H2020-MSCA-ITN-2020

PROJECT #955661

tusail

Getting started

Welcome to our first TUSAIL Network Newsletter!

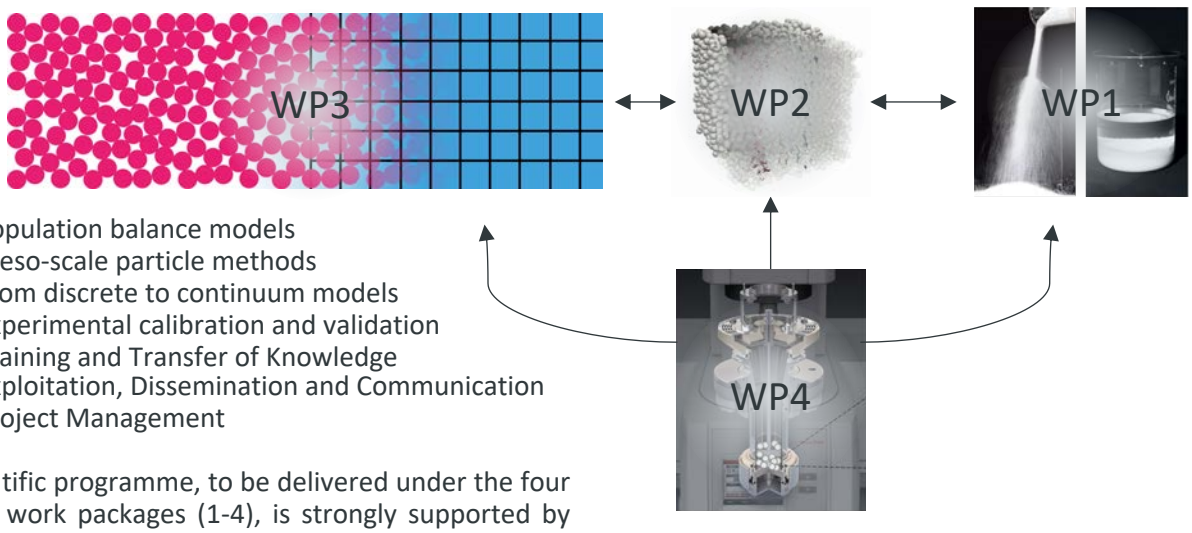
TUSAIL is an Innovative Training Network funded by the European Union's Marie Skłodowska-Curie Actions Horizon 2020 funding programme. Led by the University of Edinburgh, the network comprises six universities and ten industrial partners. TUSAIL stands for Training in Upscaling particle Systems: Advancing Industry across Length-scales. Over the course of four years, TUSAIL will train 15 early-career researchers (ESRs) through a combination of PhD research, scientific training and industrial secondments. The overarching goal is to meet international industry's requirements for highly skilled staff in the multi-disciplinary field of upscaling industrial particle processes.

We had our kick-off in March 2021 and by September, we successfully recruited an impressive group of budding researchers. Unfortunately, COVID-19 has meant that we have not been able to have an in-person network meeting, but we have worked hard to build our online community and Technische Universität Hamburg hosted an excellent, inspiring and productive first Doctoral School in September/October on ZOOM.

Through our regular newsletters we intend to share our progress and achievements as we work towards our shared scientific goals and support the development of Europe's next generation of highly-skilled R&D specialists.

Prof. Jin Ooi
Project Coordinator
Chair of Particulate Solid Mechanics
University of Edinburgh

Work packages



WP1 – Population balance models
WP2 – Meso-scale particle methods
WP3 – From discrete to continuum models
WP4 – Experimental calibration and validation
WP5 – Training and Transfer of Knowledge
WP6 – Exploitation, Dissemination and Communication
WP7 – Project Management

The scientific programme, to be delivered under the four scientific work packages (1-4), is strongly supported by an innovative joint doctoral training programme.

