munich **I** intelligence empowering tomorrow

Meet the Future

Hightech Summit June 28, 2023

MESSE MÜNCHEN

MORE INFO HERE:

"It is inspiring that we have succeeded in attracting the international elite of speakers from research and top companies. All four sessions cover exactly what we wanted. This underlines the summit's commitment to providing highly exciting insights and reliable guidance on the relevance of new technologies in the future.

PROF. DR.-ING. SAMI HADDADIN

Director of MIRMI, holder of the Chair for Robotics and System Intelligence, founder of FRANKA EMIKA GmbH, munich_i Director

"AI technology must be ethically and socially responsible, and it must benefit both individuals and communities. munich_i offers a relevant platform for debate and gathers many participants from politics, science, industry, and society.
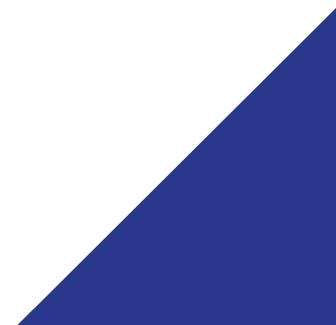
PROF. DR. MED. ALENA BUYX

Director of the Institute for History and Ethics of Medicine, munich_i Director

Run by:

MESSE MÜNCHEN   automatica   MIRMI   TUM

„munich_i offers personalities from science, industry, society and politics a platform for meeting and sharing views and ideas. Its focus is on trends and perspectives, new technologies and business models, but also on responsible technological transformation that will benefit people extensively. munich_i gets people in touch, provides insights, sparks debates and moves our country forward."

DR. MARKUS SÖDER

Bavarian Minister President,
patron of munich_i

munich_i Hightech Summit

The munich_i Hightech Summit is one of the world's top-level events in the AI and robotics sector. Its unique format gathers international pioneers from science and industry in one place to facilitate practical knowledge exchange.

It thus enables first-hand expert knowledge transfer, an exclusive overview of the latest research, prototypes and innovations, as well as top-level networking across sectors.

The summit is held on June 28 in Hall B4 of automatica, the leading exhibition for smart automation and robotics. Due to the rapid advancements in AI and robotics, it focuses on ethical issues: The Hightech Summit held under the theme of 'intelligence.empowering.tomorrow' highlights the interaction between human and Artificial Intelligence and responsible technological change.

We look forward to your visit and to taking the next step on the path from hightech to practical applications with you.

The keynote speaker at this year's munich_i Summit will be

DR. NORBERT GAUS

Executive Vice President Siemens Technology,
Head of Research & Pre-Development

Hightech up close

Apart from the summit itself, additional exciting formats make munich_i
a groundbreaking and inspiring hightech platform.

AI.SOCIETY

The AI.Society special show has 35 prototypes
and presents exciting lighthouse and research
projects by start-ups and MIRMI/TUM in align-
ment with the four pivotal fields of work, health,
mobility and environment. Highlights include
the munich_i opening address by Minister Pre-
sident Dr. Markus Söder and Minister of State
Markus Blume on June 27 at 15:30.

CEO ROUND TABLE

Renowned figures discuss the topic of "Soft-
ware: revolution for automation and robotics?"
at the automatica Forum on June 27 from 13:00
to 14:00. Participants: Prof. Dr. med. Alena Buyx,
munich_i Director, Rainer Brehm, CEO Factory
Automation, Siemens Digital Industries, and
Wendy Tan White, CEO Intrinsic.

ROBOTHON®

Robothon® is a collaborative software and
hardware development competition for young
developers. 20 teams from places such as
Europe, Dubai, Canada, and China rise up to an
unsolved environmental protection challenge
here. The Award Ceremony on June 29 will be
opened by patron Judith Gerlach, Minister of
State for Digital Affairs.

Overview of the Hightech Summit:

Humans, AI and Robots!

AI-enabled robots will solve some of human-kind's most pressing issues, says **Prof. Dr. Ing. Toshio Fukuda** of Nagoya University, Japan. He heads one of the Japanese government's Moonshot R&D programs on smart robots and supports his claim with examples from his research.

