



**FORSCHUNG AUSTRIA**  
**WORKSHOP**



**COST Networking and  
Bilateral Projects  
Promoting  
Human Mobility of  
Researchers**

**Neven Žarković**  
Ruđer Bošković Institute, Croatia

➤ RESEARCHERS MOBILITY IN THE EUROPEAN  
REGION ADRIA-ALPE-PANNONIA  
CHALLENGES, OPPORTUNITIES AND INITIATIVES

➤ August 20, 2008  
10:00 – 16:30  
Venue: Alpbach/Hotel Böglerhof, Fichtesaal

➤ FORSCHUNG AUSTRIA  
Zukunft verbindet.

AUSTRIAN RESEARCH CENTERS

JOHANNES KEPLER  
UNIVERSITÄT LINZ  
RESEARCH

1



**European Cooperation in Scientific and  
Technical Research – COST** 

**COST Office - Avenue Louise 149, 1050 Brussels BELGIUM**

**Neven Zarkovic, M.D., Ph.D., Senior Scientist**  
Rudjer Boskovic Institute, Division of Molecular Medicine, Zagreb,  
CROATIA

**COST B35 Action Chair**  
**DC BMBS Expert**  
**DC CMST Member**  
**CM0603 Action Rapporteur**  
**Trans Domain Proposal Evaluator**  
**CM0602 Action MC Member**

2



## COST Mission

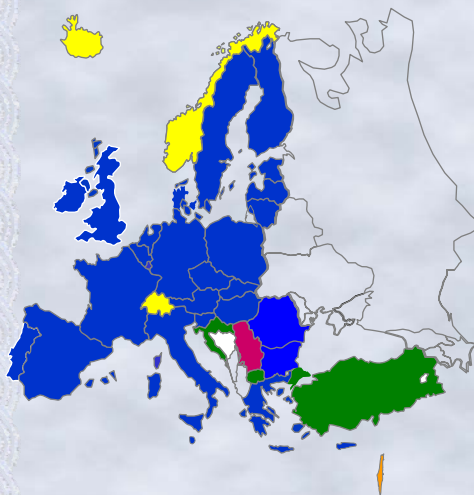
**Founded in 1971** - intergovernmental framework allowing the co-ordination of nationally funded research on a European level - *INTERNATIONAL POLICY*

**The goal of COST** - to ensure that Europe holds a strong position in the field of scientific and technical research

**Access for institutions from non-member countries** also makes COST a tool for tackling topics of a truly global nature.



## COST Countries



- ◆ The 27 EU Member States
- ◆ EFTA Member States
  - ▶ Iceland
  - ▶ Norway
  - ▶ Switzerland
- ◆ Acceding & Candidate Countries
  - ▶ Croatia
  - ▶ FYR of Macedonia (FYROM)
  - ▶ Turkey
- ◆ Potential Candidate Countries
  - ▶ Republic of Serbia
- ◆ COST Co-operating States
  - ▶ Israel





## COST Governance



**The Committee of Senior Officials (CSO)** - the main decision-making body composed of COST member states representatives, one of whom in each case acts as COST National Coordinator (CNC).

**The Domain Committees (DC)** - composed of representatives of all COST countries (1 per country). They are assigned to a particular research domain and the scientific quality control is their main responsibility following very rigorous evaluation procedures established by the CSO.

**The Management Committees (MC)** - one for each Action - composed of national experts nominated by the countries participating in the Action. They coordinate the activities of the Action and report to the relevant DC.

**The secretariat** to the CSO is provided by the General Secretariat of the Council of the European Union, thus underlining the intergovernmental character of COST.

The scientific and administrative Secretariat to the COST Domain Committees and to the COST Actions is provided by the European Science Foundation (ESF) through the COST Office.

7



## COST Domains:



- Biomedicine and Molecular Biosciences
- Food and Agriculture
- Forests, their Products and Services
- Materials, Physical and Nanosciences
- Chemistry and Molecular Sciences and Technologies
- Earth System Science and Environmental Management
- Information and Communication Technologies
- Transport and Urban Development
- Individuals, Societies, Cultures and Health

8



## COST Characteristics



**“Bottom-up” approach** - initiatives of launching a COST Action comes from the European researchers themselves.

COST complements the activities of the EU Framework Programmes and plays a very important role in the realisation of the European research Area (ERA).

