

A decorative background at the top of the slide featuring a network diagram with red and black nodes connected by thin lines, set against a light red gradient.

# The Impact of Social Sciences and Humanities on Society

17-18 October 2019, Washington DC

Rasmuson Theater, 11.30am - 12.45pm

## Interdisciplinary research

*Thomas Rudin (Chair)*

*Kathleen Woodward*

*Martin van der Broek*



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Interdisciplinary research

Thomas Rudin (Chair)

*Director of the Board on Higher Education and Workforce,  
The National Academies*

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# The Impact of Social Sciences and Humanities on Society

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Interdisciplinary research

Kathleen Woodward

*Director of the Simpson Center for the Humanities, University of Washington*

# Increasing the Impact of Health Humanities Research on Society

Kathleen Woodward, Director

Simpson Center for the Humanities

Lockwood Professor in the Humanities and Professor of English

University of Washington, Seattle

\*

AESIS, Washington, DC

October 17, 2019

- Sarah Berry, Therese Jones, and Erin Lamb, “Editor’s Introduction: Health Humanities: The Future of Pre-Health Education Is Here,” *Journal of Medical Humanities* 38.4 (2017): 353-360
- Wiljan van den Akker and Jack Spaapen, *Productive Interactions: Societal Impact of Academic Research in the Knowledge Society*, League of European Research Universities (LERU), March 2017
- Julie Thompson Klein, “The Transdisciplinary Moment(um),” *Integral Review* 9.2 (June 2013): 189-199.

# 1.

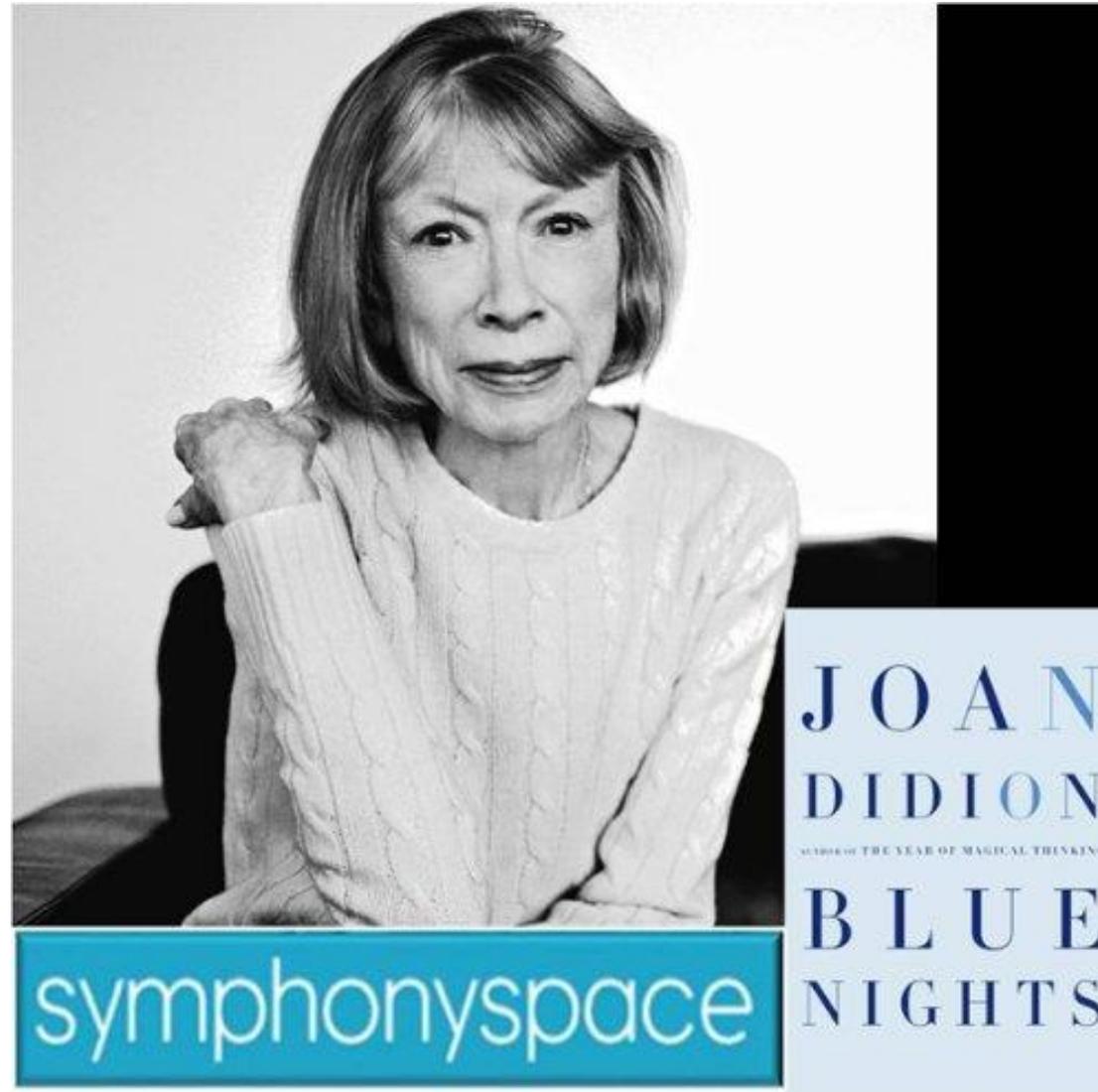
## Aging: focus on frailty

Aging is “one of the greatest cultural and scientific advances in our history. Yet we are woefully unprepared to address the challenges. . . .”

--John W. Rowe, “Facts and Fictions about an Aging America,”  
MacArthur Foundation Research Network on an Aging Society,  
*Contexts* 8.4 (2009): 16-21

**SIMPSON CENTER** for the **HUMANITIES** ✦

COLLEGE OF ARTS & SCIENCES



- Kathleen Woodward, “Feeling Frail. . . : *Blue Nights* and the American Economy at Risk,” *Age, Culture, Humanities* 2 (2015): 347-367
- Amanda Grenier, “The Conspicuous Absence of the Social, Emotional and Political Aspects of Frailty: The Example of the *White Book on Frailty*,” *Ageing and Society* (2019): 1-17
- *Beware Frailty*, 40-second film that accompanies the *White Book on Frailty* (2016), Bruno Vellas, Editor-in-Chief (Toulouse University Hospital)

