List of sponsors *(alphabetical sequence)*

- **Beckman - Coulter GmbH**
- **Becton-Dickinson-Pharmingen GmbH**
- **Chroma Vision GmbH**
- **Cytomation**
- **DAKO Diagnostika GmbH**
- **Dianova GmbH**
- **Dynal GmbH**
- **Medac GmbH**
- **Meta Systems GmbH**
- **Miltenyi - Biotec GmbH**
- **Mo Bi Tec GmbH**
- **Olympus GmbH**
- **PALM - Zeiss**
- **Partec GmbH**
- **TILL Photonics GmbH**

Program

12th

Heidelberg Cytometry Symposium

Annual General Meeting of the
German Society of Cytometry e.V.

Heidelberg, 21st - 23rd October 1999

Location

Communication Centre
German Cancer Research Centre Heidelberg
Im Neuenheimer Feld 280
D - 69 120 Heidelberg
Tel.: +49 - 6221 - 42 32 08 Fax: +49 - 6221 - 42 26 52
m.stoehr@dkfz-heidelberg.de
http://www.dkfz-heidelberg.de/cytomed.htm

Organisation

H.A Crissman, J. Hemmer, K.J. Hutter,
S. Meuer, M. Stöhr,
M. Trendelenburg

Program Committee

Th. Bley, M. Hausmann
KJ. Hutter R. Jilch
R.Knüchel, G. Rothe,
A. Tárnok, M. Trendelenburg

Thursday, October 21. 1999

14.00 - 14.10 Welcome Address

14.10 - 16.30 SESSION I: *Antigen Specific Cytometry*
CHAIRS: BAUMGARTH - RADBRUCH

14.10 - 14.30 1. SCHEFFOLD A, THIEL A, RADBRUCH A.
Why did it take so long? The cytometric identification of antigen specific T and B lymphocytes

14.30 - 14.50 2. HUNZELMANN N, LEYENDECKERS H, SCHMITZ J.
Cytometry of allergen specific memory B lymphocytes in allergic diseases

14.50 - 15.10 3. BUSCH DH.
Direct *ex-vivo* analysis of epitope specific T cell populations using MHC tetramers

15.10 -15.30 4. THIEL A, WU P, NITSCH S, HIEPE F, SIEPER J, RADBRUCH A.
Identification of antigen specific T lymphocytes by cytokine-provocation and intracellular cytokine staining

15.30 - 15.50 5. BROSTERHUS H, LEYENDECKERS H, BRINGS S, MILTENYI S, RADBRUCH A, ASSENMACHER M, SCHMITZ J.
Analysis and isolation of live antigen specific T cells based on cytokine secretion

15.50 - 16.10 6. MUZZULINI T, KUNKEL D, RADBRUCH A, AND SCHEFFOLD A.
A simple method for *ex-vivo* identification and sorting of viable antigen reactive T cells

16.10 - 16.30 7. FRIEDRICH SO, ROTHE G, MEIERHOFF G, SCHMITZ G.
Optimization of a whole blood overnight assay for the detection of antigen reactive T cells

16.30 - 16.45 *coffee break*

16.45 - 18.30 SESSION II: *Novel Cytometric Techniques*
CHAIRS: HAUSMANN - ROTHE

16.45 - 17.15 1. BAUMGARTH N, PARKS DR, BIGOS M, STOVEL RT, ROEDERER M, NOZAKI T, HERZENBERG LA.
Eleven-color, thirteen parameter flow cytometry for dissecting the immune system.

17.15 - 17.30 2. CRISSMAN HA, VALDEZ JG, STEINKAMP JA.
Flow cytometric fluorescence lifetime analysis of DNA-binding probes

17.30 - 17.45 3. GERSTNER A, BOOTZ F, TÀRNOK A.
A new method for immunophenotyping of peripheral blood by laser scanning cytometry (LSC)

17.45 - 18.00 4. HOPPE K, HAASE M, EYCHMULLER A, WELLER H.
Lumineszierende Nanokristalle als nichtradioaktive Markierungssubstanzen

18.00 - 18.15 5. RAPP A, DITTMAR H, MONAJEMBASHI S, HAUSMANN M, GREULICH KO.
Development of a two colour hybridization protocol for radiation sensitivity mapping using COMET-FISH

18.15 - 18.30 6. RAUCH J, HAUSMANN M, BORNFLETH H, SOLOVEI I, HORSTHEMKE B, CREMER T, KNÜCHEL R, CREMER C.
Spectral precision distance microscopy for the study of the 3D-topology of selected point-like markers

