



Maastricht University

*Leading
in Learning!*

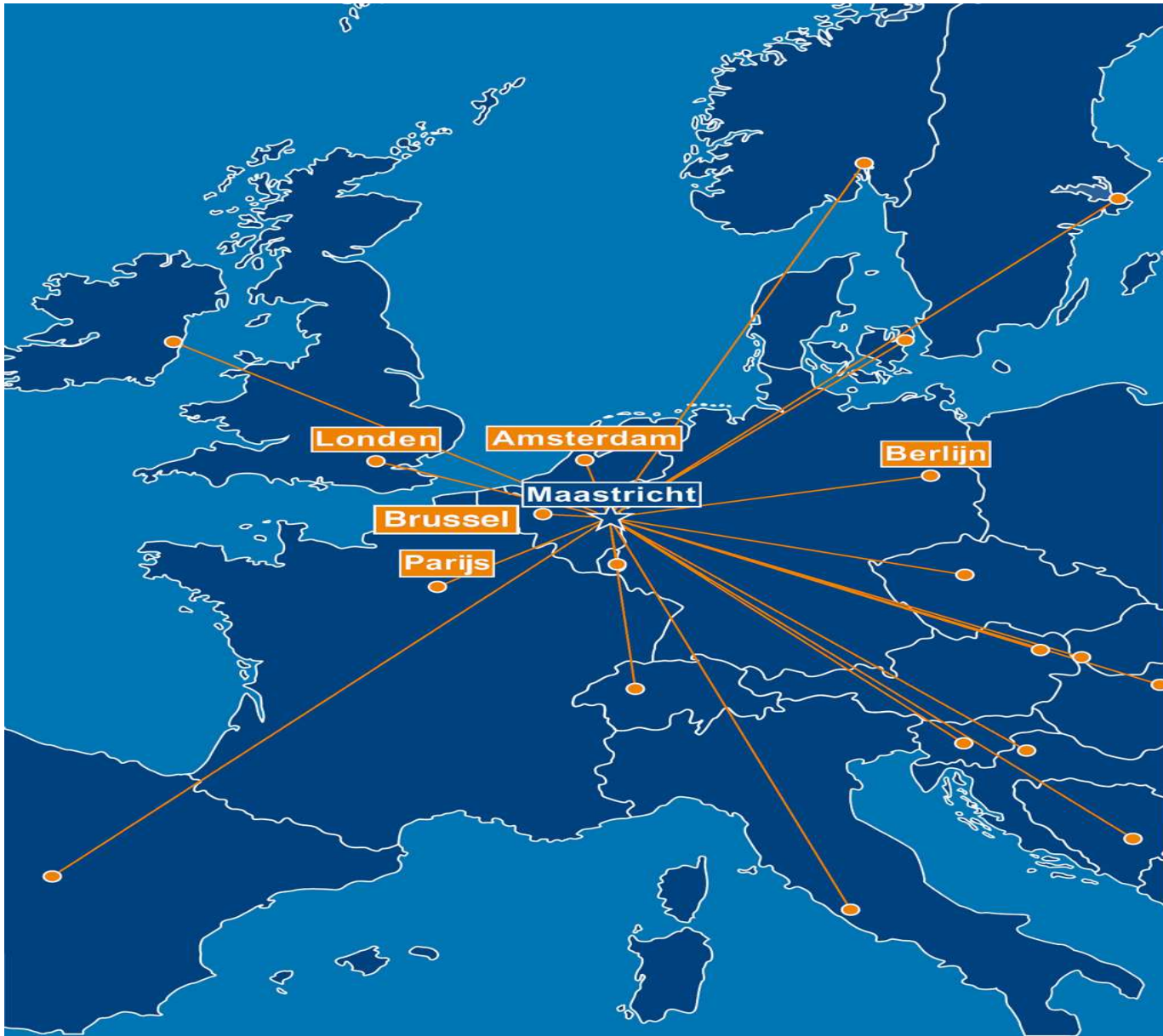
Biobanking at

Maastricht University Medical Centre+

Indo-Dutch workshops

Trivandrum January 21-23, 2010

Dr. Dorine H. Collijn CRISP



Characteristics



Problem Based Learning

International orientation

Multidisciplinary research

Close cooperation with industry

Facts and figures Maastricht UMC+ 2008

- Operating theaters 22
- Admissions 26,000
- Inpatient days 197,000
- Outpatients 400,000
- Hospital beds 715
- Employees 5,300
- Students 4,000
- Intake Bachelor's 760
- Intake Master's 650
- PhDs awarded 130
- Publications 2,100