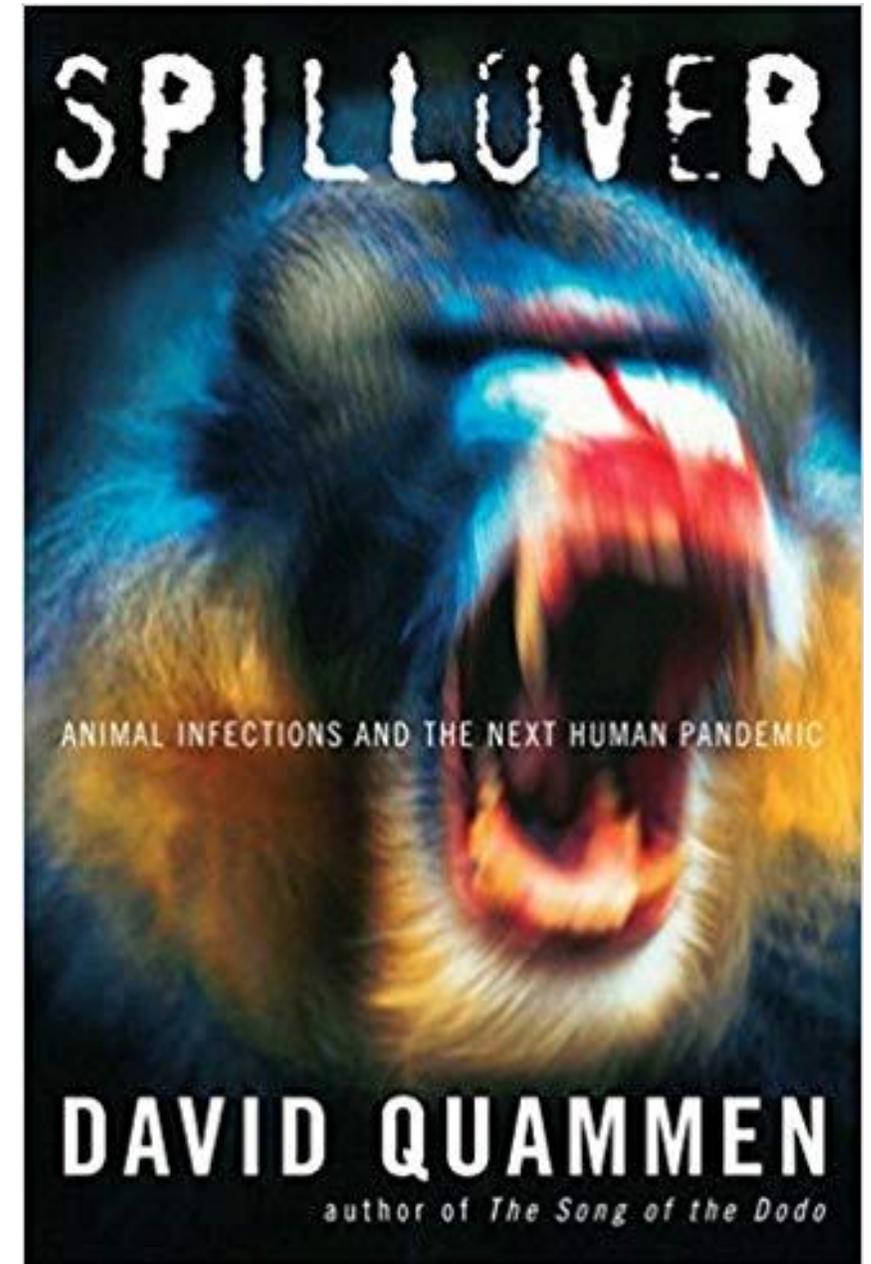


## 2.

# Biological Futures in a Globalized World: focus on infectious disease

- National security, H5N1, ethics of research, meanings of risk, unpredictability, and uncertainty
- Partners: Simpson Center for the Humanities, University of Washington, and the Fred Hutchinson Cancer Research Center, Seattle, with funding from the Office of the Director of National Intelligence, Washington, DC

David Quammen (science writer),  
*Spillover: Animal Infections and the  
Next Human Pandemic* (2013)



# 3.

## African Diasporic Cultures: focus on chronic conditions

- The legacies and histories of slavery and displacement
- Partners: Kansas Africa Studies Center and the Hall Center for the Humanities, University of Kansas, with UK medical centers around the state





Alice Neel, *Alice Neel Self-Portrait*  
oil on canvas, 1980

Rachel Rosenthal





# The Impact of Social Sciences and Humanities on Society

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Interdisciplinary research

Martin van der Broek

*Program Manager Impact Team, Tilburg University, the Netherlands*



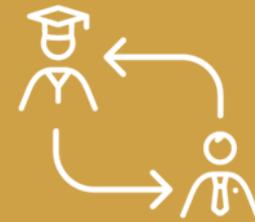
# Impact of Social Sciences and Humanities on Society

AESIS 17, 18 October 2019

# Drs. Martin van der Broek

Program manager IMPACT program Tilburg University

Advancing Society:  
Impact Program



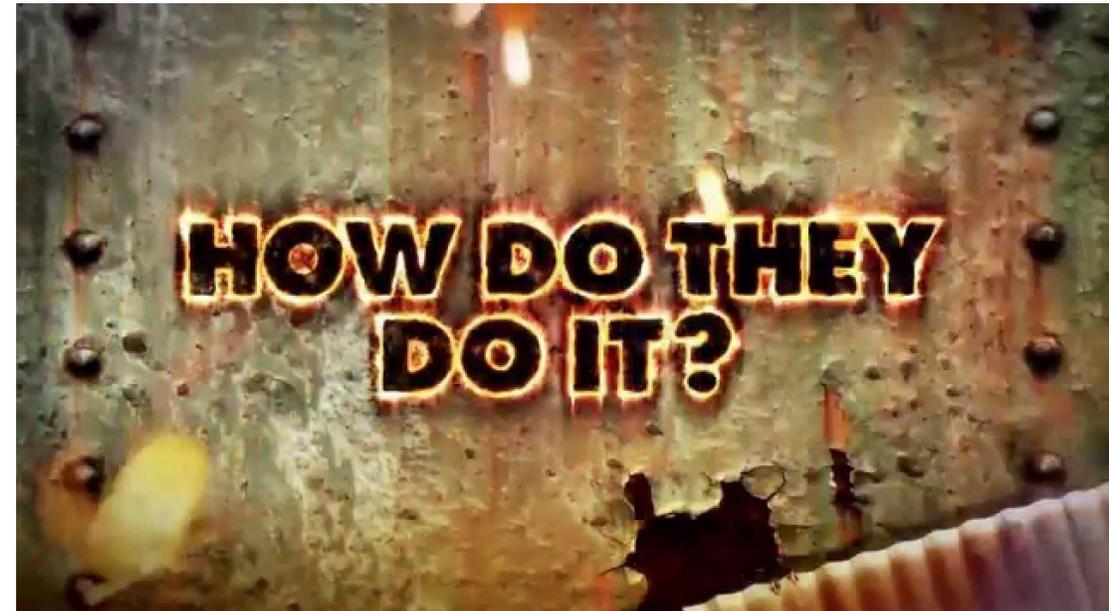


> 1.000 FTE Research Staff in 35 Research groups

# #How do they do it?

- The AESIS conference addresses the societal impact of social sciences & humanities by engaging with government, industry and the public as a whole
- Topic for this session:

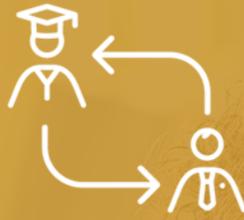
**How to increase societal impact** through collaboration of SSH with other scientific disciplines?



# Collaboration

- Level 1: Impact program within Tilburg University
- Level 2: Cooperation between Tilburg University, Eindhoven University of Technology and societal organizations

# Advancing Society: Impact Program



Contribute to improving the world...

