

EU-forschungsförderung in den Lebenswissenschaften Informationsveranstaltung

Munich

15 May 2012



HelmholtzZentrum münchen
Deutsches Forschungszentrum für Gesundheit und Umwelt



Report from the Grassroots

Osborne Almeida



Max Planck Institute of Psychiatry, Munich

Something for everyone



Max Planck Institute of Psychiatry, Munich

Current FP7-funded projects



Gene x environment interactions in affective disorders: elucidating molecular mechanisms - Elisabeth Binder

Marie Curie Actions



Initial Training Network: **NINA**: *Neuroendocrine immune networks in ageing* - Osborne Almeida, Dietmar Spengler

Intra-European Fellowship: **ArcAbetaCognition**: *The functional significance of soluble amyloid β oligomers for learning and memory deficits in Alzheimer's disease* - Osborne Almeida, Carola Romberg



Intra-European Fellowship: **StressAbetaCascade**: *Stress cascades and Alzheimer's disease* - Osborne Almeida, Raul Delgado

Small or medium-scale focused research projects



DORIAN: *Developmental origins of healthy and unhealthy ageing: the role of maternal obesity* (€ 3 m, 10 partners, 6 countries) - Mathias Schmidt

SwitchBox: *Maintaining health in old age through homeostasis* – Osborne Almeida, Mayumi Kimura and Joseph Zihl (LMU) (€6 m, 7 partners, 6 countries)

Stay alert – opportunities to grab!

Let your NCP/institutional
EU Office help you!



ORIENTATION PAPER

prepared in connection with the FP7 2013 Work Programme in
the area of Health research

Important notice:

This paper is made public at an early stage in the adoption process of the work programme to provide potential applicants with the currently expected main lines of the 2013 work programme. It is a working document not yet endorsed by the Commission and its content does not in any way prejudice the subsequent modifications by the Commission, neither the subsequent formal opinion of the Programme Committee nor the final decision of the Commission. The final adoption and the publication of the later work programme by the Commission are expected in mid-July 2012 via

<http://ec.europa.eu/research/participants/portal/page/cooperation>. Only the adopted work programme will have legal value.

Information and topic descriptions indicated in this orientation paper may not appear in the final work programme; and likewise, new elements may be introduced at a later stage. No essential information, such as indicative budgets per call/area, will be provided by the Commission until the final work programme is adopted. Any such information disclosed by any other party shall not be construed as having been endorsed by or affiliated to the Commission.

The Commission expressly disclaims liability for any future changes of the content of this document.

Two health calls are proposed, following the two-stage procedure:

FP7-HEALTH-2013-INNOVATION-1 with 35 topics and
indicative deadline 02 October 2012

and

FP7-HEALTH-2012-INNOVATION-2 with 2 topics and
indicative deadline 25 September 2012

DRAFT VERSION 19 April 2012

WARNING: Not legally binding!

This is a draft working document, which can change at any time.

Innovative health research 2013 - working document, 19 April 2012, not legally binding

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WARNING: This is a working document, which can change until its publication. Applicants must refer only to the final published document.

Please consult the following web page for updates

http://ec.europa.eu/research/fp7/index_en.cfm?pg=health

and for the final publication: <http://ec.europa.eu/research/participants/portal/page/cooperation>

Hooray!
Something
for us!

Is this
really
for
me?

What does the want?

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HEALTH.2013.2.2.1-4: Patho-physiology and therapy of epilepsy and epileptiform disorders. FP7-HEALTH-2013-INNOVATION-1. Applicants are expected to use multidisciplinary strategies in support of basic, preclinical and/or clinical research on epilepsy and epileptiform disorders. The goal is to better understand the complex patho-physiology of epilepsy in order to develop novel preventative strategies in at-risk patients, improve diagnostic methods, achieve better patient stratification and put more effective therapeutics on the market. Research proposed may address key issues such as genomics of epilepsy and epileptiform disorders, mechanisms of ictogenesis and epileptogenesis, prevention of the development of epilepsy after potentially epileptogenic brain insults, mechanisms and/or epidemiology of refractory epilepsy, identification of age- and aetiology-specific drug targets for input in drug discovery process.

