conjugates binding with specific erythrocyte surface receptors
- 19:30 Banquet in the Sky Bar (top floor) of Hotel Neptun

Friday, May 5, 2000

## X. Magnetic carriers as contrast agents

Chairman: Tim St. Pierre, Nedlands, Australia  
Sharon Pulfer, Philadelphia, U.S.A.

- 8:30 Claire Billotey  
Paris, France Analysis of biological distribution of magnetic nanoparticles in mouse by MRI
- 8:45 Nataliya Dudchenko  
Kiev, Ukraine Glial brain tumor targeting in rats using magnetite nanoparticles: a basis for MRI contrast enhancement and targeted drug delivery
- 9:00 Zulmira Lacava  
Brasilia, Brazil Distribution of a dextran-coated magnetic fluid in mice tissues investigated by ferromagnetic resonance measurements
- 9:15 Heath Pardoe  
Nedlands, Australia Nanoscale magnetic particles suspended in agar gels: synthesis, characterisation, and use in testing MRI based localization in biological systems
- 9:30 Tim St. Pierre  
Nedlands, Australia Quantitative mapping of the distribution of magnetic carriers within the liver using magnetic resonance imaging
- 9:45 Lutz Warzemann  
Jena, Germany Spatially resolved relaxation measurements of magnetic nanoparticles as a novel tool for in vivo imaging
- 10:00 Coffee Break / Poster Session / Exhibitors

## XI. Magnetic cell separation

Chairman: Stine-Kathrein Kraeft, Boston, U.S.A. (Rostock)  
Paul Liberti, Huntingdon Valley, U.S.A.

- 10:30 Fritz Friedlaender  
West Lafayette, U.S.A. INVITED TALK:  
Magnetic field gradients, a short history of some of their medical and general applications, and a look into the future
- 11:00 Jeffrey Chalmers  
Columbus, U.S.A. Evaluation of the performance of a commercial, batch immunomagnetic cell separation system separating CD34+ cord blood cells
- 11:15 Jhunu Chatterjee  
Tallahassee, U.S.A. Modification of polystyrene based magnetic microspheres for separation of red blood cells; comparison with albumin based microspheres
- 11:30 Richard Bennet  
Elk Grove Village, U.S.A. Magnetic design considerations for devices and particles used in biological high gradient magnetic separation [HGMS]
- 11:45 Susanne Krauthäuser  
Bergisch Gladbach, Germany New innovative methods using high gradient magnetic cell sorting (MACS)
- 12:00 Mauricio Hoyos  
Paris, France Hydrodynamic separation of magnetic particles and magnetically-labeled blood cells a quadrupole magnetic field

- 12:15 Susanne Krauthäuser Bergisch Gladbach, Germany Automated high gradient magnetic cell sorting (MACS) systems for biomedical research and clinical applications
- 12:30 Claire Wilhelm Paris, France Quantification of particle uptake in mouse macrophages  
Magnetic endosomes: a non invasive intracellular tool.
- 12:45 Lunch
- 14:00 Opening ceremony of the International Conference about  
**"Adsorption Technologies and Blood Purification Procedures"**  
on the occasion of 65<sup>th</sup> Anniversary of Prof. Dr. Dr. h.c. mult. H. Klinkmann, F.R.C.P.

## XII. Magnetic cell separation / continued

Chairman: Maciej Zborowski, Cleveland, U.S.A.  
Fritz Friedlaender, West Lafayette, U.S.A.

- 14:15 Stine-Kathrein Kraeft Boston, U.S.A. (Rostock) Immunomagnetic enrichment for the detection and characterization of lung cancer cells in peripheral blood
- 14:30 Paul Liberti Huntingdon Valley, U.S.A. Optimization of ferrofluids and protocols for the enrichment of breast tumor cells in blood
- 14:45 Laure Perrin-Cocon Grenoble, France Use of magnetic nanobeads for intracellular studies of antigen processing
- 15:00 Wenrong Sun Guelph, Canada Magnetic separation of Salmonella enteritidis using a bacteriophage based biosorbent
- 15:15 Paul Todd Greenville, U.S.A. Multistage magnetic particle separator
- 15:30 Maciej Zborowski Cleveland, U.S.A. Rare cancer cell isolation by magnetic cell deposition on microscopic glass slides
- 15:45 Coffee break

