



SOCIETÀ CHIMICA ITALIANA

DIVISIONE DI SPETTROMETRIA DI MASSA

<http://www.soc.chim.it/divisioni/sdmassa/home>

DSM Speciale GIOVANI:

lavori in corso

Posizioni aperte riguardanti la spettrometria di massa

1) Elenco Idonei Istituto Zooprofilattico Lombardia e Emilia Romagna

AVVISO DI SELEZIONE PUBBLICA PER LA FORMAZIONE DI UN ELENCO DI IDONEI PER IL CONFERIMENTO DI BORSE DI STUDIO RISERVATE A PERSONE IN POSSESSO DELLA LAUREA MAGISTRALE IN SCIENZE CHIMICHE (CLASSE LM 54) O LAUREA SPECIALISTICA IN SCIENZE CHIMICHE (CLASSE 62/S) O DIPLOMA DI LAUREA IN CHIMICA V.O., O LAUREA MAGISTRALE IN FARMACIA E FARMACIA INDUSTRIALE (CLASSE LM 13) O LAUREA SPECIALISTICA IN FARMACIA E FARMACIA INDUSTRIALE (CLASSE 14/S) O DIPLOMA DI LAUREA IN CHIMICA E TECNOLOGIE FARMACEUTICHE O CHIMICA E TECNOLOGIA FARMACEUTICHE V.O., O LAUREA MAGISTRALE IN SCIENZE E TECNOLOGIE DELLA CHIMICA INDUSTRIALE (CLASSE LM 71) O LAUREA SPECIALISTICA IN SCIENZE E TECNOLOGIE DELLA CHIMICA INDUSTRIALE (CLASSE 81/S) O DIPLOMA DI LAUREA IN CHIMICA INDUSTRIALE V.O. DA FRUIRE PRESSO LA SEDE DI BRESCIA E LE SEZIONI DELLA LOMBARDIA E DELLEMILIA ROMAGNA.

Info: http://www.izsler.it/pls/izs_bs/v3_s2ew_consultazione.mostra_pagina?id_pagina=2391

2) Dottorato in Scienze Veterinarie e dell'Allevamento

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Consiglio Direttivo

Giorgio Mellerio (Vice Presidente), Beppe Avellone, Gianluca Bartolucci, Giuliana Bianco, Donatella Caruso, Vincenzo Cunsolo, Roberta Galarini, Fulvio Magni, Michele Suman

Research Title: Residues of organoalogenated emerging pollutants with endocrine disrupting activity : a major issue for the safety of foods of animal origin.

Abstract: In recent years, there is an emphasis on the so-called emerging pollutants, such as drugs, hormones, and chemicals, many of which are household use.

Today, the "emerging" substances are especially studied as regards control their emissions, and - where possible – their removal from the environment. (rif. Ist. Mario Negri-Mi)

The PhD fellow will carry out a research aimed to evaluate the safety of food of animal origin: the presence of environmental contaminants will be investigated along the whole food chain, checking meat, fish, feed and materials, the animals are in contact with (soil etc). In particular, the main provided actions are: (a) survey on the production chain (feed industry, farms, authorized abattoirs); (b) collection of samples (milk, forages, supplements, meat and soil) that will be analyzed for the c) identification of the presence of chemical pollutants. Will be considered organochlorine pesticides, fungicides and PCBs, as well as emerging pollutants with endocrine disrupting activity (e. g. Polybrominated biphenyl ethers (PBDE), perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA)), and multiple residue of pesticides.

A Lombard hospital will be involved in the project and, in order to assess the level of contamination of the food chains, also the breast milk will be analyzed: considering in fact the physic-chemical characteristics of this matrix, both lipophilic and hydrophilic pollutants.

From the experimental data and from the information about the diet of patients, pollution levels will be obtained regarding foods of animal origin and consequently the most contaminated ones; considered that the central objective of food safety policy is to achieve the highest levels of consumer health protection in relation to food products, both national production and those from geographical areas at greatest health risk will be checked.

The method used for extraction and analysis of these compounds includes, e.g. a superfine grinding extraction (SGE), different clean up and purification methods and GC tandem mass spectrometry or LC tandem mass spectrometry.