Note: Limits on the EU financial contribution will apply and will be implemented strictly as eligibility criterion.

Funding scheme: Collaborative Project (large-scale integrating project).

One or more proposals may be selected.

Expected impact: This theme is expected to improve our understanding of the aetiology and mechanisms of epilepsy and epileptiform disorders. It will also help preventing the development of the disease after potentially epileptogenic brain insults. The presence of SMEs will help translating the molecular and cellular targets identified in basic and clinical research into a rational drug discovery process.

Additional eligibility criteria:

1. The requested EU contribution per project shall not exceed EUR 12 000 000.
2. The estimated EU contribution going to SME(s) must be 15% or more of the total estimated EU contribution for the project as a whole. The SME status and the financial viability will be assessed at the end of the negotiation, before signature of the grant agreement.

Specified needs

but

sometimes vague

What to do?

- other's interpretations
- NCP/PO clarification

Check

- Expected impact

Observe

- Eligibility criteria!

Wow!
€€€€€

Decision time, consider carefully...

Motivation

- Not just the €€€€€€!*
- Science – focused
 - interactive
 - more productive, access to unique knowledge and tools
 - networking, visibility (*scientists are social animals, have egos!*)

EC's expectations?

- Keep to Call specifications
- Interactive, coherent, competitive
- Community benefits (citizens, economy)
- Accountability (Deliverables)

How far will 6 million € go?*

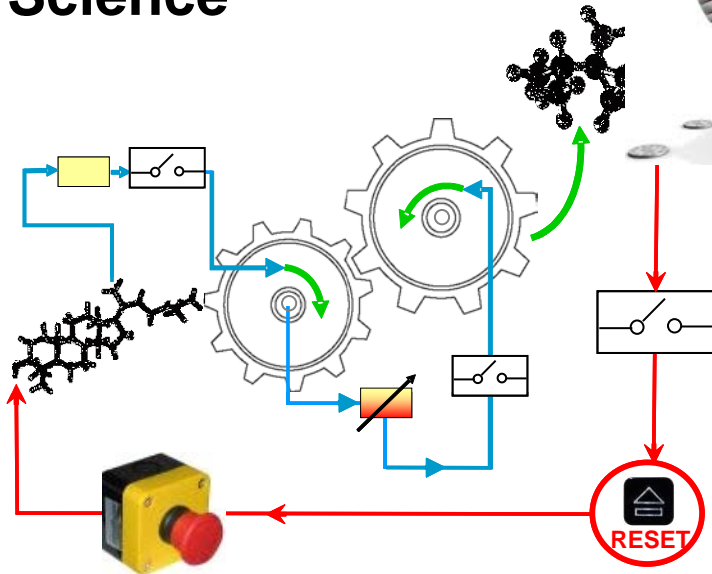
- Keep focus
- Select partners based on expertise and complementarity
- Salaries include employer contributions (5 year postdoc costs ~€ 300.000)
- Cost models and institutional overheads (up to 60%)
- Equipment (cost degression)



Understanding the basic machinery

Integrated Project

Science



Management



Monitors
Assessors

Programme
Officer



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Auditors

Coordinator

On your marks,



• Science

- take initiative
- scout for potential partners (literature, other EU projects)
- organize core group – *proactive, innovative, committed*
- schematize ideas/identify gaps (desirable partners)
- **early** “think tank” meeting (goals/partnership)
- **Coordinator**
 - committed • communications skills • time • consensus builder •
 - organizational skills • infrastructure support • decisive and effective •
 - responsive • understands research ethics, intellectual property rights,
 - translational issues • knows EU procedures (applicant, partner, reviewer)
- WorkPackage (WP) definitions and Leaders
- solicit additional partners (evaluate: **added value**, expectations, also €!)

