

# Health and Wellbeing Sustainability Human Rights

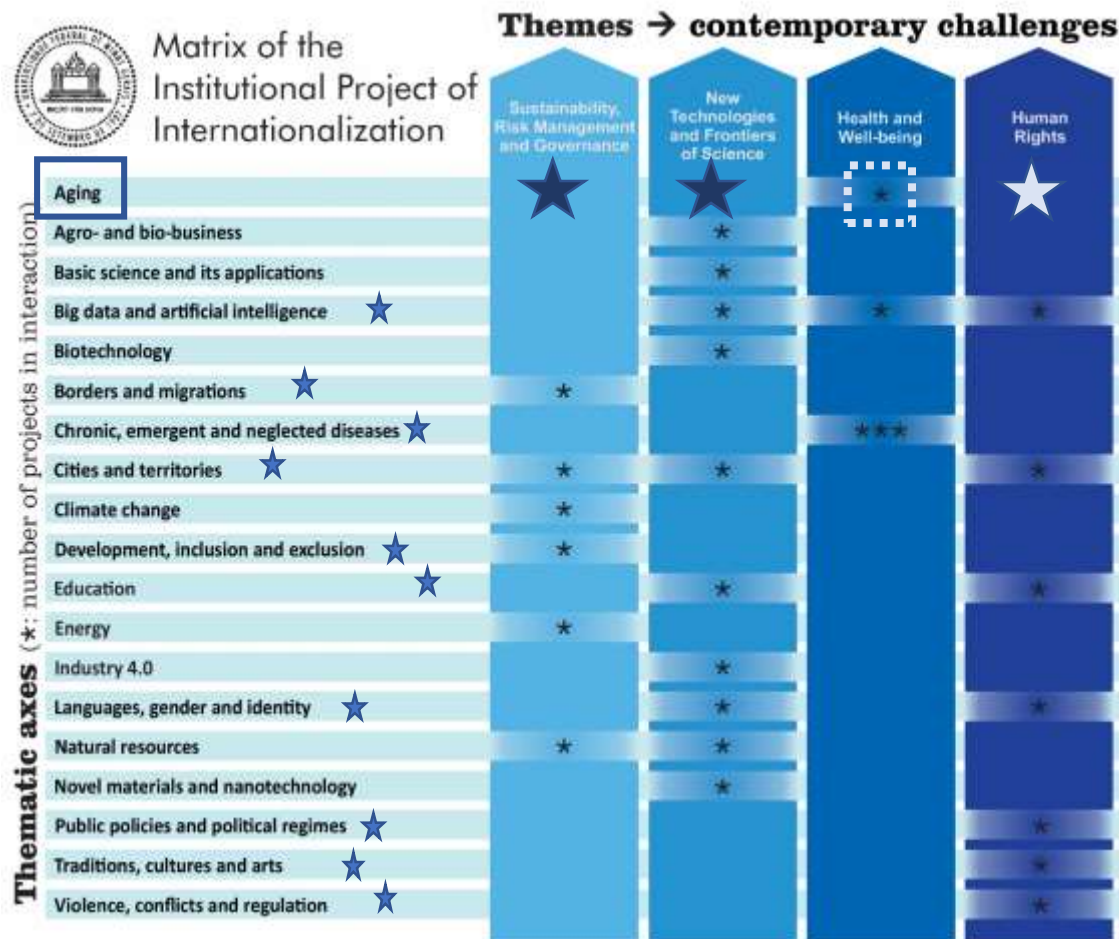
## Project 3.1 - Aging

**First InPrInt Seminar**

Partnership Building towards  
Stronger Engagement in International Collaboration

UFMG, Belo Horizonte, 19-23 November 2018

# How PrInt/UFMG changes the ways we collaborate



- Actions building on a matrix of four themes (contemporary challenges) and 28 thematic axes (projects) aligned with the UN - SDG
- PhD Programs are expected to work together with partner institutions abroad to develop cross-cutting research aligned with the PrInt/UFMG themes and projects
- Funding will be allocated to outgoing and incoming mobility actions within the four themes by means of internal calls

- To foster and enhance collaboration with partner universities worldwide by means of joint innovative research and capacity building of human resources
- To consolidate the training and experience abroad of UFMG faculty members with both a junior and a senior profile as visiting professors at partner universities
- To train PhD students abroad through internships at partner universities with a strong focus on cotutelle (double PhD degrees)
- To recruit postdoctoral fellows and early-career researchers with experience abroad to work at UFMG within the PrInt themes and projects
- To attract internationally renowned visiting professors with highly recognised experience for short stays (15 days) at UFMG

