

Project no. HPRN-CT-2004-503661

Project acronym: M3CS - Tu Th

Project full name: Modeling, Mathematical Methods and Computer Simulation of Tumour Growth and Therapy

Research Training Networks

Attachment to the RTN Mid Term Activity Report

Period Number : 2

Period covered: from June 1st 2004 to May 31st 2006

Date of preparation: June 20th 2006

Date of submission : (SESAM)

Start date of project: June 1st 2004

Duration: 4 years

Project coordinator name: prof. Nicola Bellomo

Project coordinator organisation name: Politecnico di Torino

Revision: draft

1.SUMMARY OF THE RECRUITMENT SINCE THE START OF THE PROJECT

Contractor 1: POLITECNICO DI TORINO

	Name of the Researcher(s) (as stated at time of selection)	Location of origin ¹	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date of recruitment (dd/mm/yy)	Corresponding full time equivalent months of appointment
1.	Arnaud Chauviere	France	M	ER	01/05/2005	30/04/2007	13
2.	Sergey Astanin	Russia	M	ESR	01/09/2005	31/08/2007	9
	Total						22
	Contract Deliverable						36

Contractor 2: THE UNIVERSITY OF NOTTINGHAM

	Name of the Researcher(s) (as stated at time of selection)	Location of origin	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date (dd/mm/yy)	Corresponding full time equivalent months of appointment
1.	Johanna Stamper	Sweden	F	ESR	01/01/2005	30/06/2006	17
2.	Gabriele Siroto	Spain	M	ER	01/08/2006	31/01/2008	0
	Total						17
	Contract Deliverable						36

Contractor 3: UNIVERSIDAD COMPLUTENSE DE MADRID

	Name of the Researcher(s) (as stated at time of selection)	Location of origin	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date (dd/mm/yy)	Corresponding full time equivalent months of appointment
1.	Sebastiano De Franciscis	Italy (LFR)	M	ESR	01/10/2004	30/06/2006	20
2.	Simona Faini	Italy	F	ESR	01/01/2006	31/03/2007	5
3.	Sergey Astanin	Russia	M	ER	01/09/2007	31/05/2008	0
	Total						25
	Contract Deliverable						36

Contractor 4: UNIVERSITE JOSEPH FOURIER

	Name of the Researcher(s) (as stated at time of selection)	Location of origin	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date (dd/mm/yy)	Corresponding full time equivalent months of appointment
1.	Gerrit Danker	Germany	M	ER	01/12/2005	30/11/2006	6
2.	Andreea Jordan	Romania (LFR)	F	ESR	01/11/2005	31/05/2008	7
	Total						13
	Contract Deliverable						30

Contractor 5: ECOLE NORMALE SUPERIEURE

	Name of the Researcher(s) (as stated at time of selection)	Location of origin	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date (dd/mm/yy)	Corresponding full time equivalent months of appointment
1.	Piotr Gwiazda	Poland (LFR)	M	ER	01/10/2004	30/09/2005	12
2.	Olivier Lejeune	Belgium	M	ER	01/04/2006	31/05/2006	2
3.	Susana Gutierrez de Garzia	Spain	F	ER	01/09/2006	31/01/2007	0
4.	Nejla Nouaili	Tunisia	F	ESR	01/08/2006	30/06/2007	0

¹ As defined in Annex III of the contract. Please specify if in Least Favoured Region (LFR), for further information please consult the 'Reporting guidance notes'.

	Total						14
	Contract Deliverable						29

Contractor 6: UNIVERSITY OF DUNDEE

	Name of the Researcher(s) (as stated at time of selection)	Location of origin	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date (dd/mm/yy)	Corresponding full time equivalent months of appointment
1	Olivier Lejeune	Belgium	M	ER	01/10/2004	31/03/2006	18
2	Ignacio Ramis Conde	Spain	M	ESR	01/10/2004	31/03/2006	18
	Total						36
	Contract Deliverable						36

Contractor 7: PRIVATE UNIVERSITAET WITTEN/HERDECKE GMBH

	Name of the Researcher(s) (as stated at time of selection)	Location of origin	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date (dd/mm/yy)	Corresponding full time equivalent months of appointment
1	Monika J. Piotrowska	Poland (LFR)	F	ESR	01/06/2005	31/05/2008	12
2	Gabriela Lorelai Litcanu	Romania (LFR)	F	ER	01/10/2006	30/09/2007	0
	Total						12
	Contract Deliverable						30

