**Project consortium SmartAQnet – Aerosol Akademie**

# Newsletter SmartAQnet

**February 2018**

# Newsletter Feb 18
# Smart Air Quality Network

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## Aerosol Akademie

<u>WP 5: Data oriented dissemination and application</u>

- Partner Aerosol Akademie is currently and ongoing working on amendments / improvements of the homepage. The improvements will be implemented continuously.
- There is a little delay with the English version of our homepage. But AA is working hard on it in order to publish it as soon as possible
- Stefan Hinterreiter submitted a paper for the "AGIT Symposium 2018" (Salzburg, Austria) with all colleagues as co-authors. The publication will be uploaded to the GIT within the next days.

<u>Further information</u>

The AA is now available under a new telephone number:
- +49 (0) 8654 / 779669-0 → Central office (Christa Schmidt)
- +49 (0) 8654 / 779669-1 → Hans Grimm
- +49 (0) 8654 / 779669-2 → Stefan Hinterreiter

## GRIMM

<u>WP 5: Data oriented dissemination and application</u>

Volker Ziegler (GRIMM) has submitted an abstract for an oral presentation at IAC 2018 in St. Louis (USA). The abstract has been uploaded on the repository AP5.

## Helmholtz – CMA

## Helmholtz – EPI II

<u>Further information</u>

Dr. Michal Kowalski joined the team and is from 1$^{st}$ of February on part of the research group of Josef Cyrys. Michal Kowalski and Josef Cyrys took part at two Task Force Meetings at Augsburg

## KIT/IMK-IFU

WP 3: Data aggregation and analyses

- Meeting about traffic loop counting with Robert Hösle and Markus Furnier at Tiefbauamt Augsburg together with Andreas Philipp, Thomas Gratza and Klaus Schäfer on 09 January 2018 (summary available).
- Discussion about heating emission data availability with Robert Kunde from ZAE Bayern in Garching
- Phone conference on 24 January 2018 with Till Riedel, Josef Cyrys, Andreas Philipp, Erik Petersen, Johanna Redelstein, Johannes Werhahn, Ulrich Uhrner (TUG) and Klaus Schäfer to get an overview about current information of traffic loop counting data as well as working plans to use and analyse these data at all partners (summary available). Decision to organise a workshop of the task force Data Provisioning on 06 February 2018 in Augsburg to find solutions that all partners can continue in their working plans on the basis of the data of the Tiefbauamt Augsburg (agenda available).

WP 5: Data oriented dissemination and application

Paper for the proceedings of the GUS-Jahrestagung in Karlsruhe from 21th to 23th March 2018 submitted (in German). Further paper submitted by the Aristotle University Thessaloniki about joint small-scale modelling of spatial/temporal distributions of air pollutants in Augsburg.

## KIT-TECO

WP 5: Data oriented dissemination and application

- Abstract submitted at GI Forum: Learning of Sensorqualities in Kriging using Genetic Algorithm.
- 2 Abstracts submitted at DUST:
  - SmartAQnet (all partners as Co-Authors)
  - Low-cost PM Sensing with SDS011 (Local Paper at Leipzig)

Further information



Matthias Budde successfully defended his PhD thesis on "Distributed, Low-Cost, Non-Expert Fine Dust Sensing with Smartphones". **Congrats!**

In his work, he developed systems for detecting fine dust with smartphones (dedicated platforms with low-cost sensors and novel clip-on hardware), algorithms for signal processing and distributed privacy-preserving calibration, as well as insights into the design of the Human-Computer-Interaction (HCI) in smartphone-based environmental sensing and Gamification approaches to guide the measurement process

Simon from the team at KIT took part in the Hackathon of the Stuttgarter Zeitung. He came back with lots of ideas and interesting questions on the Big Data Analysis of low-cost particulate matter sensors. The hackathon was organized as part of the Feinstaub Radar Project (https://www.stuttgarter-zeitung.de/feinstaub) that is done with the OK Labs in Stuttgart. The project is experimenting with ultra-low cost sensors that are installed by citizens. We hope that SmartAQnet can also bring some insights on the general usability of such noisy data sources in and better data processing capabilities to such projects in the near future. We will for sure stay in contact.

## Uni Augsburg

WP 1: Data mining/Campaigns

- The first prototype for a bike holder for mounting the Alphasense OPC-N2 and a digital sensor for temperature and humidity (Almemo FHAD46-C2, Ahlborn) was build.
- The third LOAC was put into operation as part of the comparative measurement at the aerosol measuring station at Augsburg University of Applied Sciences. We are still working on the wrong timestamp.
- Before we start with the bicycle measurements all Alphasense OPC-N2 should take part of the comparative measurement at the aerosol measuring station at Augsburg University of Applied Sciences at least some days for all individual devices, while the principal characteristics of the model is covered by comparisons over the near three-months period of comparison measurements. In order to improve the ventilation of the OPCs we created a new housing on a tripod stand.
- A sensorbox with meteorological measuring instruments was developed for the DJI-M600pro multicopter, as well as a mounting plate for the Alphasense OPC-N2. Both were tested at IOP3 in Berlin as part of the project "Urban Climate Under Change". First experiences with longer measuring flights by copters were made. After these tests, improvements to the ventilation of the sensors will be made.
- The X6 and X9 fixed-wing UAS will be constructed February/March 2018. The integration of the Alphasense and LOAC devices is a primary goal.
- The F2F task force meeting Network Planning is organised and takes place on 30.01.2018 at University of Augsburg as well as the task force meeting for standard operation procedures.
- For better measurements with the SODAR-RASS, some trees were cut down in the area, however replacement of the device still has to be done.

WP 3: Data collection/Devices

- A workshop for data retrieval for an emission inventory will be held at the University of Augsburg on Tuesday 6th of February.