



II EDITION

# CADMIUM SYMPOSIUM 2015

INTERNATIONAL  
CADMIUM SYMPOSIUM

JUNE, 25-27 2015

CONFERENCE ROOM OF ERSU  
VIA COPPINO N.18  
SASSARI, ITALY

**Dear Friend and Colleague,**  
**It's a great pleasure to welcome you to the**  
**"II Cadmium Symposium 2015".**

**Cadmium** is a heavy metal with a high toxicity. It is toxic at very low dose and it has acute and chronic effects on human health and a high impact on environment.

**The meeting**, that will include a wide spectrum of presentation covering the main aspects of cadmium biology as well as its clinical implications, is divided into four main sessions: Cadmium and Environment, Cadmium and Cell Biology, Cadmium and Diseases, Cadmium and Agronomics, Botany and Veterinary.

**Participants** will have the opportunity to exchange ideas with worldwide experts in the field and highly distinguished international speakers from different scientific areas related to biological and medical aspects.

**The University of Sassari** is a small but prestigious University which in 2012 celebrated 450 years since its foundation.

The University was founded by Alessio Fontana, member of Imperial Chancellery of Emperor Charles V and a distinguished gentleman of the town of Sassari in 1558.

**Sassari** is located in the northwest of Sardinia, a region rich in natural and cultural attractions, with old traditions, beautiful sceneries and excellent cuisine.

The area offers many itineraries to people interested in archeology, art, history, wine and food.

The weather in late Spring is usually very pleasant climate, an ideal time to visit one of the most beautiful location in the Mediterranean.

**We hope that you will enjoy the Symposium**  
**and have a good time in Sardinia.**

Yours sincerely,  
**Roberto Madeddu**  
*Chairman*

**DEPARTMENT OF BIOMEDICAL SCIENCES – HISTOLOGY**  
**UNIVERSITY OF SASSARI**

**INTERUNIVERSITY CONSORTIUM OF STRUCTURAL  
AND SYSTEMS BIOLOGY**  
**I.N.B.B. ROMA**

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## THURSDAY, JUNE 25

- 14.30-15.15 **Registration**
- 15.15-15.30 **Welcome Greetings**
- 15.30-15.40 **Open greetings**  
**Michael P. Walkees** *NIH, USA*
- 15.40-17.20 **CADMIUM AND ENVIRONMENT** 1<sup>st</sup> part  
*Co-Chairs* **Paolo Castiglia** | **Vesna Matović**
- 15.40-16.00 Associations between Cadmium exposure and risk of chronic diseases: Results from large population-based studies in Sweden  
**Agneta Åkesson** *Karolinska Institute, Sweden*  
Discussion
- 16.00-16.20 Combination of Cadmium and high cholesterol levels as a risk factor for hearth fibrosis  
**Barbara Messner** *Medical University of Wien, Austria*
- 16.30-16.50 Dietary Cadmium intake and breast cancer risk: a meta-analysis of longitudinal studies and results of the ORDET study  
**Marco Vinceti** *University of Modena-Reggio, Italy*
- 16.50-17.10 Puberty onset, oxidative stress and DNA repair and detoxification gene expression in adolescents exposed to Cadmium and living in the Milazzo, Valle del Mela area (Sicily, Italy)  
**Francesco Squadrito** *University of Messina, Italy*  
Discussion
- 17.20-17.40 **Coffee break**
- 17.40-19.20 **CADMIUM AND ENVIRONMENT** 2<sup>nd</sup> part  
*Co-Chairs* **Andrea Montella** | **Claudia Blindauer**
- 17.40-18.00 Cadmium, Van Gogh and the European REACH regulation  
**Simon Franz-Georg** *BAM Federal Institute for Materials Research, Berlin, Germany*
- 18.00-18.20 Geo-chemistry of Cadmium in Sardinia: regional scale studies  
**Alessandro Sanna** *University of Cagliari, Italy*  
Discussion
- 18.30-18.50 Metabolic adaptation to exercise and minerals loss in athletes  
**Michael Kalinski** *Murray State University, KY, USA*
- 18.50-19.10 Dietary exposure to Cadmium and risk of breast cancer among postmenopausal women: a systematic review and meta-analysis  
**Geneviève Van Maele-Fabry** *Université Catholique de Louvain, Brussels, Belgium*  
Discussion