## OUTGOING

- PhD mobility grants for internships abroad (six to twelve months)
- Junior Professor grants for visiting professorships abroad (six months)
- Senior Professor grants for visiting professorships abroad (six months)

## INCOMING

- Postdoctoral grants for activities at UFMG (12 months, renewable)
- Early-career researcher grants for activities at UFMG (12 months, renewable)
- Senior Professor grants for international visitors at UFMG (15 days)

# UFMG Graduate programs taking part in the project on AGING

- Sociology
- Economy
- Demography

- Public Health &
- Adult Health Applied Science
- Music Therapy
- Psychology: Cognition and Behavior
- Dentistry
- Medicines and Pharmaceutical Assistance
- Neurosciences
- Rehabilitation Sciences
- Sports Sciences

- Biochemistry and Immunology
- Biological Sciences: Physiology and Pharmacology
- Cell biology
- Clinical and Toxicological Analysis (CTA)
- Technological and Biopharmaceutical Innovation

## Partner institutions willing to collaborate with UFMG in this project (so far)

- University of Rome “Tor Vergata”
  - Profs. Paola Sinibaldi and Mohammad Alwardat
- Queen Mary University of London
  - Prof. Mauro Perretti
- University of Lille
  - Profs. Vincent Sobanski and Eric Boulange

**New collaborations will be most welcome!**

# What do we mean by “Aging”?

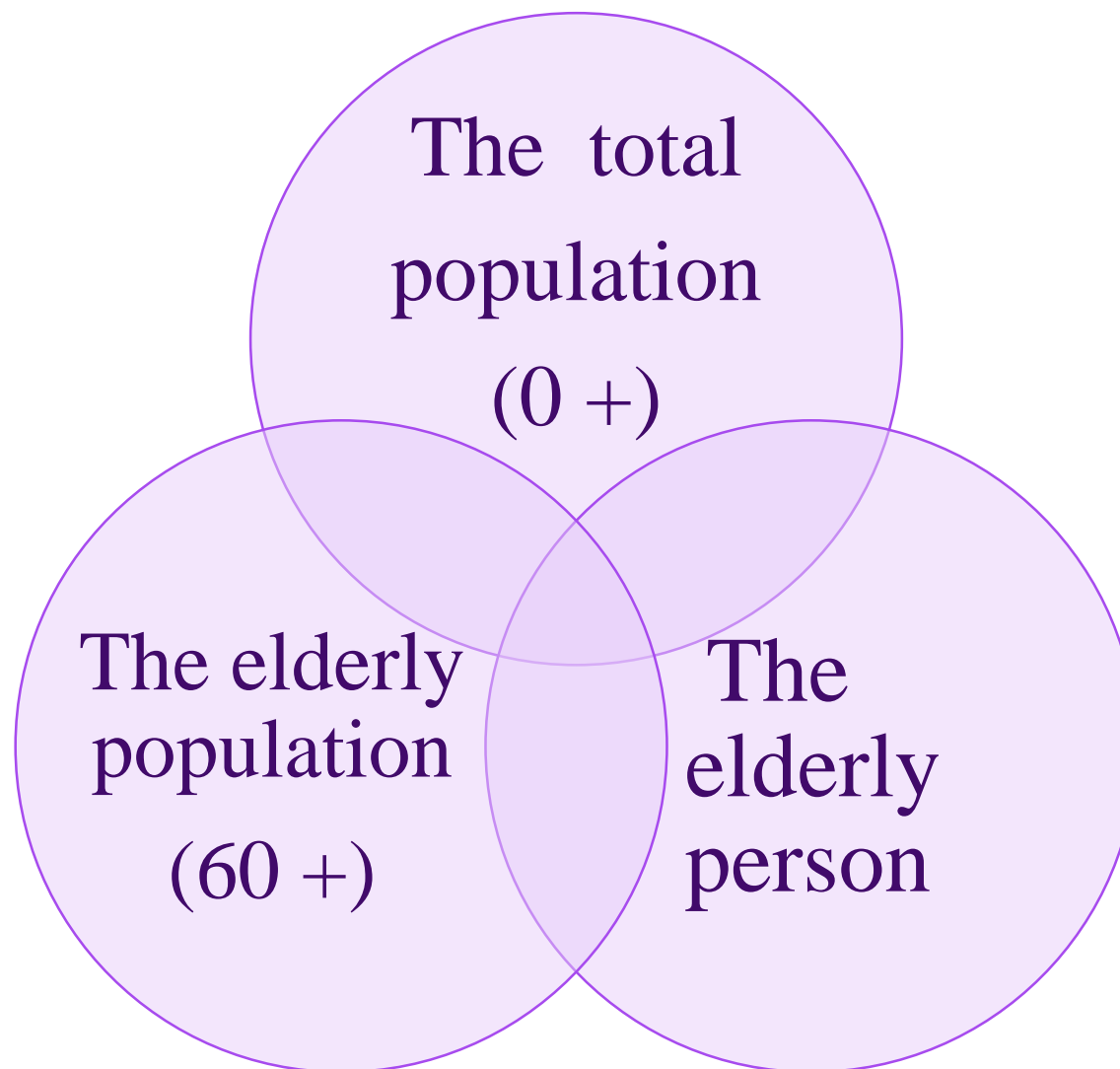
- ❑ Brazil, as most of the developing countries, undergoes a unique population change experiencing the *quickest demographic transition ever* in modern times.
- ❑ That brings about also changes at most (if not all) social, political, epidemiological, technological dimensions of life, meaning also, changes in the intergenerational relationships
- ❑ The ageing phenomenon is a holistic-multidimensional process that takes place throughout the individual and societies life

