



# 25<sup>th</sup> tRNA Conference 2014

21-25 September 2014

[www.trna2014.gr](http://www.trna2014.gr)

Conference Venue **Olympia Riviera Resort • Kyllini, GREECE**

**Organized by**

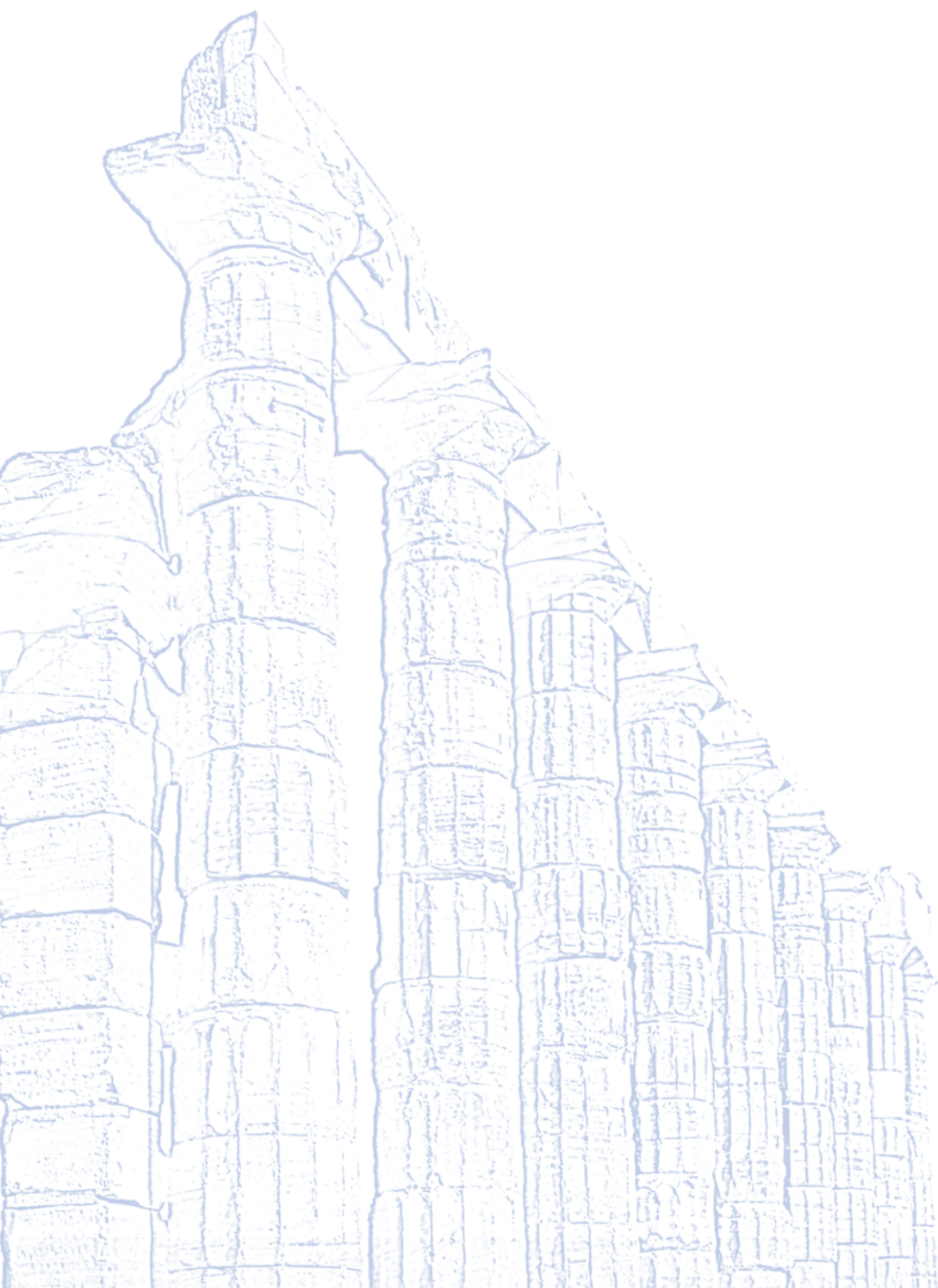
**D. Drinas & C. Stathopoulos**



University of Patras, Greece



**FINAL PROGRAM**





# 25<sup>th</sup> tRNA Conference 2014

**21-25 September 2014**

Olympia Riviera Resort **Kyllini** **Greece**

**Organized by**

**D. Drainas & C. Stathopoulos**

Department of Biochemistry  
School of Medicine  
University of Patras, Greece



*Plato & Aristotle  
The School of Athens by Raphael (1509)*

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## W E L C O M E M E S S A G E