18.30 - 19.00 *coffee break and poster mounting*

19.00 - 20.00 SESSION III: *Poster Exhibition*
CHAIR: HUTTER

20.00 - Ende *RECEPTION AT THE GERMAN CANCER RESEARCH CENTRE*

Friday, October 22. 1999

08.30 - 11.30 SESSION IV: *Analyses of Cellular DNA*
CHAIRS: KNUECHEL-CLARKE - OTTO

08.30 - 08.45 1. MEHES G, LÖRCH T, AMBROS PF.
Quantitative analysis of rare tumour cells by automated microscopy

08.45 - 09.00 2. AMBROS PF, MEHES G, HATTINGER C, LUEGMAYR A, WITT A, PLESCH A, LÖRCH T.
Fully automated detection and genetic characterization of rare tumor cells

09.00 - 09.15 3. HEMMER J.
High resolution DNA flow cytometry in the management of head and neck cancer.

09.15 - 09.30 4. BEYER M, BLUM S, KUNZE KD, MEYER W, KAYSER K.
Telemetrische DNA Messungen (Statische DNA Zytometrie) maligner Pleuraergüsse

09.30 - 09.45 5. BAUMGARTNER A, SCHIMD TE, ADLER LD, NÜSSE M.
Evaluation of the frequency of aneuploid sperm of mice and humans by laser scanning cytometry (LSC)

09.45 - 10.00 6. NOWAK R, OELSCHLÄGEL U, HERBST R, NIKLISCH M, Hänel A, TEICH M, EHNINGER G.
The detection of aneuploid malignant hematopoietic cells with flow cytometry after therapy

10.00 - 10.15 7. MEHES G, HATTINGER CM, LÖRCH T, ADNER H, AMBROS PF.
Proliferative potential of tumour cells disseminated in the heamatopoietic system

10.15- 10.30 *coffee break*

10.30 - 10.45 8. SKIERSKI JS, KORONKIEWICZ M, GRIEB P.
The effect of FMdC on the cell cycle of three leukemia cell lines *in-vitro*

10.45 - 11.00 9. BÖCKER W, PILS S, WERNER F, STREFFER C.
Quantification of DNA telomere sequences in single chromosomes using fluorescence image cytometry

11.00 - 11.15 10. HAUSMANN M, WINKLER R, DURM M, ESA A, CREMER C.
Fluoreszenzmarkierung des ABL-Gens mit Computer selektierten Oligo-DNA-Sonden

11.15 - 11.30 11. DOBRUCKI J, SLUPCZYNSKA A, KRZESZOWIEC W, DARZYNKIEWICZ Z.
Imaging of *in situ* DNA sensitivity to denaturation by confocal microscopy

11.30 - 12.30 *lunch*

12.30 - 14.30 *ANNUAL GENERAL MEETING OF THE DGFZ MEMBERS*

14.30 - 14.45 *KLAUS GOERTTLER AWARD: TALK OF THE PRIZE-WINNER*

14.45- 15.00 *coffee break*

15.00 - 17.45 SESSION V: *Cytometric Investigations of Receptor Complexes*
CHAIRS: CRISSMAN - NUESSE

15.00 - 15.15 1. BECKE FM, SCHWARZ H, HOFSTÄDTER F, BROCKHOFF G.
CD137 (ILA/4-1BB) reduces phagocytosis of human monocytes

15.15 - 15.30 2. LEHLE K, KUNZ-SCHUGHART LA, PREUNER J, BIRNBAUM D.
Differences in tumor cytotoxicity of human monocytes: cultivation and isolation of endothelial cells from large vessel preparations

15.30 - 15.45 3. KONUR A, KREUTZ M, ANDREESEN R, BROCKHOFF G.
Differences in tumor cytotoxicity of human monocytes depends on the type of tumor target: analysis in a threedimensional spheroid model

15.45 - 16.00 4. TÀRNOK A, GERSTNER A, ADAMS V, RACZ P, RACZ K, SCHNEIDER P.
Quantification of apoptosis and leukocyte subsets in tissue sections by laser scanning cytometry (LSC)

16.00 - 16.15 5. GÖTZ A, KAPINSKY M, ORSÓ E, ROTHE G, SCHMITZ G.
The cholesterol and sphingomyelin content of the plasma membrane as determinants of CD14 dependent signal transduction

16.15 - 16.30 *coffee break*

16.30 - 16.45 6. KAPINSKY M, TORZEWSKI M, SCHINDLER G, ROTHE G, SCHMITZ G.
Enzymatically modified LDL in contrast to oxidized or acetylated LDL induces foam cell formation independent from scavenger receptor expression

16.45 - 17.00 7. SÄNGER N, STROHMEIER R, KAUFMANN M, KUHL H.
Periphere Benzodiazepinrezeptoren in Relation zu Zellzyklusphase und Mitochondriengehalt bei Mamma-Carcinom-Zellkulturen

17.00 - 17.15 8. LEVINA VV, VARFOLOMEEVA EY, SUKHAREVA EB, DROBCHENKO EA, FILATOV MV.
Flow cytometry study of DNA clearing from noncovalently bound agents which is a new mechanism of drug resistance in mammalian cells.