# What do we mean by “Aging”?

The quickest the demographic changes (or transition), the quickest the population ageing and most urgent the need of facing the challenges at the micro and macro levels

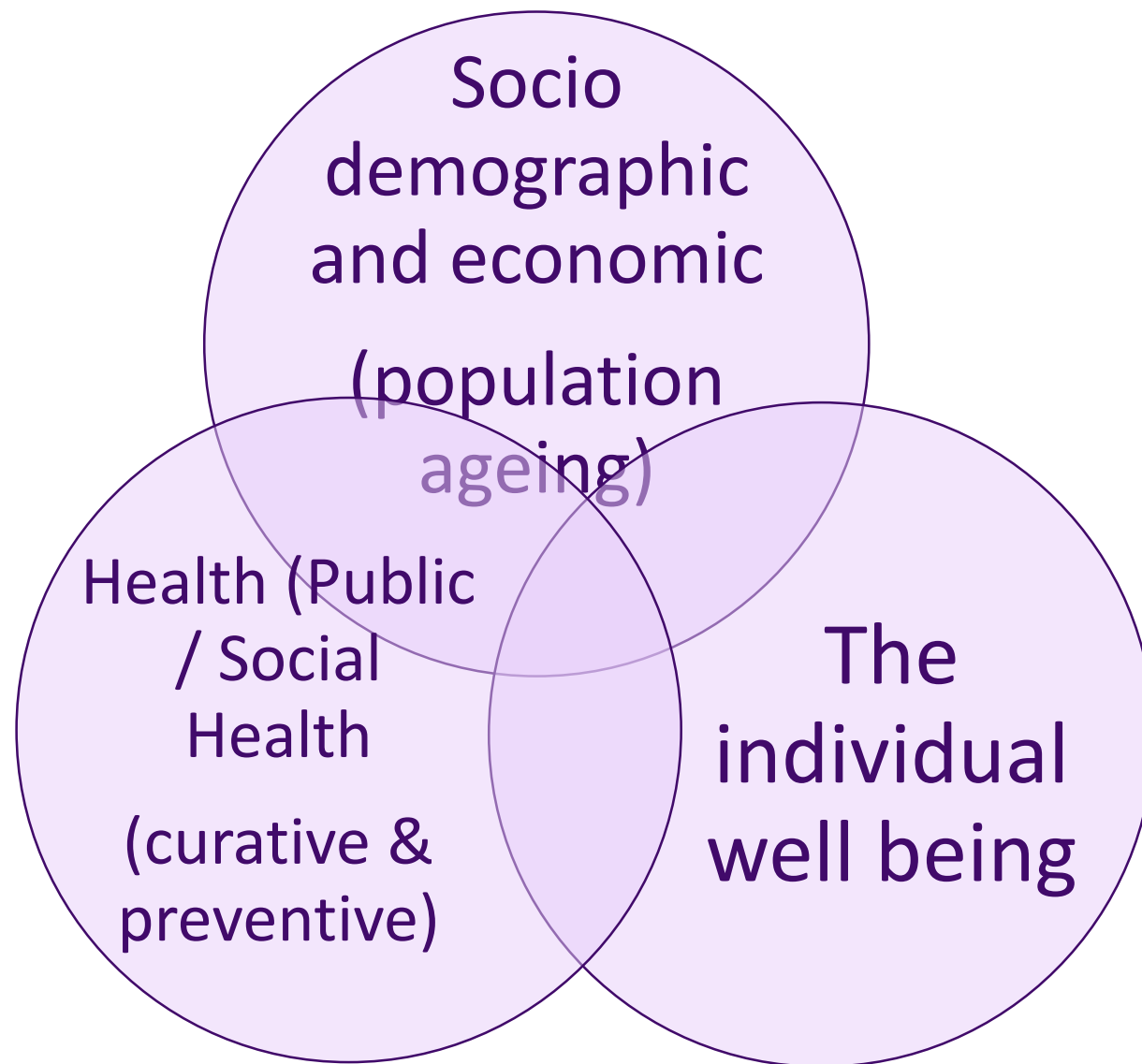


# What do we mean by “Aging”?



The ageing  
challenges  
from the point  
of view of:

# What do we mean by “Aging”?



## Socio demographic and economic (population ageing)

At the macro level and considering that Population aging is a global process:

- To maintain current internationalization and enhance faculty members' knowledge on the causes and consequences of population aging and their interactions with demographic, economic, social, environmental and political dimensions.
- To develop research protocols, databases and scientific papers in partnership with international institutions in the area of aging, connecting it to the role of the state, markets and families.
- Complement the undergraduate training with the partner institutions to improve theoretical knowledge and develop comparative studies between Brazil and other countries and regions.

## Aging and Medical (curative & preventive)

**Elderly population requires a new type of care. Chronic care models must be developed, evaluated and implemented in Brazil**

- Design and evaluations of new technologies regarding care to elderly population. It comprehends the analysis of public and private system in Brazil. Its emphasis goes beyond in new models of care but also in new organization, financing and reimbursement schemes associated to chronic diseases care providers
- To organize big databases allowing to understand the needs regarding longitudinal care for elderly population and also the costs associated to preventive and curative care to elderly population
- Analysis of organization of long-term care in Brazil: organization, access, and impacts on family composition, insertion in labor market and other sociodemographic categories

**The acute care model developed in Brazil since the creation of SUS is not more sustainable and effective to elderly population at the individual level**

Objectives:

Economic Evaluation of new technologies implemented specifically to elderly care and chronic diseases, including cost-effectiveness analysis

Analysis of adequacy of supply of healthcare

