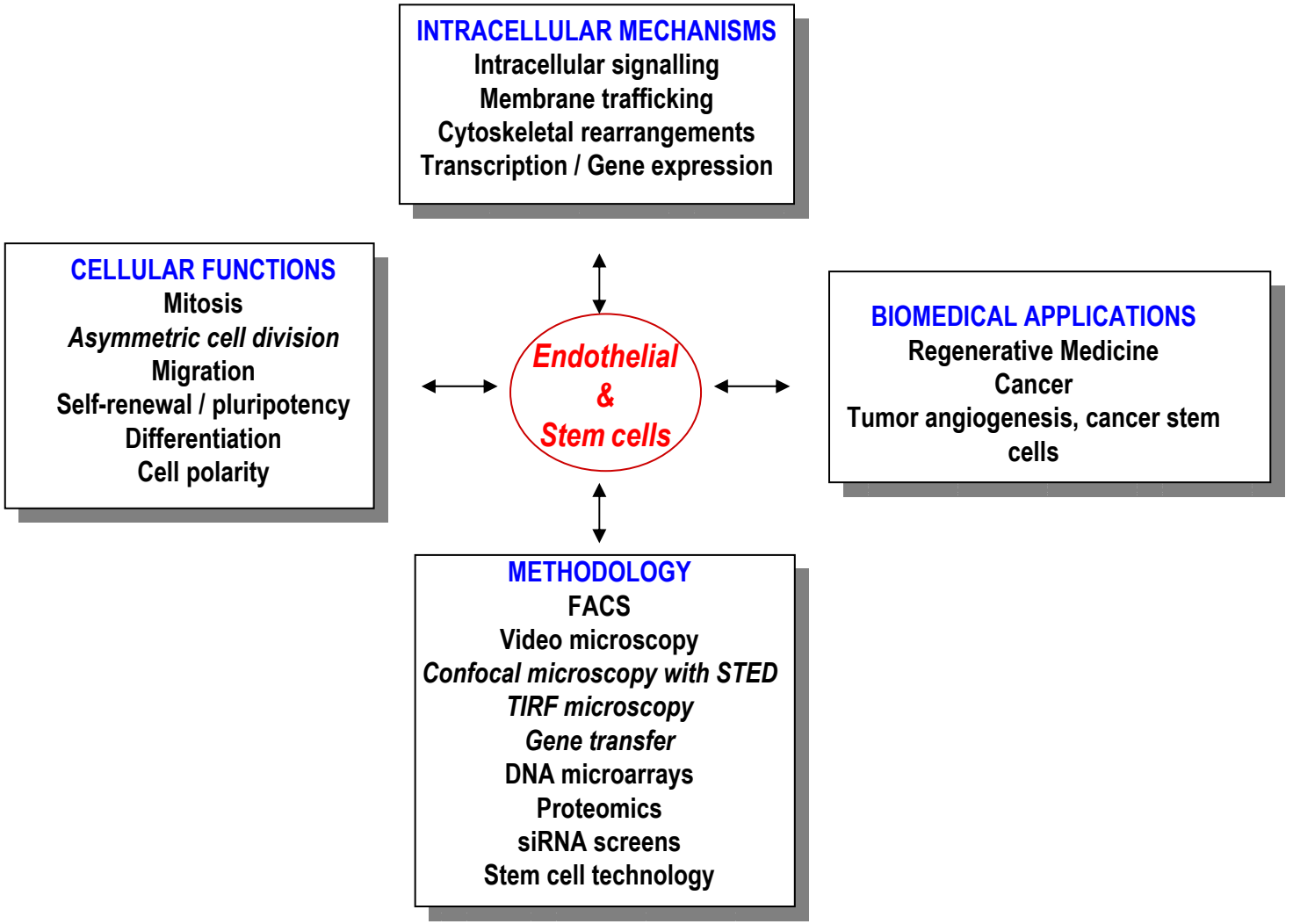
Laboratory of Biological Chemistry
University of Ioannina Medical School

1	*Cell Signaling & Membrane Trafficking*	**T. Fotsis**	Professor, 1996 (**IBEI/ITE**)
3	*Oxidative Stress Signaling*	**D. Galaris**	Professor, 1990
7	*Thymosins...*	**M. Frangou**	Associate Professor, 1984
4	*Histone chaperones & Chromatin Remodeling*	**T. Papamarcaki**	Associate Professor, 1991 (IBEI/ITE)
6	*Active Transport Machines*	**S. Frillingos**	Associate Professor, 2000
5	*Order and Disorder in Chromatin Proteins*	**A. Politou**	Assistant Professor, 2001 (IBEI/ITE)
2	*Membrane Trafficking & Signaling*	**S. Christoforidis**	Assistant Professor, 2001 (**IBEI/ITE**)

T. Fotsis

1

Cell Signaling and Membrane Trafficking: the VEGF and TGFβ family cascades



T. Fotsis

1

Cell Signaling and Membrane Trafficking: the VEGF and TGFβ family cascades

Endothelial & Stem cells

<2000-2010

PEOPLE

Independent Researcher 1
Post-doctoral 4
PhD Students 3
Technician 1

Ph.D 6, M.Sc 6, B.Sc 3

COLLABORATORS

S. Christoforidis, Ioannina
C. Stournaras, Biol Chem, Creta
D. Kardassis, IMBB/ITE, Creta
D. Huylebrueck, Flanders Inst., Leuven
M. Zerial, Max Planck, Dresden
W. Seeger, Lung Center, Giessen
M. Ziche, Pharmacol. Inst, Siena
H. Adlercreutz, Med Inst, Helsinki

Cancer Res (n=3)
Oncogene
JBC (2002)
Eur J Bioch
Eur J Cell Biol.
Am J Physiol..(2009)
Cancer Invest
Cancer
BMC Cancer
J Steroid Bioch
Mol Nutr Food Res
FEBS J (2009)