17.15 - 17.30 9. LÖHRKE B, VIERGUTZ T, GOLDAMMER T, KRÜGER N.
Association between development-dependent ectopic expression of the transcription factor peroxisome proliferator-activated receptor subtypes and apoptosis in lutein cells

17.30 - 17.45 10. SCHMID TE, BAUMGARTNER A, NÜSSE M, ADLER ID.
The effect of chemicals on the duration of male meiosis in mice detected with laser scanning cytometry (LSC)

17.45 - 18.30 *small dinner*

18.30 -21.00 **Session VI:** ***Industrial Talks***
CHAIRS: BEISKER - GREULICH

18.30 - 18.45 1. MHC-Tetramere:
Nachweis von antigen-spezifischen CD8+ T Zellen mit Hilfe der Flußzytometrie
Beckman-Coulter

18.45 - 19.00 2. BD LSR, the 6-Color benchtop research flow cytometer from BD Biosciences
Becton Dickinson

19.00 - 19.15 3. Biomagnetic separation: Methods and applications
Deutsche Dynal

19.15 - 19.30 4. Kooperatives Arbeiten in der Mikroskopie über Netze (HISTKOM)
Deutsche Telekom

19.30 - 19.45 5. Continuous Gating® von medac, eine Expertensoftware
medac Diagnostica

19.45 - 20.00 6. Recent developments in rare cell scanning and multi fluorochrome imaging
MetaSystems

20.00 - 20.15 7. autoMACS
For ultra high speed automated magnetic cell separation
Miltenyi Biotech

20.15 - 20.30 8. PAS, ein kompaktes Flowzytometer mit Färbeautomat für die Routine-Immunologie.
Partec

20.30 - 20.45 9. Das Till-Photonics Standard Imaging System
Till-Photonics

20.45 - 21.00 10. Multiple fluorescence microscopy and optoelectronic imaging: Possibilities and limits
Zeiss Oberkochen

Saturday, October 23. 1999

09.00 - 10.15 **Session VII : *Cellular Function, Differentiation and Disease***
Part 1 :
Chairs: ASSENMACHER - VALET

09.00 - 09.15 1. BEDNER E, LI X, DARZYNKIEWICZ Z.
Assays of cell functions by laser scanning cytometry

09.15 - 09.30 2. TORZEWSKI M, KAPINSKY M, ROTHE G, SCHMITZ G.
C-reactive protein (CRP) in atherogenesis

09.30 - 09.45 3. PIPEK M, HAMBSCH J, SCHNEIDER P, TÁRNOK A.
Increased apoptosis of circulating lymphocytes during cardiac surgery with cardiopulmonary bypass

09.45 - 10.00 4. KRIEG R, MESSMANN H, HOFSTAEDTER F, KNUECHEL R.
Effects of 5-aminolevulinic acid (ALA) induced intracellular protoporhyrin IX (PPIX) - content and - localisation on photodynamic therapy (PDT)

10.00 - 10.15 5. BERNAS T, DOBRUCKI J.
The role of cellular plasma membranes in reduction of tetrazolium salts, MTT and CTC

10.15 - 10.30 6. BARLAGE ST, WIMMER A, ROTHE G, SCHMITZ G.
Effects of the GPIIB/IIIA receptor antagonist MK-383 on receptor conformation and function

10.30 - 11.00 ***coffee break and small breakfast***

11.00 - 12.30 **Session VII : *Cellular Function, Differentiation and Disease***
Part 2 :
Chairs: TÁRNOK - SZÖLLÖSI

11.00 - 11.15 8. SCHNEIDER EM, DOBRUCKI J, STAHL-HAEGE B, GEORGIEFF M.
Subcellular CD95-ligand expression in microvascular endothelial cells, Ewing's tumors and long term cultured T cells.

11.15 - 11.30 9. SEIDL J, KRIEG R, KNUECHEL R.
Cellular effects of 5-aminolevulinic acid (ALA) - induced protoporphyrin XI (PPIX) - mediated photodynamic therapy (PDT) on human urothelial cell lines

11.30 - 11.45 10. STARK R, ROTHE G, SCHÄFER B, SCHMITZ G.
Flow cytometric characterisation of platelet membrane microviscosity as a determinant of abnormal platelet activation in hypercholesterolemia

11.45 - 12.00 11. BÖHM I, REICHARDT A, SCHNAUTZ S, BAUER R.
Flow cytometric detection of $CD3^{low}$ cells in the peripheral blood of patients with cutaneous T-cell lymphoma

12.00 - 12.15 12. SZÖLLÖSI J, NAGY P.
Mapping of cell surface distribution of ErbB proteins in breast cancer cells.

