# what is BILT Academy?

You want to know all about **BIM** and digitalisation in the **Built Environment and would** like to gain international contacts, but you only have 1 day and a limited budget? Sign up for the BILT academy on 22 April, at The Hague **University of Applied Sciences!** 

5 Labs to choose from, with internationally renowned mentors who have put together a student-focused education program.



## when:

April 22nd 2025

### where:

The Hague University of Applied Sciences, Netherlands

Johanna Westerdijkplein 75 2521 EN, The Hague

BILT ACADEMY
INTERNATIONAL STUDENT SUMMIT
FOR THE BUILT ENVIRONMENT





# The BILT Academy

BILT Academy is an international network of students that recognizes the necessity of improving working methods to shape the built environment. We want to push the industry towards a more sustainable and eco-friendly future.

Adopting new technologies and methodologies are key to success. Sharing knowledge, exploring new processes and engaging in international collaboration is beneficial for you and the entire building industry.





### **Our Mission**

What do we stand for?

BILT Academy is striving to shape the future experts of the building industry. We are promoting a sustainable built environment within a healthy global ecosystem.

We believe that it is due time to improve our way of thinking, our way of living and how we create physical assets. It is our mission to create new innovative methods for future decision making processes. We aim to create a common environment that enables the industry to collaborate more efficiently and in particular – or especially - together.

join us

get in touch

shape the future experts of the building industry

BILT Academy
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www.biltacademy.org
www.dbeinstitute.org/event/bilt-academy-2025/



# where can I register to the BILT Academy?

### **BILT ACADEMY 2025**

22 April 2025

THE HAGUE UNIVERSITY OF APPLIED SCIENCES, NETHERLANDS



**CLICK HERE TO REGISTER NOW!** 



# https://biltacademy.org/

ENVIRONMENT

# program

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5			
8:30 am			Registration					
9:00 am								
	Welcome Speech by BILT Academy							
9:30 am	Keynote talk 9:20 am - 10:20 am							
10:00 am								
10.00 am								
10:30 am	Mentor Pitch							
11:00 am	Morning Coffee							
11.00 am	Lab 1.1 OpenBIM based Coordination 11:00 am - 12:30 pm	Lab 2.1 Intro to Parametric Design: Le 11:00 am - 12:30 pm	Lab 3.1 Support energy transition utili 11:00 am - 12:30 pm	Lab 4.1 Web-based Building Informati 11:00 am - 12:30 pm	Lab 5.1 GEO BIM - Amir Hakim & Han 11:00 am - 12:30 pm			
11:30 am								
12-00								
12:00 pm								
12:30 pm			Lunch					
4.00	12:30 pm - 1:30 pm							
1:00 pm								

	Afternoon Break							
3:30 pm	Lab 1.3 OpenBIM based Coordination Lab 2.3 Intro to Parametric Design: Le Lab 3.3 Support energy transition utili Lab 4.3 Web-based Building Informati Lab 5.3 GEO BIM - Amir Hakim & Han							
	Lab 1.3 OpenBIM based Coordination 3:30 pm - 5:00 pm	Lab 2.3 Intro to Parametric Design: Le 3:30 pm - 5:00 pm	Lab 3.3 Support energy transition utili 3:30 pm - 5:00 pm	Lab 4.3 Web-based Building Informati 3:30 pm - 5:00 pm	3:30 pm - 5:00 pm			
4:00 pm			5.55 ( 5.55 (	5.55 ( 5.55 (				
4:30 pm								
5:00 pm								
	Break							
5:30 pm	Closing Session							
	5:15 pm - 6:00 pm							
6:00 pm	Networking 6:00 pm - 7:00 pm							
6:30 pm	oldo pili. 7.00 pili.							
7:00 pm	BILT Europe Speaker & Sponsor function							
	7:00 pm - 9:00 pm							
7:30 pm								
8:00 pm								

# mentors & content

### Summit2025 LAB1: OpenBIM-based coordination and collaboration

Description of LAB1

#### KLO 1 IFC: a common language

The student has a comprehensive understanding of the principles of OpenBIM and its main features.

#### **KLO 2 OpenBIM coordination process**

The student has basic knowledge of setting up an OpenBIM coordination process.

#### KLO 3 OpenBIM collaboration concepts

The student has a basic understanding of various collaboration workflows supported by OpenBIM.