## XIII. Magnetophoresis and image analysis

Chairman: Jeffrey Chalmers, Columbus, U.S.A.  
Anatoly A. Kuznetsov, Moscow, Russia

- 16:15 Jeffrey Chalmers Columbus, U.S.A. Quantification of magnetophoretic mobility with cell tracking velocimetry: current and potential applications
- 16:30 Oleg A. Kuznetsov Lafayette, U.S.A. Analysis of the gravisensing system and viscoelasticity of Chara rhizoids by intracellular magnetophoresis
- 16:45 Lee Moore Cleveland, U.S.A. The use of magnetite-doped polymeric microspheres in calibrating cell tracking velocimetry
- 17:00 Vladimir Tchikov Kiel, Germany Application of magnetocytometry for the characterization of immunomagnetic particles
- 18:15 Departure for bus tour to Teterow

## Posters:

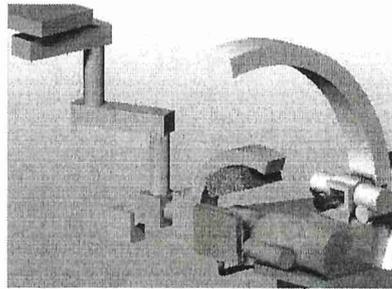
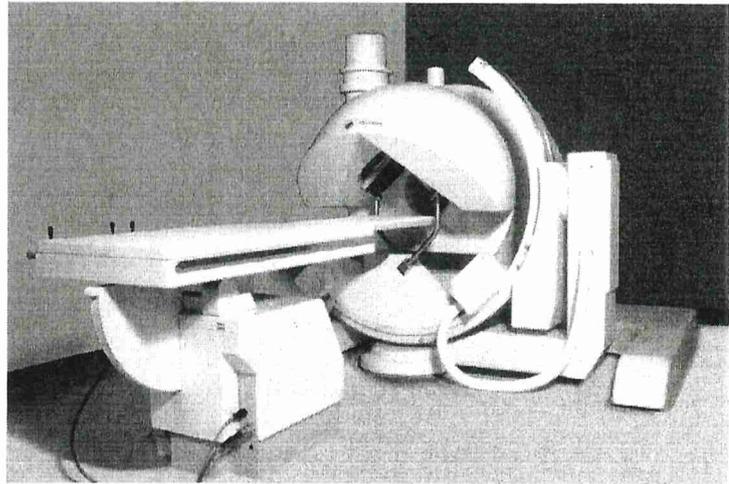
- |  |   |
|--|---|
| Melania Babincova<br>Bratislava, Slovakia        | Localized electromagnetic hyperthermia using magnetoliposomes   |
| Peter Babinec<br>Bratislava, Slovakia            | Magnetodynamic activation of hematoporphyrin: A new method of cancer treatment                                      |
| Christian Bergemann<br>Berlin, Germany           | High porous magnetic silica-particles   |
| Norbert Buske<br>Berlin, Germany                 | Magnetic sizing of dispersed magnetic carriers  |
| Yousef Haik<br>Tallahassee, U.S.A.               | Magnetic separation of blood cells using microspheres   |
| Avetik R. Harutyunyan<br>University Park, U.S.A. | Application of cobalt phthalocyanine dispersed on ferro-carbon adsorbents in oncology                               |
| Kim Do Kyung<br>Stockholm, Sweden                | MRI study of the transport of superparamagnetic nanoparticles in rat brains   |
| Kim Do Kyung<br>Stockholm, Sweden                | Synthesis and characterization of surfactant coated superparamagnetic monodispersed iron oxide nanoparticles        |
| Martina Koneracka<br>Minsk, Belarus              | The immobilization of 5-Fluorouracil on magnetic fluids   |
| Ferdinand Krutý<br>Bratislava, Slovakia          | Squid magnetometric measurement of the respired ferromagnetic particles   |
| Stefan Molokác<br>Kosice, Slovakia               | Magnetite nanoparticles for hyperthermia treatment  |
| Paulo Cesar Morais<br>Brasilia, Brazil           | Experimental evidence of dimer disruption in ionic ferrofluid: a magnetic resonance investigation                   |
| Maija Partanen<br>Helsinki, Finland              | King Fisher - New magnetic particle processor to automate nucleic acid, cell or protein purification                |
| Mirka Safarikova<br>Ceska Budejovice, Czech Rep. | Magnetic affinity isolation of plant lectins  |
| Maria Helena Santana<br>Campinas, Brazil         | Preparation and characterization of affinity magnetoliposomes for detection of antiphospholipid antibodies          |
| Larisa Sheihet<br>Ramat-Gan, Israel              | New uniform functional magnetic nanoparticles: synthesis, characterization and biomedical use                       |
| Mariana Sincai<br>Timisoara, Romania             | Magnetic nanoparticles as stimulating factors in wound healing process of skin lesions                              |
| Mariana Sincai<br>Timisoara, Romania             | The antitumoural effect of magnetic cobalt ferrite inoculated in bitch mammary adenocarcinoma                       |
| Marcelo Sousa<br>Brasilia, Brazil                | Biocompatible magnetic fluid precursors based on aspartic and glutamic acids chemisorbed on maghemite nanoparticles |
| Gerd Wunderlich<br>Dresden, Germany              | Studies of radioembolization with labeled albumin particles   |



