

Project information

Keywords

organic contaminants, silicone wristbands, human exposure

Project title

CONTEXT - assessing CONTaminant EXposure in school children using novel and noninvasive wrisTbands

Year

2017

Project leader

Linda Hanssen (NILU)

Geographical localization of the research project in decimal degrees (max 5 per project, ex. 70,662°N and 23,707°E)

69,649°N and 18,955°E (Tromsø county)

Participants

Torkjel Sandanger, NILU/UiT; torkjel.sandanger@nilu.no (TSA)
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Flagship

Hazardous Substances

Funding Source

Fram Centre flagship for Hazardous Substances

Summary of Results

Cut in budget changed the original aim. Instead of using wristbands to assess contaminant exposure in school children we chose to test them out on adults. The wristbands was received a bit late, however when they arrived they were pre-cleaned and ready to be deployed.

10 adults used the wristbands continuously for two weeks. The wristbands are stored in airtight plastic bags and are going to be analysed for organic contaminants during november/december 2017.

As an additional dimension to the project, NILU use internal funding to include indoor air sampling and analysis of these samples in some of the houses to the participants.

Combining results from indoor air and wristbands will provide supplementary information about human exposure to contaminants and be of great value for new research proposals.

Master and PhD-students involved in the project

None

For the Management

Wristbands offer novel non-invasive and cost efficient tools for the assessment of children's exposure to contaminants that also can trigger engagement of the public and represent an ethically sound alternative sampling method for research of children as it avoids the use of blood samples.

We chose to first test them on adults to get the first hand experience of wearing them continuously for a longer period of time.

Combining results from indoor air and wristbands will provide supplementary information about human exposure to contaminants.

Published Results/Planned Publications

None

Communicated Results

None

Interdisciplinary Cooperation

Cut in costs and delayed delivery of wristbands led to a change of plans with respect to interdisciplinary cooperation. If this project is to be continued according to the original plan, the partners will definitely be of importance.

Could results from the project be subject for any commercial utilization

No

Conclusions

The results from this project are of importance since it could be a complementary method of measuring human exposure. Using wristbands are non-invasive and do not require a lot of infrastructure with respect to storing, compared to blood samples. However there are limitations with these kind of wristbands with respect to type of compounds that can be measured.

Combining results from indoor air and wristbands will provide supplementary information about human exposure to contaminants.