GRANTS

EC-FP6 (2)
PYTH05
HRA02
HUM NETWORKS
PENED01
EC-FP5 (3)
PENED99
1,850,000 2,100,000

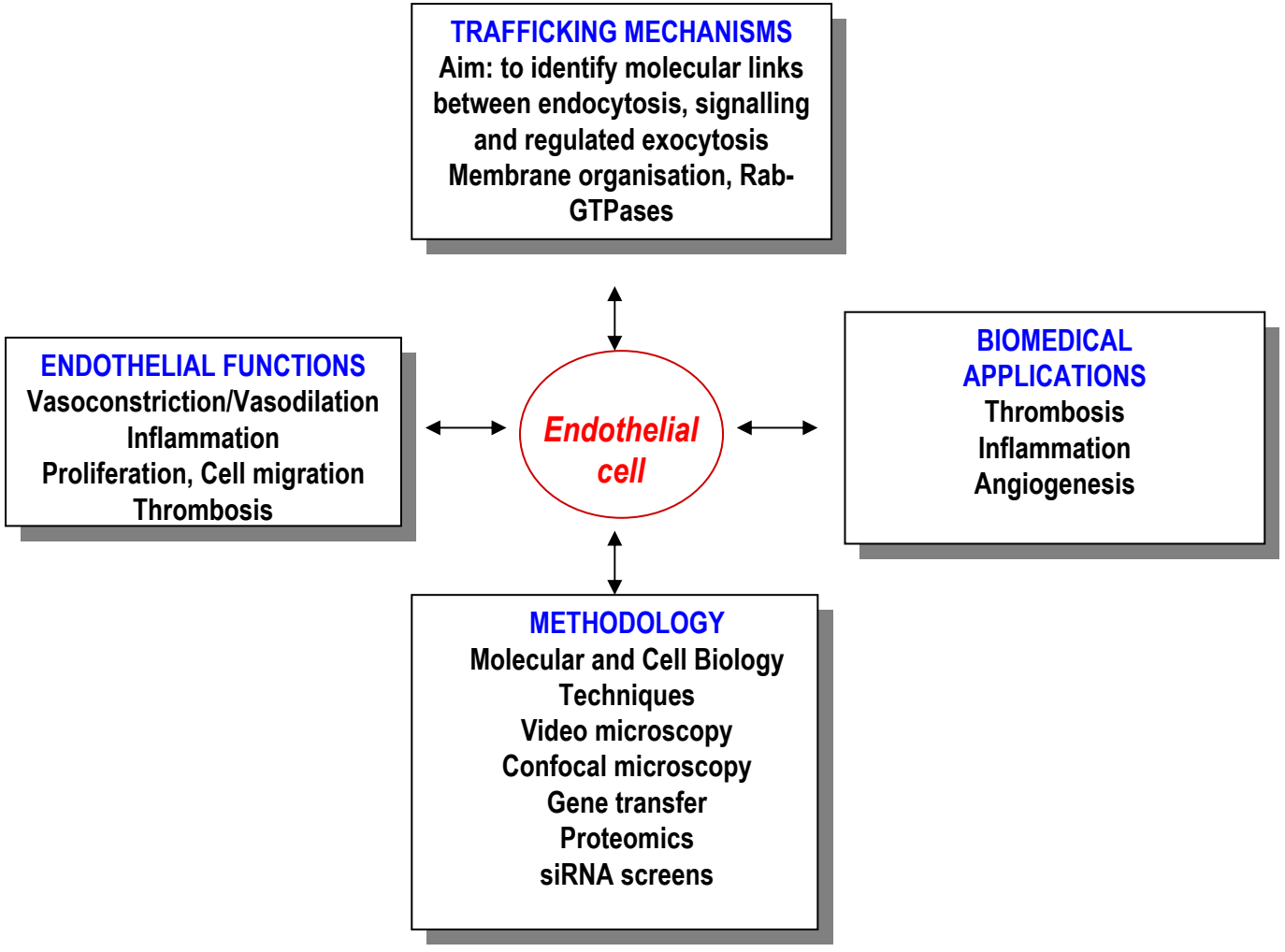
THEMES

VEGF signalling in angiogenesis
VEGF signalling in hemangioblast differentiation
TGFβ signalling in hES/hiPS cells (pluripotency/differentiation)
TGFβ signalling, cell polarity and asymmetric cell division
Small GTPases in endosome dynamics and cell signalling
Molecular mechanisms of the action of phytochemicals (flavonoids)

S. Christoforidis

2

Membrane Trafficking & Signaling

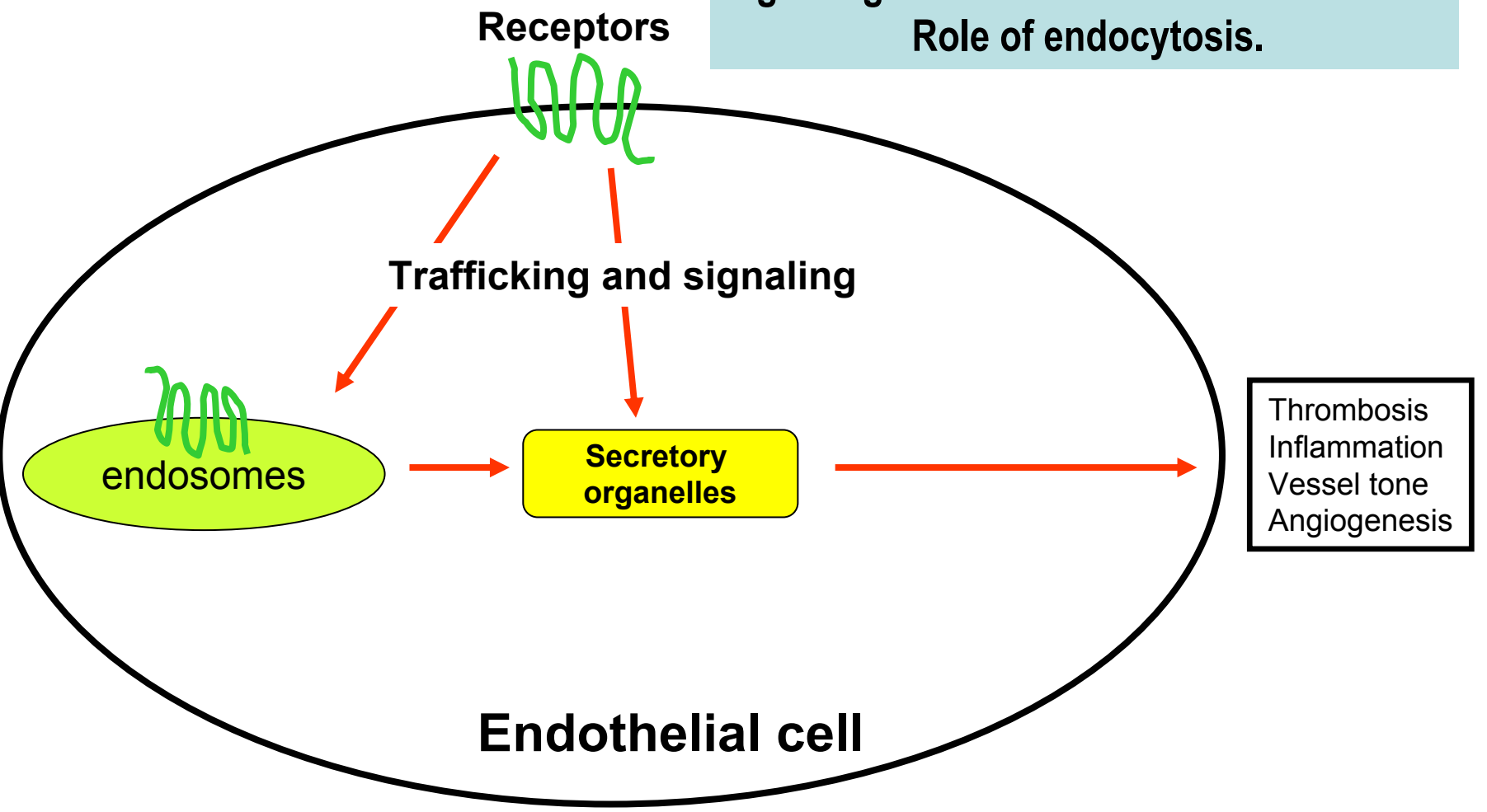


S. Christoforidis

2

Membrane Trafficking & Signaling

Signaling for secretion in endothelial cells. Role of endocytosis.



S. Christoforidis

2

Membrane Trafficking & Signaling

Endothelial cell

PEOPLE

PhD Students 2
MSc Student 1
Technician 1

Ph.D 1, M.Sc 1, B.Sc 3

2001-2010

COLLABORATORS

C. Murphy, Biomed Res Inst
T. Fotsis, P. Kouklis, Ioannina
M. Zerial, Max Planck, Dresden
W. Seeger, Lung Center, Giessen

JBC (2005)
Cell, Nature
PLoS Biol
J Cell Biol.
Proteomics
Methods
Mol Memb Biol (2010)
Bioch Pharm (2009)