ESR 7: Roxana Saghafian Larijani
UT — UT

ESR 8: Balázs Füvesi
UT — DCS-C

ESR 12: Retief Lubbe
UT — P&G

ESR 13: Max Winkelmann
UT — UE

ESR 5: Afshin Taghizadeh
UE — JM

ESR 6: Oğuzhan Erken
UE — P&G

ESR 11: Akhil Mathews
UE — UE

THE UNIVERSITY OF EDINBURGH

P&G

JM Johnson Matthey
Inspiring science, enhancing life

UNIVERSITY OF TWENTE.

DCS COMPUTING

UNIVERSITÀ DEGLI STUDI DI SALERNO

ESR 9: Rahul Sharma
US — UE

ESR 10: Assem Zharbossyn
US — UT

TUHH
Technische Universität Hamburg

Technische Universität Braunschweig

PSE
A Siemens Business

ESR 1: Gero Stökl
TUHH — PSE

ESR 2: Amine Ait Ouazzou
TUHH — Nestle

Nestlé

JKU
JOHANNES KEPLER UNIVERSITÄT LINZ

ESR 3: Jobin Raju
TUBS — DCS-C

ESR 4: Yeswanth Sai Tanneru
TUBS — Nestle

ESR 14: Behrad Esgandari
JKU — JKU

ESR 15: Varun Dongre
JKU — TUHH

Network Events

Doctoral School 1 @ TUHH

Prof. Stefan Heinrich, supported by Sophia Rothberg and ESRs Gero Stöckl and Amine Ait Ouazzou, hosted our first Doctoral Training School from Technische Universität Hamburg (via Zoom) between 27th of September and 8th of October. The first day of the two-week event was devoted to introduction sessions to get to know each other, the project and the consortium members. The ESRs enjoyed a light-hearted team-building activity, working together to escape from a virtual locked room set in Ancient Egypt. During the rest of the two weeks there were intensive courses in the fields of fudamentals of mechanics, particle technology, particle methods & upscaling, programming and simulation softwares. This provided a sound foundation for all the ESRs to have a common-ground in the subdomains of the project that is relevant to everyone.

Balázs Füvesi (ESR8)
Project: DEM and CFD–DEM meso-particle modelling of mixing processes

Upcoming Events

Doctoral School 2 @ UNISA

We are very much hoping to take advantage of this Doctoral School being face-to-face. The two-week event will take place from 27th June to 8th July 2022 and will be hosted by Prof. Massimo Poletto and Assoc. Prof. Diego Barletta at Università degli Studi di Salerno (UNISA). It will combine intensive experimental and transferable skills training, whilst also giving the ESRs an opportunity to present their work to the network, engage in peer review, professional development, and finally, getting to meet colleagues in a social setting! We will invite members of our External Advisory Board and welcome their input on our emerging projects. We will also be welcoming a visit from our EU Commission funder, Project Officer Apostolos Paralikas, as we mark the mid-way point in our first project term (March 2021- March 2023).

The 10th international conference on Conveying and Handling of Particulate Solids (CHoPS 2022) will overlap with this Doctoral School from 5th to 9th July where members of the network can engage with the wider scientific community.

Prof. Dr. Vanessa Magnanimo
Senior Training Mentor
Adjunct Professor of Soil MicroMechanics
University of Twente

