Developmental neurotoxicity assessment of mixtures in children

DENAMIC

Contract Nr. 186/23.10.2012. Acest proiect este finantat 25% de catre Unitatea Executiva pentru Finantarea Invatamantului Superior, a Cercetarii, Dezvoltarii si Inovarii si 75% de catre Comisia Europeana program FP7.

Project Leader (PL) FROM INCEMC:
CSI Dr. Raluca-Ioana van Staden

PL's Project Laboratory:
Laboratory of Eectrochemistry and PATLAB Bucharest

PL's Host Institution for the project: National Institute of Research and Development for Electrochemistry and Condensed Matter (INCDEMC), Timisoara

Project duration in months: 48 months (2012-2015)
Project budget: 70000EURO

Website of the project at EC: http://www.denamic-project.eu/

Grant agreement no: 282957

THEME [ENV.2011.1.2.2-1] [Combined exposures to environmental agents: integrated approaches to evaluate environment-health relationships in children]

Project Summary

Various recent epidemiological studies have indicated that exposure to low doses of environmental biologically active contaminants during human development can alter gene expression and have deleterious effects on cognitive development in childhood. The DENAMIC project is ultimately focused on reducing such effects of environmental contamination on learning and developmental disorders in children. It aims to study and evaluate environment-health relationships in children. Key elements are: development of sophisticated tools and methods for early warning and screening of compounds for neurotoxicity, to study mechanisms of disease development and the role of individual susceptibility, to improve assessment of exposures and effects, focus on combined exposures to environmental agents that can interact to enhance adverse effects and reduction of health inequalities of children through Europe. One of the main aims of DENAMIC is to develop tools and methods for neurotoxic effects of mixtures of environmental pollutants at low levels, possibly resulting in (subclinical) effects on learning (cognitive skills) and developmental disorders in children (e.g ADHD, autism spectrum disorders and anxiety disorders). A broad suite of contaminants will be included in the studies, with options to bring in new chemicals in case evidence comes up during the project. With 14 partners from ten different countries DENAMIC has a true international character. It is a comprehensive, multi-disciplinary project. Six SME’s will play a key role in the development of biotechnological screening tools. The most modern techniques in the fields of genomics, proteomics, metabolomics and transcriptomics will be applied. Dissemination will ensure the project results to arrive at policymakers' desks, and will also illustrate the subject for a scientific audience and the public. The very large network of the consortium ensures dissemination to European industries, and every other interested stakeholder.

Team Members

Name	Role in the project
Raluca-Ioana van Staden, PhD, CSI	Project leader
Jacobus Frederick van Staden, DSc, Prof., CSI	Principal researcher
Iuliana Moldoveanu, MSc	PhD student

Contribution of the team to the project:

WP2, WP3, WP4, Dissemination. Creation of new fast screening tools for specific biomarkers.

Dissemination

Papers published:

1. **Flow-injection analysis systems with different detection devices and other related techniques for the in vivo and in vitro determination of dopamine as neurotransmitter. A review.**
   J.F. van Staden and R.I. Stefan-van Staden.
   Talanta, 102 (2012) 34-43. http://dx.doi.org/10.1016/j.talanta.2012.05.017

TEMPLATE A2 LIST OF DISSEMINATION ACTIVITIES

NO.	Type of activities[1]	Title[2]	Main leader(s)	Date[3]	Place[4]	Type of audience[4]	Size of audience[5]	Countries addressed[6]
1	Conference	221st ECS Meeting	Raluca-Ioana van Staden	6-10 May 2012	Seattle, USA	Scientific Community, ECS (USA)	500	USA, Europe, Asia
2	Conference	4th EuCheMS Chemistry Congress	Raluca-Ioana van Staden, Iuliana Moldoveanu, Jacobus Frederick van Staden	26-30 August 2012	Prague, Czech Republic	Scientific Community, EuCheMS	500	Europe, USA, Asia
3	Invention Salon	5th International Invention Fair in the Middle East	Raluca –Ioana van Staden, Jacobus Frederick van Staden	19-22 November 2012	Kuwait, Kuweit	General Public	500	Arab States/Middle East, Europe, America
4	Workshop	12th National Seminar of Nanoscience and Nanotechnology	Iuliana Moldoveanu, Raluca-Ioana van Staden, Jacobus Frederick van Staden	16 May 2013	Romanian Academy, Bucharest, Romania	Scientific Community	100	Romania