## FRIDAY, JUNE 26

- 8.40-11.10 **CADMIUM AND CELL BIOLOGY** 1<sup>st</sup> part  
*Co-Chairs* **Vincenza Bianchi** | **Jean Marc Moulis**
- 8.40-9.00 Can metallothioneins display metal specificity?  
**Claudia Blindauer** *University of Warwick, UK*
- 9.00-9.20 The environmental pollutant Cadmium alters human osteoblasts homeostasis in vitro by alteration of wnt/ $\beta$ -catenin pathway  
**Roberto Scandurra** *Sapienza - University of Rome, Italy*  
*Discussion*
- 9.30-9.50 Spatio-temporal dynamics of acid sphingomyelinase in life-death decisions of renal proximal tubule cells exposed to Cadmium  
**Wing-Kee Lee** *Memorial Sloan Kettering Cancer Center New York, USA and Witten/Herdecke University, Germany*
- 9.50-10.10 Interference by Cadmium with the cellular response to DNA damage: Impact on redox regulation and gene expression profiles  
**Andrea Hartwig** *Karlsruher Institut für Technologie (KIT), Germany*  
*Discussion*
- 10.20-10.40 Cadmium interference with ERK1/2 and AhR signaling cascades without evidence for cross-talk  
**Catherine Jumarie** *University Québec à Montréal, Canada*
- 10.40-11.00 Roles of glutathione and mitochondria in acute defense and adaptation to Cadmium-induced oxidative stress and toxicity of the kidney proximal tubule in vitro and in vivo  
**Frank Thévenod** *Witten/Herdecke University, Germany*  
*Discussion*
- 11.10-11.30 **Coffee break**
- 11.30-12.00 **Opening ceremony and greetings authorities**
- 12.00-13.00 **PANEL DISCUSSION**  
*Moderator* **Simona De Francisci** *Journalist*  
*Speakers* **Agneta Åkesson** | **Mario De Tullio** | **Andrea Hartwig** | **Roberto Madeddu** | **Marco Vinceti**
- 13.00-14.00 **Lunch**
- 14.00-15.20 **POSTER SESSION**

## FRIDAY, JUNE 26

- 15.00-16.15 **CADMIUM AND CELL BIOLOGY** 2<sup>nd</sup> part  
*Co-Chairs* **Roberto Scandurra** | **Catherine Ju-  
marie**
- 15.00-15.20 Prolonged Cd and PCBs co-exposure and thyroid  
function in rats: Is the liver relevant point of their  
interactions?  
**Vesna Matović** *University of Belgrado, Serbia*
- 15.20-15.40 The mammalian metabolism of Cadmium: dynamic  
and structural aspects  
**Juergen Gailer** *University of Calgary, Canada*
- 15.40-16.00 Chemical imaging and overall assessment of Cad-  
mium distribution in the human body  
**David Bernhard** *Innsbruck University, Austria*  
Discussion
- 16.15-19.20 **CADMIUM AND DISEASES**  
*Co-Chairs* **Salvatore Dessoie** | **Frank Thévenod**
- 16.15-16.35 The protection of Selenium against Cadmium toxic-  
ity in chicken lymphocytes via selenoproteins and  
heat shock proteins  
**Wen-chao Zhao** *Northeast Agricultural University of  
Harbin, China*
- 16.35-16.55 Immunotoxicology of Cadmium: insight from acute  
intraperitoneal and intermediate period of oral ex-  
posure of rats  
**Milena Kataranovski** *University of Belgrade, Serbia*  
Discussion
- 17.10-17.30 **Coffee break**
- 17.30-17.50 Impact of persistent low-level Cadmium exposure  
on pancreatic beta-cells  
**Jean-Marc Moulis** *University Grenoble Alpes, France*
- 17.50-18.10 Chronic Cadmium exposure in rats produces pan-  
creatic impairment and insulin resistance in multi-  
ple peripheral tissues  
**Eduardo Brambila** *University of Puebla, Mexico*  
Discussion
- 18.20-18.40 Cadmium, atherosclerosis and cardiovascular dise-  
ases  
**Lars Barregard** *University of Gothenburg and Sahlg-  
renska University Hospital, Sweden*
- 18.40-19.00 Age-related accumulation of Cadmium in retinal tis-  
sues: implications for AMD, a major form of blind-  
ness  
**Alex Langford-Smith** *University of Manchester, UK*
- 19.00-19.20 Cadmium and Fever  
**Michele Malaguarnera** *University of Catania, Italy*  
Discussion
- 21.00 **Social dinner—RISTORANTE “L’ASSASSINO”**  
SASSARI