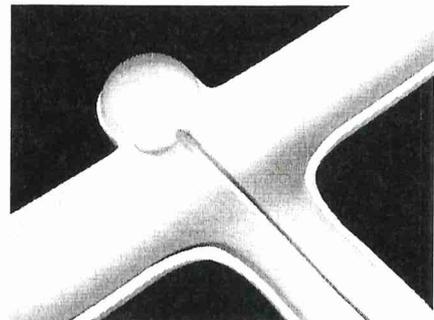
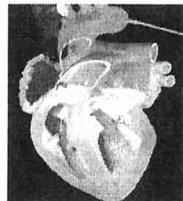
# STEREOTAXIS, INC.

## Magnetic Surgery System (MSS)

*Stereotaxis is developing a computer-integrated surgical platform designed for guiding and delivering catheters, therapeutic agents and other interventional devices within the body. The system will utilize physician-friendly display interfaces to direct a wide range of devices and agents throughout the human body. Stereotaxis is developing a family of magnet systems, which are expected to integrate with digital fluoroscopy cath labs.*



## Clinical Development



*Stereotaxis is developing magnetic devices and therapeutic agents, for indications in Interventional Neurosurgery and Cardiology. Under an approved IDE, Stereotaxis pioneered the first human brain surgery procedure, which used computer-integrated surgical automation to navigate a flexible catheter along multiple curvilinear paths from a single entry point. Stereotaxis plans to develop a variety of devices and therapeutic agents with its in-house design team and through strategic partnerships.*

### *Stereotaxis, Inc.*

*4041 Forest Park Ave  
St. Louis, MO 63129  
(314) 615-6940 PHONE  
(314)-615-6948 FAX  
[www.stereotaxis.com](http://www.stereotaxis.com)*

Works in Progress: For informational purposes only.  
The prototype Neurosurgery Workstation is an  
INVESTIGATIONAL DEVICE, LIMITED BY FEDERAL  
(OR UNITED STATES) LAW TO INVESTIGATIONAL USE

# CellSelect- Separation of Human Epithelial Cells



**CellSelect** is a separation technique based on magnetic beads to isolate epithelial cells out of various body fluids or tissue homogenates.

- antibodies coupled at special modified beadsurface
- high purity and recovery rate after selective isolation of various cells
- cells in living and undamaged conditions
- allows immunological and molecularbiological examination of the cells

<i>Tumor</i>	<i>Cell line</i>	<i>% recovery Dynal</i>	<i>% recovery CellSelect</i>
NSCLC	103H	35	45
Breast	T45D	45	55
Breast	MCF7	44	95

*Table: Comparism of the recovery rate of isolated cells between Dynabeads™ anti-Epithelial Cell (Dynal) and CellSelection (Labsoft)*

Individual bead design in available within 24 hours, individual development of isolation procedures