GRANTS

EC-FP6 (2)
PENED03
PYTH05
HUM NETWORKS
PENED01
EMBO YIA02
EEIII02

250,000 600,000

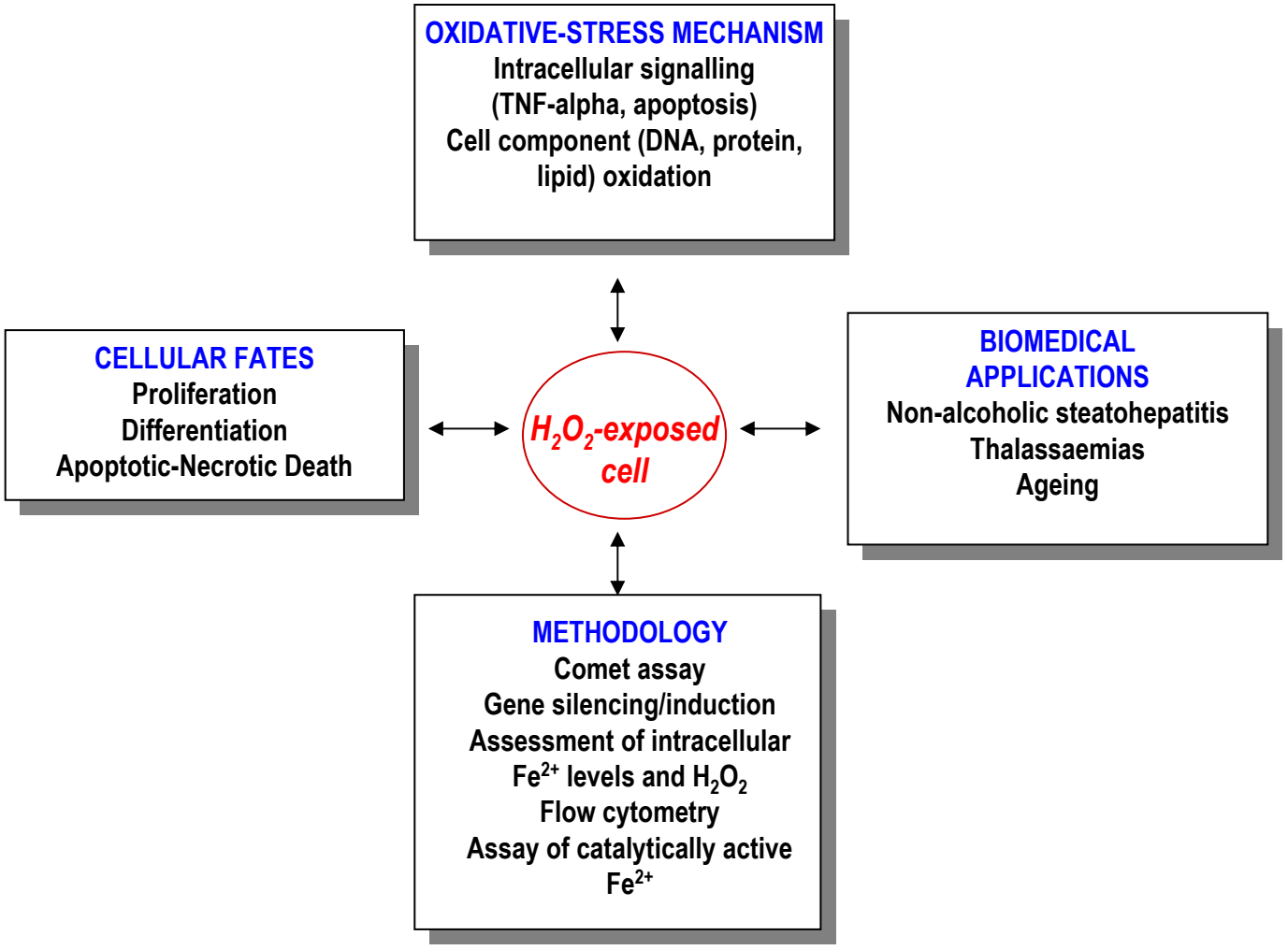
THEMES

Importance of endothelium in thrombosis and inflammation
Role of endosomal trafficking in endothelial cells, connection with signal transduction mech.
Role of rafts/caveolae in endothelial purinergic receptor signalling

D. Galaris

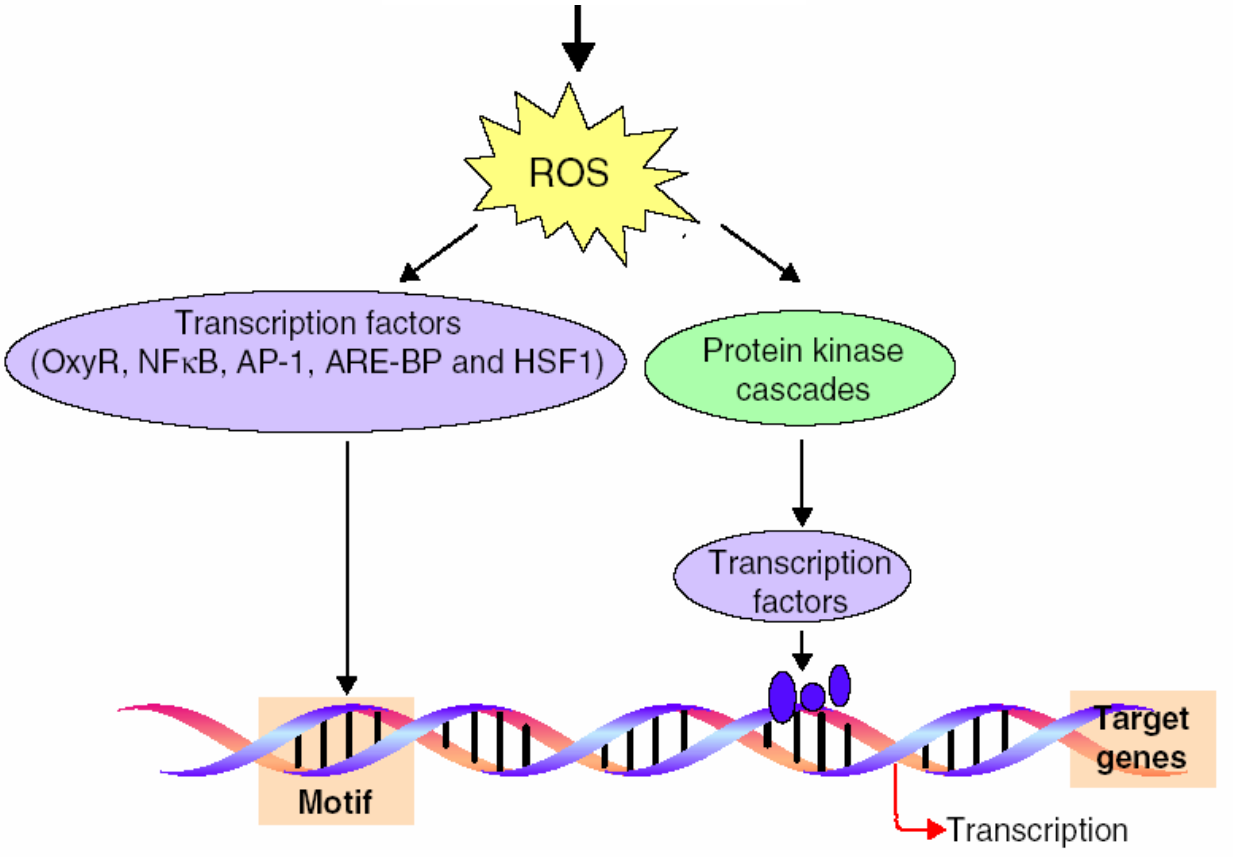
3

Free Radical and Oxidative Stress



3

Free Radical and Oxidative Stress



D. Galaris

3

Free Radical and Oxidative Stress

H_2O_2-exposed cell

PEOPLE
Post-doctoral 2
PhD Students 3

Ph.D 4, B.Sc 6

<2000-2010

COLLABORATORS
I. Spyrou, Academy Res Inst
L. Skaltsounis, Pharm., Athens
U. Brunk, Pathol., Linkoping
B. Frei, L.Pauling Inst, Oregon