**COST increases the mobility of researchers across Europe** and fosters the establishment of scientific excellence.

COST - one of the largest frameworks for research cooperation in Europe, a valuable mechanism coordinating national research activities in Europe, which **contributes to reduce fragmentation** in research investments in Europe.

9



## COST Actions



COST Actions are new, innovative, and interdisciplinary scientific networks of nationally funded research teams of at least five COST countries.

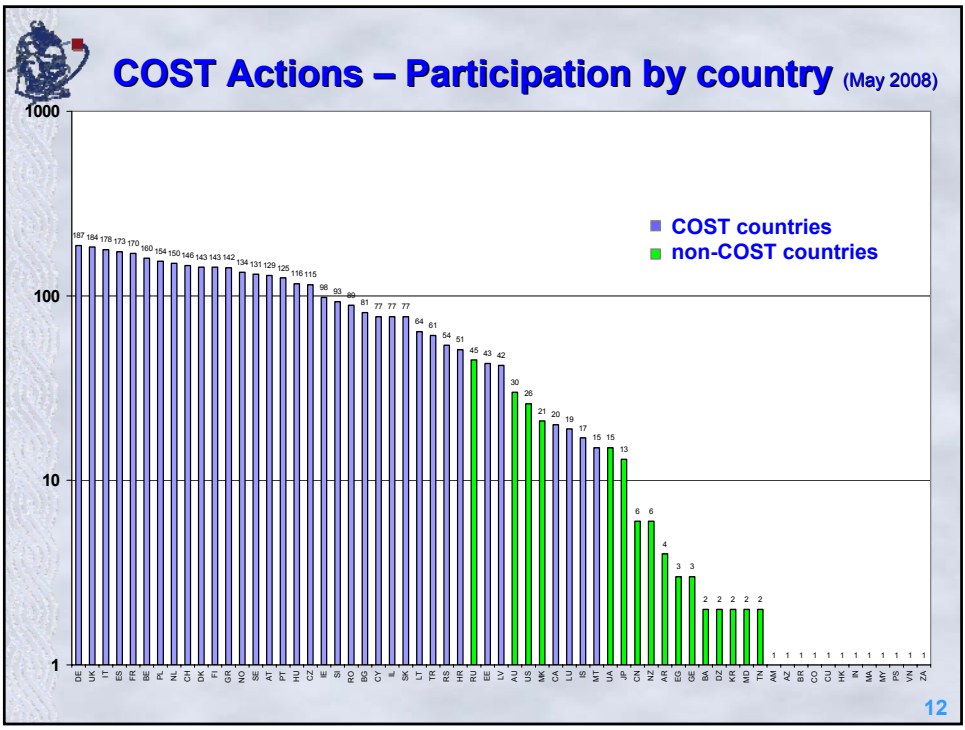
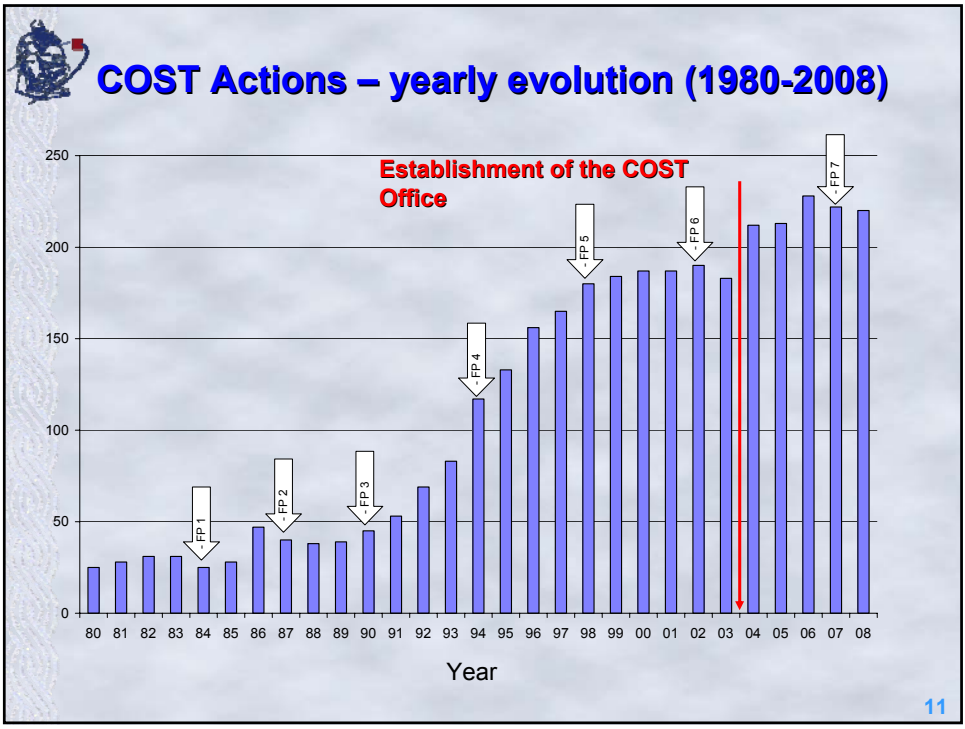
COST Actions support networking activities such as:

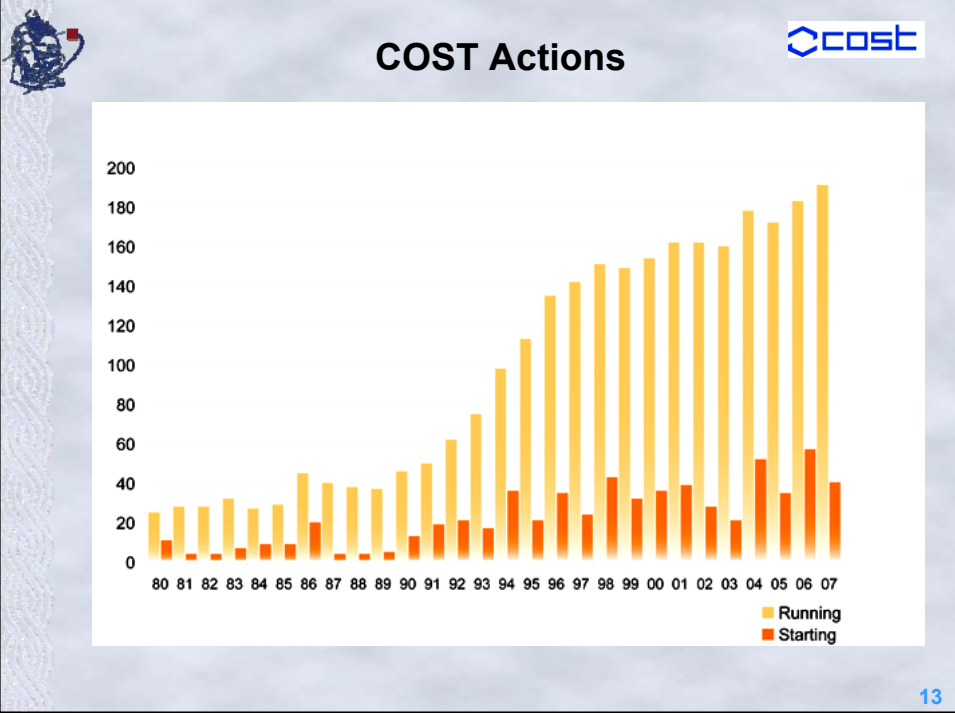

- meetings,
- conferences,
- short term scientific exchanges and
- outreach activities

COST does not fund the research in itself.

The duration of an Action is generally 4 years.

10



## COST Funding

The funds provided by COST and obtained from the European Research Framework Programmes.

The support to COST Actions is less than about 1% of the total value of the Actions.

During the Sixth Framework Programme (FP6) with around EUR 20 million per year, more than 30 000 European scientists were involved in COST networking with their projects representing a total value which exceeded EUR 2 billion per year.

The funds for COST provided by the Seventh Framework Programme (FP7 2007-2013) are EUR 210 million (30 M €/year) - possibility of an additional EUR 40 M depending on a mid-term evaluation in 2010.

~ 100.000 Euro per Action per year



## COST Open Call



This continuous call is thematically open. Proposals from all Scientific Domains are welcome. The next collection date for preliminary proposals is 26 September 2008.

