

Excellence@WORK
Gutenberg Alumni Talks in
Natural Sciences – June 2023

Dr.-Ing. Patrick Stanula & Dipl.-Math. Juergen Halt

LUNCH TALK -> June 20th, 12.15 – 13.45 pm

Accompany the Journey of two Generations into and through Professional Life

fun@work and the energizing Adventure of the never-ending Journey through Life and Relationships

Dr.-Ing. Patrick Stanula and Dipl.-Math. Jürgen Halt

Excellence@WORK → Journey of 2 Generations (year of birth 1990 vs 1954)

Excellence@WORK: "fun@work and the energizing Adventure of the never-ending Journey through Life and Relationships"

Dr.-Ing. Patrick Stanula and Dipl.-Math. Jürgen Halt

- With the view and experience of two generations - junior and as senior (university degree/promotion in the 1980s vs. the years 2010+)
- This talk provides insights into scientific careers and that in the future field of AI. Both speakers are in key positions between startups, university and other scientific and business organizations and can give insight into advantages as well as disadvantages of the different frameworks from their own experience
- Both in key positions between startups, university and other scientific and business organizations -> will give insight into advantages as well as disadvantages of the different frameworks from their own experience.

About me



Dr.-Ing. Patrick Stanula

- **Head of Project Management / Data Science Expert**
- Tvarit GmbH

- **Dr.-Ing. Management of Industrial Production (PTW/TUD)**
- Institute for Production Management Technology and Machine Tools

- **Dissertation | Monetary evaluation of load-based leasing for machine tools**

- **Project Management economical consideration**
- Research Project Pay-per-Stress (<https://pay-per-stress.de/>)

- **M.Sc. Industrial Engineering, Specialization Mechanical Engineering**
- TU Braunschweig

- **Master Thesis**
- Joint German-Australian Research Group, UNSW Sydney



About me



Dipl.-Math. Juergen Halt

- **R&D Director & Senior Partner**
- Tvarit GmbH | The Zero Waste Vision for Metal Manufacturing | Industry-specific AI Solutions for Metal Manufacturing Companies to achieve Energy- and Resource-efficient Production with minimal Waste
- **Mentor at SPIN+X MAINZmentoring-Program (Young Researcher College)**
- Johannes Gutenberg University Mainz | MAINZ RESEARCH ALLIANCE (the "Passionate Scientific")
- In the interdisciplinary Collaborative Research Center SPIN+X (TRR173) physicists, chemists and engineers are investigating spin and magnetism phenomena.
- **Lecturer at University of Applied Sciences Ansbach (Hochschule Ansbach)**
- LECTURE COURSE "Applied Artificial Intelligence and Innovation"
- MASTER'S PROGRAM "Applied Artificial Intelligence and Digital Transformation"
- **Mentor at Fraunhofer Venture - AHEAD Technology Transfer Program Network**
- Empowering Hightech Ventures at Fraunhofer Venture - Company Building as Part of the Fraunhofer Venture Program AHEAD
- **Founder/Owner & CEO**
- HALT CONSULTING & EXECUTIVE ADVISORY COUNCIL · Self-employed
- Independent Entrepreneur | Global Business Transformation | Worldwide Operations & IT-Offshore Orchestration
- **Global Sustain Operations Leader HP SAP COMPASS Business Transformation**
- HP Global SAP COMPASS solution supports 150K+ users worldwide; one of the largest SAP services implementations in the world
- Global Leader for HP Enterprise Services | Global SAP Business Expert and Business Transformation Lead (HP/EDS Integration)
- ... more than 45 years of global professional experience with Fortune 500 customers around the world, including SAP, Hewlett Packard, EDS, General Motors, etc.
- **Diplom Mathematiker** | TU Darmstadt
- **Diplom Thesis** | Comparison of current algorithms for the numerical solution of eigenvalue problems arising from finite element discretization's. (Research work based on a NASA publication)