Free Rad Biol Med (7)
Free Rad Res (n=3)
Biochem J (n=2)
J Med Chem
Curr Pharm Des
Free Rad Res(2008)
Cancer Lett (2008)
Hormones (2008)
Exp Gerontol
Am J Kidney Dis
Int J Cardiol
Int J Surg (2007)
J Biomed Opt (2008)

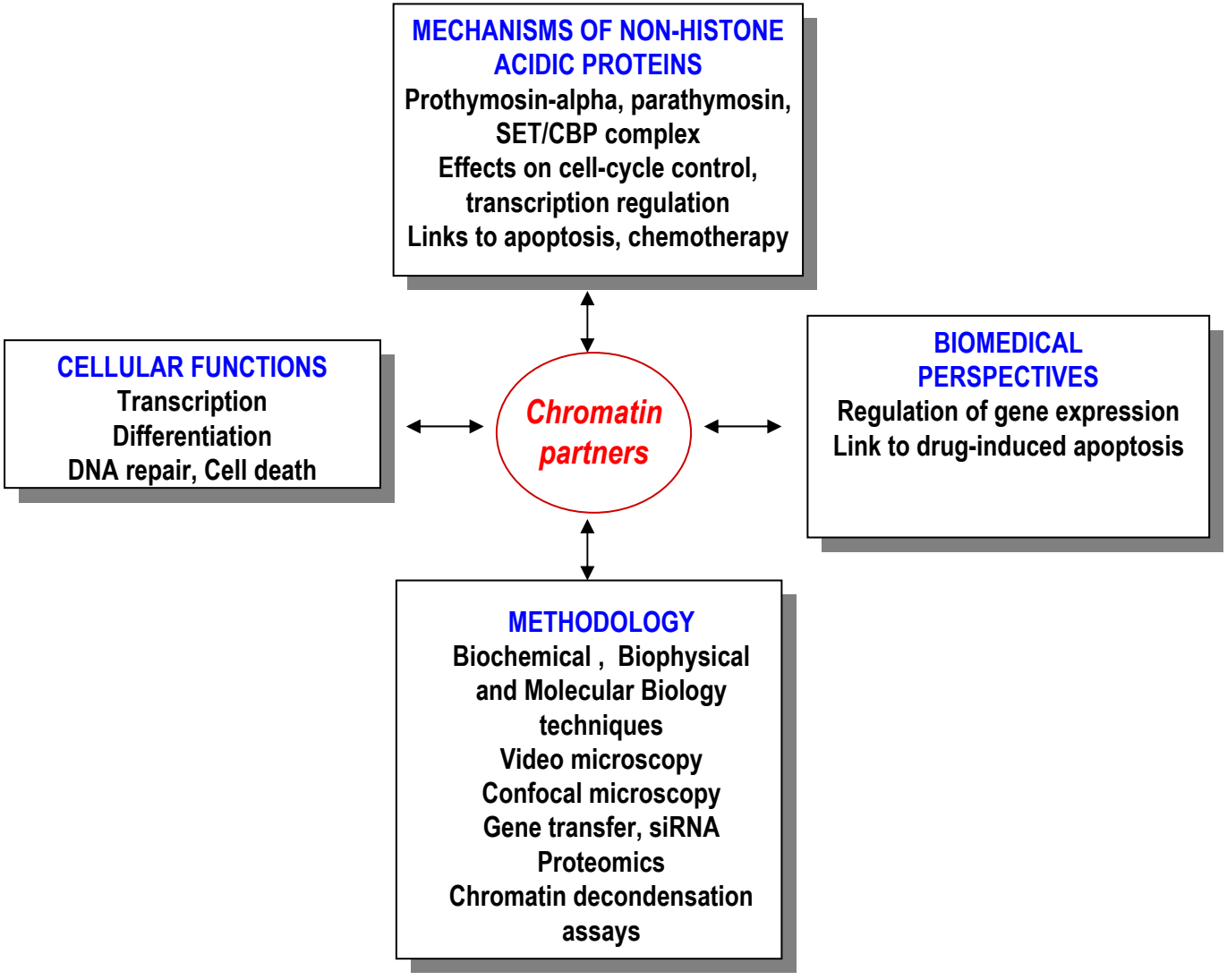
GRANTS
COSTaction04
PYTH05 (2)
PENED03
PYTH03
HRA02
PENED01 (2)
PENED99
300,000 400,000

THEMES
Role of H_2O_2 and catalytically active Fe^{2+} in apoptotic and in TNF-alpha signalling
Assaying catalytically active Fe^{2+} in cells with flow cytometry
Effects of bioreactive substances on intracellular Fe^{2+} homeostasis
Oxidative stress & Fe^{2+} homeostasis in non-alcoholic steatohepatitis

T. Papamarcaki

4

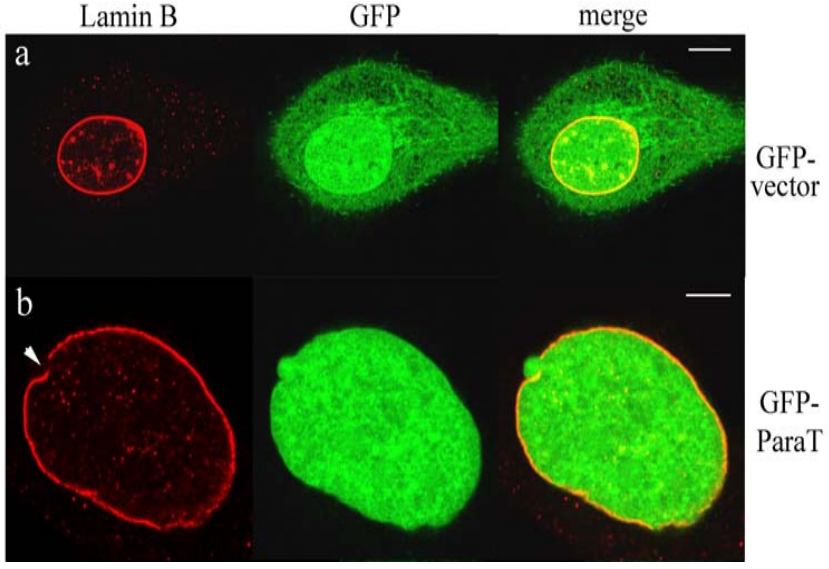
Histone Chaperones and Chromatin Remodeling

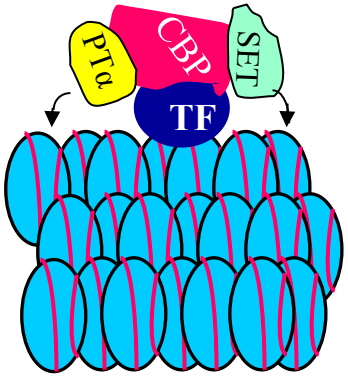


T. Papamarcaki

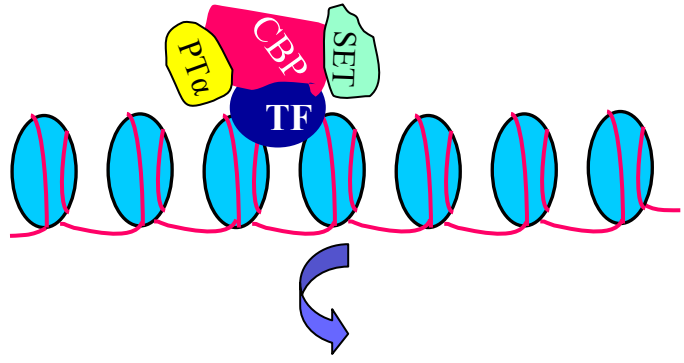
4

Histone Chaperones and Chromatin Remodeling





chromatin decondensation



Transcription, replication
DNA repair and apoptosis

T. Papamarcaki

4

Histone Chaperones and Chromatin Remodeling

Chromatin partners

PEOPLE

Post-doctoral 1
PhD Student 1
Undergraduate 1

Ph.D 1, M.Sc 3, B.Sc 3

<2000-2010

COLLABORATORS

A. Politou, Ioannina
M. Bai, Path. Anat., Ioannina
A. Kretsovali, IMBB/ITE, Creta
T. Giannakouros, Thessaloniki
T. Choli, Thessaloniki,, Ch. Boleti, Inst. Pasteur, F. Gounari, USA, G. Simos, Larissa