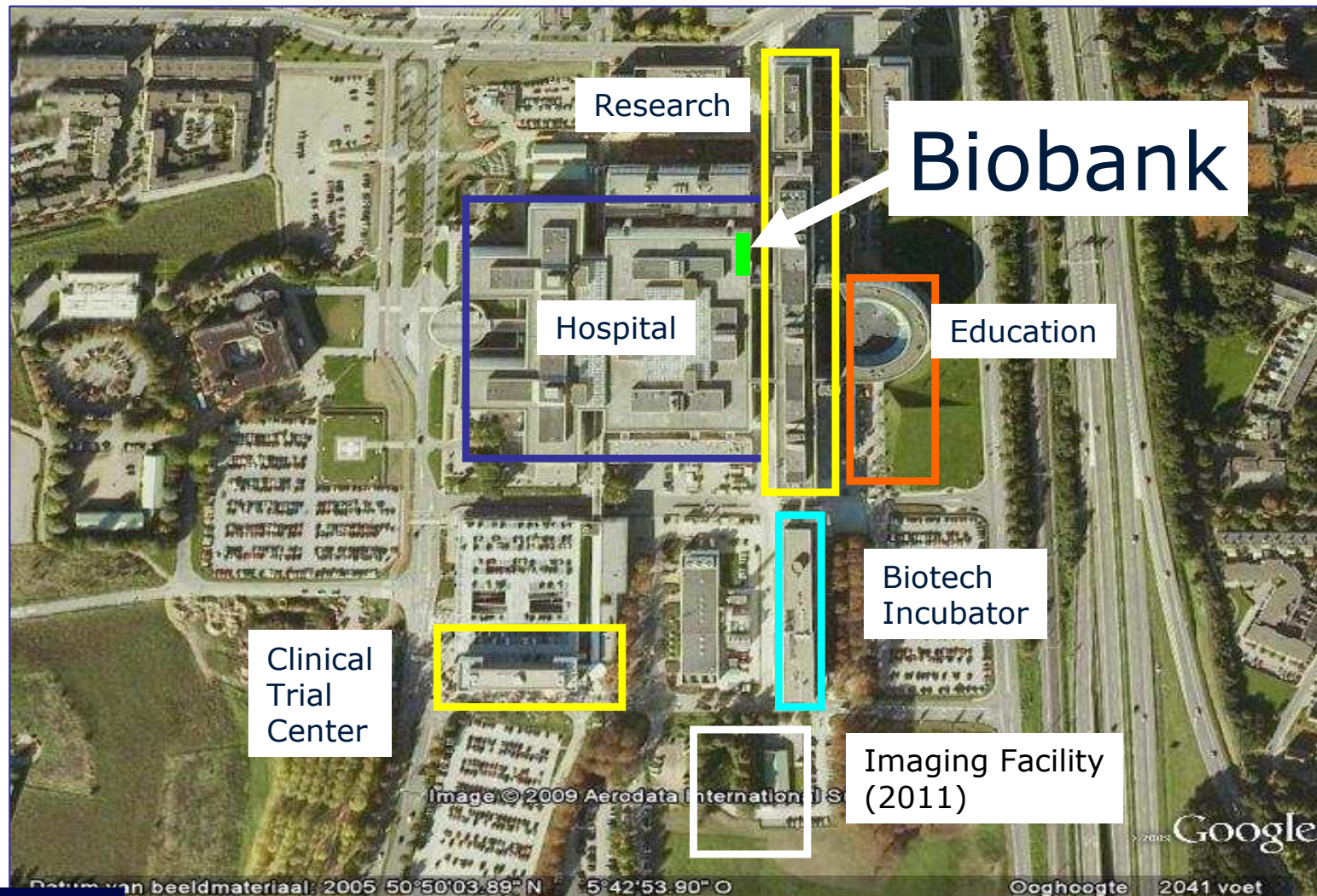
Research at Maastricht UMC⁺

	<u>Scientific personnel (fte)</u>
School for Cardiovascular Diseases (CARIM) thrombosis and hemostasis heart function and heart failure vascular biology and atherosclerosis	176
School for Nutrition, Toxicology and Metabolism (NUTRIM) metabolic syndrome chronic inflammatory disease and wasting gut-liver homeostasis gene environment interactions	152
School for Oncology and Developmental Biology (GROW) developmental biology molecular oncology	81
School for Mental Health and Neurosciences (MHeNS) cognitive functional disorders psychopathology neurodegeneration and plasticity	75
School for Public Health and Primary Care (Caphri) primary care innovations in health care public health	143

Partner in public-private partnerships

- Center Translational Molecular Medicine, CTMM
- Biomedical materials, BMM
- Top Institute Food & Nutrition, TIFN
- TI Pharma
- NFU "string of pearls" PSI
- *Philips, AKZONobel*
- *DSM, AKZONobel*
- *Unilever, DSM, CSM*
- *MERCK, NUMICO*
- *Joint UMC's*
- Host Dutch Center Toxicogenomics
- European 7th Framework Program

an integrated Campus



Biobank Maastricht UMC+: a brief history

1999 : major investment of M€ 33 in new research areas and research infrastructure

- Need for a strong population base for advanced population based research in medicine, health and life sciences

Purpose Biobank Maastricht UMC+

- Create a central facility for researchers
- Reliable system for storage of large amounts of biological materials under safe and controlled conditions
- The possibility to trace the specimens for further chemical or genetic analyses and match with clinical data.
- Create opportunities for new research with available biological materials (samples)