To explore new technologies to enlarge life-years free of disability of all types

Strategies related to:

Rehabilitation - Music therapy - Physical Activity – Genetics – Pharmaceuticals

# What do we mean by “Aging”?

- **Interdisciplinarity:** Research on Ageing is clearly related to:
  - Intergenerational relationships (populational, social, economic = *social inclusion, inequality*)
  - Health and well-being – *chronic diseases, adult health*
  - Sustainability, risk management and governance - *social security – networks*
  - New technologies and creative solutions - *medical – health strategies – technological advances*
  - Human rights - (*all the above*)

# The working group(s) on aging

# A. Demography – Economy – Sociology

Due to the huge intergenerational changes, ageing is central to the research of the following dimensions that more often than not, have large intersections:

- Demography (longevity, health and incapacity; gender, family composition, generational effects of the populational aging process )
- Economy (economic growth, income inequality; social equilibrium; private consumption; intergenerational transferes, labor Market; finances, social security and actuarial balances)
- Social (life course and life cycle; inequalities; Family community and networks for the elderly),
- Politics (public policies; welfare models; governance; environmental equilibrium)



## B. Ageing and Health (Public /Social Health)

- **Public Health and Adult Health Applied Sciences:** They deal with health problems that affect the elderly population (cardiovascular, neurologic and psychiatric disorders) and specific aspects of healthy aging that are relevant for the elderly (resilience, cognitive reserve and successful brain aging). Longitudinal studies focus on social, psychosocial, environmental aspects.
- **Oral Health and Aging:** Oral health in institutionalized and non-institutionalized elders – epidemiologic and clinical studies; Quality assessment of long-term care facilities in Brazil; Quality of oral health services by elders on Primary Health Care System; Oral health and frail elder – proposing the improvement of the oral health of these elders.
- **Clinical and Toxicological Analyses (Pharmacy)** – Biomarkers – Drug/Medication use by older people and emergence of problems related to its use; Evaluation of the individual care.