Contractor 8: GOETEBORGS UNIVERSITET

	Name of the Researcher(s) (as stated at time of selection)	Location of origin	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date (dd/mm/yy)	Corresponding full time equivalent months of appointment
1.	Krzysztof Psiuk-Maksymowi	Poland (LFR)	M	ESR	10/11/2004	09/11/2007	18.66
	Total						18.66
	Contract Deliverable						36

Contractor 9: WARSAW UNIVERSITY

	Name of the Researcher(s) (as stated at time of selection)	Location of origin	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date (dd/mm/yy)	Corresponding full time equivalent months of appointment
1.	Cristian Morales Rodrigo	Spain (LFR)	M	ESR	01/12/2004	30/11/2007	18
2.	Philipp Getto	Netherland	M	ER	01/04/2005	31/03/2006	12
3.	Gabriela Lorelai Litcanu	Romania (LFR)	F	ER	01/10/2005	30/09/2006	8
	Total						38
	Contract Deliverable						36

Contractor 10: INSTITUTE FOR MEDICAL BIOMATHEMATICS

	Name of the Researcher(s) (as stated at time of selection)	Location of origin	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date (dd/mm/yy)	Corresponding full time equivalent months of appointment
1	Antonio Cappuccio	Italy	M	ESR	01/11/2004	31/10/2005	12
2	Natalie Kalev Kronik	Israel	F	ER	01/03/2005	28/02/2007	15
	Total						27
	Contract Deliverable						30

Contractor 11: FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS

	Name of the Researcher(s) (as stated at time of selection)	Location of origin	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date (dd/mm/yy)	Corresponding full time equivalent months of appointment
1.	Eleni Mylona	Greece (LFR)	F	ER	10/10/2005	09/10/2006	7.66
2.	Samuel Bernard	France	M	ER	01/05/2006	30/04/2007	1
3.	Kristen Fagnan	US	F	ESR	01/10/2006	30/09/2007	0
	Total						8.66
	Contract Deliverable						36

Contractor 12: TECHNISCHE UNIVERSITAET DRESDEN

	Name of the Researcher(s) (as stated at time of selection)	Location of origin	Gender	ESR /ER	Start date of recruitment (dd/mm/yy)	End date (dd/mm/yy)	Corresponding full time equivalent months of appointment
1.	Babis Hatzikirou	Greece (LFR)	M	ESR	01/06/2004	30/11/2005	18
2.	David Basanta Gutierrez	Spain	M	ER	01/02/2006	31/07/2007	4
	Total						22
	Contract Deliverable						36

ESR and ER Recruitment Schedule

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Contractor	Young researchers financed by contract so far (person-months)			Contract deliverable of young researchers expected to be financed by the contract so far (person-months)		
	ESRs (a)	ERs (b)	Total (a + b)	ESRs (a)	ERs (b)	Total (a + b)
1.	9	13	22	18	18	36
2.	17	0	17	18	18	36
3.	25	0	25	18	18	36
4.	7	6	13	18	12	30
5.	0	14	14	11	18	29
6.	18	18	36	18	18	36
7.	12	0	12	18	12	30
8.	18.66	0	18.66	18	0	18
9.	18	20	38	18	18	36
10.	12	15	29	12	18	30
11.	0	8.66	8.66	18	18	36
12.	18	4	22	18	18	36
TOTAL	154.66	98.66	253.33	203	186	389

The rate of employment of young researchers is below that foreseen in the Contract. This is due partly to difficulties in recruitment of suitable candidates (for some partners) and partly to an explicit decision to dilute the recruitment rate along the contract period, for instance, employing a young researcher previously employed by another contractor, or because of the decision to complete preparing the experimental infrastructure.

However, the contract dates certified above ensure that the due total person-months will be obtained at the end of the contract.

No significant exchange between ESR and ER person-months has been applied.

Open positions have been advertised, among others, on the CORDIS database, the Digest of the Society for Mathematical Biology, the Communications of the European Society for Mathematical and Theoretical Biology, internet websites of biomathematics groups, specific conferences, personal mailing.