### **Dear Colleagues and Friends,**

We welcome you to Greece and the 25th tRNA Conference.

We would like to thank you for your participation, which has exceeded our expectations. Your contribution through excellent scientific work of the highest caliber reassures the continuation of the excellent research in the field and highlights interdisciplinary and innovative approaches to unravel novel pathways in biology. Most encouraging is the participation of new groups and young investigators who bring fresh and novel perspectives on tRNA biology.

Research on tRNA has always been interconnected with the evolution of the genetic code and translation. Today, more than ever, it is evident that tRNA research continues to reveal new and surprising aspects of cellular metabolism which will be presented in sessions devoted to synthetic biology, tRNA biogenesis, processing, editing, transfer and localization, the recognition of tRNA by aminoacyl-tRNA synthetases and their role in many diseases, the relationship between structure and function of translation factors, the regulation of translation at many levels, the role of many tRNA-related proteins or protein networks outside translation and finally, the regulatory role of tRNA itself and its fragments, post-transcriptionally.

We would like also to thank the members of the scientific committee, the session chairs, the speakers and poster presenters and all the academic, scientific and commercial entities that support this 25th anniversary tRNA Conference. Their encouragement and help towards a successful and memorable conference is gratefully acknowledged.

We welcome you to the place that gave birth to the great ideas of the modern world and we invite you to enjoy both the 25th tRNA Conference and your stay in Greece.

**Denis Drainas & Constantinos Stathopoulos**

*25<sup>th</sup> tRNA Conference Co-chairs*

*Department of Biochemistry*

*School of Medicine*

*University of Patras*

## CONFERENCE CHAIRS

Prof. Denis Drainas, *University of Patras*

Prof. Constantinos Stathopoulos, *University of Patras*

## LOCAL ORGANIZING COMMITTEE

George DINOS, *University of Patras*

Kriton KALANTIDIS, *IMBB-FORTH & University of Crete*

Sofia KALLIA-RAFTOPOULOS, *University of Patras*

Dimitrios KALPAXIS, *University of Patras*

Dimitris KLETSAS, *NCSR "Demokritos" (President of HSBMB)*

George SIMOS, *University of Thessaly*

## INTERNATIONAL SCIENTIFIC COMMITTEE

Hubert BECKER, *University of Strasbourg, France*

Valerie DE CRÉCY-LAGARD, *University of Florida, USA*

Paul L. FOX, *Lerner Research Institute, USA*

Magali FRUGIER, *IBMC, CNRS Strasbourg, France*

Claudio GUALERZI, *University of Camerino, Italy*

Roland HARTMANN, *Philipps-Universität Marburg, Germany*

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Tsutomou SUZUKI, *The University of Tokyo, Japan*

Xiang-Lei YANG, *The Scripps Research Institute, USA*

Marat YUSUPOV, *IGBMC- CNRS, Strasbourg, France*

## CONFERENCE SPONSORS

The Organizing Committee gratefully acknowledges  
the contribution to the organization of the Conference of