#### MARTIJN DE RIET

#### Avans+ Mentor to LAB #1

**Bio:** Martijn has a degree in building engineering since 2004 and specialised in Information Management. Martijn started his career as BIM engineer and became a well-known Revit and IFC expert. In 2015 Martijn co-founded Bimforce, a software development company aiming to improve communication in the BIM process. With Bimforce, Martijn has funded major developments of the IfcOpenShell toolkit and is spearheading the first company to develop and utilize IfcGraph in a commercial software.

Martijn has a history of standards development and a longstanding interest in Open BIM and Open Data workflows. He is main author of the Dutch Revit Standards. Martijn had been Chairman for buildingSMART Benelux from 2015 to 2017, wrote several publications on IFC workflows and presented at multiple conferences on the implementation of IFC.

#### LAB #1 - OpenBIM-based Coordination and Collaboration

#### Key Learning Objectives:

1- IFC A Common Language

Students will gain a broad understanding of the principles of OpenBIM, and its key features.

2- OpenBIM Coordination Process

Students will gain basic knowledge of setting up an OpenBIM Coordination process.

3- OpenBIM Collaboration Concepts

Student will achieve a basic understanding of various Collaboration workflows supported by OpenBIM



#### **MENTOR**



#### **MARTIN TAURER**

#### Hanze University of Applied Sciences Mentor to LAB #1

**Bio:** In 2007 Martin joined LRCZ. Martin graduated as an Architect from Technical University Graz, Austria in 1987 and practiced in Austria, Germany and Brazil throughout 1999. At that time he joined Autodesk Inc. briefly, then moved to the nascent Revit Technology Corporation in 2001, before getting reabsorbed by Autodesk with its purchase of Revit the following year. 2007 marked the end of his interest in corporate life and drove him to join LRCZ doing technology and architecture.

#### LAB #1 - OpenBIM-based Coordination and Collaboration

#### **Key Learning Objectives:**

1- IFC A Common Language

Students will gain a broad understanding of the principles of OpenBIM, and its key features.

2- OpenBIM Coordination Process

Students will gain basic knowledge of setting up an OpenBIM Coordination process.

3- OpenBIM Collaboration Concepts

Student will achieve a basic understanding of various Collaboration workflows supported by OpenBIM

### Summit2025 LAB2: Intro to Parametric Design: Leveraging Grasshopper 3D for Enhanced Revit Workflows

Description of LAB2

#### **KLO 1 IFC: 3D modeling**

Foundation in 3D modeling thanks to Rhino's core tools and capabilities for architectural and construction design.

#### **KLO 2 Parametric design principles**

Introduce parametric design principles through Grasshopper, enabling streamlining and automating workflows in architectural projects.

#### **KLO 3 Advanced Grasshopper techniques**

Deepen understanding of advanced Grasshopper techniques to expand computational design possibilities using conditional logic, and complex geometry manipulations.





#### **PEDRO CORTÉS**

#### UIC - International University of Catalonia Mentor to LAB #2

**Bio:** Pedro Cortés is a developer and technical support specialist at McNeel Europe. Since he joined the company in 2021, he is involved in the development of several projects, including Rhino. Inside Revit. Pedro also has experience as a Rhino and Grasshopper trainer, coordinating the Training Course for Resellers and participating as a teacher in events and workshops. In addition, Pedro collaborates in Food4Rhino webinars, a series of talks in which professionals and experts share their advances in the use of new technologies (AI, ML) with McNeel tools (Grasshopper, Rhino.Compute, Rhino.Inside).

#### **LAB #2**

Intro to Parametric Design: Leveraging Grasshopper 3D for Enhanced Revit Workflows

#### **Key Learning Objectives:**

- 1- Foundation in 3D modeling thanks to Rhino's core tools and capabilities for architectural and construction design.
- 2- Introduce parametric design principles through Grasshopper, enabling streamlining and automating workflows in architectural projects.
- 3- Deepen understanding of advanced Grasshopper techniques to expand computational design possibilities using conditional logic and complex geometry manipulations

# Summit2025 LAB3: Support energy transition utilising BIM and parametric modelling in a BPES context

Description of LAB3

# KLO 1 Fundamentals of building performance and energy simulation with BIM-based data modelling and exchange requirements

Part 1: College - Information Delivery Specifications, Building Smart. Part 2: Exercise - Putting information into properties.

#### KLO 2 The exchange gap, insight in exchanging data

Explaining the exchange gap Viewing diverse energy calculation software Possibilities to exchange data from a model to energy calculation software.