12.15 - 12.30 13. VALET G, KAHLE H, TARNOK A, VAN DRIEL B, VAN NOORDEN.
Predictive medicine by pattern analysis (CLASSIF1) of cytometric and other data

12.30 - 12.45 ***coffee break***

12.45 - 13.45 **Sitzung VIII:** *Microorganisms*
CHAIRS: BLEY - MÜLLER

12.45 - 13.00 1. BEISKER W, BRUCKMEIER B, SCHADE C, SCHÄFER H, NUESSE M.
The characterization of phytoplankton populations using flow cytometry and laser scanning cytometry

13.00 - 13.15 2. FRERICHS JG, JOERIS K, SCHAPER J, SCHEPER TH.
In-situ Mikroskopie bei der Kultivierung von Mikroorganismen

13.15 - 13.30 3. GROßE–UHLMANN R, MÜLLER S, BLEY TH.
Fluß Zytometrie als Methode zur Prozeßidentifikation am Beispiel der Synthese von Poly-ß-Hydroxy-Buttersäure (PHB) durch *Methylobacterium rhodesianum* MB126

13.30 - 13.45 4. ULLRICH S, LÖSCHE A, MÜLLER S.
Durchflußzytometrische Bestimmung der Fluidität zur Charakterisierung der Strukturen bakterieller Membranen

End

POSTER EXHIBITION

1. ALBRECHT J, DABETIC-POPESCU C, ECKART M.
Evaluation der Quantifizierung der CD38-Expression (Antibody Binding Cpapacity) auf T-Suppressorzellen unter den besonderen Bedingungen des Einsendelabors

2. BÖHM I, PEGELOW K, VON RÜCKER A, KISTLER V, BAUER R.
Immunological differences between idiopathic CD4+ T lymphocytopenia (ICL) and HIV-infection

3. FILIPIAK K, JEDRZEJCZAK P, KOTWICKA M, PAWELCZYK L, SKIERSKI JS, WARCHOL JB.
DNA content in human spermatozoa and *in vitro* fertilisation effects

4. GREVE B, SEVERIN E, HACKER-KLOM U, GÖHDE W.
Mikronuklei und Zellzyklusverzögerung als Parameter zur Bestimmung der individuellen Strahlenempfindlichkeit

5. KLEINE TO.
Indication for an altered transfer of lymphocyte subsets from blood into cerebrospinal fluid (CSF) in aging humans

6. KLEINE TO.
Different blood/cerebrospinal fluid (CSF) ratios of human lymphocyte subsets

7. KORCZAK-KOWALSKA G, WIERZBICKI P, MICHALSKA K, DOBRZYSKA E, CHMURA A, KOSOWSKA D, PODOBISKA I, ROWISKI W, GÓRSKI A.
The flow cytometric crossmatch in renal transplantation

8. KOTWICKA M, FILIPIAK K, WARCHOL JP.
Study on association between DNA content and sperm morphology of males with unexplained infertility.

9. MEYER ZU HÖRSTE G, HOFFMANN A, MONAJEMBASHI SH, UHL V, PILARCZYK G, GREULICH K-O.
Optical tools in laser scanning microscopy of cultured mammalian cells

10. MÜLLER S, ULLRICH S, LÖSCHE A, BABEL W.
Flow cytometric techniques to characterize physiological states of *Acinetobacter Calcoaceticus*

11. NEUMÜLLER S, DUNKY A, BURTSCHER H, JILCH R, MENZEL JE.
Interaktionen zwischen Monozyten aus dem peripheren Blut von Patienten mit Arthritis Psoriatica und kultivierten humanen dermalen mikrovaskulären Endothelzellen.

12. NUDING S, MÜLLER HAG, BODE CH.
Flußzytometrie in der mikrobiologischen Diagnostik

13. PILARCZYK G, SCHMITT E, GREULICH KO.
Cardiac calcium homeostasis ends up in oscillations:
micro- cytometric measurements and numeric simulations

14. POZAROWSKI P, ROLINSKI J, SURDACKA A, KRAWCZYK P.
Examination of inner mitochondrial transmembrane potential ((DYm) using Chlormethyl-X-Rosamine dye

15. RIESEBERG M, SCHEPER T.
On-Line Monitoring an Bioprozessen mittels fließinjektionscytometrischer Messungen

16. SCHÜLER C, HOFER A, WITT M, KASPER M, WOLF C, SCHULZE E, FUNK RHW.
Flow cytometry for assessing biocompatibility of type 1 collagen-coated titanium alloy