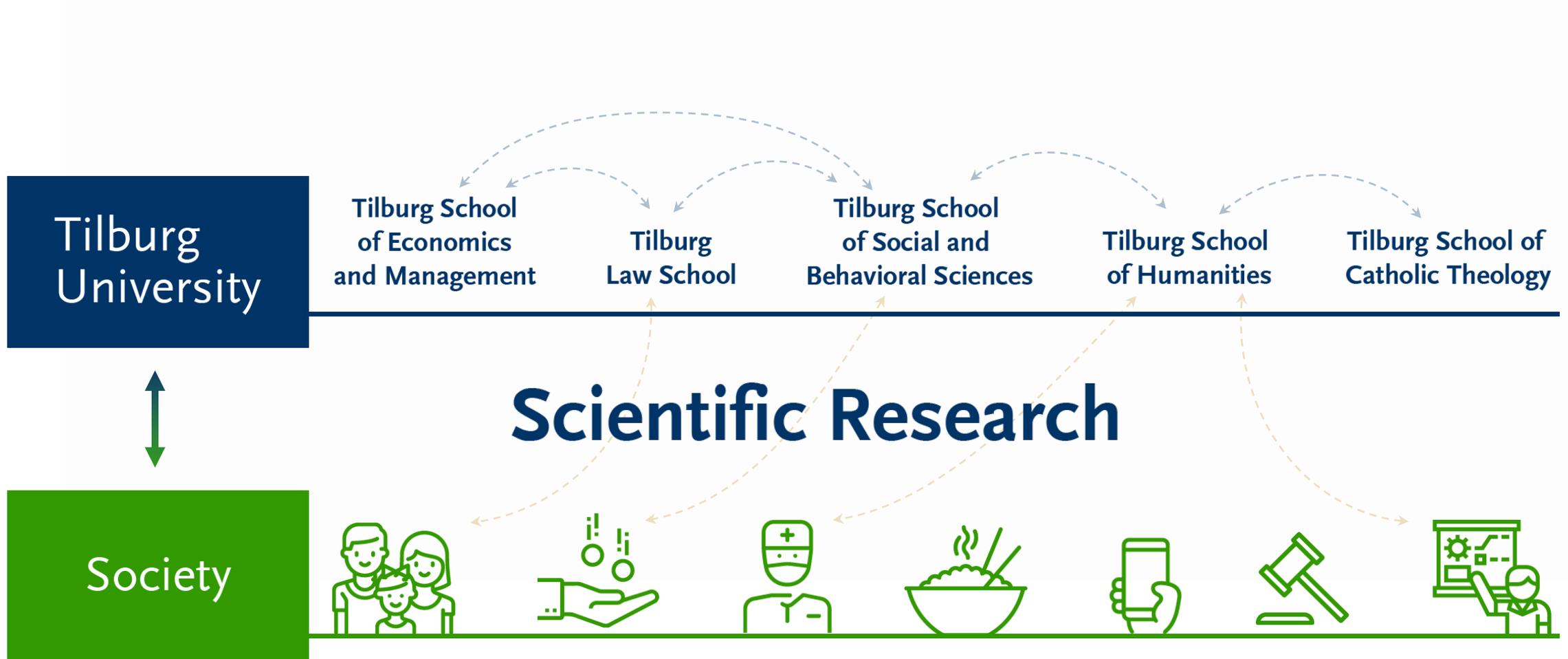
...through scientific knowledge

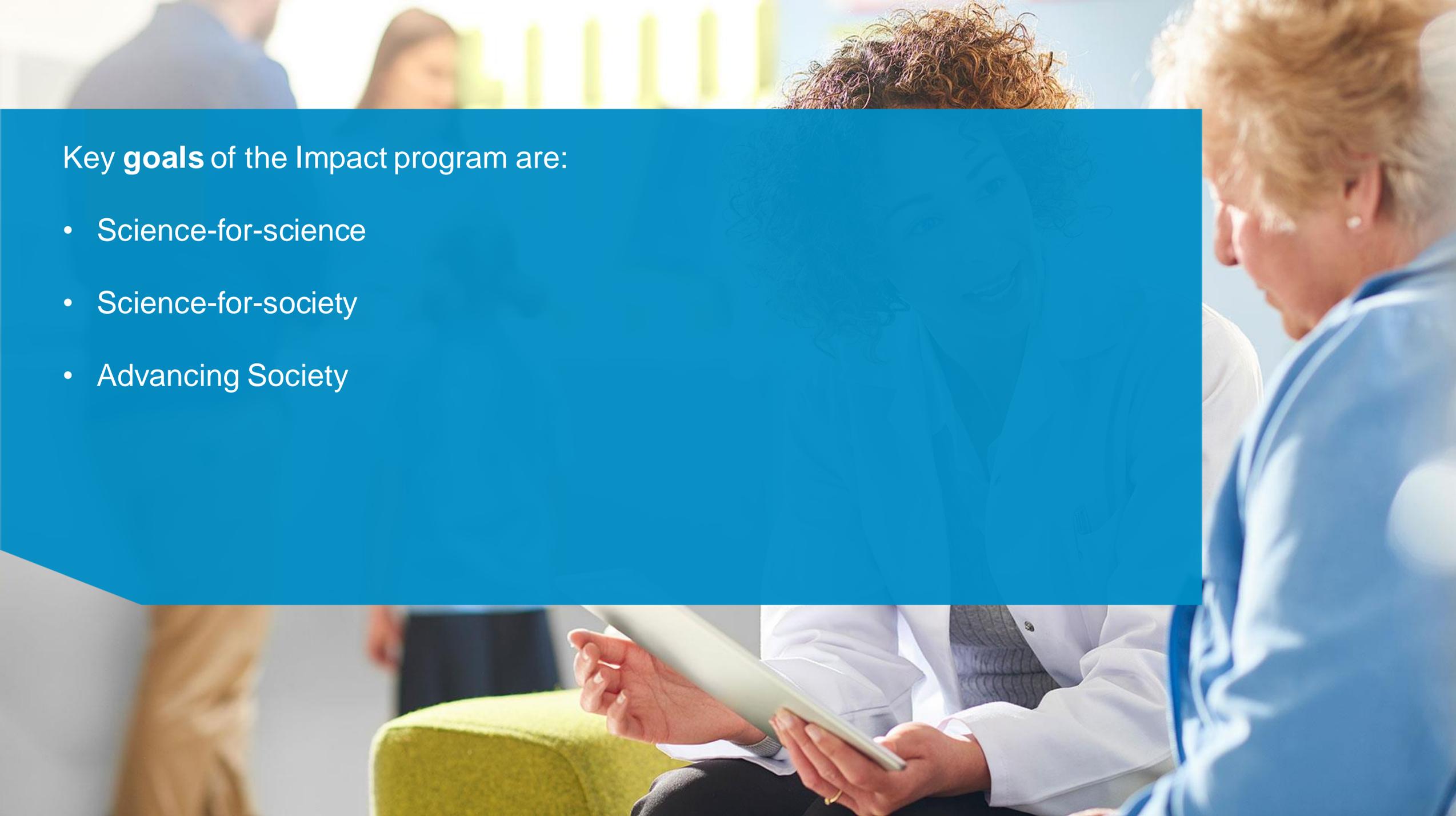
Empowering the  
Resilient Society

Enhancing Health  
and Wellbeing

Creating Value  
from Data

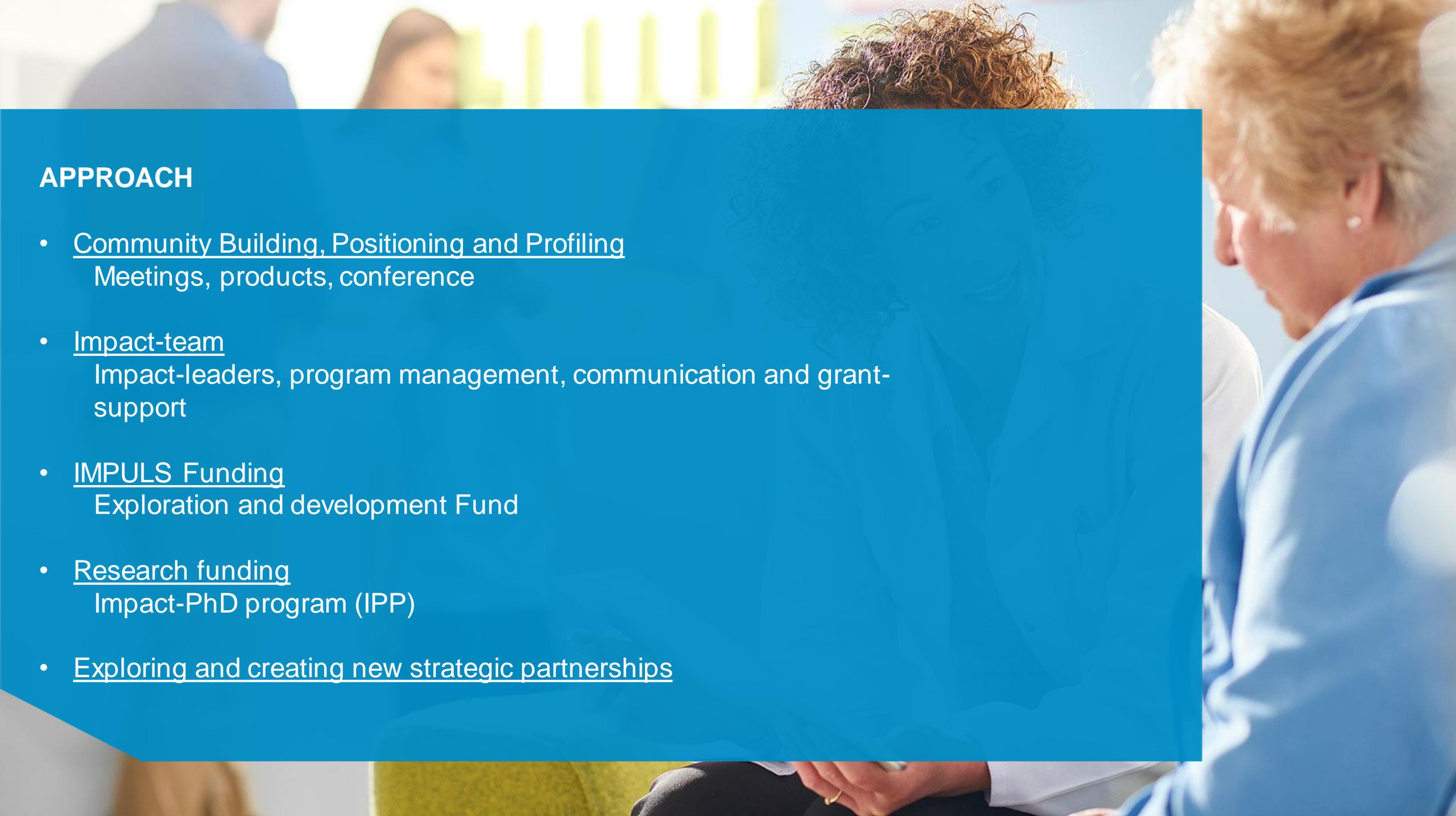
# CONNECTION





Key **goals** of the Impact program are:

- Science-for-science
- Science-for-society
- Advancing Society

A background image showing a group of people in a meeting or conference setting. The image is partially obscured by a blue semi-transparent overlay on the left side. The people are dressed in business attire, and the scene is brightly lit, suggesting an indoor environment with large windows.

## APPROACH

- Community Building, Positioning and Profiling  
Meetings, products, conference
- Impact-team  
Impact-leaders, program management, communication and grant-support
- IMPULS Funding  
Exploration and development Fund
- Research funding  
Impact-PhD program (IPP)
- Exploring and creating new strategic partnerships

# #How do we do it? Pathways to IMPACT



# Pathways to impact





## Dick den Hertog

prof.dr.ir.

Full Professor, Tilburg School of Economics and Management, Econometrics and Operations Research

Tilburg School of Economics and Management, Research Group: Operations Research

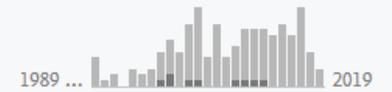
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5037 AB Tilburg  
Netherlands



### Research Output

1989 2019

87

Article

52

Discussion paper

19

Doctoral Thesis

7

Conference contribution

14

More

### Optimal combined proton-photon therapy schemes based on the standard BED model

ten Eikelder, S. C. M., den Hertog, D., Bortfeld, T. & Perko, Z., Mar 2019, In : Physics in Medicine and Biology. 64, 6, 21 p., 065011.