## SATURDAY, JUNE 27

- 9.00-10.40 **CADMIUM AND AGRONOMICS, BOTANY AND VETERINARY 1st part**  
*Co-Chairs Maria Grazia Cappai | Juergen Gailer*
- 9.00-9.20 Toxic effects of Cadmium on reproductive function in chicken  
**Zi-wei Zhang** *Northeast Agricultural University of Harbin, China*
- 9.20-9.40 Cadmium minimization in rice grain – Phytomanagement  
**Narasimha Majeti** *Varaprasad University of Hyderabad, India*  
Discussion
- 9.50-10.10 Cadmium accumulation and effects in two important crop plants for human consumption (tobacco and carrot)  
**Luigi Sanità di Toppi** *University of Parma, Italy*
- 10.10-10.30 Molecular dissection of Cd tolerance and accumulation in “normal” plants and Cd hyperaccumulators  
Stephan Clemens Bayreuth University, Germany  
Discussion
- 10.40-11.00 **Coffee break**
- 11.00-13.00 **CADMIUM AND AGRONOMICS, BOTANY AND VETERINARY 2nd part**  
*Co-Chairs Luigi Sanità di Toppi | Stephan Clemens*
- 11.00-11.20 Cadmium in honey production: an overview on a possible marker for sustainability  
**Maria Grazia Cappai** *University of Sassari, Italy*
- 11.20-11.40 Effects of Cadmium in Apis Mellifera: possible role in hive collapse  
**Panagios Polikretis** *University of Florence, Italy*  
Discussion
- 11.50-12.10 The mechanism of chicken embryo neuron apoptosis induced by Cadmium chloride in vitro  
**Guangliang Shi** *Northeast Agricultural University of Harbin, China*
- 12.10-12.30 Cadmium and horses: past studies and future perspectives  
**Joana Nery** *University of Torino, Italy*  
Discussion
- 12.45 **CLOSING REMARKS**
- 15.00-23.30 **Excursion to Alghero**

## POSTER SESSION

1-4

### **P-1 \_ Sources of Cadmium exposure in an Italian population: a cross-sectional study**

Tommaso Filippini<sup>1</sup>, Andrea Cherubini<sup>2</sup>, Salvatore Greco<sup>2</sup>, Giuseppe Maffei<sup>2</sup>, Carlotta Malagoli<sup>1</sup>, Ilaria Bottecchi<sup>1</sup>, Marcella Malavolti<sup>1</sup>, Sabina Sieri<sup>3</sup>, Vittorio Krogh<sup>3</sup>, Luciano Vescovi<sup>4</sup>, Marina Modenesi<sup>4</sup>, Paolo Castiglia<sup>5</sup>, Bernard Michalke<sup>6</sup> and Marco Vinceti<sup>1</sup>

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<sup>6</sup>*Research Unit Analytical BioGeoChemistry, Helmholtz Zentrum München – German Research Center for Environmental Health GmbH, Munich, Germany*

### **P-2 \_ Cadmium in food chain: Potential hazard to human health and experimental models**

Rodrigo Paula Leite<sup>1</sup>, Fernanda Ramos Gadelha<sup>2</sup>, Luís Henrique Gonzaga Ribeiro<sup>2</sup>, Mary Anne Heidi Dolder<sup>1</sup>

<sup>1</sup>*Department of Structural and Functional Biology, State University of Campinas, Campinas, São Paulo, Brazil*

<sup>2</sup>*Department of Biochemistry, Institute of Biology, State University of Campinas, Campinas, São Paulo, Brazil*

### **P-3 \_ Cadmium dietary intake in a Northern Italy population**

Marcella Malavolti<sup>1</sup>, Carlotta Malagoli<sup>1</sup>, Ilaria Bottecchi<sup>1</sup>, Luciano Vescovi<sup>2</sup>, Sabina Sieri<sup>3</sup>, Vittorio Krogh<sup>3</sup>, Marina Modenesi<sup>2</sup>, Marco Vinceti<sup>1</sup>

