MARKOPOLO

Grant agreement signature in progress

Noise and/or ultrafine particulate matter induced cerebral and cardiovascular damage: novel insights from experimental and epidemiological brain-heart axis biomarkers and computational models

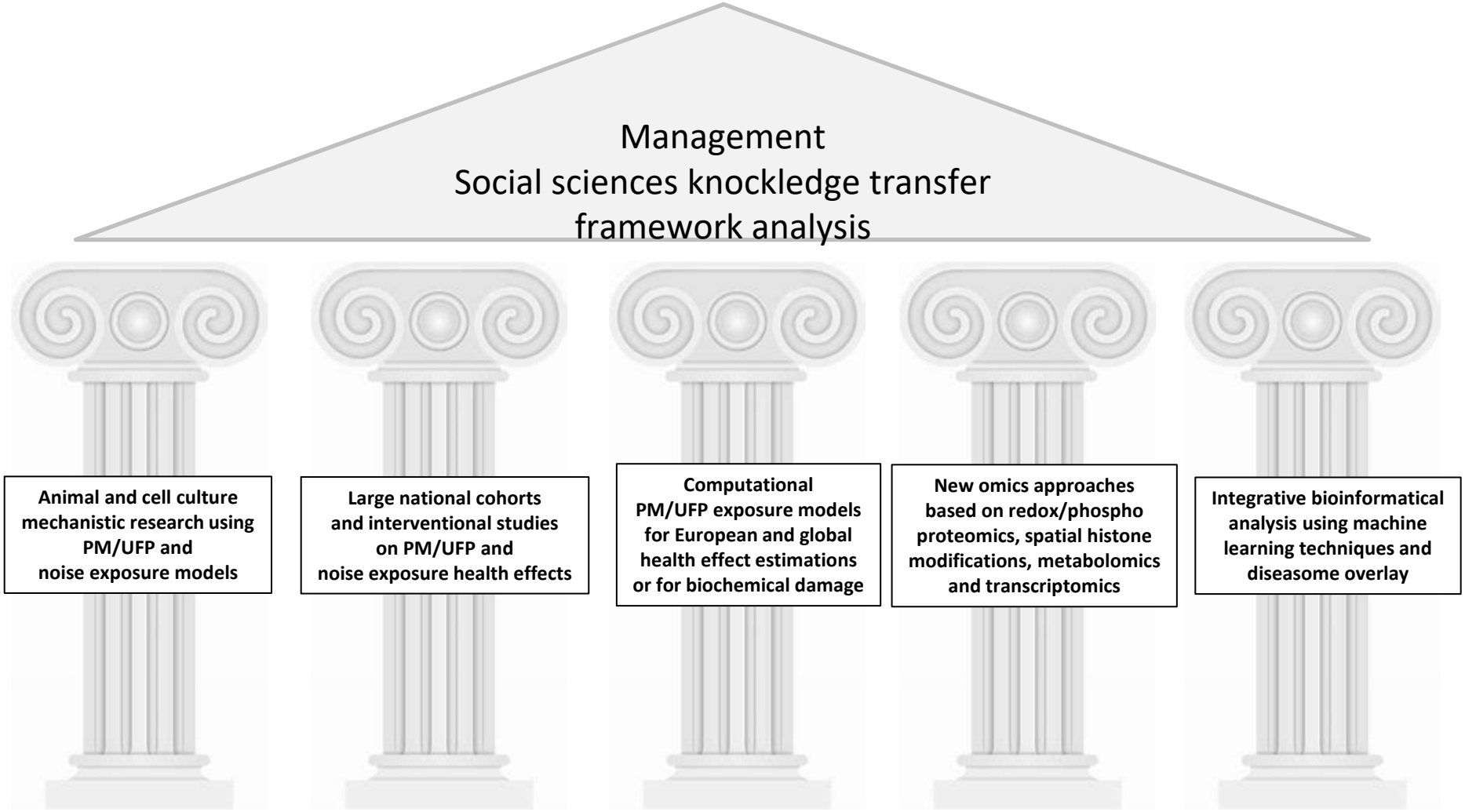
EU contribution: 8 Mio EUR
Swiss Funding: 1.3 Mio EUR

Coordinating

Katja Kanninen

Participant No.*	Participant organisation name	Country
1 UMC-Mainz	UNIVERSITAETSMEDIZIN DER JOHANNES GUTENBERG-UNIVERSITAET MAINZ	Germany
2 UNIPD	UNIVERSITA DEGLI STUDI DI PADOVA	Italy
3 MUSC	Medical University of South Carolina	United States
4 VMU	VYTAUTO DIDZIOJO UNIVERSITETAS	Lithuania
5 MFUB	FACULTY OF MEDICINE, UNIVERSITY OF BELGRADE	Serbia
6 VINS	INSTITUT ZA NUKLEARNE NAUKE VINCA INSTITUT OD NACIONALNOG ZNACAJA ZA REPUBLIKU SRBIJU, UNIVERZITET U BEGRADU	Serbia
7 CYI	THE CYPRUS INSTITUTE	Cyprus
8 concentris	CONCENTRIS RESEARCH MANAGEMENT GMBH	Germany
9 MPI-C	MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN EV	Germany
10 LNS	LABORATOIRE NATIONAL DE SANTE	Luxembourg
11 LIH	LUXEMBOURG INSTITUTE OF HEALTH	Luxembourg
12 UEF	ITA-SUOMEN YLIOPISTO	Finland
13 JMU	JULIUS-MAXIMILIANS-UNIVERSITAT WURZBURG	Germany
14 SDU	SYDDANSK UNIVERSITET	Denmark
15 DCS	KRAEFTENS BEKAEMPELSE	Denmark
16 SWISS TPH (AP)	SCHWEIZERISCHES TROPEN UND PUBLIC HEALTH INSTITUT	Switzerland

Focus on multi-exposure effects
& vulnerable groups (elderly, patients with chronic NCDs)



Dissemination, exploitation, risk assessment
Improved information of policy makers – better knowledge transfer

DFG

DA 523/19-1 and GR 1240/26-1

Noise-exposure effects on prediabetes and obesity in mice

Funding: 0.5 Mio EUR

DIfE Deutsches Institut für Ernährungsforschung Potsdam - Rehbrücke

JG|U UNIVERSITÄTSmedizin. MAINZ
Zentrum für Kardiologie
Kardiologie I

Tilman Grune
German MC member
of BenBedPhar

Andreas Daiber
German MC member
of BenBedPhar

WP1 **Markers of preadiposity and prediabetes in wild type mice exposed to aircraft noise**

WP2 **Aircraft noise has a more pronounced negative effect in obese or type-2-diabetes animals**

WP3 **Aircraft noise develops its cardio-metabolic effects due to oxidative stress → Use of Nrf2 KO mice as a model**

WP4 **Prevention of aircraft noise derived cardio-metabolic effects by Nrf2 inducers in normal, obese and T2D-animals**

Hypothesis: Diet-derived Nrf2 inducers protect from aircraft noise induced cardio-metabolic changes

Mice	C57BL/6 (healthy)	C57BL/6 (healthy)+low dose Sulforaphane	C57BL/6 (healthy)+high dose Sulforaphane	Obese mice#	Obese mice+low dose Sulforaphane	Obese mice+high dose Sulforaphane
No noise exp.	20	-	-	20	-	-
4w noise exp.	20	20	20	20	20	20
Total	160					