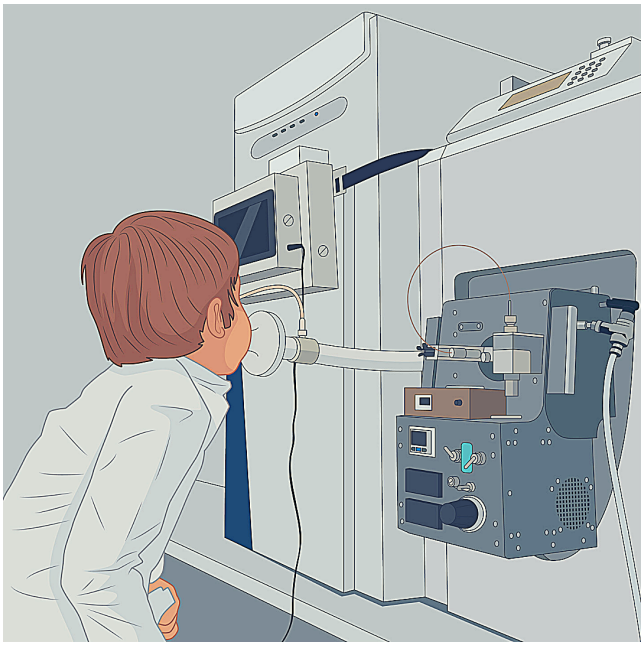
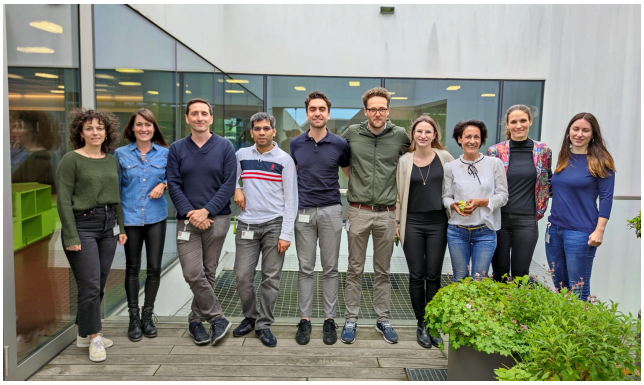
University of Basel

Department of Biomedical Engineering

Translational Medicine Breath Research



Real-time breath analysis platform at the lab. (Picture: Translational Medicine Breath Research)



Translational Medicine Breath Research group at the University Children's Hospital Basel (UKBB). (Picture: Translational Medicine Breath Research)

Breath is a diagnostically underexploited body fluid, which contains valuable bio-chemical information about health status. For example, the sense of smell was used by clinicians in ancient Greece and China to retrieve information about their patients. However, nowadays very few diagnostic tests rely on expired breath. We work to reverse this situation by uncapping the full potential that breath analysis holds as a non-invasive method to assist in clinical decision making (1). To achieve this goal, we use modern analytical platforms combined with sophisticated computational tools.

The Translational Medicine Breath Research group is part of the University of Basel (Dept. of Biomedical Engineering) and is located at the University Children's Hospital Basel (UKBB). It was established in June 2017 and is led by Prof. Dr. Pablo Sinues (Botnar Professor).
Our mission is to develop novel diagnostic methods, with a special focus on breath analysis, which holds a great potential as a non-invasive method to assist in clinical decision making.
Our vision is to improve disease diagnosis, to better characterize complex pathophysiological processes, as well as to personalize therapy. Our primary research lines include rapid diagnosis of pneumonia and therapeutic drug monitoring guided by breath analysis.

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Funding:

FNSNF Swiss National Science Foundation

fondation BOTNAR

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References:
(1) Singh, K. D.; Del Miguel, G. V.; Gaugg, M. T.; Ibanez, A. J.; Zenobi, R.; Kohler, M.; Frey, U.; Sinues, P., Translating secondary electrospray ionization-high-resolution mass spectrometry to the clinical environment. *J. Breath Res.* **2018,** *12* (2), 027113.