The Sidney Altman Endowment

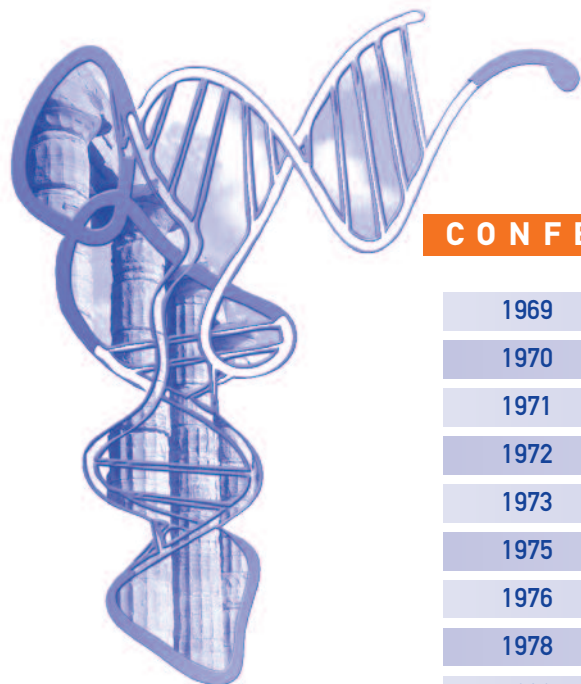


“ARISTEIA I”



**Lab Supplies  
Scientific**





## CONFERENCE HISTORY

1969	Cambridge, UK
1970	Riga, Soviet Union
1971	Göttingen, Germany
1972	Princeton, USA
1973	Göteborg, Sweden
1975	Nof Ginosar, Israel
1976	Sandbjerg, Denmark
1978	Cold Spring, Harbor, USA
1980	Strasbourg, France
1983	Hakone, Japan
1985	Banz, Germany
1987	Umea, Sweden
1989	Vancouver, Canada
1991	Rydzyňa, Poland
1993	Cap d'Agde, France
1995	Maddison, USA
1997	Chiba, Japan
2000	Cambridge, UK
2002	Shanghai, China
2003	Banz, Germany
2005	Bangalore, India
2007	Uppsala, Sweden
2010	Aveiro, Portugal
2012	Olmue, Chile
2014	Kyllini, Greece

## Oral Presentations

The Lecture Hall is equipped for Power Point presentations (both PC and Mac). Presentations uploading and testing will take place at the Preview Desk. Technical assistance will be provided for any type of presentation.

It is important to bring your presentation in advance of your scheduled session. Speakers scheduled for the morning sessions should deliver their presentations preferably the day before, while those scheduled for the afternoon sessions before lunchtime. Speakers are kindly requested to keep the time allocated for each presentation (including discussion). A timer will be available on the podium to help speakers with the schedule.

## Poster Presentations

The Poster Exhibition Hall is located next to the Lecture Hall. Your poster will be displayed throughout the Conference. All posters should be placed at their assigned board on Monday September 22<sup>nd</sup> between 09:00-17:30 and removed by the end of the conference. Remaining posters after the end of the Conference will be discarded. You will find your final poster display number/code in the final program.

Poster exhibition assistance will be provided at the Congress Secretariat desk as well as on dedicated tables in the Poster Area.

You are also required to be present during the poster sessions on **Monday 22<sup>nd</sup> and Tuesday 23<sup>rd</sup> September between 19:30-20:30**. Poster exhibition will remain open also after dinner and until 23:00.

If you wish you may bring some copies of your poster with you for distribution. On-site reproduction will not be available.

Poster dimensions: **1,20m height x 0,90m width (portrait format)**.

## Session Chairs

Chairs are responsible for keeping the program on schedule. We kindly remind you that the time allocated for each speaker includes presentation followed by a short discussion/questions session (2-3 min).

You are kindly requested to follow the final program to determine the number and order of the abstracts to be presented and the time allocated to each presentation.

It is important to arrive at the meeting venue about 15-20 minutes prior to the session and meet the speakers. Please make sure that all speakers are present and that they have already brought their presentation to the Preview Desk or that they carry their own laptop which has been properly connected to the projector.

For any changes in the program or non-show speakers please inform immediately the Conference Secretariat before the session begins.

## Poster presentation awards

Poster presentations are an important and valued part of the tRNA Conferences. The 25th tRNA Conference Organizing Committee will recognize the work of poster presenters by offering 10 poster presentation awards. Awardees will be notified during the Conference.



## GENERAL INFORMATION

### Registration Desk

The conference secretariat **ERA Ltd** and registration desk will be located in the main foyer of the Conference center. Badges and all conference material will be provided from the registration desk.