## Demokits available on demand:



Labsoft GmbH  
Research & Development  
Robert-Franz-Ring 21  
06108 Halle (Saale)  
Germany  
info@labsoft.de

**w w w . l a b s o f t . d e**

**Quantum Design**

# **A New Magnetic Particle-Based Assay Platform**

## **Features:**

**Quantitative Results**

**Rapid -  
<10 sec/measurement**

**Sensitivity -  
attomolar levels of detection**

**Low Cost**

**Magnetic Particles  
are Stable  
Reporter Elements**

## **Applications:**

**Point-of-Care Dx**

**Immunoassays**

**DNA Arrays**

**Research  
Biochemical  
Assays**



## **Compatible with:**

**Lateral Flow**

**Solid Phase**

Quantum Design



# Magnetic Assay Reader

Quantum Design's automated magnetic detection platform offers several advantages over current methods of detection:

1. **Sensitivity** - Analytical measurements have determined the instrument sensitivity level to be less than 20 pg of Fe or 10,000 100-nm particles.
2. **Speed** - Measurement of each analytical region is performed in less than ten seconds.
3. **Linearity** - Magnetic detection is linear with respect to the amount of magnetic material present over a wide range, through at least 4 orders of magnitude.
4. **Miniaturization** - All solid state electronics have enabled the development of a small book-sized prototype. With design refinements and optimization, it is anticipated that this same package will also house a power supply and user interface.
5. **Assay end-point stability** - Magnetic particles do not degrade with time. Completed assays are available to be archived and remeasured as necessary.
6. **Safety** - Magnetic particles are inert to biological systems and the environment.
7. **Wide use** - Magnetic particles are already in widespread use throughout the diagnostics industry.

## Flexible Assay Formats

The MAR is compatible with small-volume assay formats such as microdots (e.g., < 1 mm diameter) or lines (e.g., 0.5 mm x 5 mm). While the format requires the use of thin film substrates, the choice of materials may range from non-porous polymers (polystyrene, polypropylene, Mylar) to porous membranes,

such as nitrocellulose, as used in lateral flow formats. In general, any such material with an overall thickness less than 0.5 mm is compatible with the MAR. This flexibility among substrates and formats makes the instrument compatible with all solid phase and assay chemistries including lateral flow membranes.

The MAR format lends itself well to multi-analyte lateral flow panels. In practice, the MAR can easily accommodate 12 or more analysis regions.

## Applications

Rugged and portable, the MAR is uniquely suited to point-of-care applications in the field of medical diagnostics. The current prototype is operated through a laptop or palmtop computer system. In its final form, it is anticipated that it will incorporate a dedicated, embedded microprocessor for control and data processing. The MAR offers the potential for operation with an on-board battery pack, external battery, or household current.

The Magnetic Assay Reader detection method may be applied to any analyte that can be captured. The instrument offers an automated platform for point-of-care applications and other uses such as DNA arrays, research biochemical assays, food contamination assays, and portable field analysis units for military and environmental monitoring.