• Management

- institutional vs. private sector (count as SME; reference projects?)
lucrative business (negotiate); no competing interests
- rapport with Coordinator, understand “scientists”
- familiarity with EU project rules, budgeting etc

• Stakeholders, advisors (can be done at later stages)

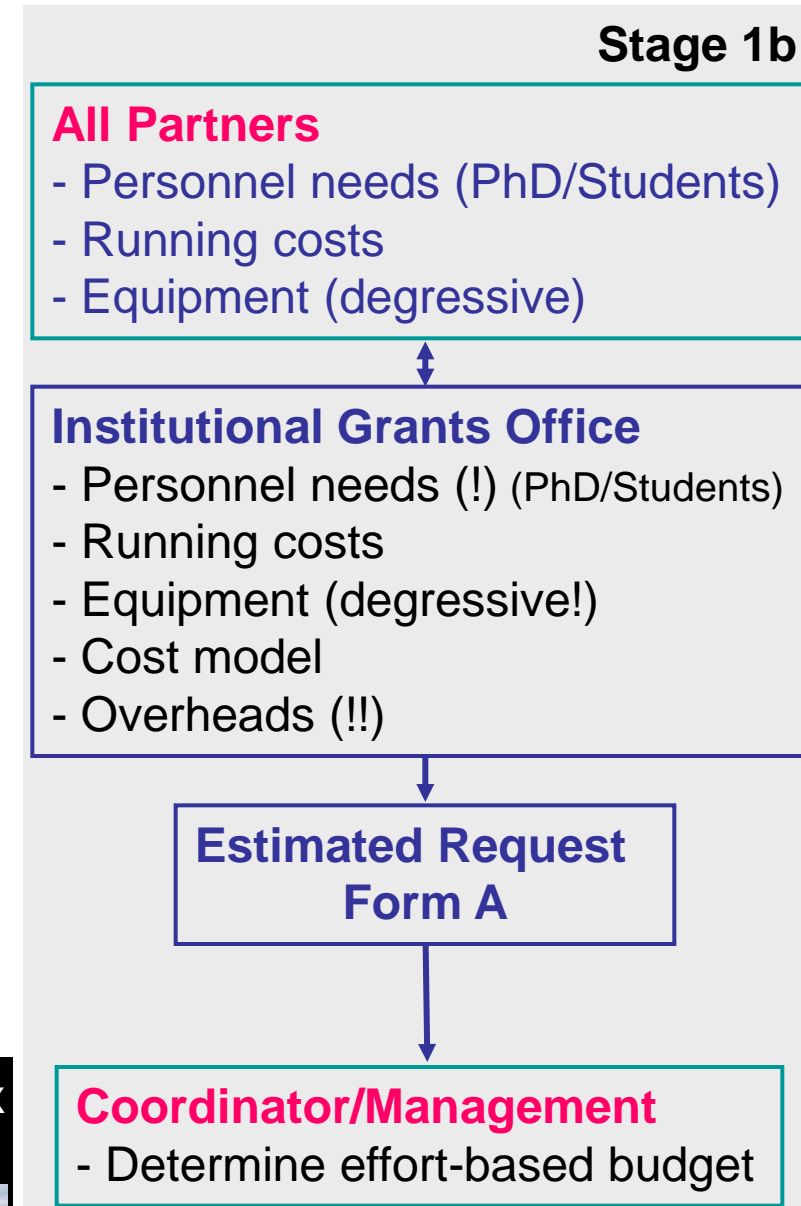
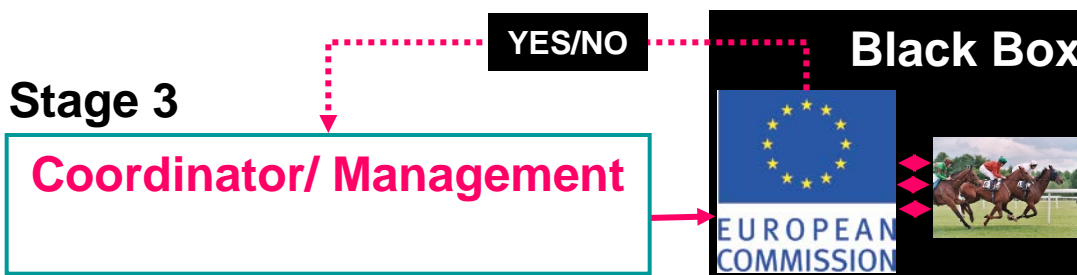
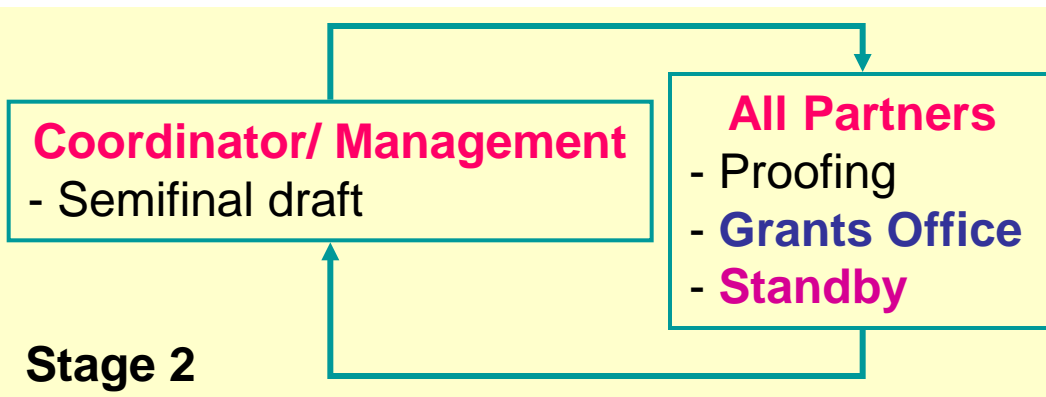
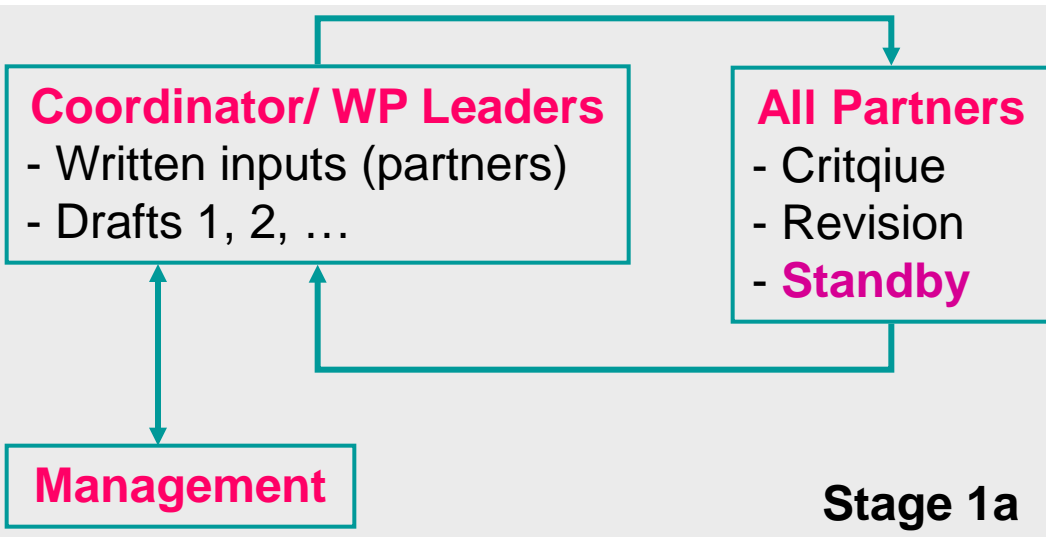
get set,