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### **P-4 \_ Correlation between Cadmium and selenium blood levels in an Italian population**

Tommaso Filippini<sup>1</sup>, Simone Storani<sup>1</sup>, Carlotta Malagoli<sup>1</sup>, Elisa Arcolin<sup>1</sup>, Laura Iacuzio<sup>1</sup>, Paolo Castiglia<sup>2</sup>, Bernard Michalke<sup>3</sup>, Marco Vinceti<sup>1</sup>

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## POSTER SESSION

### 5-9

#### **P-5 \_ Selenium counteracts Cadmium toxicity in human neurons**

Jacopo Junio Valerio Branca, Stefania Pacini, Massimo Gulisano, Gabriele Morucci

*Department of Experimental and Clinical Medicine, University of Florence, Florence, Italy*

#### **P-6 \_ The Interactions of Inorganic Cadmium with Biomimetic Membranes and its effect on membrane fluidity**

Evan Kerek, Mohamed Hassanin, Elmar Prenner

*Department of Biological Sciences, University of Calgary, Calgary, Canada*

#### **P-7 \_ Effect of low level Cd exposure on glucose homeostasis and $\beta$ cells function**

Adeline Jacquet<sup>1-2</sup>, Julien Saint Amand<sup>1-2</sup>, Marine Lenon<sup>1-2</sup>, Y Arroudj<sup>1-2</sup>, Josiane Arnaud<sup>1-2-3</sup>, Isabelle Hininger-Favier<sup>1-2</sup>, Mireille Osman<sup>1-2</sup>, Kelly Couturier<sup>1-2</sup>, Serge Bottari<sup>1-2-3</sup>, Eric Fontaine<sup>1-2-3</sup>, Jean-Marc Moulis<sup>1-2-4</sup>, Christine Demeilliers<sup>1-2</sup>

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<sup>3</sup>*University Hospital, Grenoble, France*

<sup>4</sup>*CEA-DSV-iRTSV, Grenoble, France*

#### **P-8 \_ Cadmium Toxicity, Biomarkers, and Related Tests**

Gianpaolo Guzzi<sup>1</sup>, Anna Ronchi<sup>2</sup>, Valentina Rossi<sup>1</sup>, Roberto Madeddu<sup>3</sup>, Paolo Daniele Pigatto<sup>4</sup>

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<sup>4</sup>*Department of Biomedical, Surgical and Dental Sciences, Unit of Oral Pathology and Medicine, IRCCS Galeazzi Hospital, University of Milan, Milan, Italy*

#### **P-9 \_ Cadmium and other neurotoxic metals in Amyotrophic Lateral Sclerosis (ALS): a population-based case-control study**

Riccardo Oggiano<sup>1</sup>, Beatrice Bocca<sup>2</sup>, Giovanni Forte<sup>2</sup>, Simonetta Clemente<sup>3</sup>, Yolande Asara<sup>1-4</sup>, Angela Peruzzu<sup>1</sup>, Cristiano Farace<sup>1</sup>, Maria Alessandra Sotgiu<sup>7</sup>, Salvatore Pala<sup>5</sup>, Alessandro Giuseppe Fois<sup>6</sup>, Pietro Pirina<sup>6</sup>, Roberto Madeddu<sup>1-4</sup>

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<sup>5</sup>*Ozieri Hospital, Ozieri, Italy*

<sup>6</sup>*Institute of Respiratory Diseases, Department of Clinical and Experimental Medicine, University of Sassari, Sassari, Italy*

<sup>7</sup>*Department of Biomedical Sciences – Anatomy, University of Sassari, Sassari, Italy*

## POSTER SESSION

### 10-13

#### **P-10 \_ Assessment of Cadmium levels in serum, toe-nails and diet: A cross sectional study in Modena, Northern Italy**