Biobank Maastricht UMC+

- Set up Biobank
 - Equipment:
 - Storage at +4 / -20 / -80 / -196 °C



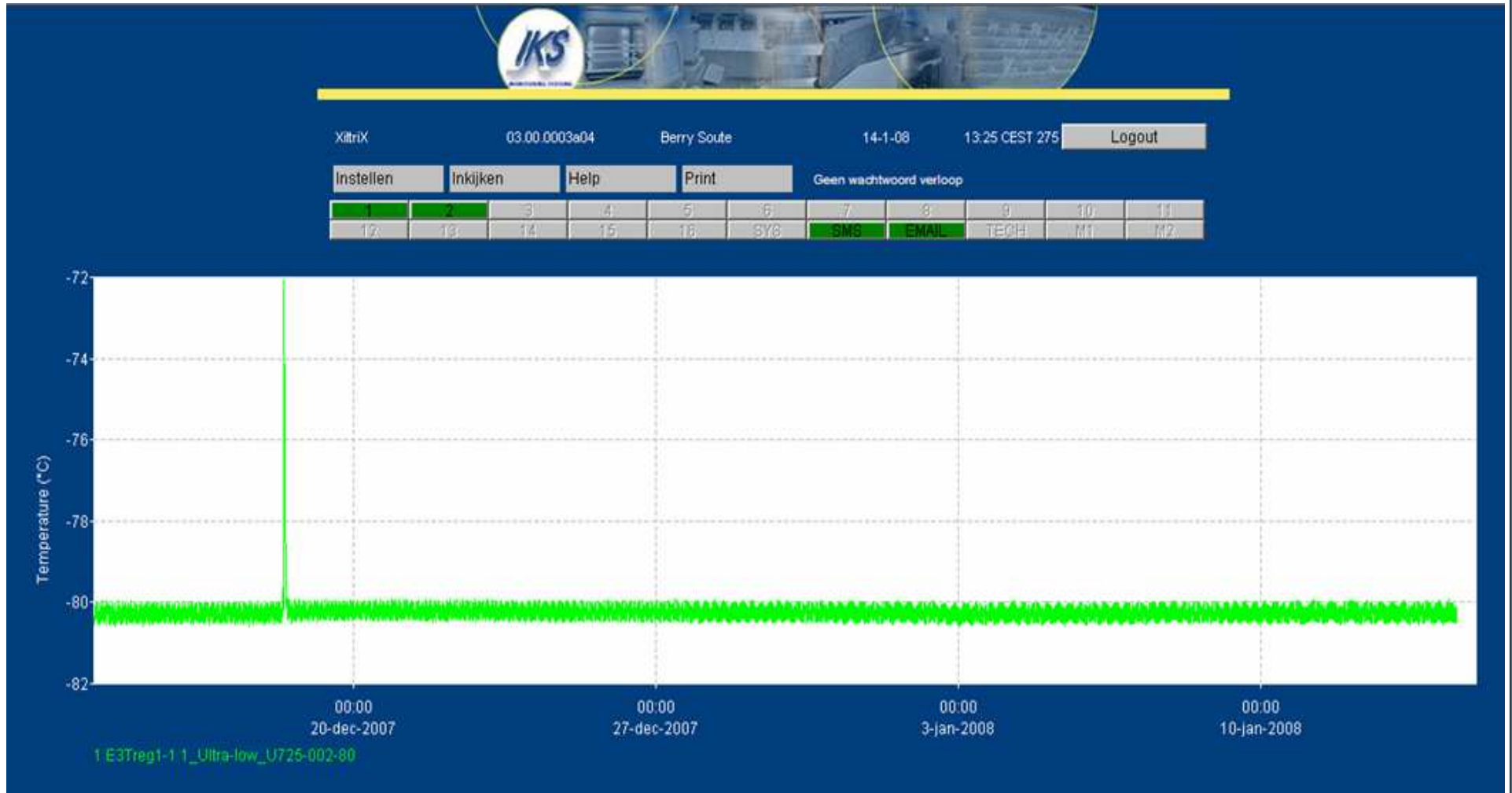
Biobank Maastricht UMC+

- Set up Biobank
 - Safety measures:
 - General warning system
 - Equipment specific system (IKS)



Deur	Nr	HR	Beschrijving	Meting	WL	LO	HI	WH	Alarm datum + tijd (CEST)	Niveau
	001		E3Treg1-1 1_Ultra-low_U725-002-80	-80,4 °C	30	-90,0	-60,0	30		
	002		E3Treg1-1 2_Ultra-low_Reserve	-79,7 °C	30	-90,0	-60,0	30		
	003		E3Treg1-1 3_LN2-vat_K38-001-196	-188,7 °C	30	-200,0	-160,0	30		
	004		E3Treg1-1 4_Vriezer_LBH-005-20	-20,1 °C	30	-30,0	-10,0	30		
	005		E3Treg2-1 1_Koelkast_LBH001+4	4,4 °C	30	2,0	8,0	30		
	006		E3Treg2-1 2_Vriezer_Reserve	-17,4 °C	30	-30,0	-10,0	30		
	007		E3Treg2-1 3_Vriezer_LBH001-20	-14,4 °C	30	-30,0	-10,0	30		
	008		E3Treg2-1 4_Vriezer_LBH003-20	-17,6 °C	30	-30,0	-10,0	30		
	009		E3Treg3-1 1_Vriezer_LBH004-20	-18,4 °C	30	-30,0	-10,0	30		
	010		E3Treg3-1 2_Vriezer_LBH002-20	-17,5 °C	30	-30,0	20,0	30		
	011		E3Treg3-1 3_Ultra-low_U725-003-80	-80,2 °C	30	-90,0	-60,0	30		
	012		E3Treg3-1 4_Ruimtetemperatuur_biobank	19,3 °C	30	10,0	30,0	30		
	013		E3Treg4-1 1_LN2-vat_2	-183,8 °C	30	-200,0	-160,0	30		
	017		H2TREG26+4 1_Ultra-low_U725-010-80	-80,0 °C	30	-90,0	-60,0	30		
	018		H2TREG26+4 2_Ultra-low_U725-011-80	-80,6 °C	30	-90,0	-60,0	30		