1.1 Training Programme

Training and Transfer of Knowledge Schedule

Training and ToK events organised and financed by contract so far			Contract deliverable of training and ToK events to be financed by the contract		
Month	Event	Responsible	Month	Event	Responsible
3	Workshop	10			
7	Multi-disciplinary workshop	9	12	Multi-disciplinary workshop	10
9	Workshop	9			
12	Workshop	9			
13	Workshop	9			
14	8 Minisymposia	1,2,5,6			
16	I Summer School	1,2,3,11	16	I Summer School	1,3
16	Scientific meeting	5			
17	Workshop	9			
20	Tutorial workshop	3			
22	Multi-disciplinary workshop	1	24	Multi-disciplinary workshop	1

ESR and ER Visits and Secondments

Contractor	Young researcher visits financed by contract so far (number)													
	from	to	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	1.					1		1						
	2.							1						
	3.													1
	4.	1												
	5.													
	6.		1											2
	7.													
	8.	1												
	9.							1	1					1
	10.										1			
	11.													
	12.								3					
TOTAL		2	1		1			3	4		1			4
Contract target		23 (4 years)												

SR Visits and Secondments

Contractor		Senior researcher visits financed by contract so far (number)											
from	to	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.				1	2	2							
2.				2		1							
3.		1					1						1
4.		4											
5.		1			1					1			
6.		1								1			
7.													
8.		1											
9.		4		2			3				2		1
10.										1			
11.													
12.		2		1									
TOTAL		14	0	6	3	3	4	0	0	3	2	0	2
Contract target		none											

ESR , and ER visits to industry and external events

Industry / External event	Young researcher visits to external events financed by contract so far (number)	Young researcher visits to bio-medical centres so far (number)
Contractor		
1.	6	5
2.	4	
3.	3	
4.	1	weekly
5.	3	weekly
6.	5	
7.	5	6
8.	11	2
9.	12	
10.	7	weekly
11.	2	
12.	6	
TOTAL	65	about 200
Contract target		50

The numbers listed in the right column above are only partial, because no specific monitoring of this aspect has been carried out in the first two years of the project by the all partners; this will be done in the second part. Connections with hospitals and bio-medical centers characterize the network as far as connections with industry are concerned. Details about the mobility of young researchers, exchange between partners and collaborations with hospitals and bio-medical reserch centers are given in the enclosed analitical report.

2. SUMMARY OF THE MAJOR PROJECT ACHIEVEMENTS SINCE THE START OF THE PROJECT

2.1 Project Objectives

The research objectives, as set down in the project programme of contract, are still relevant and achievable.

2.2 Research Method and Work Plan

The methodological approach has not changed from that described in the contract.

Work Plan Tasks per Work Package

Task achieved and financed by contract so far				Contract Task to be achieved and financed by the contract			
Work Package/ Task	Month	Team	Progress Description (completed, in progress, rescheduled, etc)	Work Package/ Task	Month	Team	Description
Tasks 1 and 2	12	1-12	completed	Tasks 1 and 2	12	1-12	Common analysis of the state-of-the-art
Task 5		5	completed	Task 5		5	Preparation of experimental set-up
Tasks 1, 2 and 4	24	1-12	completed	Tasks 1, 2 and 4	24	1-12	Publications on extension and improvements to existing mathematical models
Tasks 1, 2 and 4	24	1-12	completed	Tasks 1, 2 and 4	24	1-12	Publication of a special issue for young researchers results
Tasks 6	36	1-12	in progress	Tasks 6	36	1-12	Results of simulations on-line
Tasks 1-4	48	1-12	in progress	Tasks 1-4	48	1-12	Publications on multiscale modeling
Tasks 6	48	1-12	in progress	Tasks 6	48	1-12	On-line simulations
Tasks 1-4	48	1-12	agreed with journal	Tasks 1-4	48	1-12	Publication of a special issue with the results produced by young researchers
Tasks 1-4	48	1-12	to be done	Tasks 1-4	48	1-12	Publication of a book with the main results of the project

2.3 Schedule and Milestones (where relevant)

Compare, your current schedule and any milestones with that envisaged in the contract. Explain any significant differences.

In a table similar to that below, summarise the scientific milestones and deliverables so far achieved and financed by the contract and compare it with the overall deliverable specified in the contract.