3) Dottorato in Scienze Veterinarie e dell'Allevamento

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Research Title

The origin of the presence of pseudoendogenous steroids in the biological matrices indicated by the EU regulations or novel matrices.

State of the Art of the research

The debate about the origins of some steroids in biological matrices from bovine, horse or swine, has lasted nearly two decades in Europe. Despite the use as growth promoters was banned in the EU since 1981, the detection in urine of anabolic steroids or of corticosteroids, termed pseudoendogenous (i.e. produced by the animals under certain circumstances like stress), is considered fully compliant if particular metabolites are found and/or cut levels are not overlapped. International literature about this topic is not so profuse: however, some hypotheses are reported. The first, made by a British scientist states: "who is to say that as analytical limits decrease, (particular steroids) will not be discovered as endogenous at a lower concentration?". Others, more particularly, suggested the presence of β -boldenone sulphate in bovine urine as a proof of illicit treatment where the α -conjugates, up to 4 ng/mL, are not, while β -boldenone glucuronide presence is controversial. 6β -hydroxy-17 α -bold and 5 α -androst-1-ene-3 α -ol-17-one glucuronides, too, are suspected to be parameters of an illicit treatment. Prednisolone was demonstrated to be produced by cattle under stress conditions, was found in 612 out of 780 racehorse urine samples at concentrations around 1ngmL⁻¹, in all urine samples of 34 untreated human volunteers of both genders and, finally, a possible ex vivo neo-formation in human and in bovine urine and faeces was demonstrated. Recently, its natural presence in complementary feedstuff, due to a probable microbiological activity, was shown. The research about prednisolone conducted in Department of Health, Animal Science and Food Safety contributed to the fact that the European Reference Laboratory (Rikilt-Wageningen, The Netherlands) set a cut off level of 5 ng/mL for the presence of

prednisolone in bovine urine.

Aims of the project:

The research will be so addressed: a) the identification of metabolites of steroids that, without any doubt, can indicate the treatment with the prohibited or regulated substance; b) similarly, the validity of the parameters up to now suggested by different European researchers will be evaluated on a significant number of animals; c) different matrices will be examined in order to indicate the most suitable for the detected analyte; d) the research of the precursor will be made through in vitro studies on the matrices. Due to the extremely dynamic nature of the topic, other substances, different from the steroids, could be included in the research; in fact at the moment also thiouracil or zeranol, can be termed pseudoendogenous.

4) Borsa Giovani promettenti

Tutor: Prof. Donatella Caruso

L'ambito di ricerca riguarda il ruolo dei lipidi (acidi grassi, fosfolipidi, steroidi ecc.) nelle malattie neurodegenerative, quali diabete. Si richiede un candidato/a che abbia conoscenze di base di spettrometria di massa. Per informazioni più dettagliate rivolgersi o scrivere a

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5) Mass Spectrometry Expert Competitive Salary & Performance Bonus



Milan, Italy

GEOLOG is an independent and privately owned international oilfield services company with Headquarters in Europe and operations in over 45 countries. The Company delivers field based solutions for the improvement of exploration, reservoir evaluation and drilling effectiveness. www.geolog.com

THE POSITION

Due to our increasing operations, GEOLOG is now looking for a Mass Spectrometry Expert for mud logging activities and gas and light hydrocarbon analyses both at rig site and in the laboratory to support the central team in Milan, Italy.

REQUIREMENTS

- MSc Degree in Chemical Engineering, Chemistry or Geology
 - Alternatively, a BSc degree with a minimum of 2 years working experience will be considered
 - For non-geologist an intensive geology training program is envisaged
- Hands on experience with GC and GCMS
- Hands on experience in analytical instrumentation, including operation and troubleshooting
- Ability to design and execute methods for chemical analysis
- Ability to perform QC activities
- Thorough understanding of chromatography and mass spectrometry
- Team player with strong communication and interpersonal skills
- Able to work in a team of hardware and software engineers, application chemists and geologists
- Excellent oral and written English communication skills.

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S.E.&O.