Nr	Beschrijving	Status	WS	Alarm datum + tijd



Biobank Maastricht UMC+

- Services
 - Sample preparation
 - Biobank Information System

Stored biological materials

- EDTA plasma
- Citrate plasma
- Heparin full blood
- Serum
- Buffy coat
- Tissue
- Faeces
- Urine
- Mother milk
- Vitreous fluid
- Cheek Muscoa
- Cerebrospinal Liquor
- Nail clippings

Samples > 500.000

Biobank Information System

- Complete registration of storage

Microsoft Excel - EFA melk lade2v2 (2) [Read-Only]

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	melk																			
2	doosnr	positic	uniclnr	ppnr	verz dat	folowup	aliquat	geb d land												
3	5	1	02	7	22-6-1998	mm6	1	17-12-1997												
4	5	2	02	13	19-6-1998	mw4	1	19-5-1998												
5	5	3	02	13	19-6-1998	mw4	2	19-5-1998												
6	5	4	02	70	17-6-1998	mm3	1	17-3-1998												
7	5	5	02	70	17-6-1998	mm3	2	17-3-1998												
8	5	6	02	54	15-6-1998	mw4	1	14-5-1998												
9	5	7	02	54	15-6-1998	mw4	2	14-5-1998												
10	5	8	02	2	15-6-1998	mw4	1	12-5-1998												
11	5	9	02	2	15-6-1998	mw4	2	12-5-1998												
12	5	10	02	7	22-6-1998	mm6	2	17-12-1997												
13	5	11	02	40	22-6-1998	mw4	1	22-5-1998												
14	5	12	02	40	22-6-1998	mw4	2	22-5-1998												
15	5	13	02	12	22-6-1998	mw4	1	19-5-1998												
16	5	14	02	12	22-6-1998	mw4	2	19-5-1998												
17	5	15	02	104	23-6-1998	mw4	1	21-5-1998												
18	5	16	02	104	23-6-1998	mw4	2	21-5-1998												
19	5	17	02	34	23-6-1998	mw4	1	25-5-1998												
20	5	18	02	34	23-6-1998	mw4	2	25-5-1998												
21	5	19	02	73	11-11-1111	mm3	1	29-3-1998												
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27	5	25	02	84	1-7-1998	mm3	1	29-3-1998												
28	5	26	02	84	1-7-1998	mm3	2	29-3-1998												
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30	5	28	02	81	1-7-1998	mw1	2	23-6-1998												
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34	5	32	02	120	30-6-1998	mw4	2	30-5-1998												
35	5	33	02	44	2-7-1998	mw4	1	6-6-1998												
36	5	34	02	44	2-7-1998	mw4	2	6-6-1998												
37	5	35	02	69	24-8-1998	mw1	1	17-8-1998												
38	5	36	02	69	24-8-1998	mw1	2	17-8-1998												
39	5	37	02	21	6-7-1998	mm3	1	5-4-1998												
40	5	38	02	21	6-7-1998	mm3	2	5-4-1998												
41	5	39	02	42	6-7-1998	mm3	1	8-4-1998												
42	5	40	02	42	6-7-1998	mm3	2	8-4-1998												
43	5	41	02	75	8-7-1998	mw1	1	1-7-1998												
44	5	42	02	75	8-7-1998	mw1	2	1-7-1998												