Scientific Milestones and Deliverables

Milestones and Deliverables achieved and financed by contract so far			Contract Milestones and Deliverables to be achieved and financed by the contract		
Milestone /Deliverable	Month	Description	Milestone /Deliverable	Month	Description

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Organisation of web page	1	calvino.polito.it/~mcrtn	Organisation of web page	2	
Kick-off meeting	4	Paris, Oct 2005	Kick-off meeting	4	
Preparation of experimental set-ups	12	Flow chamber, microchannels rheometers	Preparation of experimental set-ups	12	
Summer school and task review meeting	16	Tenerife, Sept 2006	Summer school and task review meeting	16	
Experiments	24	in progress	Experiments	24	
Publications on extension and improvements to existing mathematical models	24	42 joint publications	Publications	24	on extension and improvements to existing mathematical models
Publication of a special issue for young researchers results	24	Math. Comp. Mod. 42 (2006)	Publication of special issue	24	especially devoted to young researchers

2.4 Network Organisation and Management

Scientific meeting are listed in Section 1.1 (Table on Training and Transfer of Knowledge Schedule)

Management meetings are listed below

Network Event Schedule

Networking events organised and financed by contract so far					Contract deliverable networking events to be financed by the contract		
Month	Event	Responsible	Nb of contractors	Nb of participants	Month	Event	Responsible
4	Kick-off meeting	5	12	25	4	Kick-off meeting	5
16	I Summer School	1,3	12	70	16	I Summer School	1,2,3,11

In a table similar to that below describe how the Network is being co-ordinated in practice and compare it to the contract description. Give in short (one line) details of management structure, communication method, task delegation policy, decision making process, vacancies strategy, equal opportunity measures (gender issue, other issues), monitor and reporting method, dissemination of results policy, financial management and control, Network newsletters, databases, home pages co-ordination.

Network Management

Management element	Description as realized so far	Description in contract
Management structure	Elected at the start-up meeting	Governing Board, Executive Committee
communication method	Sent more or less monthly	Electronic Newsletter
	Set at the start of the project, completely renewed at the end of 2005	Web page
task delegation policy	Appointed at kick-off meeting Main work two months before and after the progress report	Formally appointed at kick-off meeting
decision making process	Governing Board and Executive Committee met at the summer school. They were involved on specific decisions by electronic means	Governing Board and Executive Committee meeting at least twice a year during summer school and possibly electronically
vacancies strategy	Sites: CORDIS, network site, MTBIO, ESMTB. Journals: SMB Digest, ESMTB Communications, personal contacts, groups webpages.	Newsgroup, newsletters, scientific journals, newspapers, web sites, summer schools and conferences, personal communication
equal opportunity measures	Done. The percentage of woman researchers is in the mean almost twice the ratio of applications	Explicitly stated in advertisement Male and female examining committees, whenever necessary
monitor and reporting method	Governing Board monitored advancement of the work and the achievement of the goals	Governing Board monitor advancement of the work and the achievement of the goals
dissemination of results policy	An on-line library is constantly updated 164 publications in the first two years 3 special issues organised	Uploads onto web page Publications in refereed journals Special Issues
Financial management and control	Till now no changes were necessary.	The Governing Board decides upon the allocation of the budget and controls the financial status reporting to partners and EU
Network newsletters, databases, home pages co-ordination	calvino.polito.it/~mcrtm	none

3. DISSEMINATION OF RESULTS OF THE PROJECT

3.1. Participation in conferences and other scientific events.

	Number			
	Active participation			Passive participation
	Oral	Poster	Of which were invited presentations	
Conferences	93	8	32	7
Workshops	132	3	43	55
Other Scientific Meetings	40	1	6	9

3.2. Publications

	Number of Publications			
	Total	of which involved recruited researchers	of which joint publications involving at least 2 network contractors	of which invited
A. Peer Reviewed <i>(incl. in press)</i>				
- Articles in Journals	139	14	19	7
- Chapters in Books	4	1	1	4
- Articles in Conference Proceedings	18	5	0	1
- Books and Monographs	3	0	2	0
B. Non-Peer Reviewed <i>(incl. in press)</i>	0	0	0	0
C. Submitted	16	3	2	1
D. Manuscripts in preparation	22	9	2	1

3.3. List of joint publications

See the enclosed analytical report.

3.4. Patents

- Number of patents granted: none
 - Number of patents pending: none

Name of coordinator: _____

Date: _____

Signature of coordinator: _____