*Research output: Contribution to journal > Article > Scientific > peer-review*

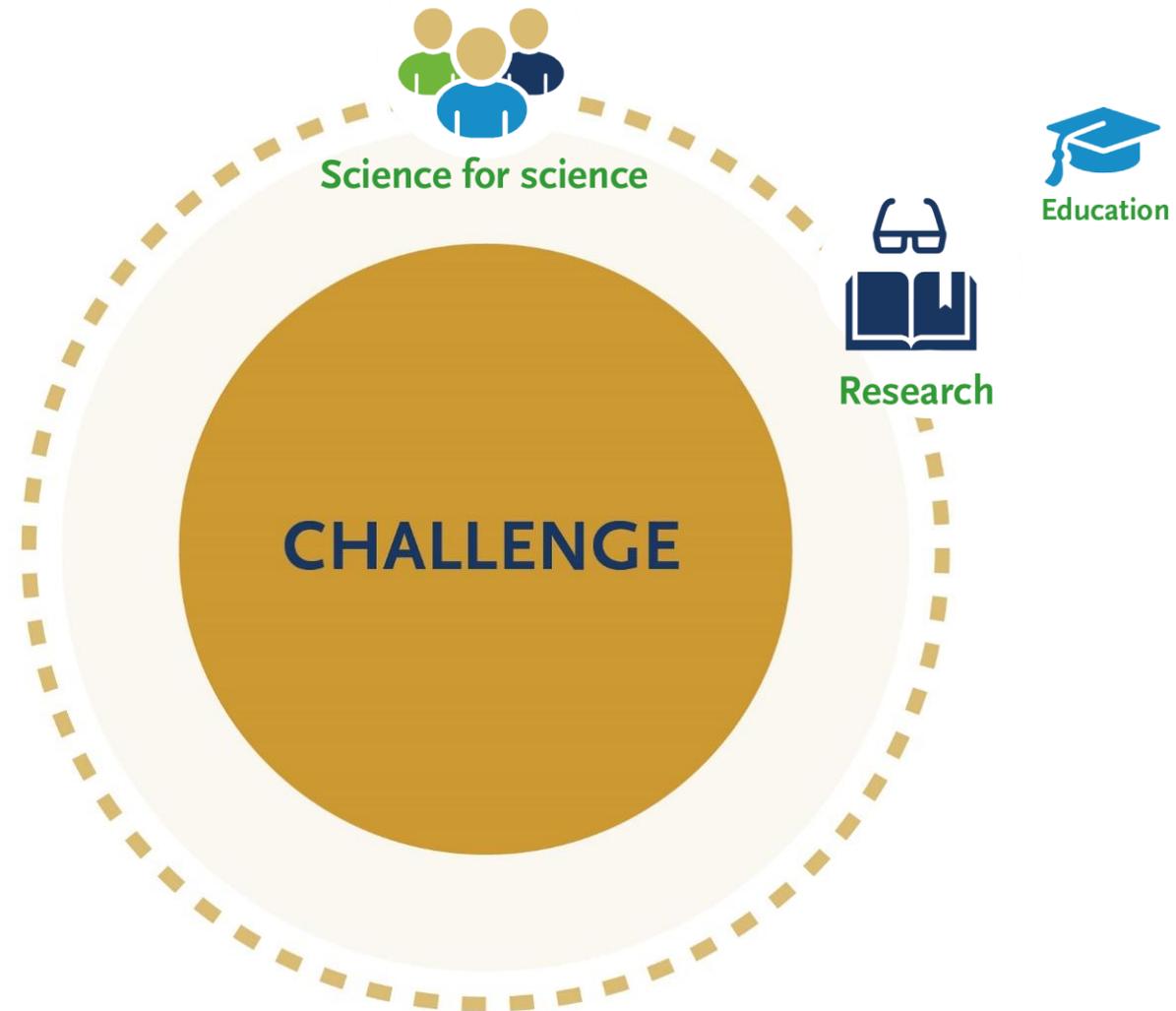


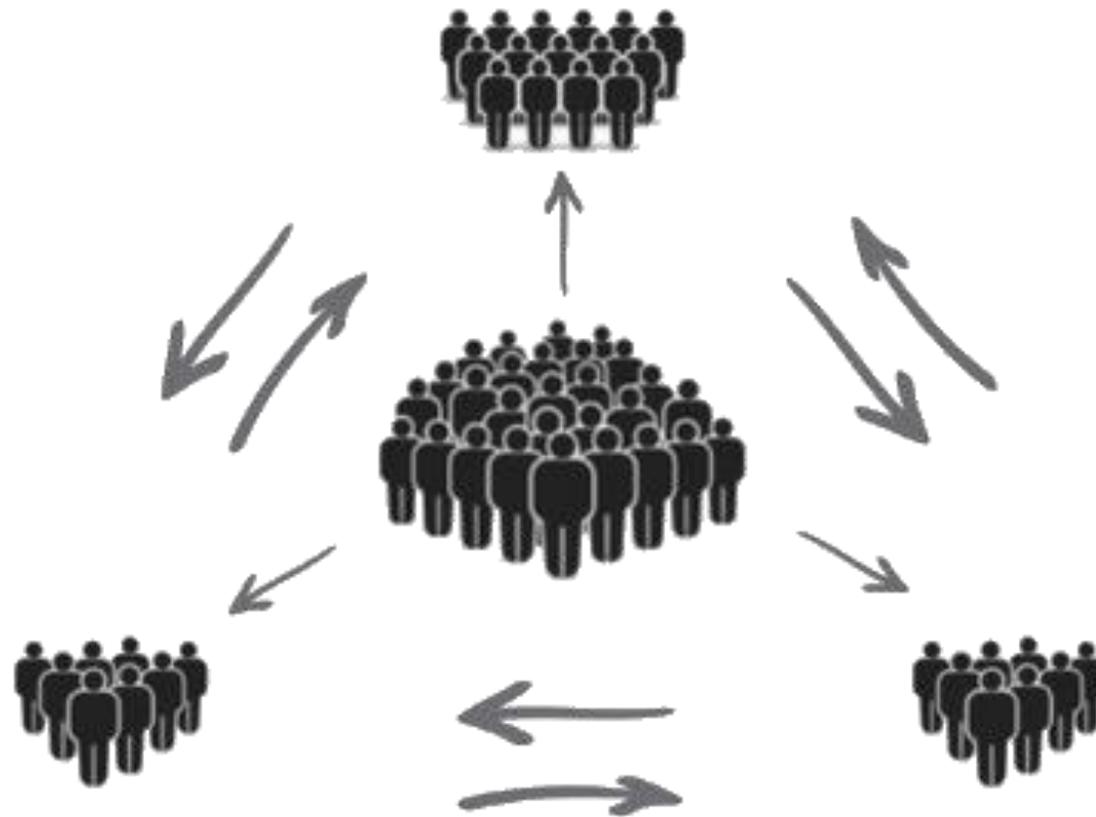
### Reducing conservatism in robust optimization

Roos, E. & den Hertog, D., Jun 2019, (Accepted/In press) In : INFORMS Journal on Computing.