#### Opening hours

Sunday, September 21 <sup>st</sup>	15:00-20:30	
Monday, September 22 <sup>nd</sup>	08:00-13:30 & 15:00-19:30	
Tuesday, September 23 <sup>rd</sup>	08:30-13:30 & 15:00-19:30	
Wednesday, September 24 <sup>th</sup>	08:30-12:00	
Thursday, September 25 <sup>th</sup>	08:30-13:30 & 15:00-19:30	

### Badges

Conference Chairs .....	<b>Red</b>
Sessions Chairs / Scientific Committee .....	<b>Orange</b>
Delegates .....	<b>Blue</b>
Accompanying persons .....	<b>White</b>

### Certificate of Attendance

A certificate of Attendance will be handled to each participant with the Conference material.

### Coffee Breaks & Meals

Coffee breaks & meals will be offered to all registered participants according to the program. Coffee will be served in the foyer outside the lecture hall as well as at the gardens and meals in the main restaurant of Olympia Oasis Hotel. Lunch coupons will be provided during the registration.

### Internet Access

Wireless Internet access is available in the conference center and public areas.

### Exhibition

A small exhibition of scientific products and instruments equipment will be present at the Conference Venue located adjacent to the main Congress Hall and near by the Poster Exhibition Hall.

## SOCIAL EVENTS

### Welcome Cocktail

A welcome cocktail will be offered to all participants on **Sunday 21 September** at 18.30 at the gardens of Olympia Conference Center.

### Guided tour to Ancient Olympia

A guided tour to **Archaeological Site & Museum of Olympia** is scheduled on **Wednesday 24 September** after lunch. On the way back we will visit the **Merkouri Winery** for a wine tasting and a Dinner.

### Gala Dinner

The Gala Dinner will be held on **Thursday 25 September** at 21.00, at the Restaurant of Thalasso Hotel.

## Sunday, September 21<sup>st</sup>

From 15.00	<b>Arrivals and Registration</b> at Grecotel Olympia Oasis Conference Venue
<b>18.30-19.15</b>	<b>Welcome Cocktail</b>
<b>19.15-19.30</b>	<b>Welcome from the Organizers</b> <b>D. Drinas</b> (Greece), <b>C. Stathopoulos</b> (Greece), <b>D. Kletsas</b> (Greece)
<b>19.30-20.30</b>	<b>Session 1 - 50 years of tRNA research and 25 Conferences</b>
19.30-20.00	<b>Keynote Lecture 1: Paul Agris</b> (USA) Implications of RNA being modified: Basic and translational science
20.00-20.30	<b>Keynote Lecture 2: Paul Schimmel</b> (USA) The new biology of tRNAs and AARSs
20.30	<b>Dinner</b>

## Monday, September 22<sup>nd</sup>

8

<b>09.00-11.00</b>	<b>Session 2 - tRNA: Genetic code evolution and Synthetic Biology</b> <i>Chairs:</i> <b>D. Söll</b> (USA), <b>S. Yokoyama</b> (Japan)
09.00-09.20	<b>O1 Shigeyuki Yokoyama</b> (Japan) Structural studies on specific aminoacyl-tRNA synthesis and genetic code expansion
09.20-09.40	<b>O2 Dieter Söll</b> (USA) Rewiring E. coli translation for synthesis of selenoproteins
09.40-10.00	<b>O3 Jesse Rinehart</b> (USA) Probing proteins and proteomes from organisms with expanded genetic codes
10.00-10.15	<b>O4 Naohiro Terasaka</b> (Japan) - <b>Sidney Altman Endowment Lecture</b> An orthogonal ribosome-tRNAs pair by the engineering of peptidyl-transferase center
10.15-10.30	<b>O5 Takahito Mukai</b> (Japan) A rare codon can be captured by a non-canonical amino acid
10.30-10.45	<b>O6 Joanne Ho</b> (USA) Sense codon recoding in Escherichia coli
10.45-11.00	<b>O7 Jeffrey R. Sampson</b> (USA) Synthetic biology: A measurement solutions provider's perspective
11.00-11.30	<b>Coffee break</b>

11.30-13.30

## Session 3 - tRNA: Biogenesis and Modification I

*Chairs:* **D. Engelke** (USA), **E. Phizicky** (USA)