EMBO Reports
JBC (2005)
FEBS Lett
BBRC
BMC-Bioch (2009)
JBC
BBA (2008)
JMB (2009)

GRANTS

PYTH05 (2)
PENED99 (2)

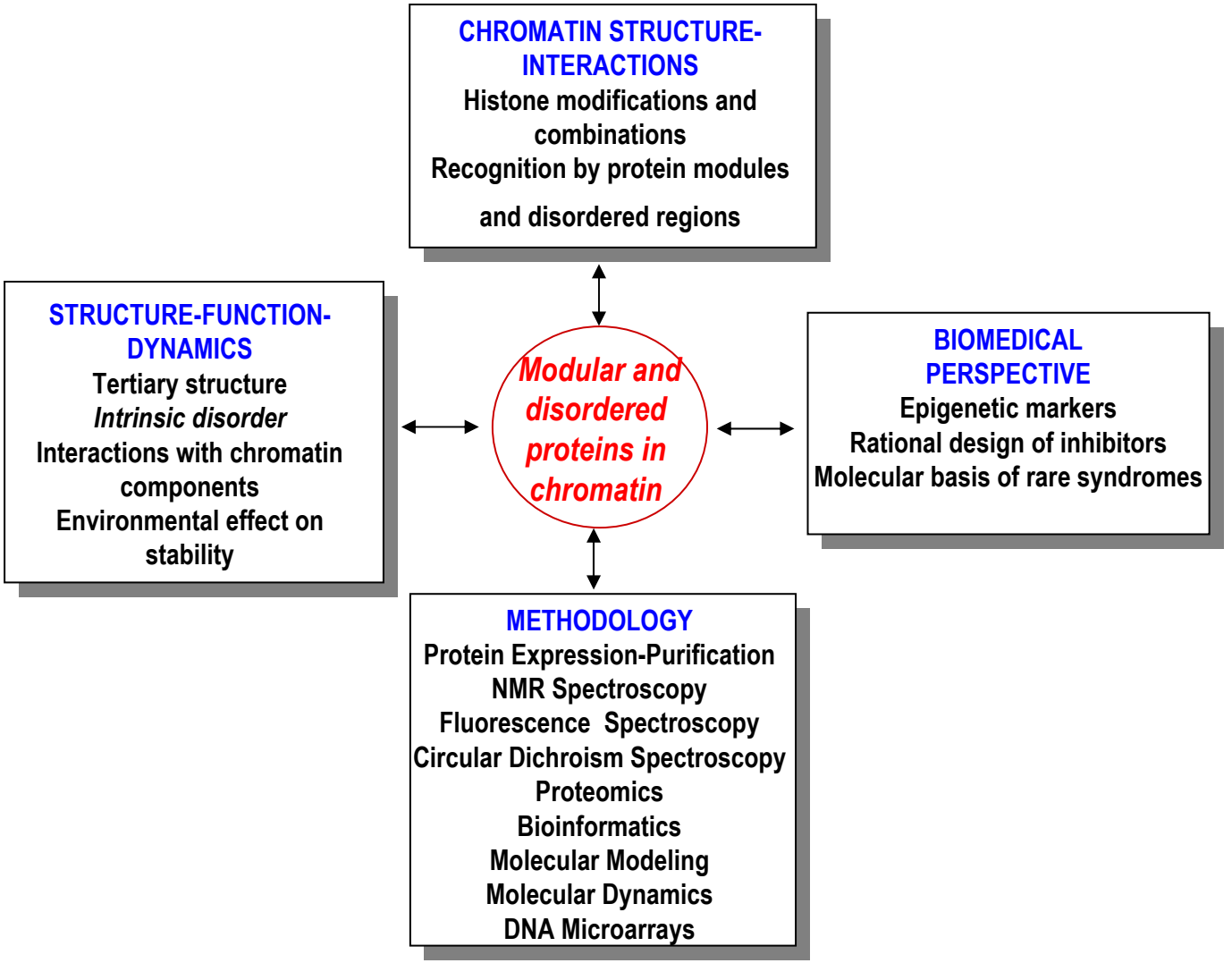
180,000

THEMES

Protein-protein interactions & role of histone chaperones in chromatin remodeling
Connection of chromatin remodellers with cancer cell apoptosis related to chemotherapy
Histone chaperons in ontogenetic models (*zebrafish*)

A. Politou

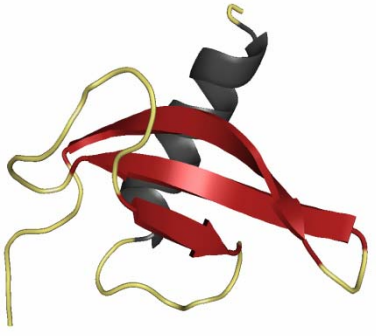
5 Order and disorder in chromatin proteins



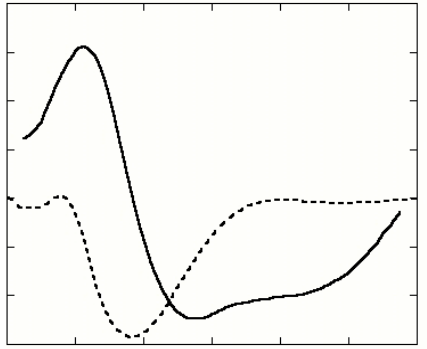
A. Politou

5

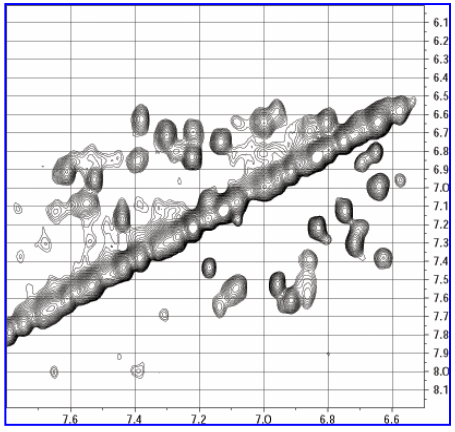
Order and disorder in chromatin proteins



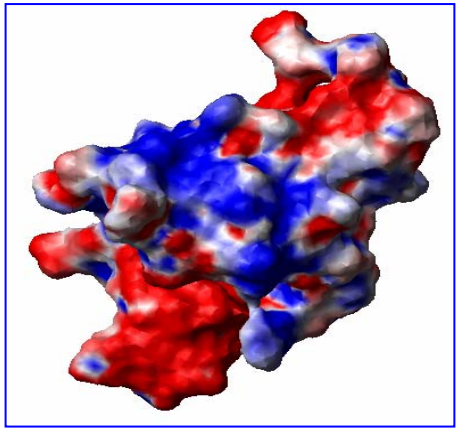
NMR structure of chromodomain



CD spectrum of modified histone-3



2D-NMR spectrum of TUDOR domain



Electrostatic surface
of dMi-2 chromodomain

A. Politou

5

Order and disorder in chromatin proteins

Modular and disordered proteins in chromatin

2002-2010

PEOPLE

Post-doctoral 2
MSc Students 1
Undergraduate 1

Post-doc 1, PhD 3, MSc 1, BSc 4

COLLABORATORS

T. Papamarcaki, Ioannina
C. Murphy-T. Fotsis, Ioannina
S. Georgatos, Ioannina
G. Simos, Larissa
E. Nikolakaki, Chem, Thessaloniki
A. Economou, IMBB/ITE, Creta
A. Pastore, MRC, London
M. Sattler, TU Munich
P. Temussi, Chem., Naples
A. Niedzwiecka, Physics, Warsaw
E. Kaxiras, Physics, Harvard-EPFL
P. Selenko, FMP, Berlin