*Research output: Contribution to journal > Article > Scientific > peer-review*

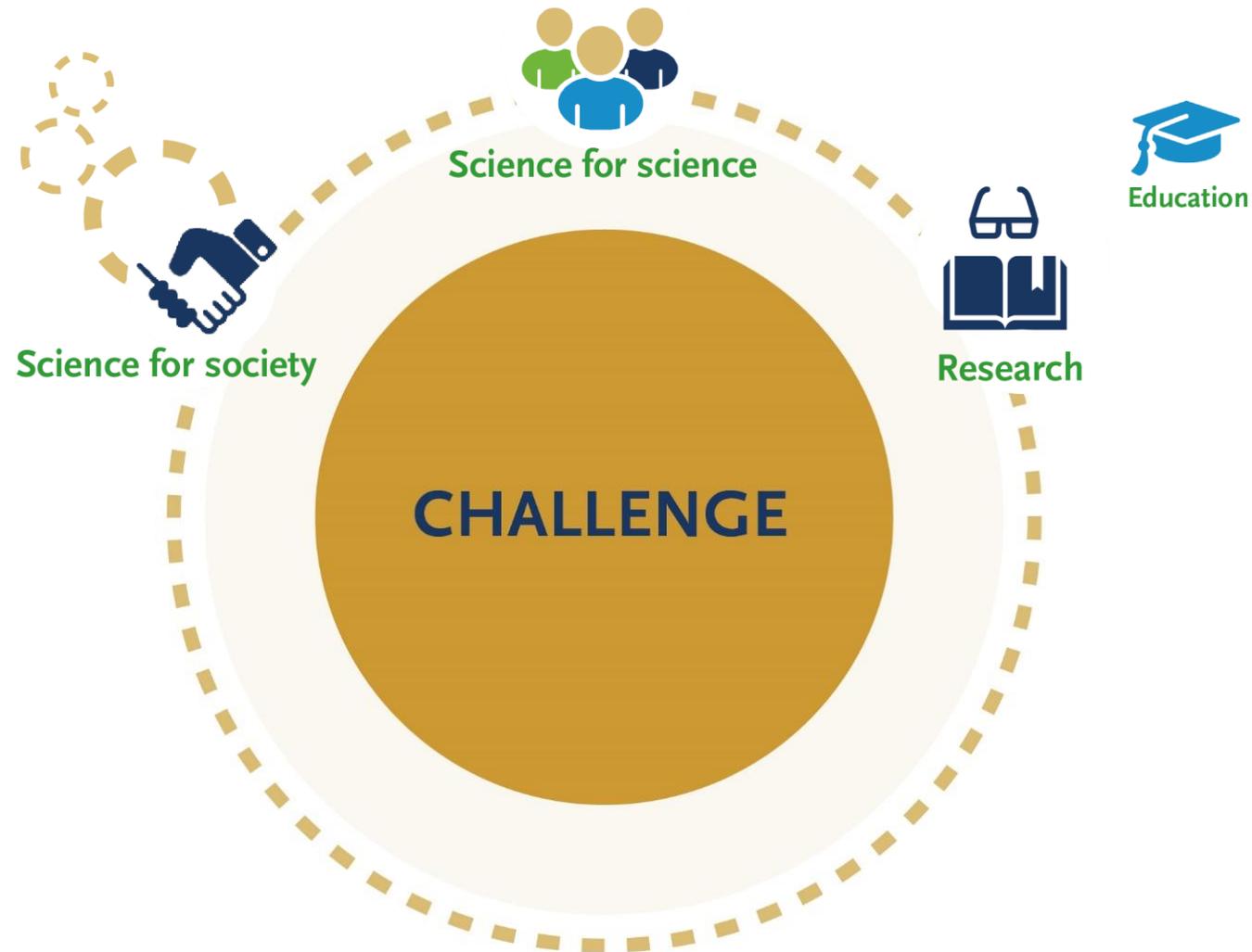
# Pathways to impact





Resilient Society	148
Health & Wellbeing	180
Data Science	299

# Pathways to impact



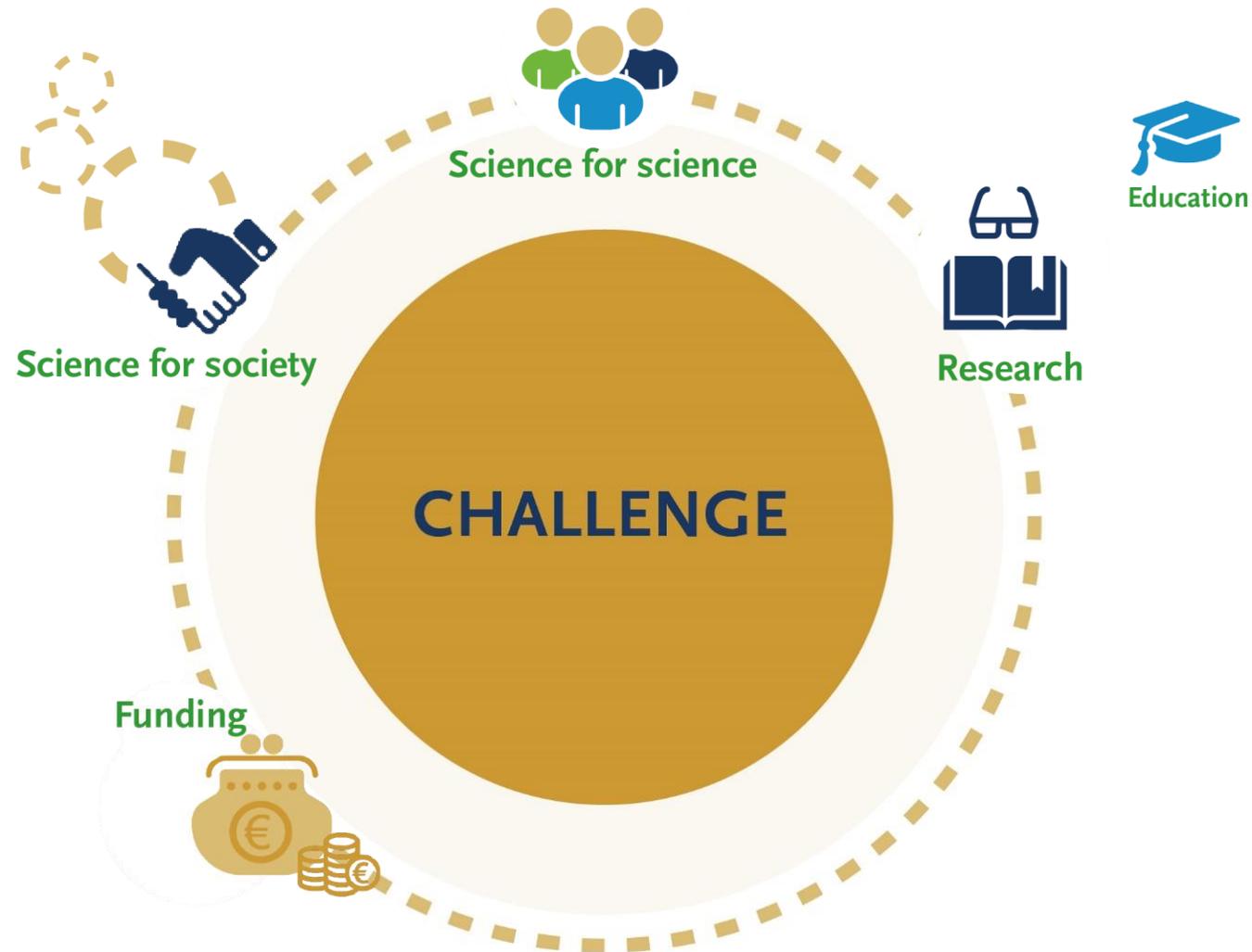
# Zero Hunger Lab



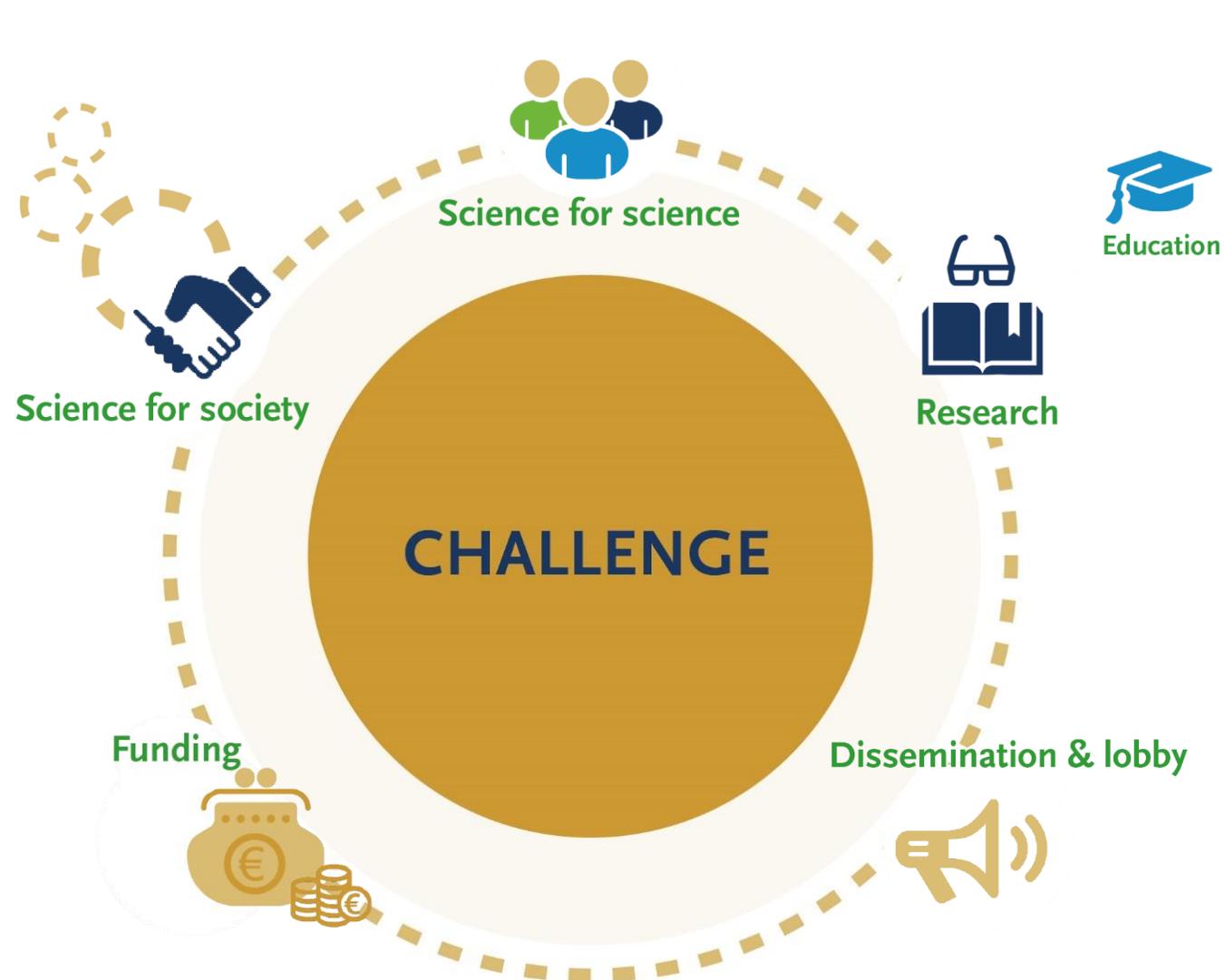
Elevate the research to end hunger and enable Africa to feed itself

- 2.5 mln euro investment
- help to save lives of millions through data science
- the algorithms of Tilburg University help feed 15-20% more people with the same (and often limited) amount of money
- (Societal) partners: WFP, Oxfam/Novib, IT companies, food bank, Wageningen University (natural and social sciences)
- <https://www.tilburguniversity.edu/nl/onderzoek/impact/creating-value-data/zero-hunger-lab>