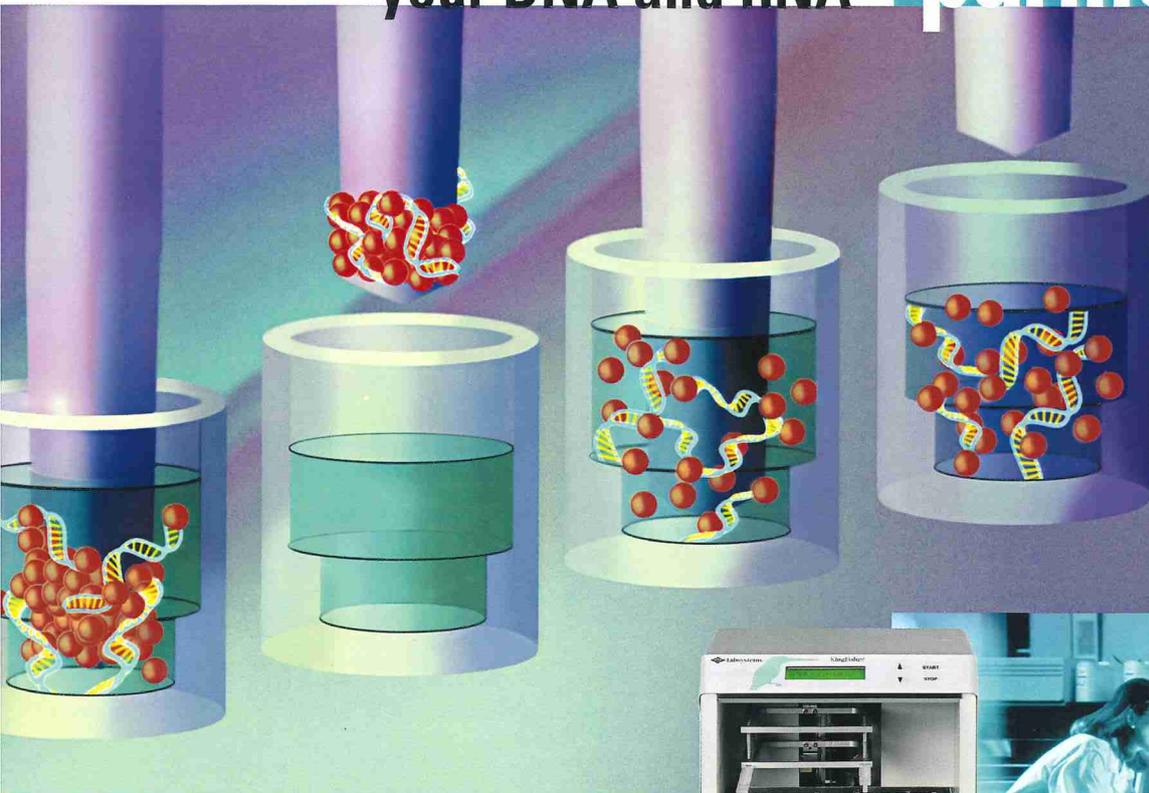
## Patent Protection

A Patent on the basic detection principle, on the instrument, and on various applications has been awarded in the United States. Additional U.S. and International patents are pending.

# Automate

your DNA and RNA

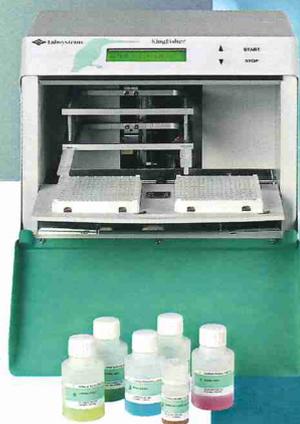
# purification



"A completely revolutionary technique for magnetic-particle processing. All time-consuming steps have been minimized."

## KingFisher™ – Magnetic Particle Processor

KingFisher Magnetic Particle Processor is a specially designed system for purifying and processing nucleic acids or proteins and also for separating different cell types. KingFisher uses a unique concept (patent pending) in which magnetic particles are transferred instead of liquids. The particles are collected on magnetic rods that are dipped into different wells to be washed and incubated to remove contaminants. Finally, the high quality target molecules are released for a variety of standard laboratory applications. KingFisher is ideal for molecular biology research or clinical laboratories that want to process up to 24 samples in 10-30 minutes but do not want to spend time on manual processing or pipetting.



### The KingFisher revolutionary processing technology offers:

- High yield and recovery
- No cross-contamination
- Minimized risk of RNA and DNA degradation
- Improved reaction dynamics
- Excellent reproducibility
- Cost effective
- Saves time – up to 24 samples in 10-30 minutes
- Improves user safety