JMB (2004)
BMC-Bioch (2009)
EMBO J
FASEB J
JBC (n=3)
Hum Mol Gen
Biochemistry
Biopolymers
Mol Gen Metab
Front Biosc (2009)
J Cell Sci (2009)
JACS (2009)

GRANTS

Greece-Pol06
PENED03 (2)
PYTH05 (3)
EPAN03
HRA02
IKYDA(Germ)04
RoyalSoc03

300,000 20,000

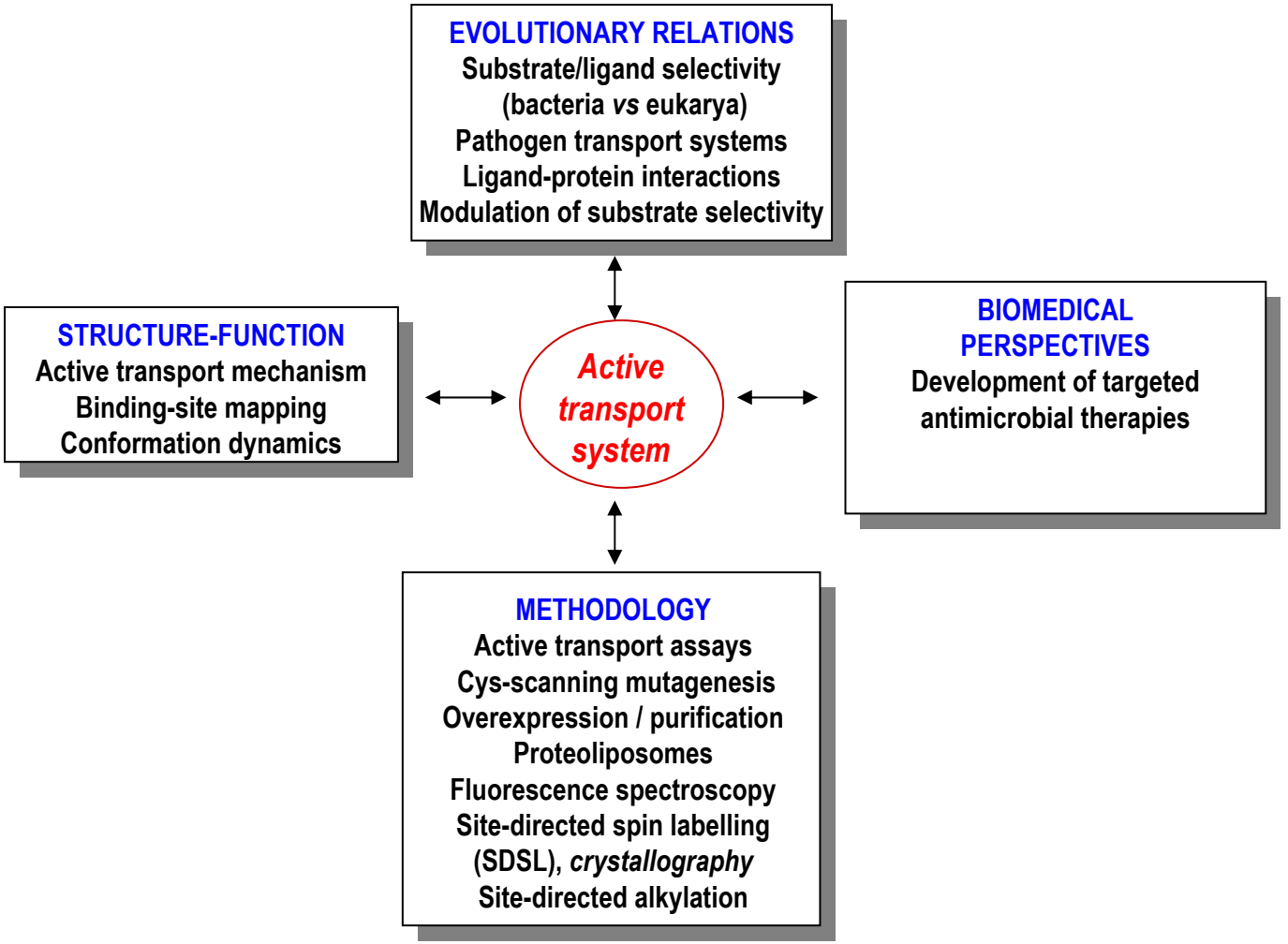
THEMES

Structure-function of proteins and domains involved in chromatin remodelling & gene regulation (chromodomains, TUDOR domains, modified histones)
Conformation dynamics/stability of biomolecules
Spectroscopic structure-analysis of macromolecules/complexes
Expression profiling of chromatin-related proteins