Biobank Information System

- Study structure
 - Study number
 - Follow-up
 - Nature of material
 - Volume
 - SOP

Biobank Information System

- Sample information
 - Respondent number
 - Date of birth
 - Gender
 - Collection date
- Connecting to study structure by
 - Study number
 - follow-up



PBS versie 2.2 fix 1 user AYDENIZ_H - [Automated Insert UMC [BBK119F]]

Action Aliquots Scan Boxes Studies Edit Block Field Record Query Window Help

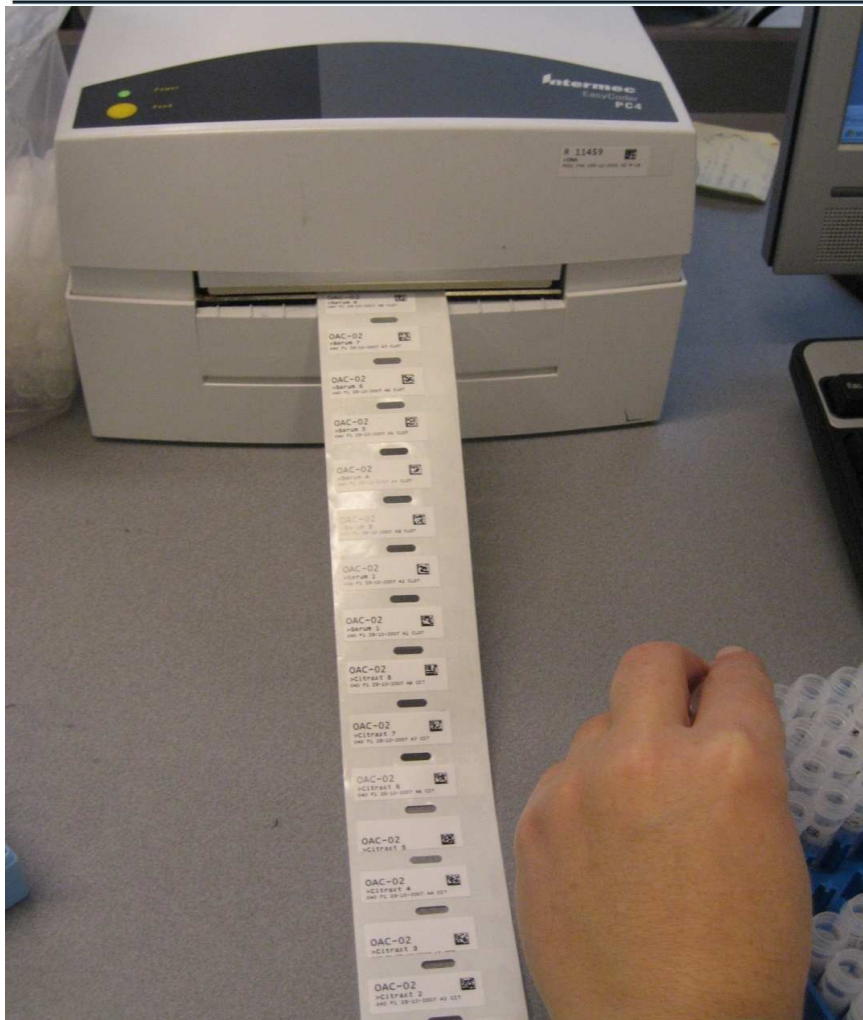
Automated Insert

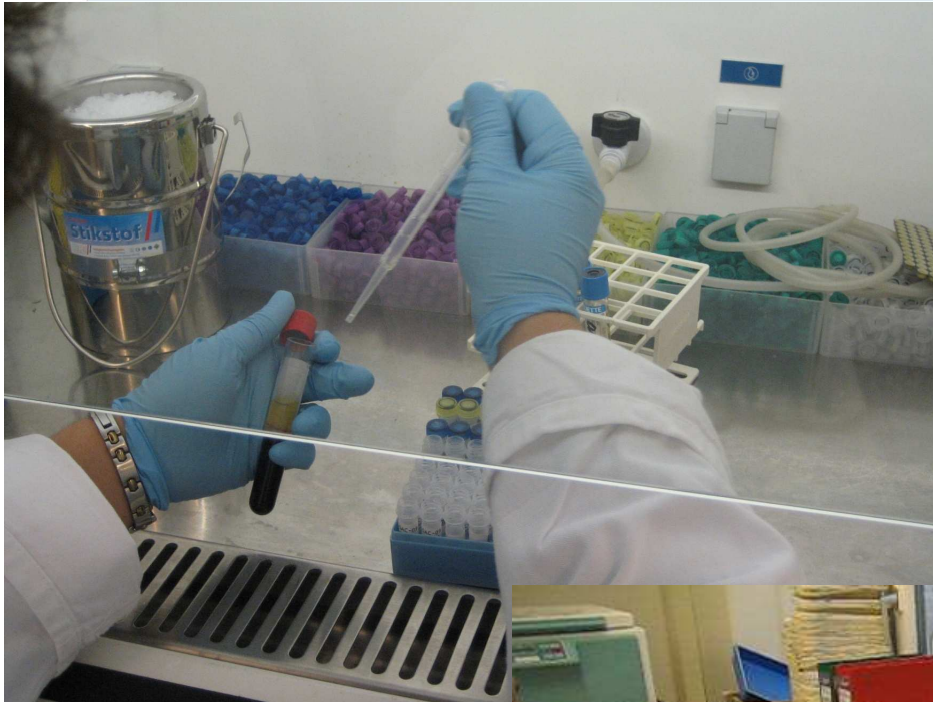
Project Nr:
 Follow up:
 Collection Date:

Pat No:
 Resp Nr:
 Sexe:
 Birthday:

Un-positioned Aliquots

Alt Id	Reservation	Projectnr	Follow Up	Respnr	Container Type	Material	Collectiondate
362541	Serum 2	BB001	01	umc0002300	2mlNS	Se	14-01-2008
362540	Serum 1	BB001	01	umc0002300	2mlNS	Se	14-01-2008
362539	EDTA-Buf	BB001	01	umc0002300	2mlNS	Ebuf	14-01-2008