11.30-11.50

**O8 David Engelke** (USA)

Diverse roles of the prion-like protein, Mod5, in tRNA-modification and RNA-silencing

11.50-12.10

**O9 Eric Phizicky** (USA)

Identification of the determinants of tRNA function and susceptibility to rapid tRNA decay by high throughput in vivo analysis

12.10-12.30

**O10 Walter Rossmannith** (Austria)

RNase P: convergent evolution within a structurally diverse enzyme family

12.30-12.45

**O11 Stewart Shuman** (USA)

Biology and chemistry of tRNA damage and its repair

12.45-13.00

**O12 Mario Mörl** (Germany)

The identity of the discriminator base has an impact on CCA-addition

13.00-13.15

**O13 Aaron Cozen** (USA)

Coupling demethylation to RNA sequencing provides a high-throughput view of tRNA processing and modification

13.15-13.30

**O14 Carine Tisné** (France)

1-methyladenosine in transfer RNA

13.30-15.00

## Conference Photo & Lunch

15.00-17.05

## Session 4 - tRNA: Biogenesis and Modification II

*Chairs:* **T. Suzuki** (Japan), **V. deCrecy-Lagard** (USA)

15.00-15.15

**O15 Tsutomu Suzuki** (Japan)

Biogenesis and function of cyclic t6A and its derivatives

15.15-15.35

**O16 Valerie de Crecy-Lagard** (USA)

Complex modification of tRNA, interplay with DNA metabolism?

15.35-15.55

**O17 Juan Alfonzo** (USA)

A tRNA modification pathway in mitochondria unveils the origin of wybutosine in eukaryotes

15.55-16.10

**O18 Ya-Ming Hou** (USA)

A divalent metal ion-dependent N<sup>1</sup>-methyl transfer to G37-tRNA

16.10-16.25

**O19 Kazuhito Tomizawa** (Japan)

Cdk5rap1-mediated 2-methylthio modification of mitochondrial tRNAs controls precise mitochondrial protein translation and contributes to myopathy

16.25-16.40

**O20 Sebastian A. Leidel** (Germany)

Wobble uridine hypomodification triggers protein misfolding by reducing decoding speed in vivo

16.40-16.55 **O21 Marc Graille** (France)  
Structure-function analysis of the Trm9-Trm112 complex, a methyltransferase involved in the mcm5U34 tRNA modification and in response to genotoxic stresses

16.55-17.05 **O22 Takaaki Taniguchi** (Japan)  
A Rossmann-fold superfamily enzyme, TmcAL, is a novel acetate ligase responsible for the formation of N4-acetylcytidine in tRNAMet in *Bacillus subtilis*

17.05-17.30 **Coffee break**

## 17.30-19.30 **Session 5 - tRNA: Processing, Transport, Localization**

*Chairs:* **L. Marechal-Drouard** (France), **A. Hopper** (USA)

17.30-17.50 **O23 Laurence Marechal-Drouard** (France)  
Metazoan mitochondrial genome expression: the tRNA punctuation model revisited

17.50-18.10 **O24 Anita Hopper** (USA)  
Asking the cells: genome-wide screen of yeast uncovers the mechanisms for tRNA intron turnover and targeting the SEN complex to mitochondria

18.10-18.30 **O25 Sidney Kushner** (USA)  
Multiple pathways for processing of tRNA primary transcripts in *Escherichia coli*

18.30-18.45 **O26 Philippe Giegé** (France)  
Exploring the mode of action, diversity and evolution of protein-only RNase P

18.45-19.00 **O27 Malgorzata Dobosz-Bartoszek** (USA)  
The crystal structure of human selenocysteine tRNA-specific elongation factor, eEFSec

19.00-19.15 **O28 Jana Alexandrova** (France)  
Elaborate uORF/IRES features control expression and localization of human moonlighting glycyl-tRNA synthetase

19.15-19.30 **O29 Mary Anne T. Rubio**  
Editing and methylation at a single tRNA site by functionally interdependent activities: Keeping a mutagenic enzyme in check

19.30-20.30 **POSTER EXHIBITION**  
(Open also after dinner until 23.00)