S. Frillingos

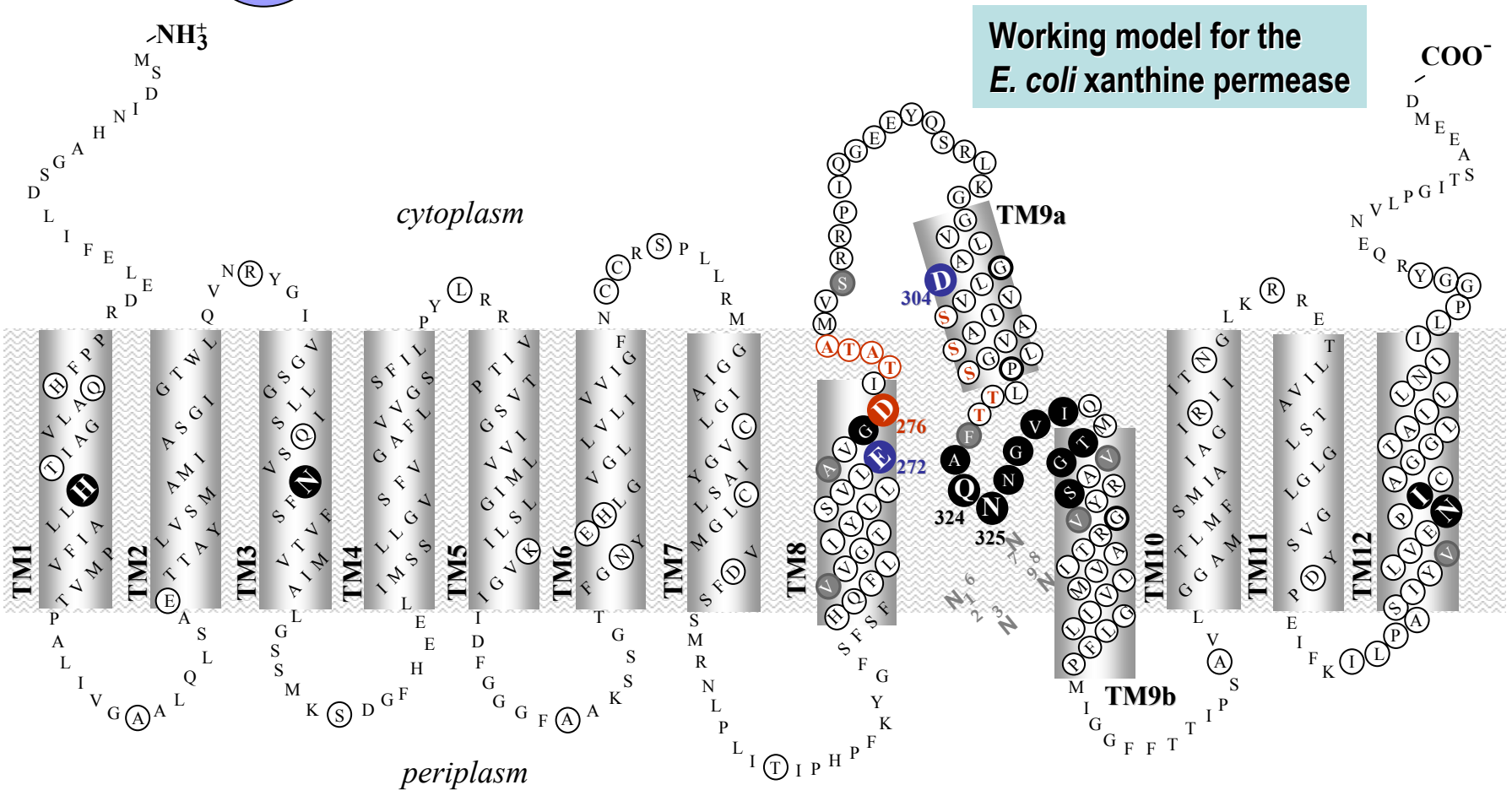
6

Active Transport Machines



S. Frillingos

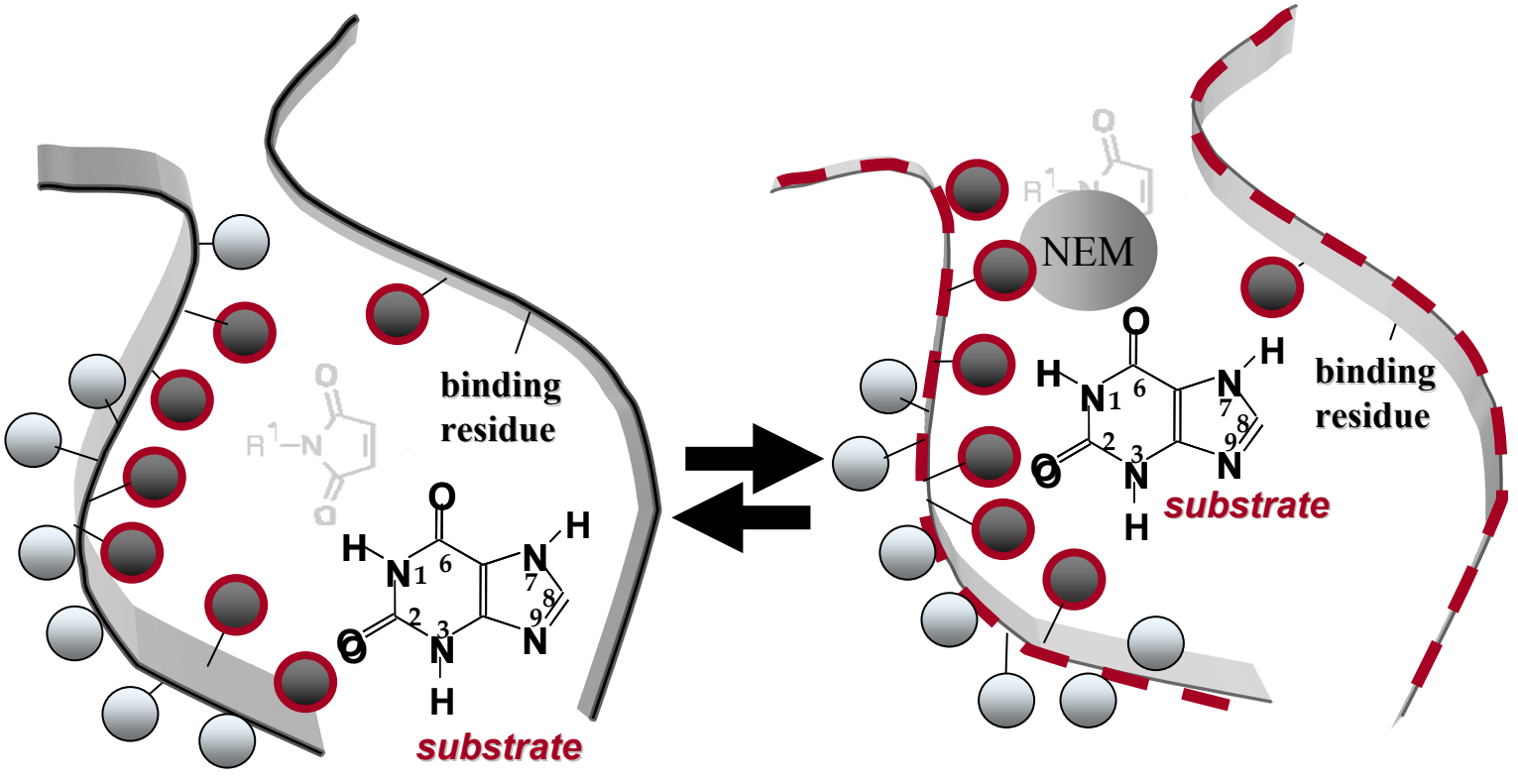
6 Active Transport Machines



S. Frillingos

6

Active Transport Machines



S. Frillingos

6

Active Transport Machines

Active transport system

2002-2010

PEOPLE

Post-Doctoral 1
PhD Students 3
Undergraduate 1

Ph.D 2, M.Sc 4, B.Sc 7

COLLABORATORS

V. Sophianopoulou, Demokritos C
G. Diallinas, Athens
H. R. Kaback, UCLA
J. C. Voss (EPR), UCDavis
G. Rudnick, Yale

JBC (n=4)
Mol Membr Biol (2)
JMB (2008)
JBC (2009)
JBC (2010)
PNAS (2007)
Fungal Gen Biol
Biochemistry
Prot Exp Purif(2009)

GRANTS

NONEU05
PENED03
HRA02

180,000

THEMES

Structure-function analysis of the Nucleobase/Ascorbate (NAT) transporter family (purines)
Lactose permease (LacY) mechanistic homologues
Pathogenic fungal transporters
Neurotransmitter amino-acid transporter (SERT) homologue