Prof. Aude Billard, from Switzerland who has been honored for her work in human-robot interaction, is the President-Elect of the global IEEE Robotics and Automation Society (RAS). She presents machine learning methods for fast and reactive robot control – an essential precondition for robot deployments outside of industrial environments.

„Humans, AI and Robots!" will be hosted by Session Chair Prof. Dr. Stefan Leutenegger, Professor at the Chair of Machine Learning for Robotics (TUM).

PROF. DR.-ING. TOSHIO FUKUDA

Nagoya University, Institute of Innovation for Future Society

AI Robot to solve the Mega-Trend problems

10:00 (20 min)

PROF. AUDE BILLARD

École Polytechnique Fédérale de Lausanne, LASA

Machine Learning Methods for Fast and Reactive Robot Control with Theoretical Guarantees

10:20 (20 min)

PROF. ROBIN R. MURPHY

Texas A&M University

Robots, Disasters, and High Tech

10:40 (20 min)

PROF. DR. VIRGINA DIGNUM

Umeå University

Responsible AI: why care?

11:00 (20 min)

12:00–13:35

Next Level Industrial Robots

Industrial robots will be programmed using new intuitive tools in the future. Prof. Dr.-Ing. Torsten Kroeger, former head of the Google Robotics Software Division and current CTO at Intrinsic, explains what these tools are exactly. Intrinsic is part of the US-based Alphabet Inc. and focuses on developing robotics software and AI applications.

Dr. Jeremy Wyatt, Director of Applied Science at Amazon Robotics, Germany, presents innovative use cases involving robots for handling goods in the world's largest online retailer's locations. The core competencies of Amazon Robotics include the development of collaborative and autonomous robots using AI and machine learning for applications deployed across the group of companies.

„Next Level Industrial Robots" is hosted by Session Chair Prof. Dr.-Ing. Darius Burschka, Associate Professor for Machine Vision and Perception (TUM).

PROF. DR.-ING. TORSTEN KROEGER

CTO, Intrinsic

Perception and Actuation in Robotics: Machine Learning Made Simple

12:00 (20 min)

MICHAEL HARTMANNSGRUBER

Vice President Robotics, Festo AG & Co. KG

Hot Air, Cold Steel

12:20 (20 min)

DR. JEREMY WYATT

Director, Applied Science, Amazon Robotics

Robotic Manipulation at Amazon

12:40 (20 min)

RYAN GARIEPY

CTO, Clearpath Robotics/ OTTO Motors

Don't Just Build Robots, Deliver Results

13:00 (20 min)

14:40–16:00

Quality of Life

The deployment of robots in the healthcare sector is associated with technical challenges and acceptance issues. Klaus Holetschek, Bavarian Minister of State for Health and Care, gives the opening address for the Session on this topic. Afterwards, Prof. Dr. Sunil Agrawal of Columbia University provides an overview of this special kind of collaborative robotics.

The international award-winning expert for robotics in medical rehabilitation is known for his exoskeletons that help stroke patients learn to walk again. Finally, Dr. Alex Mihailidis, AGE-WELL/University of Toronto, Canada, talks about the increasing adoption of AI and robotics in eldercare and provides a glimpse of the future.

„Quality of Life" will be hosted by Session Chair Prof. Cristina Piazza, Assistant Professor at the Chair of Computer Aided Medical Procedures (TUM).

KLAUS HOLETSCHEK

Minister of State in the Bavarian State Ministry of Health and Care

Virtual Impulse Speech

14:40

PROF. DR. SUNIL AGRAWAL

Columbia University

Rehabilitation Robotics and Improving Everyday Human Functions

14:45 (20 min)

PROF. DR.-ING. ROBERT RIENER

ETH Zürich

Rehabilitation Intelligence

15:05 (20 min)

DR. ALEX MIHAILIDIS

AGE-WELL, University of Toronto

The role of AI in Eldercare: Examples, Lessons, and the Future

15:25 (20 min)

SESSION 4   16:20–18:00

Strategy and Business

Turning technology into business models – Session No. 4 explores economical and strategic considerations. Dr. Michael Pfeiffer, Head of AI Research at the Bosch Center for Artificial Intelligence, outlines the journey from AI research to marketable products. Dr. Sameer Prabhu, Head of Market Development at MathWorks, USA, describes an example of this in his presentation of 'model-based design', which can be used to develop applications such as surgical robots, and even to plan entire smart factories.