Tommaso Filippini<sup>1</sup>, Ilaria Bottecchi<sup>1</sup>, Arcolin Elisa<sup>1</sup>, Laura Iacuzio<sup>1</sup>, Carlotta Malagoli<sup>1</sup>, Luciano Vescovi<sup>2</sup>, Angela Ferrari<sup>1</sup>, Antonio Martino<sup>1</sup>, Marcella Malavolti<sup>1</sup>, Lucia Cavazzuti<sup>3</sup>, Sabina Sieri<sup>4</sup>, Vittorio Krogh<sup>4</sup>, Bernard Michalke<sup>5</sup>, Marco Vinceti<sup>1</sup>

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<sup>5</sup>*Research Unit Analytical BioGeoChemistry, Helmholtz Zentrum München – German Research Center for Environmental Health GmbH, Munich, Germany*

#### **P-11 \_ Lipid profile, glycaemic control and correlation with heavy metals in patients with type 1 diabetes mellitus in northern Sardinia, Italy**

Angela Peruzzu<sup>1</sup>, Giuliana Solinas<sup>1</sup>, Yolande Asara<sup>1</sup>, Giovanni Forte<sup>2</sup>, Beatrice Bocca<sup>2</sup>, Francesco Tolu<sup>3</sup>, Lucia Malaguarnera<sup>4</sup>, Andrea Montella<sup>1</sup>, Roberto Madeddu<sup>1,+5</sup>

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<sup>3</sup>*University Hospital, Unit of Endocrinology, Sassari, Italy*

<sup>4</sup>*University of Catania, Department of Biomedical Sciences, Catania, Italy*

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#### **P-12 \_ Influence of metals in rinosinusal polyposis, ultrastructural studies**

Yolande Asara<sup>1-4</sup>, Andrea Melis<sup>2</sup>, Laura De Luca<sup>2</sup>, Corrado Bozzo<sup>2</sup>, Giannina Chessa<sup>3</sup>, Patrizia Piras<sup>3</sup>, Angela Peruzzu<sup>1</sup>, Riccardo Oggianno<sup>1</sup>, Cristiano Farace<sup>1</sup>, Apostolos Karligkiotis<sup>2</sup>, Pasquale Bandiera<sup>1</sup>, Francesco Meloni<sup>2</sup>, Roberto Madeddu<sup>1-4</sup>

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<sup>4</sup>*INBB - National Institute of Biostructures and Biosystems, Rome, Italy*

#### **P-13 \_ Immunotoxic Effects Induced by Intra-Oral Cadmium**

Paolo Daniele Pigatto<sup>1</sup>, Anna Ronchi<sup>2</sup>, Lucia Brambilla<sup>3</sup>, Silvia Ferrucci<sup>3</sup>, Roberto Madeddu<sup>4</sup>, Gianpaolo Guzzi<sup>5</sup>

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## POSTER SESSION

### 14-18

#### **P-14 \_ Salivary Cadmium Levels and Dental Alloys Materials**

Gianpaolo Guzzi<sup>1</sup>, Anna Ronchi<sup>2</sup>, Francesco Spadari<sup>3</sup>, Gianpaolo Bombeccari<sup>3</sup>, Roberto Madeddu<sup>4</sup>, Paolo Daniele Pigatto<sup>5</sup>

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#### **P-15 \_ Chelation therapy: evaluation of the coordination ability of bis-kojic and hydroxypyridinone derivative ligands towards Cd(II) ions via NMR spectroscopy**

Massimiliano Peana<sup>1</sup>, Serenella Medici<sup>1</sup>, Joanna Izabela Lachowicz<sup>2</sup>, Valeria Marina Nurchi<sup>2</sup>, Guido Crisponi<sup>2</sup>, Giuseppe Puccio<sup>1</sup>, Maria Antonietta Zoroddu<sup>1</sup>

<sup>1</sup>*Department of Chemistry & Pharmacy, University of Sassari, Sassari, Italy*

<sup>2</sup>*Department of Geological and Chemical Sciences, University of Cagliari, Cagliari, Italy*

#### **P-16 \_ Effect of acanthopanax senticosus on the accumulation of Cadmium and on the immune response of spleen cells**

Alina Smalinskiene, Nijole Savickiene, Virgilijus Zitkevicius, Vaiva Lesauskaite, Dalia Pangonyte, Ilona Sadauskiene, Leonid Ivanov  
*Lithuanian University of Health Sciences, Medical Academy, Kaunas, Lithuania*