## C. Health care of the elderly

- **Music therapy and Neurologic Music Therapy** - Application of Neurological Music Therapy on Semantic Dementia – Music Therapy Program in a Long Term Institution for the Elderly
- **Psychology and Cognition and behavior** - Psychometric properties of Geriatric Assessment Tools - Theoretical and applied studies of lifespan development – Intervention effectiveness of neurocognitive disorders - Observational studies to identify psychosocial factors associated with geriatric syndromes

## C. Health care of the elderly

- **Biochemistry and Immunology** - Molecular and cellular features underlying neurodegenerative diseases - Metalomics-based preparation of new drug and prodrug candidates and their pharmaceutical pre-formulations and formulations: looks for new alternatives for the therapy of Alzheimer's disease and related neurodegenerative disorders - Immunological, genetic, nutritional and microbiota factors involved in healthy aging in Brazilian populations
- **Sport Sciences** – Health promotion; Effect of physical activity for healthy aging; Benefit of exercises for health in aging.
  - ✓ Research areas that can contemplate studies on the theme of "aging":  
Analysis of methods for human and sport performance -  
Psychobiological aspects of human performance.

## C. Health care of the elderly

- **Technological and Biopharmaceutical Innovation** – It develops research on equipment for the early diagnosis of Alzheimer's disease by intraocular optical spectroscopy. It is interdisciplinary: medicine, pharmacy, biology, engineering and physics.
- **Neurosciences Interdisciplinary program:** (Institute of Biological Sciences, Medicine, Social Sciences, Engineering, Institute of Exact Sciences, Music). It researches the physiological processes involved on brain ageing and developing of tools to prevent diseases related to ageing.
- **Sciences of Rehabilitation** - It researchs Human Functional Performance in the relevant aspects of the individual's life under the International Classification of Functioning, Disability and Health Approach: (Frailty in Brazilian Older People/*FIBRA Network* - Back complaints in the elderly/*BACE* - Clinical-functional profile of elderly from different cultural and economic cities - Sarcopenia and frailty

# Aging and the SDG...? \*

**1: No Poverty \***

**2: Zero Hunger \***

**3: Good Health and Well-being \***

**4: Quality Education**

**5: Gender Equality \***

**6: Clean Water and Sanitation**

**7: Affordable and Clean Energy**

**8: Decent Work & Econ. Growth \***

**9: Industry, Innovation and Infrastructure \***

**10: Reduced Inequality \***

**11: Sustainable Cities and Communities \***

**12: Responsible Consumption and Production \***

**13: Climate Action**

**14: Life Below Water**

**15: Life on Land \***

**16: Peace and Justice Strong Institutions \***

**17: Partnerships to achieve the Goal**



# The internationalization objectives

- To maintain current internationalization and enhance faculty members' knowledge .
- To develop research protocols, databases and scientific papers in partnership with international institutions in the areas of aging and correlates (connection to the role of the state (social systems of health, welfare, etc.) , markets communities and families.
- Complement the undergraduate training with the partner institutions to improve theoretical and practical knowledge and develop comparative studies between Brazil and other countries and regions.

## Concluding remarks for the project on Aging

- Aging is a multidimensional and multidisciplinary subject of research
  - Social & Health & Bio Sciences, among others
  - It is demanded by Public Policies
- Central Challenge: To face the multidimensional changes that *fast* intergenerational changes generate in the population in the *developing world*
- Need to work at the macro and micro level.

# Concluding remarks for the project on Aging

- Measurements of:

- Older population (Future volume, Life expectancy, Life free of disability , free of specific chronic diseases)
- Intergenerational markers
- Health and social demands (social policies)

- Development of:

- Molecular medicine for the diagnosis and intervention, even in their early stages of development, of diseases related to old age, and the impact of this on public health....
- Easy-to-use instruments for an overall assessment of the general state of the elderly and strategies to maintain their well-being (WHO guides)
- Strategies motivate older adults to practice physical activity?; Studies on the benefits of physical activity/exercise for healthy aging; Biological markers related to aging (e.g. Telomeres) and their relationship to physical activity/exercise



## Project 3.1 Aging – Program Members and contacts - CAPES/PRINT- UFMG

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