News and Awards

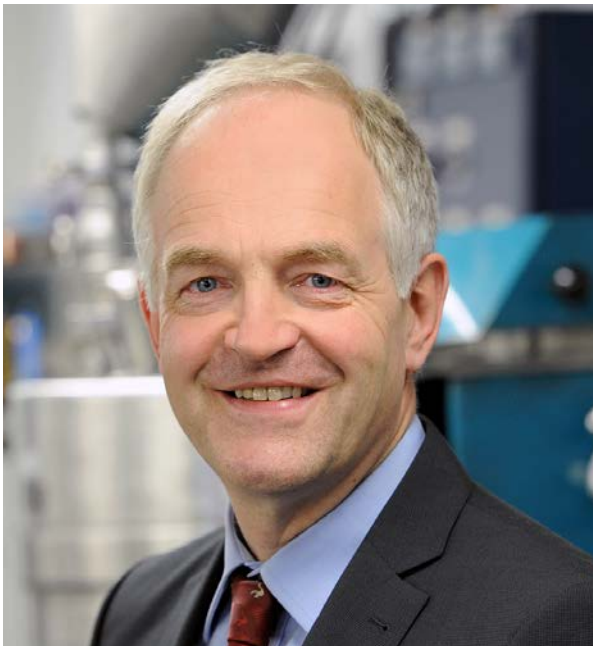
Stefan Pirker receives award for Research & Innovation

Workpackage 3 Leader, Professor Stefan Pirker of Johannes Kepler Universität Linz, has been awarded the CDG Award for Research and Innovation. Awarded to active or former heads of Christian Doppler Laboratories, the CDG award was presented to Stefan Pirker in recognition of his research into particulate flows. Stefan and his corporate partners at the Christian Doppler Laboratory for Modelling Particulate Flows have been exploring and integrating new methods in Big Data and AI into an underlying physical framework for some years. By using extremely efficient data-assisted methods, complex particle flows can now be calculated in real-time. This is a paradigm shift that opens the doors to entirely new opportunities and potential in the field of digitisation.

Arno Kwade awarded Lower Saxony Science Award 2021

Prof. Dr.-Ing. Arno Kwade, Workpackage 6 Leader and Director of the Technische Universität Braunschweig Institute for Particle Technology, has received the Lower Saxony Science Award 2021 for his significant research achievements in the fields of pharmaceutical process engineering and battery cell technology and production.

He has made significant contributions to socially-pressing issues, for example in the field of electromobility and in the development of cost-effective and safe stationary energy storage systems, which are needed to implement energy transition. In this way, he has decisively shaped the development of the TU Braunschweig and the state of Lower Saxony in the areas of Pharma & Bioparticle Technology and Battery Process Engineering through his outstanding commitment to the establishment and ongoing development of the two research centres ***Battery LabFactory Braunschweig*** (***BLB***) and ***Centre for Pharmaceutical Process Engineering*** (***PVZ***).



The Consortium

THE UNIVERSITY of EDINBURGH

- Kevin Hanley
- John Morrissey
- Jin Ooi
- Stefanos Papanicolopulos
- Deborah Stitt

UNIVERSITY OF TWENTE.

- Stefan Luding
- Vanessa Magnanimo
- Anthony Thornton
- Thomas Weinhart

Technische Universität Braunschweig

- Jan Henrik Finke
- Arno Kwade
- Carsten Schilde

TUHH Hamburg University of Technology

- Stefan Heinrich
- Swantje Pietsch-Braune
- Sophia Rothberg

UNIVERSITÀ DEGLI STUDI DI SALERNO

- Diego Barletta
- Massimo Poletto

JKU JOHANNES KEPLER UNIVERSITÄT LINZ

- Stefan Pirker
- Simon Schneiderbauer

NTE PROCESS

- Marco Bartolini
- Massimo Congedi

PSE A Siemens Business

- Stefan Bellinghausen
- Sean Bermingham

DCS COMPUTING

- Christoph Goniva
- Alice Hage

ALTAIR

- David Curry
- Marina Sousani
- Lewis Scott

MercuryLab powered by MERCURYDPM

- Donna Fitzsimmons
- Raquel Weinhart-Mejia

BASF The Chemical Company

- Christian Riemann
- Rouven Weiler

P&G

- Prashant Gupta
- Christopher Rennisonrae

Nestlé

- Yogesh Harshe

SACMI

- Riccardo Cenni

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- Hugh Stitt
- Vincenzino Vivacqua

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Doctoral School 2 Salerno landscape image: Siegfried Schnepf via Getty Images.