[www.cost.esf.org/opencall](http://www.cost.esf.org/opencall)

Collection Date	28/03/2008	26/09/2008	27/03/2009	25/09/2009	26/03/2010
Eligibility check & allocation to DC	10/04/2008	9/10/2008	9/04/2009	8/10/2009	8/04/2010
DC electronic ranking finished	9/05/2008	7/11/2008	8/05/2009	6/11/2009	7/05/2010
Invitation for Full Proposals	16/05/2008	14/11/2008	15/05/2009	13/11/2009	14/05/2010
Submission deadline FP	1/08/2008	16/01/2009	31/07/2009	15/01/2010	30/07/2010
Deadline EEP comments	29/08/2008	13/02/2009	28/08/2009	12/02/2010	27/08/2010
EEP meetings	1-12/09/2008	16/2-27/2/2009	31/08-11/09/2009	15/2-26/2/2010	30/8-10/9/2010
DC Hearings	8-19/09/2008	23/2-6/3/2009	7-18/09/2009	22/2-5/3/2010	6-17/09/2010
DCCOM	22/9-03/10/2008	9-20/3/2009	21/9-2/10/2009	8-19/3/2010	20/9-1/10/2010
Final list of new Actions proposals	9/10/2008	26/03/2009	8/10/2009	25/03/2010	7/10/2010
JAF	4-5/11/2008	27/4-3/5/2009	2-6/11/2009	26/4-2/5/2010	1-5/11/2010
CSO new Actions approval meeting	26-27/11/2008	25/5-29/5/2009	23-27/11/2009	24/5-28/5/2010	22-26/11/2010

15



# COST

In

# CROATIA

In

# COST

**Since 1992**

CNC – Bozidar Biondic, Damir Jelcic

16



## **Croatia - 55 COST Actions**

### **35 together with Austria**

### **In all Domains**

Biomedicine and Molecular Biosciences (DCvc + AC)	5
Chemistry and Molecular Sciences and Technologies	6
Earth System Science and Environmental Management	3
Food and Agriculture	4
Forests, their Products and Services	17
Information and Communication Technologies	11
Individuals, Societies, Cultures and Health	4
Materials, Physical and Nanosciences	3
Transport and Urban Development	2

17



## **Ministerial Conference**

### **Dubrovnik**

### **May 27 2003**

**Instead of Technical Committees –  
Domain Committees**

**Instead of Comission –  
COST Office**

**COST/ESF – Contract with the EC –  
financing throuh the FP via ESF**

18



## DUBROVNIK ANTENNA OF COST

Interdisciplinary, Inter-Domain & Inter-Action Meeting in Dubrovnik

October 25/28 2007



### “Oxygen, Stress & Lipids”

19



#### 3 Domains:

1. Biomedicine and Molecular Biosciences (BMBS)
2. Chemistry, Molecular Sciences and Technologies (CMST)
3. Food and Agriculture (FA)

#### and 4 Actions:

1. B35 (BMBS) Action Chair – Neven ZARKOVIC (HR): *Lipid peroxidation associated disorders*
2. BM0602 (BMBS) Action Chair - Jürgen ECKEL (DE): *Adipose Tissue: A key target for prevention of the metabolic syndrome*
3. CM0603 (CMST) Action Chair - Chrysostomos CHATGILIALOGLU (IT): *Free radicals in chemical biology*
4. FA0602 (FA) Action Chair - Jaap KEIJER (NL): *Bioactive food components, mitochondrial function and health*

20





03/05/2008



### Laboratory for Molecular Biosciences



**LAB 1**  
 OBRADA VODENOG BALASTA  
 BALLAST WATER TREATMENT

ISTRAŽIVAČKA JEDINICA ZA  
 MOLEKULARNE BIOZNANOSTI  
 RESEARCH UNIT FOR  
 MOLECULAR BIOSCIENCES

**“The Lab on the Beach”**

21



### COST Outreach Activity for Early Stage Researchers, ESOF2008 Barcelona, July 19th 2008

## WORKSHOP I: FAT: THE GOOD, THE BAD & THE UGLY

**3 Domains:**

- Biomedicine and Molecular Biosciences (BMBS)
- Chemistry, Molecular Sciences and Technologies (CMST)
- Food and Agriculture (FA)

and **4 Actions:**

- B35 (BMBS) : *Lipid peroxidation associated disorders*
- BM0602 (BMBS): *Adipose Tissue: A key target for prevention of the metabolic syndrome*
- CM0603 (CMST) : *Free radicals in chemical biology*
- FA0602 (FA): *Bioactive food components, mitochondrial function and health*

**25 ESRs + 6 Lecturers**




**EUROSCIENCE OPEN FORUM  
 ESOF 2008  
 SCIENCE FOR A BETTER LIFE  
 BARCELONA, JULY 18-22**





What should we eat and how should we look?