- **Pre-planning meeting** (core, potential partners)*
 - Coordinator's vision for project
 - Brief presentations of potential contributions
 - Focused discussion
 - Develop strategy
 - Management issues and Timeplan (respect Coordinator's commitments!) and assign/define individual responsibilities (WP Leaders, ethics, IPR, liaison with private sector, training, dissemination)
- **Post-Planning Meeting** (Coordination/Management Team)
 - adjust plans to ensure adherence to Call text, scrutinize/propose interactions, check for coherence (PERT chart!)
 - communicate with individual/ all partners
 - circulate pre-submission Gantt Chart (WP plans, complete with proposed *measurable* deliverables and milestones, decisions regarding
 - inform yourself EARLY about submission formalities (format, page limits, inclusion of Associated States, pre-registration etc)

* Funding planning meetings; partner expenses?

Go (avoid last minute)!



Writing the proposal – keep simple and clear

*The maximum page limits of each section must be respected. The Commission will instruct the independent external experts to disregard any pages in excess of these limits. A minimum **font size of 11** is required.*

- **Summary** (limited characters)
- **Concept and Project Objectives** (page limits)
attention to call text, rationale, references also White Papers etc; *illustrate*
- **Description of Work** (S/T Methodology)
 - very important **also** if you are successful, revisions in Technical Annex
 - WorkPackages
 - Specific Tasks and expected outcomes (Milestones, Deliverables)
 - INTEGRATION **within/between Partners and WorkPackages** (*Pert diagram*)
 - technical details, innovation
 - realistic Milestones, Measurable Deliverables (*Gantt chart*)
 - do Person Months add up? → budget

Equally essential (neglect → lose easy scores)

Coordinator: designate roles to individual partners with specific expertise

- **Implementation** (page limits)

- Management structure
 - Consortium Agreement (CA)
 - decision-making (Steering Committee/Governing Board, SAB)
 - internal communication, internal reviews/meetings
 - risk assessment and contingency plans
 - conflict resolution (CA)
 - individual partner profiles – appropriate fit: *expertise, infrastructure, patents, references*
 - consortium as a Whole (“***sum of the parts....***”)

- **Potential Impact** (page limits)

- Knowledge
- Products/economic potential
- Government/Consumers
- Knowledge dissemination (meetings, publications, training, public, stakeholders)
- Management of Foreground (knowledge, tools) and Intellectual Property

- **Ethical issues** (text/forms)

- International, European and National Codes/Laws (humans *and* animals)
- Genetically-modified organisms, human embryos/stem cells
- Safety provisions

- **Gender balance**



Switchbox



F – CNRS*

NL – LUMS

DE – MPG

PT – UMINHO

HU – HAS

DE – LMU





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Homeostasis in human development and its effects on lifespan

Longevity will be studied in terms of the capacity to ensure and maintain good homeostasis and networking between various body systems and functions, and of the entire organism. In addition ..., the project should consider external influences, e.g. lifestyle, environmental exposures.

Funding scheme: Collaborative project (Small/ medium-scale focused)

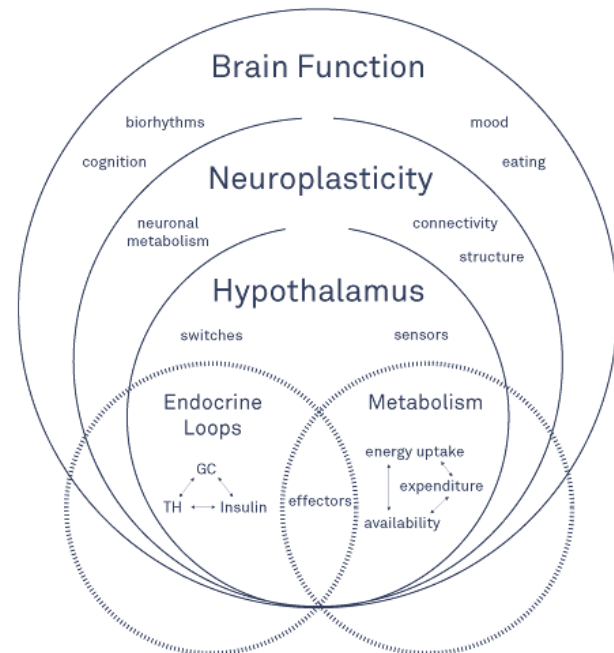
EC contribution: max. EUR 6 m; **one project** will be funded.

Expected impact: Maintaining a stable internal environment ...constant monitoring and adjustments as conditions change. Malfunctioning and failures of homeostatic balance → cellular malfunctions and disease ... well-being ... depends on well-being of all interacting body systems. Knowledge acquired in this area will pave the way to therapeutic interventions.



Switchbox

To promote health in old age by better understanding of body-brain-mind circuits.