#### **P-17 \_ Consumption of grape juice concentrate (G8000®) protects the liver against Cadmium intoxication in the male rat; an ultrastructural analysis**

Celina de Almeida Lamas, Bruna Fontana Thomazini, Mary Anne Heidi Dolder

*Department of Structural and Functional Biology, State University of Campinas, Campinas, São Paulo, Brazil*

#### **P-18 \_ Association of Cadmium and Ilex paraguariensis (St. Hill) infusion: effect on Wistar rat testis**

I B Reis<sup>1</sup>, M. D Santos<sup>2</sup>, Juliana Castro Monteiro<sup>3</sup>, Mary Anne Heidi Dolder<sup>1</sup>

<sup>1</sup>*Biology Institute, State University of Campinas, São Paulo, Brazil*

<sup>2</sup>*Department of Health Sciences, Federal University of Espírito Santo, Brazil*

<sup>3</sup>*Department of Agricultural and Biological Sciences, Federal University of Espírito Santo, Brazil*

## POSTER SESSION

### 19-25

#### **P-19 \_ Flavocoxid protects against Cadmium-induced disruption of the blood-testis barrier and improves testicular damage and germ cell impairment in mice**

Letteria Minutoli, Antonio Micali, Antonina Pisani, Domenico Puzolo, Alessandra Bitto, Mariagrazia Rinaldi, Gabriele Pizzino, Natasha Irrera, Federica Galfo, Giovanni Pallio, Anna Mecchio, Herbert Marini, Francesco Squadrito, Domenica Altavilla

*Department of Clinical and Experimental Medicine, University of Messina, Messina, Italy*

#### **P-20 \_ Cadmium intoxication on the 21st post natal day: rat testis and epididymis ultrastructural analysis in adulthood**

Mary Anne Heidi Dolder<sup>1</sup>, Gliceria do Nascimento Silva<sup>2</sup>, Nayla Karoliny Arantes da Conceição<sup>2</sup>, Maria Aparecida da Silva Diamante<sup>1</sup>, Celina Almeida Lamas<sup>1</sup> and Fabrícia de Souza Predes<sup>2</sup>

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<sup>2</sup>*Department of Biological Sciences, State University of Paraná, Paraná, Brazil*

#### **P-21 \_ Copper in liver and kidney of rats exposed to Cadmium - benchmark approach**

Zorica Bulat<sup>1</sup>, Marijana Ćurčić<sup>1</sup>, Saša Janković<sup>2</sup>, Aleksandra Buha<sup>1</sup>, Danijela Đukić-Ćosić<sup>1</sup>, Vesna Matović<sup>1</sup>, Biljana Antonijević<sup>1</sup>

<sup>1</sup>*Department of Toxicology "Akademik Danilo Soldatović", University of Belgrade-Faculty of Pharmacy, Belgrade, Serbia*

<sup>2</sup>*Institute of Meat Hygiene and Technology, Belgrade, Serbia*

#### **P-22 \_ Chronic Cadmium Exposure leads to Inhibition of Serum and Hepatic Alkaline Phosphatase activity in Wistar Rats**

Samuel Treviño, Patricia Aguilar-Alonso, Bertha León-Chavez and Eduardo Brambila

*Benemérita Universidad Autónoma de Puebla, Mexico*

#### **P-23 \_ Morphological aspects of the renal damage induced by Cadmium in experimental animals**

Pasquale Bandiera, Alessio Pirino, Vittorio Mazzarello, Maria Alessandra Sotgiu, Yolande Asara, Roberto Madeddu, Andrea Montella

*Department of Biomedical Sciences, University of Sassari, Italy*

#### **P-24 \_ Cadmium levels in liver and kidney of sheep kept on pastures without and with flooding**

Petra Wolf<sup>1</sup>, Maria Grazia Cappai<sup>2</sup>

<sup>1</sup>*Institute of Animal Nutrition, University of Veterinary Medicine Hannover, Germany*

<sup>2</sup>*Research Unit of Animal Breeding Sciences, Department of Agricultural Sciences, University of Sassari, Italy*

#### **P-25 \_ The beehive matrices to study heavy metal pollution: a case of study in a post-mining area (Sardinia, Italy)**

Alberto Satta, Franco Buffa, Ignazio Floris

*Dipartimento di Agraria, Sezione di Patologia vegetale ed Entomologia, Università di Sassari*