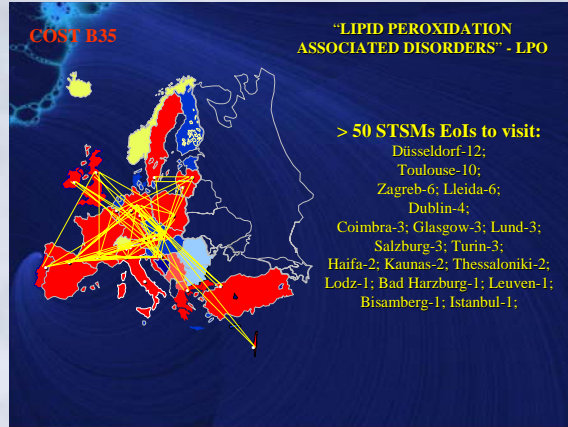




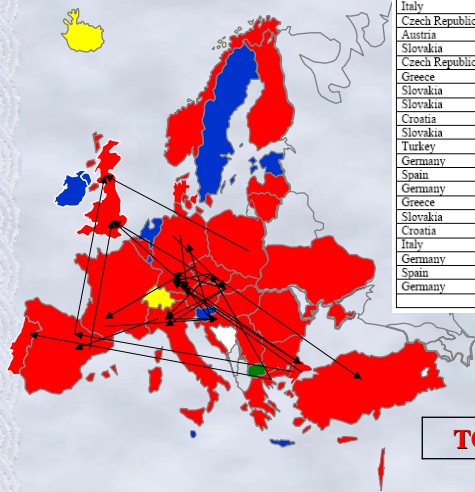
## Short Term Scientific Missions - STSM

Refunding, travel & accomodation for  
 up to 3 months up to 2.500 € - mostly ESRs  
 The STSM Panel – COST Office

**26 REALISED - One STSM per month!**




## COST B35 STSMs



FROM	TO	PERIOD (Days)	SUPPORT (Euro)
France	Croatia	14	800
Germany	Turkey	5	850
Poland	United Kingdom	35	2.300
Greece	Czech Republic	26	1.900
Italy	Croatia	30	1.500
Czech Republic	Italy	28	1.500
Austria	France	30	2.468
Slovakia	Italy	28	2.480
Czech Republic	Germany	30	2.000
Greece	Portugal	10	1.200
Slovakia	Turkey	70	2.500
Slovakia	Germany	60	2.300
Croatia	Germany	28	2.500
Slovakia	United Kingdom	30	2.130
Turkey	Germany	7	1.535
Germany	United Kingdom	15	1.800
Spain	United Kingdom	75	2.500
Germany	Slovakia	9	850
Greece	Spain	25	1.800
Slovakia	Italy	31	2.450
Croatia	Germany	40	2.300
Italy	Spain	45	1.800
Germany	Turkey	7	1.250
Spain	United Kingdom	15	1.200
Germany	Austria	15	1.200
<b>TOTAL</b>		<b>708 Days</b>	<b>45.313</b>



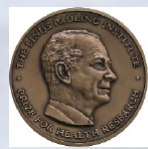
**TOTAL 708 Days 45.313**

COST B35 Action







## “Lipid peroxidation-and free radical-signaling: role in pathophysiology”

The Course duration is 5 full working days  
30 August till 5 September 2008

**Training School – 6 lecturers, 10 ESR supported**

7



## BILATERAL PROJECTS



### Background:

**Kroatien ist Europa** : Möglichkeiten und Chancen der Zusammenarbeit ; [Tagungsband zur Veranstaltung Kroatien ist Europa - Möglichkeiten und Chancen der Zusammenarbeit, Graz, 18. und 19. Mai 2000]

**Memorandum of Understanding** – Ministry of Science and Technology, CROATIA and Federal Ministry of Education, Science and Culture, AUSTRIA Signed in Vienna 02/04/2001

**The 1st Croatian-Austrian Science Days, Zagreb, 2002**  
 The 2nd Croatian-Austrian Science Days, Zagreb, 2003  
 The 34d Croatian-Austrian Science Days, Graz, 2007