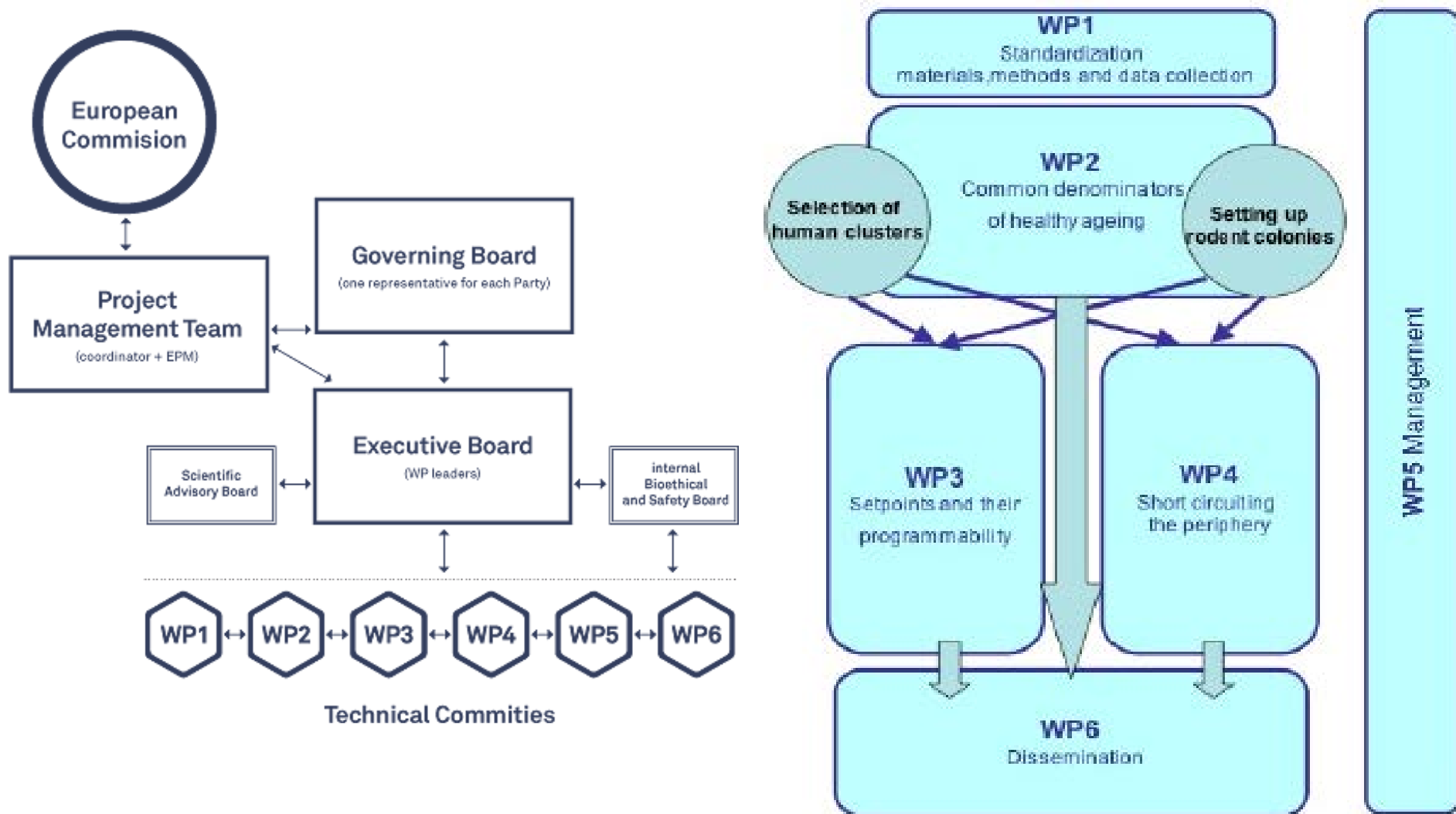
Switchbox

Abstract

Reaching goal→ Healthy aging requires maintenance of homeostatic control of the physiological systems and functions that are integrated by the hypothalamus. **Foreground**→ Driven by work in previous EU projects (Crescendo/Lifespan) highlighting insulin signalling and the hypothalamic/pituitary/adrenal and thyroid axes in the regulation of aging, **General approach**→ SWITCHBOX will examine the flexibility of these neuroendocrine systems in response to environmental challenges in three established human cohorts with variable aging potential. These human cohorts include offspring of exceptionally long-lived siblings and their partners (controls), people with good vs bad cognitive performance or with high vs low cognitive engagement. **Focus and justification** → Maintaining brain function is emphasised as it reflects an individual's overall well-being, a major goal in aging Research, and because age-related brain disorders represent a major socioeconomic burden. **Unique tools to understand processes/ mechanisms**→ To determine the genetic and cellular underpinnings of the findings in humans, hypothesis-based studies in rodents sharing phenotypes with the human