362538	EDTA-Pl 2	BB001	01	umc0002300	2mlNS	Epl	14-01-2008
362537	EDTA-Pl 1	BB001	01	umc0002300	2mlNS	Epl	14-01-2008
362536	Citraat-Buf	BB001	01	umc0002300	2mlNS	CITbu	14-01-2008
362535	Citraat-Pl 2	BB001	01	umc0002300	2mlNS	CITpl	14-01-2008
362534	Citraat-Pl 1	BB001	01	umc0002300	2mlNS	CITpl	14-01-2008
362533	Serum 2	BB001	01	umc0002299	2mlNS	Se	14-01-2008
362532	Serum 1	BB001	01	umc0002299	2mlNS	Se	14-01-2008





Biobank Maastricht UMC+

- 110 Projects
- Maastricht Study (N=10.000)
- Structural data collection patient outclinic :
 - Cardiovascular centre 2006
 - Cancer centre 2008
- Partner in PSI
- BBMRI: a European infrastructure of Biobanks
- Luxembourg



BioBank
MAASTRICHT
UMC+

Biobank Maastricht UMC+

Conclusions:

- Biobank Maastricht UMC⁺: State of the art
- Front runner in the Netherlands
 - Approach/set up Biobank
 - Development Protocols
- ISO 9001 certified