#### KLO 3 Modelling training

Using BIMsoftware to make models for energycalculation. Modelling a simple building (exercise). Extracting data from the model.





#### WIECHERT ESCHBACH

University of Applied Science Windesheim Researcher Professorship Energy Transition // Building Physics and Building Information Management Mentor to LAB #3

Bio: After working in architectural and engineering firms for just under 30 years. I found a new challenge in HBO education in 2007. My expertise concerns the fields of Building Physics and Building Information Modelling/Management (BIM). Eschbach ADB, my company, also deals with both fields. This allows me to keep testing education against practice. As of now, I am engaged in research in the field of BIM and Building Physics. We conduct this research together with SMEs from the Zwolle region. The results will be made available to the professional field and education. It is extremely challenging and enriching to be involved in this. The study Energetically Better with BIM was recently completed. In it, we looked for improved transfer in housing transition. Besides the products, an ILS Energy Transition and an ILS Monitoring, knowledge was built up on the transfer of data between BIM models and calculation software (and other model types). This shows that a BIM model is actually unsuitable as a data carrier for calculations, because data anno 2024 is only transferred with difficulty (read: partly manually). From June 2024, I may be involved in the EWF-tech project. In it, we are trying to create a parametric model of a climate control system as natural as possible.

#### LAB #3 BIM in Building Physics, Bidirectional Data Exchange

#### Key Learning Objectives:

- 1- Fundamentals of building performance and energy simulation with BIM-based data modelling and exchange requirements.
- 2- The exchange gap, insight in exchanging data
- 3- Modelling training: Using BIM software to make models for energy calculation



#### **MENTOR**



#### **EKKO NAP**

#### The Hague University of Applied Sciences (THUAS)

**Bio:** In my twenties, I funded my somewhat extended career as an architecture student, driven by a passion for both psychology and technology and an unhealthy disregard for deadlines, by investigating the rapidly emerging BIM technology for the Dutch Government. That student job evolved into a proper career, creating high-quality content for BIM processes in the Architecture and Building Physics fields for several companies.

By 2014, I had taken on a position as a full-time BIM manager/developer at Groosman. In 2018, I co-founded the Dutch Dynamo User Group, a community dedicated to advancing the use of Dynamo, a visual programming tool with close integration with Autodesk BIM software. This group has become a vital resource for professionals looking to enhance their skills and collaborate on innovative projects. I also contributed to the BIM base IDS, essentially teaching a nation the basics of how to collaborate in BIM through the use of open standards like IFC. Feeling both ill-equipped and ambitious to learn to teach effectively, and looking for an even less constraining environment for sharing knowledge and collaborating on quality content, I took on a full-time teaching position at The Hague University of Applied Sciences (THUAS) three years ago and have been improving my teaching skills ever since. THUAS has much larger conference rooms as well, an opportunity I was guick to capitalize on. Now that I feel more secure as a teacher and have successfully built courses on several levels of BIM and parametric design (check out our minor program!), I am gradually moving back into research and development roles at THUAS. Last summer. I completed a pilot with the Dutch National Archive. which is tasked with constructing a digital archive of BIM-formatted building permit applications and government building data that will need to remain accessible for decades.

#### LAB #3 BIM in Building Physics, Bidirectional Data Exchange

#### **Key Learning Objectives:**

- 1- Fundamentals of building performance and energy simulation with BIM-based data modelling and exchange requirements.
- 2- The exchange gap, insight in exchanging data
- 3- Modelling training: Using BIM software to make models for energy calculation

### Summit2025 LAB4: Web-based Building Information Modeling

Description of LAB4

# KLO 1 Understand the basics of semantic web technologies to represent building information in graphs

Create a graph with building information

# KLO 2 Create and use ontologies, introduction to the basics of querying via both SPARQL and large language models

Create an ontology and link this ontology to the graph Perform multiple queries using SPARQL in a graph database

#### KLO 3 Introduced to various example projects in which web-based BIM is applied

Interact with the graph using large language models'





#### **ALEX DONKERS**

#### TU Eindhoven Mentor to LAB #4

**Bio:** Alex Donkers performs research as a postdoctoral researcher in the ITEA4 FireBIM project and is part of the Information Systems in the Built Environment group of the Eindhoven University of Technology. He received a PhD cum laude in 2024 and an MSc cum laude in 2019. His current research focusses on automated compliance checking of building regulations using natural language processing and semantic web technologies.