cohorts will be carried out. To clarify the role of the brain in the differential regulation of endocrine axes critical for healthy aging, SWITCHBOX will examine the neuroendocrine and metabolic effects of intranasal (humans) and intracerebroventricular (rodents) administration of peptides involved in controlling metabolic homeostasis (e.g. insulin, α -MSH). State-of-the-art technology will be used to measure circadian endocrine and metabolic profiles, brain structure and function (fMRI) and cognitive performance, as well as cellular and molecular features. **Data analysis and dissemination**→ All data will be entered into an already operational 'open access' database. **Translation and integration of diverse expertise**→ The work is designed to be translational in nature and will benefit from combining expertise of gerontologists, endocrinologists, molecular and cellular neuroscientists and neuropsychologists. **Community benefits**→ SWITCHBOX ultimately aims to develop conceptually new approaches for the prevention and treatment of age-related disorder.



Switchbox

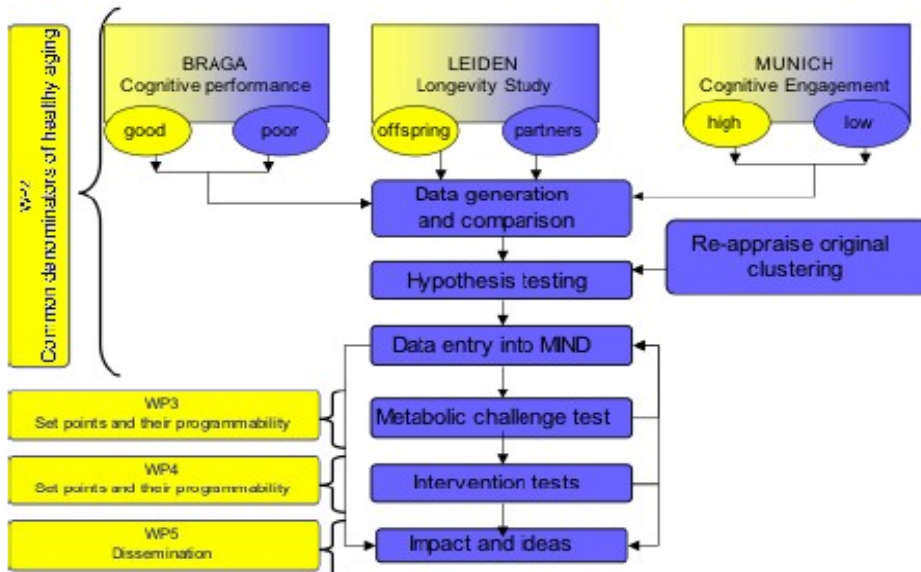




Switchbox

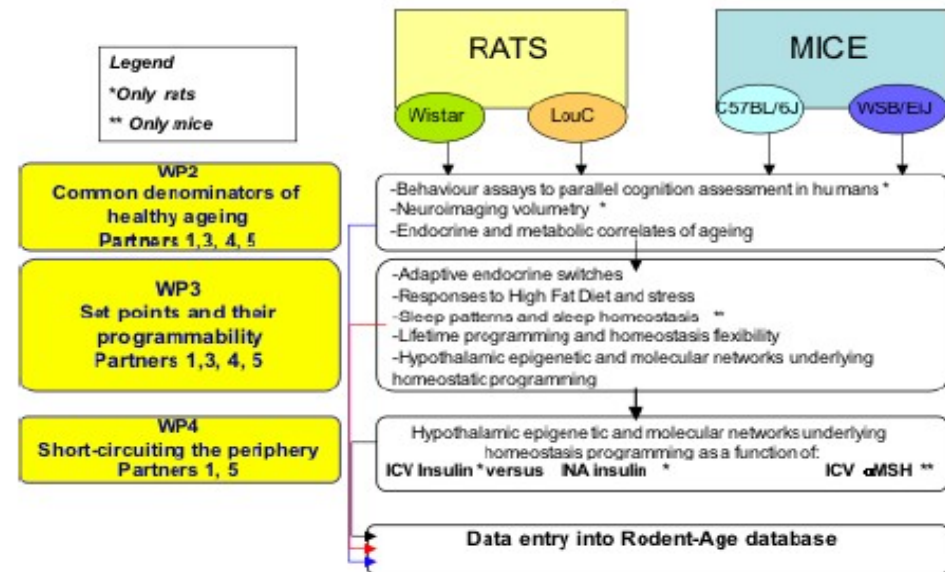
Ease reviewers' lives – keep things simple, use schemes

