



24/01/2011

INFLAME Kick-off meeting - Birmingham

VITO ESR 9

Stefan Voorspoels & Guy Vanermen

ESR 9 - Non-invasive bio-monitoring and exposure assessment of flame retardant chemicals

» Objective

The development and validation of non-invasive methods for the monitoring of human body burdens; exploration of the utility of non-invasive matrices like hair, saliva, nails and urine as biomarkers of internal exposure to flame retardants (FR)



ESR 9 - Non-invasive bio-monitoring and exposure assessment of flame retardant chemicals

Global work program

- » Literature study:
 - » non-invasive methods for POPs
 - » analytical techniques for the determination of brominated and non-brominated flame retardants and their metabolites
- » Definition of target FR (common and novel) and metabolites; prediction of possible metabolites
- » Comparison of detection techniques and selection of most appropriate technique(s) based on LOD, selectivity, reproducibility, ease of operation and cost:

GC-(EI)MS	GC-(EI)HRMS	GC-(CI)MS	GCXGC-MS
GC-MS/MS	LC-(ESI)MS/MS	LC-(APCI)MS/MS	
LC-(APPI)MS/MS	LC-ICP-MS		

ESR 9 - Non-invasive bio-monitoring and exposure assessment of flame retardant chemicals

- » Development of suitable analytical procedures for the determination of the target compounds in non-invasive matrices:
 - » Extraction procedures (PLE, Soxhlet, USE, ...)
 - » Clean up procedures (SPE, column chromatography, GPC, liquid/liquid partition ...)
 - » Derivatisation procedures (optional for metabolites)
- » Implementation/development of suitable analytical procedures for the determination of the target compounds in serum – cfr NIPH
- » Determination of the overall method performance (on the basis of real samples, reference materials, matrix addition experiments):
- » Assessment of the utility of non-invasive biomonitoring: comparison of non-invasive and invasive analytical data (based on limited scale monitoring of laboratory volunteers)

ESR 9 - Non-invasive bio-monitoring and exposure assessment of flame retardant chemicals

- » Monitoring of FR in non-invasive human samples collected from mothers and children in Norway
- » Results
 - » Validated analytical procedures for the assessment of the degree of exposure to FR by means of non-invasive monitoring
 - » Case study: exposure results for a limited population in Norway and comparison between non-invasive and invasive biomonitoring

Recruitment @ VITO

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My EURAXESS

Early Stage Researcher (ESR) – emission and exposure assessment of flame retardant chemicals

A 3 year PhD position is offered in the framework of the FP7 Marie Curie ITN network 'Indoor Contamination with Flame Retardant Chemicals: Causes and Impacts' (INFLAME). The appointee would register for a PhD degree. The main research goal of INFLAME is to further understanding of how and to what extent flame retardant chemicals migrate from products into the environment. The main research objectives are to discover:

- (1) the mechanisms via which FRs migrate from products into the environment;
- (2) how and to what extent such migration leads to human exposure; and
- (3) the effects of such exposure.

Description

In this particular project, focus will be put on treated goods. The successful applicant will be involved in a project involving mostly training through research (FP7) emission factors from treated goods. A 3 year PhD position is offered in the framework of the FP7 Marie Curie ITN network 'Indoor Contamination with Flame Retardant Chemicals: Causes and Impacts' (INFLAME). The appointee would register for a PhD degree. The main research goal of INFLAME is to further understanding of how and to what extent flame retardant chemicals migrate from products into the environment. The main research objectives are to discover:

- (1) the mechanisms via which FRs migrate from products into the environment;
- (2) how and to what extent such migration leads to human exposure; and
- (3) the effects of such exposure.

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Doctorate @ VITO

Following doctorates in the context of European projects are available:

- Emission and exposure assessment of flame retardant chemicals
Education: Master in Chemical or Biological sciences or similar
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- Development of non-invasive bio-monitoring techniques and exposure assessment of flame retardant chemicals
Education: Master in Chemistry, Biological Sciences or equivalent
[More info](#)
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My EURAXESS

Early Stage Researcher (ESR) – non-invasive bio-monitoring and exposure assessment of flame retardant chemicals

A 3 year position is offered in the framework of the FP7 Marie Curie Initial Training Network (ITN) 'Indoor Contamination with Flame Retardant Chemicals: Causes and Impacts' (INFLAME). The appointee would register for a PhD degree. The main research goal of INFLAME is to further understanding of how and to what extent flame retardant chemicals migrate from products into the environment. The main research objectives are to discover:

- (1) the mechanisms via which FRs migrate from products into the environment;
- (2) how and to what extent such migration leads to human exposure; and
- (3) the effects of such exposure.

Description

In this particular project, focus will be put on developing non-invasive methods for monitoring human body burdens. The successful applicant will be enrolled as an early stage researcher (ESR) in the INFLAME project involving mostly training through research. The ESR will focus on the development of non-invasive methods for monitoring human body burdens. The main aim is to explore the utility of non-invasive matrices like hair, saliva, and urine as biomarkers of internal exposure to FRs. Close collaboration with other consortium partners will provide additional training in sampling and preparation for analysis of such

Other job details

Job ID: 33618650

Type of Contract: Temporary

Status: Full-time

Hours Per Week: 40

Company/Institute: Flemish Institute for Technological Research (VITO)

Country: BELGIUM

Community Language: Flemish

City: Mol

FP7 / PEOPLE / MarieCurie Actions

Recruitment @ VITO

- » Vijayakumar – 31/08/10
- » Tutino – 01/09/10
- » Pato – 02/09/10
- » Chenna – 06/09/10
- » Pas Leiza – 06/09/10
- » Negro – 08/09/10
- » Izak – 09/09/10
- » Jagiello – 09/09/10
- » Ernst – 09/09/10
- » Singh – 10/09/10
- » Pokhrel – 15/09/10
- » Karatliev – 26/09/10
- » Gonzalez – 30/09/10
- » Conesa – 03/10/10
- » Ertekin – 04/10/10
- » Garcia – 06/10/10
- » Chinjenge – 06/10/10
- » Moola – 10/10/10
- » Usachova – 12/10/10
- » Woldemariam – 22/10/10
- » Saounde – 24/10/10
- » Ye – 27/10/2010
- » Khan – 07/11/10
- » Cvejin – 09/11/10
- » Kucharska – 20/11/10
- » Cassidy – 21/11/10
- » Bodla – 23/11/10
- » Abdelhakem – 23/11/10
- » Yu – 30/11/10
- » Khan – 07/12/10
- » Shanmugam – 13/12/10
- » Rodosthenous – 23/12/10
- » Pradeep Babu – 25/12/10
- » Gopal – 27/12/10
- » Cequier – 01/01/11
- » Rafiq – 05/01/11
- » Caras Altas – 11/01/11

Recruitment @ VITO

- » Candidates were asked to send in:
 - » their CV
 - » a motivation letter
 - » 2 reference letters
 - » apply on-line on the VITO website
- » After eligibility check and 1st screening project outlines were asked
- » ESR 9: 5 candidates were interviewed (Skype):
Agnieszka Kucharska (PL) – Ozlem Ertekin (TR) – Natalija Usachova (LV) –
Enrique Cequier (ES) – Aleksandra Cvejin (RS)
- » ESR 4: Interviews are planned for the coming weeks