# Pathways to impact



# Pathways to impact

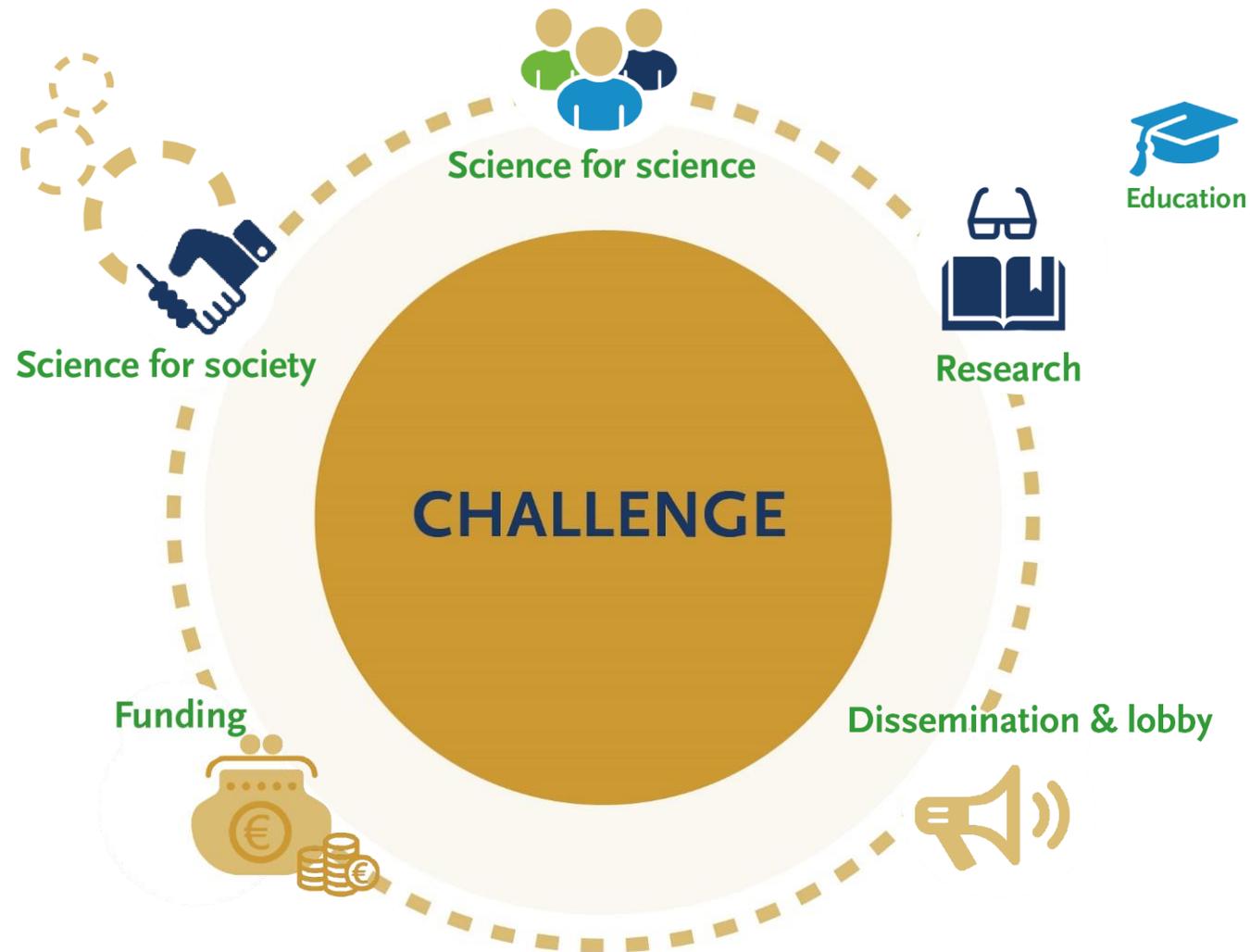


Impact event  
November 14th



Man-Machine & Values – Impact seminar

# Pathways to impact



# Level 2 Cooperation between Universities





# JADS

The Jheronimus Academy of Data Science



## Education

JADS provides innovative data science programs at undergraduate, graduate and postgraduate level.

[read more](#)



## Research

JADS conducts cutting edge data science research at three locations aimed at creating value for business and society.

[read more](#)



## Business

JADS offers great business opportunities with a rapidly growing ecosystem and a vibrant community.

[read more](#)

## Vacancies



JADS is always looking for talented (research) professionals. Check out our page with current job openings.

[> Current vacancies](#)

## News

*October 7th, 2019*

**Mariënborg buzzing with activity during the 2019 Den Bosch Data Week.**

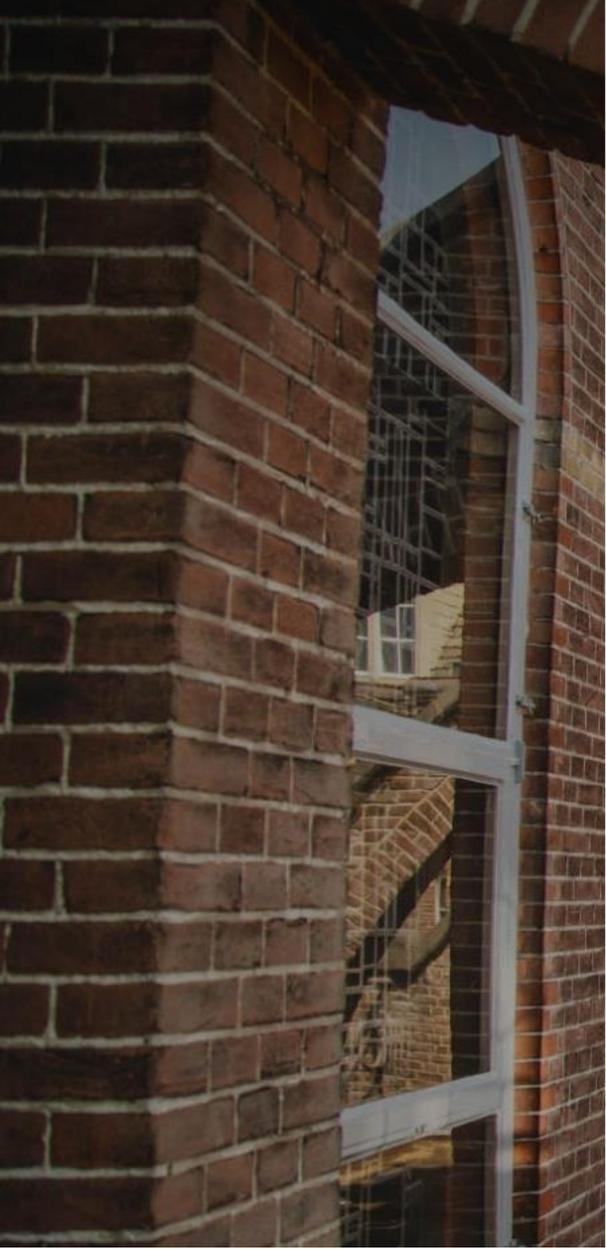


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**The best way  
to stay  
informed.**

Den Bosch chooses to be a leading data city. As a data city, we use data to improve the lives of residents, visitors and entrepreneurs. The smart application of data can make your life safer, healthier, more efficient and more sustainable. JADS, as a center of knowledge and talent, is proud founding partner of the Den Bosch Data Week. This year, it's time for the second edition, a week in which everything you can do with data becomes tangible and visible.

- > Check out the full Mariënborg program during the Den Bosch Data Week 2019
- > Go to the Den Bosch Data Week website



April 12th, 2019

## Collaboration JADS and Jeroen Bosch Hospital on Artificial Intelligence to further improve healthcare



Artificial intelligence (AI) makes fast and accurate diagnoses possible and allows care to be tailored to an individual. It can therefore be an answer to social problems such as long waiting lists, shortages on the labor market and rising healthcare costs. The Jeroen Bosch Hospital (JBZ) is strongly committed to AI, including deep learning, as an essential part of future care. The hospital has entered into a partnership with the Diagnostic Image Analysis Group (DIAG) of the Radboudumc and the Jheronimus Academy of Data Science (JADS). The JHA is the first non-academic hospital in the Netherlands that uses AI in practice and develops itself.

The three organizations have developed a program in the field of AI in Radiology, consisting of four lines that were started simultaneously. They vary from the implementation of validated AI software in clinical practice to the development of a new software program.

"In this collaboration, we consciously opted for knowledge institutions. Precisely because we do not have the AI knowledge needed but are looking for ways to develop it. We want to understand something that is so crucial to our future care ourselves and to be able to estimate it, and not just depend on commercial parties," says Inge Veltman, JHA innovation manager. "AI will eventually become a permanent part of the practice of our healthcare professionals. Medical Specialists will work more closely in this area in the future with clinical physicists, clinical computer scientists and data scientists."