Alex chairs the W3C Linked Building Data Community Group, co-organizes LDAC, teaches and supervises at TU/e and TIAS, and spent time at the Ruhr-University Bochum as a visiting researcher. He published peer-reviewed articles in a.o. Automation in Construction, Semantic Web Journal, TRD, Building Research & Information, and IEEE, and is the developer of multiple open-source projects, including LBDviz and the BOP and OFO ontologies. His research interests include linked building data, semantic web technologies, semantic digital twins, natural language processing and large language models, sensors and IoT, web development, building performance and neuro-symbolic AI.

#### **LAB #4**

#### Web-based Building Information Modeling

#### Key Learning Objectives:

1- Understand the basics of semantic web technologies to represent building information in graphs:

Create a graph with building information.

2- Create and use ontologies, introduction to the basics of querying via both SPARQL and large language models.

Create an ontology and link this ontology to the graph.

Perform multiple queries using SPARQL in a graph database.

3- Introduction to various example projects in which web-based BIM is applied. Interact with the graph using large language models.

### Summit2025 LAB5: Web-based Building Information Modeling

**Description of LAB5** 

KLO 1 Introduction to advancing GeoBIM integration in digital twins

KLO 2 Applications of 3D spatial data, BIM tools, georeferencing techniques, and practical workflows in real-world projects

KLO 3 Interactive Hands-On GeoBIM: Game Engines, Daylight Simulation, and Shaping Cities in Response to Rising Water Levels





# AMIR HAKIM TU Delft Mentor to LAB #5

Bio: I am a Scientific Software Developer and Researcher, currently working with the 3D Geoinformation Group at TU Delft, where I contribute to pioneering research and the development of innovative solutions driving digital transformation in the Architecture, Engineering, and Construction (AEC) sector. My expertise lies in designing and developing advanced software systems and integrating geospatial and BIM data to improve project efficiency and enhance data-driven decision-making. At TU Delft, I have led the development of IfcGref, a web-based application for precise georeferencing of IFC models, and created the CityJSON Importer plugin for GeoBIM integration, which is now published on the Autodesk Revit App Store. I have also made substantial contributions to advancing the IFC format for 3D BAG, an up-to-date data set containing 3D building models of the Netherlands and supported the automation of building permitting processes through the CHEK Project.

My professional mission is to streamline digital workflows by developing innovative tools and systems that bridge the gap between geospatial data, BIM, and automation. This approach empowers stakeholders to focus on strategic, high-value decision-making, driving sustainability, precision, and innovation in the delivery of built assets. With a commitment to excellence and technological advancement. I am dedicated to advancing the AEC industry through deep research and the development of practical solutions that foster innovation and deliver tangible impact.

#### LAB #5 GeoBIM

#### **Key Learning Objectives:**

- 1- Intoduction of GeoBIM as the Foundation for Advancing Digital Twin Integration
- 2- Applications of 3D spatial data, BIM tools, georeferencing techniques, and practical workflows in real-world projects
- 3- Interactive Hands-On GeoBIM: Game Engines, Daylight Simulation, and Shaping Cities in Response to Rising Water Levels



#### **MENTOR**



#### **HANS LAMMERTS**

#### GeoBimExperts Mentor to LAB #5

Bio: After studying Civil Engineering at the HTS, I started my career at Rijkswaterstaat. I then worked at engineering firm RHDHV for about 10 years. As a designer I was involved in the designs for various leading infrastructure projects. Since 2013 I have been working in the technical department of contractor Heijmans, Infrastructure division. My day-to-day focus is translating design into actual feasible plans for realization, while working with both 3D models and drawings. Since the beginning of my career, I have been fascinated by the possibilities of freely available GIS data. I am convinced that great benefits will be achieved through cross-pollination of the Bim and GIS domains. During my career I have specialized in compiling 3D environmental models, preferably with open source software. Since 2020, I have been offering technical support for BIM and GIS issues as a GeoBimExpert.

#### LAB #5 GeoBIM

#### **Key Learning Objectives:**

- 1- Intoduction of GeoBIM as the Foundation for Advancing Digital Twin Integration
- 2- Applications of 3D spatial data, BIM tools, georeferencing techniques, and practical workflows in real-world projects
- 3- Interactive Hands-On GeoBIM: Game Engines, Daylight Simulation, and Shaping Cities in Response to Rising Water Levels

# marketing materials





#### THE

# BUILDING INFORMATION MODELING TOOLBOX