## POSTER SESSION

### 26-31

#### **P-26 \_ Cadmium levels and evaluation of the dietary intake of mediterranean mussel (*mytilus galloprovincialis*) and oysters (*ostrea edulis*) from southern and northern farming areas along the croatian coast of the adriatic sea**

Nina Bilandžić<sup>1</sup>, Marija Sedak<sup>1</sup>, Bruno Čalopek<sup>1</sup>, Snježana Zrnčić<sup>2</sup>, Dražen Oraić<sup>2</sup>, Natalija Đafić<sup>3</sup>, Dijana Mišetić Ostojić<sup>3</sup>, Tanja Bogdanović<sup>4</sup>, Sandra Petričević<sup>4</sup>, Ivana Ujević<sup>5</sup>

<sup>1</sup>Laboratory for Residue Control, Department of Veterinary Public Health, Croatian Veterinary Institute, Zagreb, Croatia

<sup>2</sup>Laboratory for Fish Pathology, Department for Pathology, Croatian Veterinary Institute, Zagreb, Croatia

<sup>3</sup>Croatian Veterinary Institute, Regional Veterinary Institute Rijeka, Rijeka, Croatia

<sup>4</sup>Croatian Veterinary Institute, Regional Veterinary Institute Split, Split, Croatia

<sup>5</sup>Institute for Oceanography and Fisheries, Split, Croatia

#### **P-27 \_ Survey of Cadmium levels in cephalopods (*Octopus vulgaris*, *Sepia officinalis*, *Loligo vulgaris* and *Todarodes sagittatus*) purchased in Sardinia in the period 2008-2014**

Giannina Chessa<sup>1</sup>, Pierluigi Piras<sup>2</sup>, Maurizio Cossu<sup>1</sup>, Gianuario Fiori<sup>1</sup>, Ledda Giuseppe<sup>1</sup>, Andrea Sanna<sup>1</sup>, Angela Peruzzu<sup>1</sup>, Patrizia Piras<sup>1</sup>

<sup>1</sup>Istituto Zooprofilattico Sperimentale della Sardegna. Laboratorio di Chimica Ambientale e Tossicologia, Sassari, Italy

<sup>2</sup>Azienda Sanitaria Locale n. 7, Carbonia, Italy

#### **P-28 \_ Morphological effects of Cd on the green algae *Chaetomorpha linum***

Mario De Tullio

University of Bari, Italy

#### **P-29 \_ Investigations on the Cadmium content of different seeds and fruits from bushes and trees in nutrition of exotic animals**

Petra Wolf<sup>1,2</sup>, Maria Grazia Cappai<sup>3</sup>, Josef Kamphues<sup>1</sup>

<sup>1</sup>Institute of Animal Nutrition, University of Veterinary Medicine, Hannover, Germany

<sup>2</sup>Institute of Animal Nutrition, University of Rostock, Rostock, Germany

<sup>3</sup>Research Unit of Animal Breeding Sciences, University of Sassari, Sassari, Italy

#### **P-30 \_ Cadmium in Sardinian pastureland vegetation, feed grains, organic and conventional wheat**

Francesca Serrallutzu, Simona Virdis, Giovanna Piluzza, Giovanni Antonio Re, Leonardo Sulas, Simonetta Bullitta

ISPAAM-CNR, Sassari, Italy

#### **P-31 \_ Cadmium affects root formation and development by altering auxin transport and accumulation**

Laura Fattorini<sup>1</sup>, D. Piacentini<sup>1</sup>, Ilaria Buran<sup>1</sup>, Letizia Zanella<sup>1</sup>, Federica Della Rovere<sup>1</sup>, Marilena Ronzan<sup>1</sup>, Luigi Sanità di Toppi<sup>2</sup>, Adriano Sofo<sup>3</sup>, Maria Maddalena Altamura<sup>1</sup> and Giuseppina Falasca<sup>1</sup>

<sup>1</sup>Department of Environmental Biology, Sapienza University of Rome, Rome, Italy

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<sup>3</sup>School of Agricultural, Forestry, Food and Environmental Sciences (SAFE), University of Basilicata, Potenza, Italy

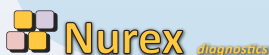
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