Agenda

- Field of activity
- Success factors for this current job
- Presentation of the company/institute, career prospects there
- Milestones/strategy and coincidences
- Own fundamental decisions behind this path
- Success factors for the path
- Helpful personal skills / further education
- Tips for career orientation

Field of activity

- Head of Project Management – leading AI projects in the manufacturing industry
- Understanding pains in the shopfloor in different technologies
- Structuring projects and providing tailor-made solutions
- R&D Director & Senior Partner
- Driving Digital Transformation and AI-Innovation
- Startup Mentoring and Business Management Consulting
- Lecturer in Applied Artificial Intelligence and Innovation
- Orchestration of 6 AI Research Projects (Germany & Europe)

Success factors for this current job

- Deep Tech understanding in several fields, especially AI
- Leading large research projects with several actors in different fields (legal, leasing, manufacturer, machine builder)
- Exited with new challenges, cultures and roles
- be curious -> start step by step and gain experience -> be open to change
- actively share knowledge -> foster a positive work environment
- be proactive -> recognize and address challenges and solutions
- create Win-Win scenarios -> become Value-Add instead Value-Loss
- cultivate growth mindset and commit to lifelong learning

Company /Working Field



The Zero Waste Vision for Metal Manufacturing

Industry-specific AI Solutions for Metal Manufacturing Companies to achieve Energy- and Resource-efficient Production with minimal Waste.

We know your Challenges!

- High Scrap
- Cost Reduction Pressure
- Unplanned Breakdowns
- Rising Energy Costs & ESG Regulations
- Low OEE
- Knowledge Drain

Talk to an Expert →

Talk to an Expert →



01 Quality deviations

02 Machine downtimes

03 Low productivity

04 Inefficient resource usage

05 High CO₂-emissions

06 High costs

Production
6 BIG
Losses



Industrial artificial intelligence SaaS

The world's first vertical-oriented Industrial AI SaaS product suite focus on Sustainability & Zero-Waste

Industry

Casting

Aluminum, zinc, iron, steel

Metal processing

Machining, forming, welding

Processing industry

CPG sector, chemicals, oil, gas

Use Case



Prescriptive Quality
Reduces rejects



Prescriptive Energy
Reduction of energy losses & consumption



Prescriptive Production Planning
Energy-efficient production planning



Prescriptive Maintenance
Boosting of Productivity

Technology

TiA – TVARIT industrial artificial intelligence
featuring more than 160 AI modules

A holistic package of products that masters all the challenges faced by the processing and manufacturing industries.
It prevents unnecessary wastage of materials, working hours and finances for the company.

Milestones/strategy and coincidences

- Global strategy existed – the rest was a coincidence
- Milestone:
 - Civilian service
-> 1 year break
 - Australian research group
-> love to research
 - PhD in Darmstadt
-> personal reason
 - Tvarit
-> friends & interest
- don't let your environment define your strategy
- create a strategy that defines your environment!
- set checkpoints along the way to reflect and adjust your goals
- repeat and reinforce the "I can do this" mentality
- think out of the box
- if there is a will, there is a way!

Milestones/strategy and coincidences



- Although coincidences may seem to have nothing to do with milestones and strategies, they can sometimes play a role in shaping our journey
- Unexpected encounters, unplanned opportunities, or chance encounters can lead to new connections, insights, or pathways that impact our progress
- It's important to remain open to the possibilities that coincidences present and be willing to adapt our strategies and milestones when necessary.

Own fundamental decisions behind this path

- Combination of engineering and economics (2008 financial crisis)
- Get the highest possible academic degree (motivation)
- Have an impactful role in a company (curiosity)
- be open for everything that comes up
- be ready when new possibilities knock on your door
- trust your intuition and feelings that will guide you
- keep your positive energy
- when one door closes, another one opens for you

Success factors for the path

- Knowing the right people
- Never work alone / seek and accept help
- Taking a decision and stick to it (not sure yet when to quit)
- Passion and Motivation
- Continuous Learning
- Networking and Relationship Building
- Embracing Failure and Iteration
- Seeking Mentors and Role Models
- Balance and Well-being