**Agreement on Cooperation in Science and Technology – Zagreb 12/03/2003**

**Regular Joint Committee Meetings (2003, 2005, 2007) – activity programme - calls & evaluation of bilateral projects**

28



### Kroatisch - österreichische wissenschaftlich-technologische Projekte - Überblick nach wissenschaftlichen Gebieten

	Naturwissenschaften	Biotechnische Wissenschaften	Technische Wissenschaften	Medizinische Wissenschaften	Sozial- und Geisteswissenschaften	Gesamt
	Angemeldet/ Akzeptiert	Angemeldet/ Akzeptiert	Angemeldet/ Akzeptiert	Angemeldet/ Akzeptiert	Angemeldet/ Akzeptiert	Angemeldet/ Akzeptiert
"Pilot Projekte" 2002 und 2003	15/12	1/0	3/2	4/3	6/3	29/20
			ABKOMMEN 2003			
Die erste Sitzung, 2003	21/16	2/1	7/4	5/2	3/1	38/24
Die zweite Sitzung, 2005	20/13	4/1	3/1	7/6	4/2	38/23
<b>Gesamt</b>	<b>56/41</b>	<b>7/2</b>	<b>13/7</b>	<b>16/11</b>	<b>13/6</b>	<b>105/67</b>

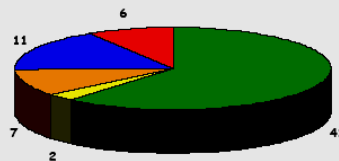
Mrs. Branka Ravlic, Ministry of Science, Education and Sports – The 3rd Austrian-Croatian Science Days Graz, 2007



### Period 2002-2007 – 67 Projects



### Überblick nach wissenschaftlichen Gebieten



Gesamt: 67

- Naturwissenschaften
- Biotechnische Wissenschaften
- Technische Wissenschaften
- Medizinische Wissenschaften
- Sozial- und Geisteswissenschaften

Period 2008-2009 – 30 New Projects



## BILATERAL PROJECT WITH AUSTRIA

~ 3.000 € per partner per year for EACH project partner (bilateral)

Short term study visits (up to 10 days) – 73 €/day (accommodation incl.)

Up to 3 months visits:

Senior (>35 yrs) - 1.200 €/month (accommodation included)

Postdoc (30-35) – 1.040 €/month (accommodation included)

Students (<30 yrs) – 940 €/month (accommodation included)

Croatia to Austria : travel Croatia – the rest Austria

Austria to Croatia : travel Austria – the rest Croatia

RESEARCH COSTS COVERED FROM OTHER RESEARCH PROJECTS

**SUPPORT REFUNDING/IN ADVANCE, NO TRAVEL LIMITS, NO MONEY TRANSFER INTO THE NEXT YEAR, NO “LEFTOVERS”!**

31



## Bilateral Project with France COGITO

2.850 € per partner per year

**SUPPORT IN ADVANCE, TRAVEL LIMITS (TWICE PER YEAR PER PARTNER – IN TOTAL 15 DAYS), MONEY TRANSFER INTO THE NEXT YEAR, BUT NO “LEFTOVERS”!**

## Bilateral Project with Hungary

~ 3.000 € per partner per year

**TRAVEL LIMITS:**

**2x14 days + 2x1 month Croats in Hungary**

**3x1 month Hungarians in Croatia**

**SUPPORT IN ADVANCE**

32



## Comparison: value for 45.000 € in 2 years

**COST 1 project – 700 person days**

**Multilateral, refunding, mostly ESRs – networking, “no limits”, administration, part of research - complementary**

**Bilateral HR/AT 8 projects – 900 person days**

**Bilateral, refunding/in advance, mostly ESRs – close distance, no administ. travel limits, novel research - complementary**

**Bilateral HR/FR 8 projects – 450 person days**

**Bilateral, in advance, mostly ESRs – long distance, administr. travel limits, part of research - complementary**

**Bilateral HR/HU 8 projects – 2100 person days**

**Bilateral, in advance, mostly ESRs – close distance, low accomodation costs, “administ. travel limits”, novel research - complementary**

33



## Project proposal Science and Technology Cooperation Croatia - Austria



Sepp Kohlwein & Neven Zarkovic

et al.