20.30 **Dinner**



09.00-11.00



**Session 6 - IUBMB Symposium “The dynamic networks of the tRNA protein community” I**

*Chairs:* **S. Kim** (Republic of Korea), **X-L. Yang** (USA)

09.00-09.30

**O30 Sunghoon Kim** (Republic of Korea)

Implications of tRNA synthetase network in cancer microenvironment

09.30-10.00

**O31 Xiang-Lei Yang** (USA)

Nuclear function of TyrRS under oxidative stress

10.00-10.20

**O32 Susan Ackerman** (USA)

Ribosome stalling induced by mutation of a CNS-specific tRNA causes neurodegeneration

10.20-10.40

**O33 Pavel Ivanov** (USA)

Angiogenin-mediated tRNA cleavage in neurodegeneration

10.40-11.00

**O34 Min Guo** (USA)

Structural basis for multiplexed inhibition of translational and non-translational functions on a human tRNA synthetase

11.00-11.30

**Coffee break**

11.30-13.30



**Session 7 - IUBMB Symposium “The dynamic networks of the tRNA protein community” II**

*Chairs:* **H.D. Becker** (France), **P. L. Fox** (USA)

11.30-12.00

**O35 Hubert D. Becker** (France)

The yeast AME multisynthetase complex controls mitochondrial ATP production by coordinating expression and assembly of the F1FO ATP synthase

12.00-12.30

**O36 Paul L. Fox** (USA)

Glutamyl-prolyl tRNA synthetase and metabolism: New functions for an ancient enzyme

12.30-12.50

**O37 Ignacio Luque** (Spain)

Role of an alternative threonyl-tRNA synthetase in the adaptation to zinc deficiency in prokaryotes

12.50-13.10

**O38 Malcom R. Whitman** (USA)

EPRS inhibition signals to a novel matrix remodeling pathway in multiple cell types

13.10-13.30

**O39 Marc Mirande** (France)

Aminoacyl-tRNA synthetase complexes in evolution

13.30-15.00

**Lunch**



15.00-17.00

## Session 8 - tRNA: Recognition and Aminoacylation I

*Chairs:* **K. Musier-Forsyth** (USA), **I. Gruić Sovulj** (Croatia)

15.00-15.20

### **O40 Ita Gruić Sovulj** (Croatia)

Class I aaRS quality control mechanisms preserve canonical translation in *Escherichia coli*

15.20-15.40

### **O41 Karin Musier-Forsyth** (USA)

Homologous trans-editing factors with broad substrate specificity prevent global mistranslation

15.40-16.00

### **O42 Mark Saftro** (Israel)

Universal pathway for post-transfer editing reactions: insights from the crystal structure of TtPheRS with puromycin

16.00-16.15

### **O43 Saumya Dasgupta** (India)

Functional evolution of bacterial GlxRS facilitated by isoacceptor plasticity of tRNA<sup>Gln</sup>

16.15-16.30

### **O44 John S. Reader** (USA)

Key immunity determinants in agrobacterial LeuRS prevent self-poisoning of plant tumor biocontrol

16.30-16.45

### **O45 Adam C. Mirando** (USA)

A bioengineered macrolide inhibitor that separates the translational and angiogenesis functions of threonyl-tRNA synthetase

16.45-17.00

### **O46 Young Ho Jeon** (Korea)

Interaction of lysyl-tRNA synthetase and laminin receptor in the control of cell migration and cancer metastasis

17.00-17.30

## Coffee break

17.30-19.30

## Session 9 - tRNA: Recognition and Aminoacylation II

*Chairs:* **M. Ibba** (USA), **S. Martinis** (USA)

17.30-17.50

### **O47 Michael Ibba** (USA)

Oxidation of cellular amino acid pools leads to cytotoxic mistranslation of the genetic code

17.50-18.10

### **O48 Susan Martinis** (USA)

Quality control mechanisms of leucyl-tRNA synthetase

18.10-18.30

### **O49 Henna Tynismaa** (Finland)

The importance of editing by mitochondrial alanyl-tRNA synthetase for mitochondrial protein quality control in mammals

18.30-18.45

### **O50 Jana Ognjenović** (USA)

Structural basis for the neurological disorders caused by mutations in human cytosolic GlnRS