Helpful personal skills / further education

- Persistence
Persistence
Persistence
- Keep calm and focus on the important things
- Recognize trends and go with the flow
- Effective Communication
- Critical Thinking and Problem Solving
- Emotional Intelligence
- Leadership and Teamwork
- Adaptability and Flexibility
- Networking and Relationship Building
- Cultural Competence and Diversity Awareness

Tips for career orientation

- Stay curious and interested
- Do not take the first most obvious path
- Experience instead of money in the first years
- Self-Reflection
- Seek Guidance
- Gain Practical Experience
- Networking
- Embrace Flexibility
- Evaluate and Adjust

Q & A



ASK FIVE WHYS' AT EVERY STEP

ALWAYS CHOOSE THE WAY WHERE THERE IS NO ROAD

BE A CHILD

BE CURIOUS. BUILD CURIOSITY. SEEK UNEXPECTED. NEVER BE AFRAID.



An aerial night view of London, showing the River Thames winding through the city. The city lights are illuminated, and the sky is a mix of orange and purple. The text "BE WITH THE TALENT" is overlaid in large, white, bold letters across the center of the image.

BE WITH THE TALENT



SMELL THE COFFEE

NEVER BEHAVE DELUSIONAL.



COLLABORATE

A close-up, slightly blurred photograph of a wooden table. In the foreground, several mugs are arranged. Some are orange with black handles, and others are white with black handles. A clear glass is partially visible on the right. In the background, a person's hand is visible, holding a white object, possibly a napkin or paper. The lighting is warm and natural, suggesting an indoor setting like a cafe or a meeting room.

EMBRACE DIVERSITY

IN PEOPLE. IN PLACES. IN READING. IN WATCHING. IN DOING. IN THINKING. IN FEELING. DIVERSITY AROUND

A vibrant floating market scene with people in boats selling fresh produce and food. The boats are filled with various goods, including baskets of green bananas, bowls of fresh vegetables, and other market items. A woman in a blue shirt is seen preparing food in one of the boats. The scene is set on a body of water, with lush greenery visible in the background.

EXPERIENCE DIVERSE CULTURES

COUNTRIES. RELIGION. THINKING. BELIEFS. FAITHS. LIFESTYLES. PRODUCTS. DIVERSITY WITHIN



**NO ESCAPING
HARD WORK**



SEEK UNKNOWN

A cluttered workshop or garage with various tools and equipment hanging on the walls and floor. The scene is dimly lit, with a bright light source on the left side, possibly a window, creating a strong contrast. The tools include ropes, cables, and other mechanical parts. The overall atmosphere is one of a busy, well-used workspace.

BE PREPARED TO ACT

SOMETIMES YOU SEEK IDEAS. SOMETIMES IDEAS SEEK YOU.

ACTIONS
GET
RESULTS

Creativity and
Innovation are Core
Competencies for
Success

-> LESSONS
-> LEARNED



Sei neugierig!



Stelle Zusammenhänge her



Fordere dich selbst heraus!

be **CURIOUS**
make **CONNECTIONS**
CHALLENGE yourself
CULTIVATE ideas

Step 4: Cultivate
Your Ideas

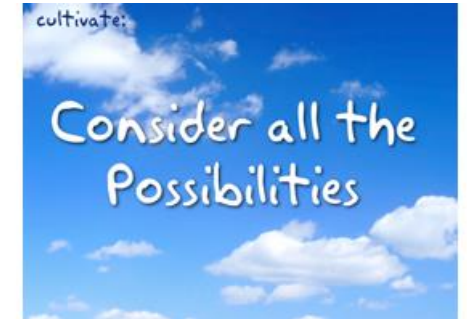


Kultiviere/ vervollkomme
leine eigenen Ideen!

ACTIONS GET RESULTS



Creativity and Innovation are Core Competencies for Success



-> LESSONS
-> LEARNED

Let's connect & get in touch and exchange ideas for joint adventures and future ventures

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