## Automatic purification of:

- DNA
- RNA
- Proteins
- Cells

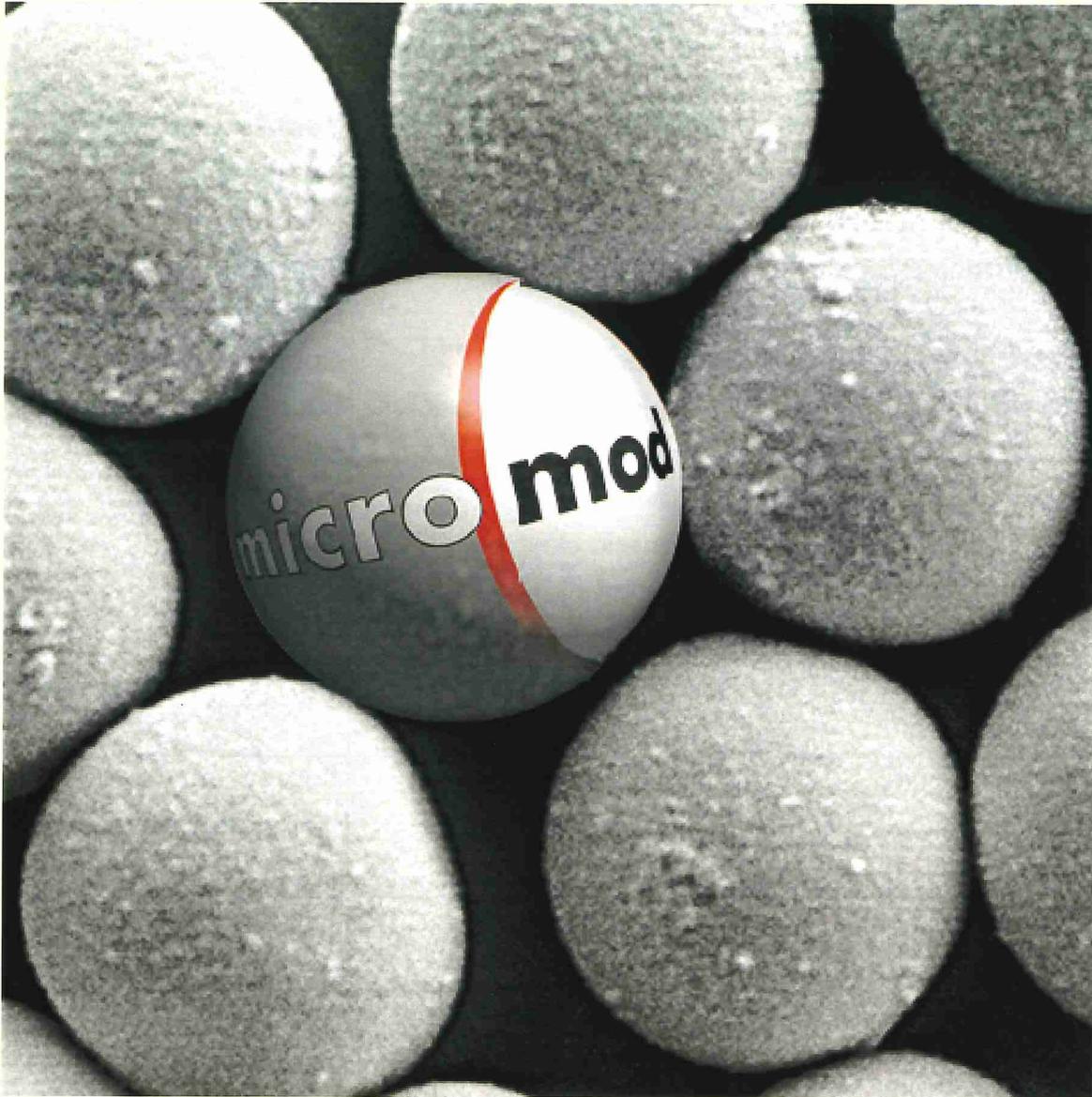
 **Labsystems**

Labsystems Oy  
P.O. Box 208, FIN-00811 Helsinki, Finland  
Tel. +358-9-329 100, Fax +358-9-3291 0415

<http://www.labsystems.fi>

A THERMO BIOANALYSIS COMPANY

# MICRO - TOOLS IN LIFE SCIENCE



## MODULAR DESIGNED PARTICLES

### **micromod**

Partikeltechnologie GmbH  
Friedrich-Barnewitz-Straße 4  
D-18119 Rostock-Warnemünde

Telefon: (+49) 3 81/54 34 56 10

Fax: (+49) 3 81/54 34 56 20

e-mail: [info@micromod.de](mailto:info@micromod.de)

Internet: [www.micromod.de](http://www.micromod.de)