Bram van Ginneken, professor of medical image analysis at Radboudumc and participating in the project, is enthusiastic about the collaboration: "Deep learning is causing a revolution in our field. It is now finally possible to create computer programs that can evaluate scans with an accuracy comparable to human experts. We now need to collaborate with multiple hospitals to jointly create new solutions and test and implement existing solutions in clinical practice. With JBZ we have been able to start collaboration in several areas in a very short time."

### Implementation of existing software program (line 1)

When implementing a validated software program, boneXpert was chosen, a program that allows you to monitor the growth of children on the basis of skeletal age. The computer is faster and more accurate than



# Statements

Key are:

- Collaboration between scientific disciplines and society. SSH is equally important as other disciplines.
- SSH asks the relevant questions:

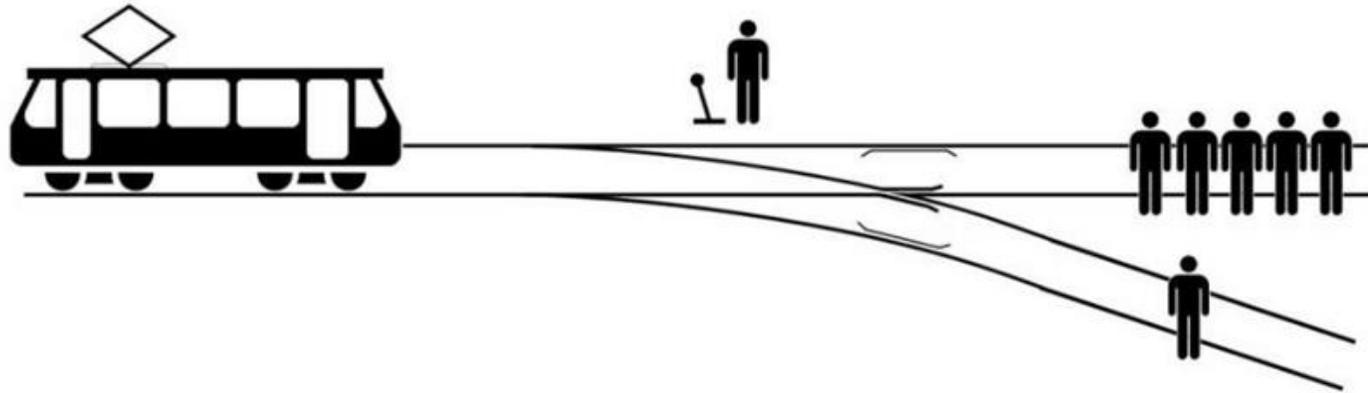
Does a robot with AI have human rights?

What is a right decision for an algorithm in a autonomous vehicle in case of a collision?

If we don't have the answers, implementation is difficult and the impact small.

# Statements

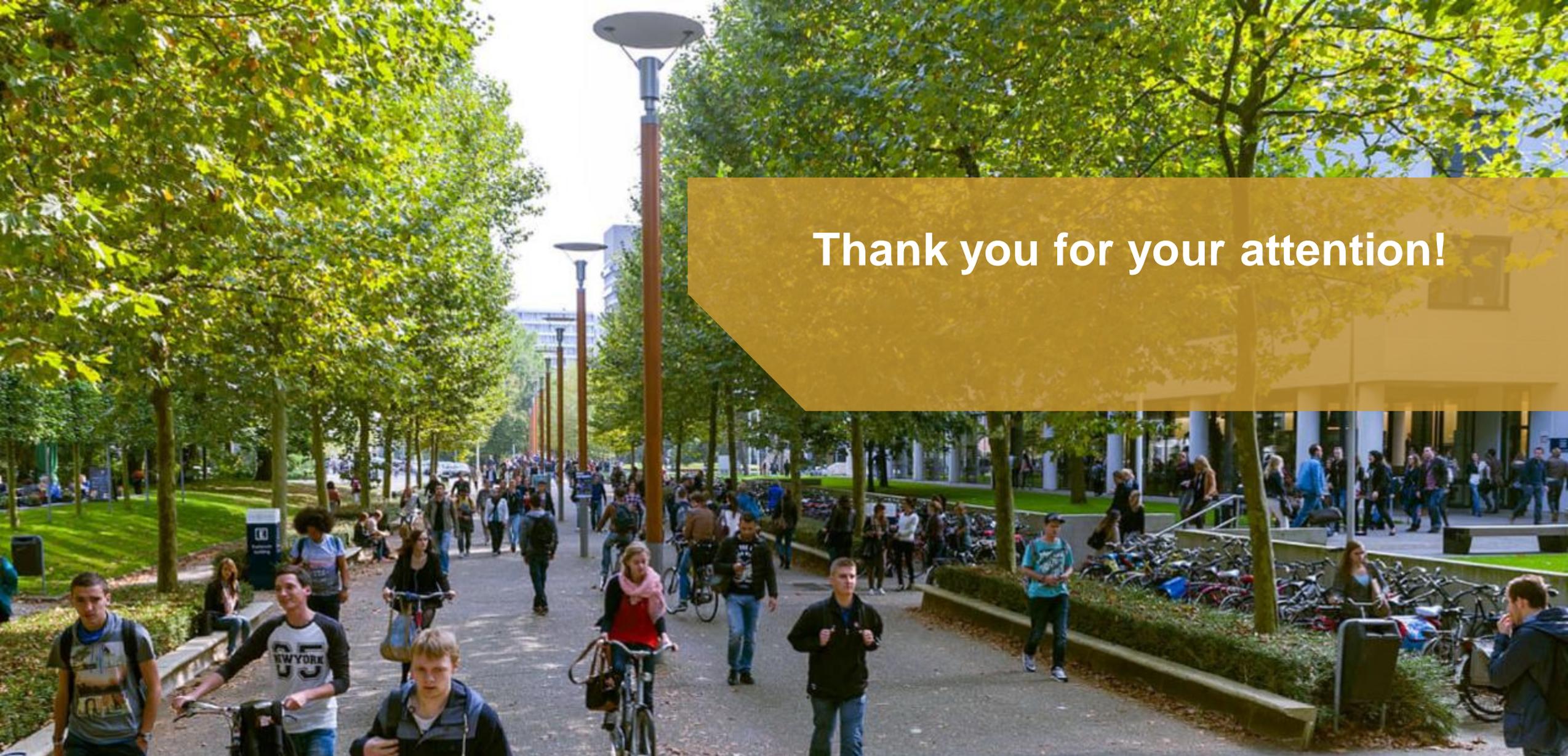
## Trolley dilemma



## Future & Emerging Technologies Advisory Group (FETAG)

*(FETAG is a the advisory entity set up to ensure that the European Commission receives consistent and consolidated advice during Horizon 2020, with respect to the Future and Emerging Technologies)*

- Robotics, mobiles and internet based technologies have already caused revolutions in social organization ... . Similar effects are being caused by the explosively developing bio- and pharma- technologies. .... Today, science and technology enabled shifts will redraw not only our economy, culture and society, but also our biology and our ethics. It is thus of utmost importance to incorporate a social sciences and humanities research component in the development of these new technologies from the earliest stage.



Thank you for your attention!



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## Interdisciplinary research

### Panel discussion and Q&A

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*Director of the Board on Higher Education and Workforce,  
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**How can we incentivize greater cross-disciplinary collaboration in  
defining and measuring the impact of our SSH interventions in  
society?**



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## Up Next

12.45-1.45pm Lunch

Mitsitam Cafe

1.45-3pm Indicators of SSH impact  
Institutional assessment systems  
Measurement tools  
Public Engagement

Rasmuson Theater  
Patrons Lounge  
Room 4025  
Room 4018+4019