„Strategy and Business" is hosted by Session Chair Prof. Alin Albu-Schäffer, DLR – German Aerospace Center: Institute of Robotics and Mechatronics.

DR. STEPHAN MARTIN

Principal Business AI Strategist,
SAP SE

The disruptive potential of Genera-
tive AI for Business and Industries

16:20 (20 min)

MARC CARREL-BILLIARD

Global Lead of Accenture Techno-
logy Innovation, Accenture

Robotics @ Accenture – applying
leading edge robotics research to
solve concrete client problems

16:40 (20 min)

DR. MICHAEL PFEIFFER

Head of AI Research at Bosch
Research and Bosch Center for
Artificial Intelligence

The opportunities and challenges
of AI in the physical world

17:00 (20 min)

DR. SAMEER PRABHU

Head of Market Development,
MathWorks

Realizing Smart Factories, Surgical
Robots, and Sustainable Mobility
with Model-Based Design

17:20 (20 min)

Agenda

TIME	SPEAKER / HOST	TOPIC
9:30	Dr. Reinhard Pfeiffer (Messe München)	Opening speech
9:33	Prof. Dr.-Ing. Sami Haddadin, Prof. Dr. Angela Schoellig and Prof. Stefan Leutenegger	Discussion
9:40	Dr. Norbert Gaus	Keynote: Robotics, the Digital Twin and AI – Enabling the autonomous factory
10:00	**SESSION 1** Prof. Stefan Leutenegger	**Humans, AI and Robots!**
10:00	Prof. Dr.-Ing. Toshio Fukuda	AI Robot to solve the Mega-Trend problems
10:20	Prof. Aude Billard	Machine Learning Methods for Fast and Reactive Robot Control
10:40	Prof. Robin R. Murphy	Robots, Disasters, and High Tech (virtual speech)
11:00	Prof. Dr. Virgina Dignum	Responsible AI: why care?
11:20		**Q&A / BREAK**
12:00	**SESSION 2** Prof. Darius Burschka	**Next Level Industrial Robots**
12:00	Prof. Dr.-Ing. Torsten Kroeger	Perception and Actuation in Robotics: Machine Learning Made Simple
12:20	Michael Hartmannsgruber	Hot AIr, Cold Steel
12:40	Dr. Jeremy Wyatt	Robotic Manipulation at Amazon
13:00	Ryan Gariepy	Don't Just Build Robots, Deliver Results
13:20		**Q&A / BREAK**

TIME	SPEAKER / HOST	TOPIC
14:40	**SESSION 3** Prof. Cristina Piazza	Quality of Life
14:40	Klaus Holetschek	Virtual Impulse Speech
14:45	Prof. Dr. Sunil Agrawal	Rehabilitation Robotics and Improving Everyday Human Functions
15:05	Prof. Dr.-Ing. Robert Riener	Rehabilitation Intelligence
15:25	Dr. Alex Mihailidis	The role of AI in Eldercare: Examples, Lessons, and the Future
15:45		**Q&A / BREAK**
16:20	**SESSION 4** Prof. Alin Albu-Schäffer	Strategy and Business
16:20	Dr. Stephan Martin	The disruptive potential of Generative AI for Business and Industries
16:40	Marc Carrel-Billiard	Robotics @ Accenture – applying leading edge robotics research
17:00	Dr. Michael Pfeiffer	The opportunities and challenges of AI in the physical world
17:20	Dr. Sameer Prabhu	Realizing Smart Factories, Surgical Robots, and Sustainable Mobility
17:40		**Q&A**
17:55	Prof. Dr.-Ing. Sami Haddadin and Prof. Alin Albu-Schäffer	**HIGHTECH SUMMIT RECAP**
19:30		**STATE RECEPTION IN THE RESIDENZ PALACE'S IMPERIAL HALL**

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