18.45-19.00

### **O51 Yi Shi** (USA)

Seryl-tRNA synthetase counteracts c-Myc to develop functional vasculature

19.00-19.15

### **O52 Michael Schwartz** (USA)

Methionyl-tRNA synthetase alters its tRNA substrate specificity to facilitate adaptation to varying environments

## Tuesday, September 23<sup>rd</sup>

19.15-19.30	<b>O53 Tamara Hendrickson</b> (USA) Roles of non-canonical proteins and enzymes in indirect tRNA aminoacylation in <i>Helicobacter pylori</i>
19.30-20.30	<b>POSTER EXHIBITION</b> (Open also after dinner until 23.00)
20.30	<b>Dinner</b>

## Wednesday, September 24<sup>th</sup>

<b>09.00-11.00</b>	<b>Session 10 - tRNA: Translation, Structure and Function</b> <i>Chairs: C. Gualerzi</i> (Italy), <i>O. Nureki</i> (Japan)
09.00-09.20	<b>O54 Osamu Nureki</b> (Japan) Structural insights into non-canonical aminoacylation
09.20-09.40	<b>O55 Claudio Gualerzi</b> (Italy) Structural and dynamic aspects of initiator tRNA interactions with the bacterial ribosome and other ribosomal ligands
09.40-10.00	<b>O56 Marina Rodnina</b> (Germany) Translational recoding as a kinetic event
10.00-10.15	<b>O57 Joachim Frank</b> (USA) Progression of tRNAs during elongation, visualized by cryo-EM of a single sample
10.15-10.30	<b>O58 Wolfgang Wintermeyer</b> (Germany) Single-molecule fluorescence reveals multiple chimeric tRNA states during EF-G-induced translocation on the ribosome
10.30-10.45	<b>O59 Daniel N. Wilson</b> (Germany) Structural insight into drug-dependent ribosome stalling
10.45-11.00	<b>O60 Axel Innis</b> (France) A proton wire to couple aminoacyl-tRNA accommodation and peptide bond formation on the ribosome
11.00-11.30	<b>Coffee break</b>
11.30-12.00	<b>The EMBO Keynote Lecture</b> <b>Marat Yusupov</b> (France) X-ray crystallography for ribosome function study
12.00-13.30	<b>Lunch</b>
13.30-22.00	<b>Conference Tour to Olympia Archaeological Museum and Site &amp; Dinner at Mercouri winery</b>

09.00-11.00

**Session 11 - tRNA: Regulation, Genomics, Disease I**

*Chairs:* **I. Tarassov** (France), **A. Ferré-D'Amaré** (USA)

09.00-09.20

**O61 Ivan Tarassov** (France)

Modeling gene therapy of mitochondrial diseases by imported small RNA

09.20-09.40

**O62 Adrian Ferré-D'Amaré** (USA) - **Sidney Altman Endowment Lecture**

Co-crystal structure of a tRNA-T box riboswitch complex: molecular basis for the control of gene expression by transfer RNA

09.40-10.00

**O63 Orna Dahan** (Israel)

Exploring the dynamic and evolution of the tRNA pool through systematic deletion of tRNA genes

10.00-10.15

**O64 Umesh Varshney** (India)

An extended Shine-Dalgarno sequence in mRNA functionally bypasses a vital defect in initiator tRNA

10.15-10.30

**O65 Jennifer Gebetsberger** (Switzerland) -

**Sidney Altman Endowment Lecture**

tRNA-derived fragments target the small ribosomal subunit to fine-tune translation

10.30-10.45

**O66 Jordi Gómez** (Spain)

Messenger RNAs bearing tRNA features exemplified by a tRNA-mimic motif within interferon alfa 5 mRNA

10.45-11.00

**O67 Francesca Tuorto** (Germany)

The tRNA methyltransferase Dnmt2 is required for accurate protein synthesis during haematopoiesis

11.00-11.30

**Coffee break**

11.30-13.30

**Session 12 - tRNA: Regulation, Genomics, Disease II**

*Chairs:* **M. Frugier** (France), **L. Ribas de Pouplana** (Spain)