Flow chart for human studies



Flow chart for rodent studies

NB Only major experimental categories are shown and no time points





Example of a WorkPackage

WP3: Setpoints and their programmability (6/7 Partners, 6 Tasks, 11 Deliverables)

Starting premise: Maintenance of health depends on the continuous appropriate resetting of homeostatic setpoints in response to changing internal and external environments

Hypothesis-driven objectives:

- healthy ageing reflects greater homeostatic adaptability
- limits of homeostatic tolerance during ageing are determined by life events

Expected Results and Impact

- **describe** capacity to adapt to challenges (obesity, stress) to maintain endocrine and behavioural health
- **identify** vulnerable and resettable switches; focus on *when* (life stage), *where* (nodes, networks) and *how* (mechanisms)
- **explore** preventative and therapeutic lines



WP3: Setpoints and their programmability

Objectives

- healthy ageing = homeostatic adaptability
- life events → limits of homeostatic flexibility

Tasks

1. Metabolic challenge to test flexibility in ageing humans (LUMC)
2. Adaptive endocrine switches in rodents on a high fat diet (MPIP, CNRS, UMINHO, IEM/HAS)
3. Sleep patterns as a readout of integrity of timing mechanisms (MPIP)
4. Restoring sleep homeostasis through endocrine/metabolic manipulations (MPIP)
5. Lifetime programming of homeostatic flexibility (MPIP, CNRS, UMINHO, IEM/HAS)
6. Epigenetics and molecular networks underlying lifetime programming of homeostatic flexibility (MPIP, CNRS, UMINHO, *Sub-contractor*)



WP3: Setpoints and their programmability

Strains: WSB (CNRS, IEM/HAS); C57Bl/6 (MPG, UMINHO)

Sex: Male-female differences (MPG, UMINHO)

| Analysis/State | Normal | Obese | Stressed | Obese/Stressed |
|--------------------------------|------------------------------|------------------------------|------------------|------------------|
| Endocrine → Task 2.3. | | | | |
| HPT axis | CNRS, IEM/HAS | CNRS, IEM/HAS | | |
| HPA axis | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO |
| HPG axis | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO |
| Behaviour → Task 2.2. | | | | |
| Cognitive | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO |
| Affective | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO |
| Sleep/rhythms | MPG | MPG | MPG | MPG |
| Structure → Task 2.2. | | | | |
| ICC, ISHH/LSM-qPCR | CNRS, IEM/HAS MPG, UMINHO | CNRS, IEM/HAS MPG, UMINHO | MPG, UMINHO | MPG, UMINHO |
| Connectivity | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO |
| Neuroimaging | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO | MPG, UMINHO |
| Cellular-Molecular | | | | |
| Transcriptomics | CNRS, MPG, MINHO | CNRS, MPG, MINHO | CNRS, MPG, MINHO | CNRS, MPG, MINHO |
| Methylomics | CNRS, MPG, MINHO | CNRS, MPG, MINHO | CNRS, MPG, MINHO | CNRS, MPG, MINHO |
| Functional genomics | CNRS, IEM/HAS | CNRS, IEM/HAS | | |
| Prevention/Therapeutics | | | | |
| Pharmacology | MPG, MINHO | MPG, MINHO | MPG, MINHO | MPG, MINHO |
| Genetics | CNRS | CNRS | CNRS | CNRS |

All data for RODENT AGING DATABASE



Buy a ticket, but it's not just luck ...

be informed, take initiative, network, work hard, persevere