Laboratory of Biological Chemistry
University of Ioannina Medical School

PUBLISHED OUTPUT

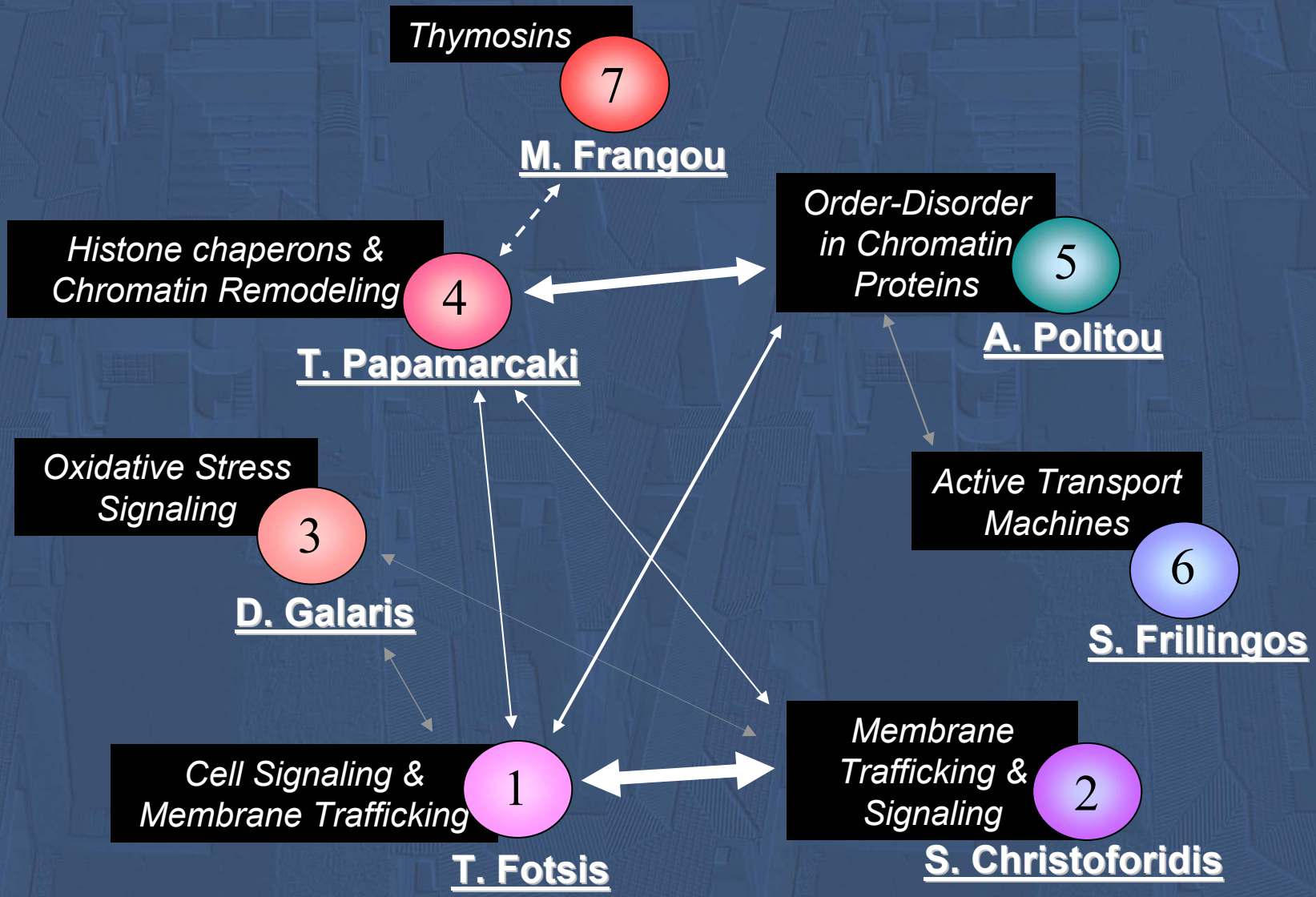
		BACKGROUND TOTALS					WORK 2000-10	GROUP DYNAMICS			
h		N	IF	CIT	(21st)	CIT (a-z)	N	N	IF *means*	IF *means*	*h**
39	1	76	320	6900	4500	1600	20	11	6	4.5	*12*
22	3	61	200	1450	960	650	40	18	5	3.5	*16*
14	7	20	50	420	220	80	7	2	4	2.5	*5*
11	4	19	80	450	330	240	9	6	5	4	*6*
20	6	43	160	1200	720	570	19	9	5	4	*7*
18	5	34	170	1100	810	210	20	2	5	5	*12*
14	2	19	220	2100	1900	620	13	1	6	13	*9*
(59)		271	1200	13,600	9,500	4,000	128	49	5.5	5	*(29)*

Laboratory of Biological Chemistry
University of Ioannina Medical School

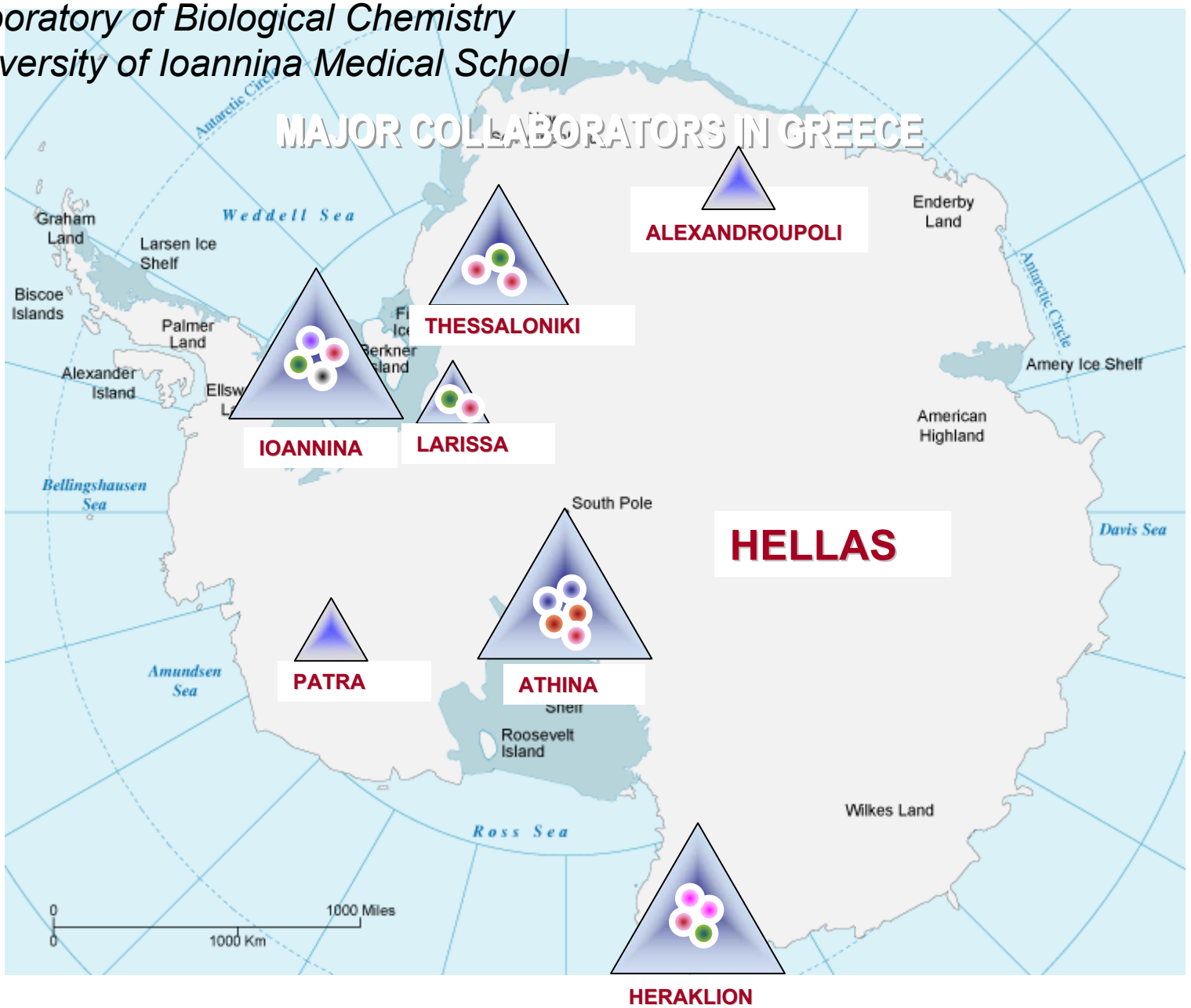
ASSIMILATED INPUT (2000-10)

	EURO-WHEEL		PEOPLE-WHEEL					
	GSRT etc	EU etc	IR	Post-D	PhD	MSc	BSc	T
1	1,850,000	2,100,000	1	4	10	6	3	2
3	300,000	400,000		2	10	-	6	
7	60,000	-		1	1	3	1	
4	180,000	-		1	2	3	4	
6	180,000	-		2	5	4	9	
5	300,000	20,000		4	3	2	5	
2	250,000	600,000		-	3	2	3	1
	3,200,000	3,100,000	1	14	35	20	30	3

Laboratory of Biological Chemistry
University of Ioannina Medical School



Laboratory of Biological Chemistry
University of Ioannina Medical School



Laboratory of Biological Chemistry
University of Ioannina Medical School