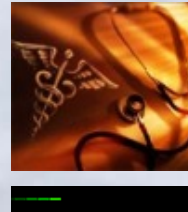
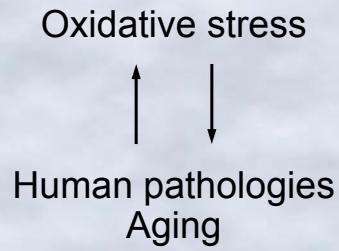
Croatian-Austrian Science Days 2002

34



Science and Technology Cooperation  
Croatia – Austria  
Project

**Cellular adaptation to oxidative stress:**  
**THE YEAST APPROACH**

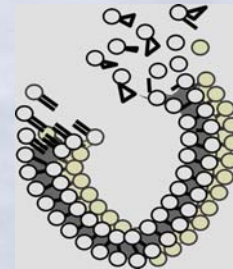
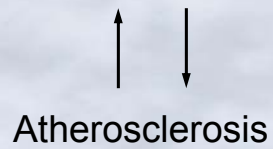


35



**Cellular adaptation to oxidative stress**

Target: Lipids, fatty acids, sterols



36



## Cellular adaptation to oxidative stress

Experimental model system: YEAST

Biochemical, genetic manipulation



Molecular mechanisms of lipid & membrane damage and cellular response



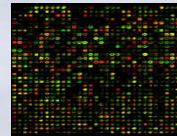
37



## Cellular adaptation to oxidative stress

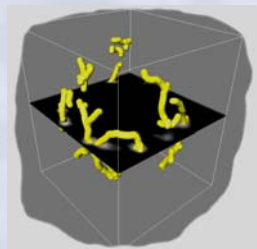
Yeast Molecular Biology, Genomics, CLSM

IMBM, Graz





Biochemistry and Physiology

RBI, Zagreb



38

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

SCIENCE @ DIRECT®

Free Radical Biology & Medicine 40 (2006) 897 – 906

[www.elsevier.com/locate/freeradbiomed](http://www.elsevier.com/locate/freeradbiomed)

Original Contribution

*Saccharomyces cerevisiae* strain expressing a plant fatty acid desaturase produces polyunsaturated fatty acids and is susceptible to oxidative stress induced by lipid peroxidation

Ana Cipak <sup>a,1</sup>, Meinhard Hasslacher <sup>b,1,2</sup>, Oksana Tehlivets <sup>b</sup>, Emma J. Collinson <sup>c</sup>, Morana Zivkovic <sup>a</sup>, Tanja Matijevec <sup>a</sup>, Willibald Wonisch <sup>b</sup>, Georg Waeg <sup>b</sup>, Ian W. Dawes <sup>c</sup>, Neven Zarkovic <sup>a</sup>, Sepp D. Kohlwein <sup>b,\*</sup>


<sup>a</sup> Institute Rudjer Boskovic, Zagreb, Croatia  
<sup>b</sup> Institute of Molecular Biosciences, University of Graz, A8010 Graz, Austria  
<sup>c</sup> Ramaciotti Centre for Gene Function Analysis, School of Biotechnology and Biomolecular Sciences, University of New South Wales, Sydney, NSW 2052, Australia

Received 18 July 2005; revised 5 October 2005; accepted 16 October 2005  
 Available online 8 November 2005

**Research Period 2002 – 2004**

**(support 2002/03 ~ 1.400 € in total + additional 15.000 € - HR+AT+AU)**

39

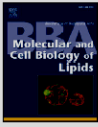


Biochimica et Biophysica Acta 1781 (2008) 283–287

Contents lists available at ScienceDirect

Biochimica et Biophysica Acta

journal homepage: [www.elsevier.com/locate/bbalip](http://www.elsevier.com/locate/bbalip)



Adaptation to oxidative stress induced by polyunsaturated fatty acids in yeast

Ana Cipak <sup>a</sup>, Morana Jaganjac <sup>a</sup>, Oksana Tehlivets <sup>b</sup>, Sepp D. Kohlwein <sup>b</sup>, Neven Zarkovic <sup>a,\*</sup>

<sup>a</sup> Rudjer Boskovic Institute, Zagreb, Croatia  
<sup>b</sup> Institute of Molecular Biosciences, University of Graz, A8010 Graz, Austria

**Research Period 2005 – 2007**

**(no formal bilateral support – additional 9.000 €)**

40






**Essential point:**  
 Novel approach – novel topics “*The last project of Hermann Esterbauer*”

**“Added value”:**  
 New research facility, Ph.D. thesis

**Funding:**  
 Bilateral - 3.000 € (AU), additional 24.000 €



EDUCATION 41



# Thank you

[zarkovic@irb.hr](mailto:zarkovic@irb.hr)




St. Stephen's Cathedral,  
Vienna

St. Stephen's Cathedral,  
Zagreb

42