11.30-11.50

**O68 Magali Frugier** (France)

Malaria sporozoites import exogenous tRNAs

11.50-12.10

**O69 Lluís Ribas de Pouplana** (Spain)

Signal saturation limits the development of tRNA identities and the size of the genetic code

12.10-12.30

**O70 Philip Farabaugh** (USA)

A model to explain frequent misreading of a subset of codons by individual tRNAs

12.30-12.45

**O71 Jingji Zhang** (Sweden)

Accuracy of codon recognition by ternary complex on the ribosome

12.45-13.00

**O72 Hila Gingold** (Israel)

A dual program for translation regulation in cellular proliferation and differentiation

13.00-13.15

**O73 Rafael R. Argüello** (France)

Cracking the genomic code of codons: Using dendritic cells to explore beyond the genetic code

13.15-13.30

**O74 Salvador Meseguer** (Spain)

Control of mitochondrial tRNA modification enzymes in MELAS cells by the ROS-regulated microRNA miR-9/9\*



13.30-15.00

## Lunch

15.00-17.00

### Session 13 - tRNA: Regulation, Genomics, Disease III

*Chairs:* **T. Pan** (USA), **E. Razin** (Israel)

15.00-15.20

#### **O75 Tao Pan** (USA)

Discovering tRNA-protein interactome and its function in cellular communication between translation and other processes

15.20-15.40

#### **O76 Ehud Razin** (Israel)

The role of the LysRS-Ap4A-Hint-1-MITF pathway in health in disease

15.40-16.00

#### **O77 Maria Hatzoglou** (USA)

tiRNAs as potential inhibitors of apoptosis during hyperosmotic stress

16.00-16.15

#### **O78 Sotiria Palioura** (Greece)

Selenoprotein biosynthesis and human disease

16.15-16.30

#### **O79 Veerle Eggens** (The Netherlands)

Mutation in RNA kinase CLP1 causes neurodegeneration

16.30-16.45

#### **O80 Elisa Vilardo** (Austria)

Pathogenic mutations in SDR5C1 impair the tRNA maturation activities of human mitochondrial RNase P

16.45-17.00

#### **O81 Susan Robey-Bond** (USA)

Molecular basis of histidyl-tRNA synthetase-associated Usher syndrome type 3B in cochlea-derived mouse cells and zebrafish

17.00-17.30

## Coffee break

17.30-18.30

### Session 14 - tRNA: Systems Biology

*Chairs:* **J. Pütz** (France), **D. H. Ardell** (USA)

17.30-17.45

#### **O82 David H. Ardell** (USA)

Molecular evolution of tRNAs and tRNA CIFs in *Drosophila*

17.45-18.00

#### **O83 Tasos Gogakos** (USA)

tRNAseq: An experimental and computational pipeline to characterize expression and processing of precursor and mature human tRNAs

18.00-18.15

#### **O84 Jonathan Morrand** (USA)

A novel program for analysis of tRNA expression from RNASeq datasets

18.15-18.30

#### **O85 Patricia Chan** (USA)

An improved tRNAscan-SE and genomic tRNA database: new capabilities and features to enhance tRNA research

18.30-19.15

### Session 15 - Closing Session

*Chairs:* **C. Stathopoulos** (Greece), **D. Drainas** (Greece), **G. Simos** (Greece)

18.30-19.00

#### **Keynote Lecture 3: Henri Grosjean** (France)

The expanding world of (t)RNA modification and editing: 50 years of personal recollections

19.00-19.15

### Closing remarks and invitation to attend the 26th tRNA Conference

21.00

## Gala Dinner

# POSTERS

- P1** Predicting the minimal translation apparatus: Lessons from the reductive evolution of *Mollicutes*  
**H. Grosjean, M. Breton, P. Sirand-Pugnet, F. Tardy, F. Thiaucourt, C. Citti, A. Barré, S. Yoshizawa, D. Fourmy, V. de Crécy-Lagard, A. Blanchard**
- P2** The identity elements for aminoacylation of metazoan mitochondrial tRNA<sup>Arg</sup> have been widely conserved throughout evolution  
**Gabor L. Igloi, Anne-Katrin Leisinger**
- P3** A comprehensive evolutionary analysis uncovers an unexpected complexity of tRNA modifications in yeast  
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