International Conference

ARCHITECTURE & PATENTS

June 18–20, 2025
ETH Zurich
Main Building
Semper Auditorium
(HG G 60)

ETH zürich IDB

The research project “Architecture & Patents. The Buildings of the ETH Domain” is financed by the Swiss National Science Foundation.

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At the dawn of the 19th century, the invention of new materials, structures, and machinery gradually began to transform the relationship between architecture and architectural tradition, a time coinciding with the establishment of national patent systems. Although it is hard to imagine the innovative, technical, and creative aspects of architecture without patents, it is only in recent years that they have received increased academic attention in the history of architecture and construction.
At ETH Zurich, the ongoing research project “Architecture & Patents” at the Professorship Construction Heritage and Preservation of Prof. Dr. Silke Langenberg, investigates the role of patents within the extensive buiding stock of the ETH Domain from 1855 to the present day.

The international conference “Architecture & Patents” will provide an academic platform for exchanging on the topic in a wider context. It covers the 19th through the 21st centuries and deals with legal, historical, and architectural questions; materials and processes; construction heritage and newest developments in digital fabrication.

Silke Langenberg, Robin Rehm, and Sarah M. Schlachetzki
Conference Hosts

WEDNESDAY, JUNE 18

12:45 Registration

13:30 Welcome and Introduction

Silke Langenberg and Robin Rehm (ETH Zurich)

Opening Remarks and Introduction

Sarah M. Schlachetzki (ETH Zurich)

"The patent as a collective obsession" Thoughts on Patent Research

14:40 IP and Law
Moderation: Andreas Putz (Technical University of Munich)

Zacharias Stelzer (E. Blum & Co. Ltd)

From Form to Function: A Patent Attorney's Perspective of Architecture

Marta Iljadica (University of Glasgow)

Architects' Patents and the Profession in 19th Century Britain

15:50 Coffee Break

16:20 Perspectives on Recent Patents

Georgios Eftaxiopoulos (University of California, Berkeley)

US-D827154-S: Steve Jobs Theatre and the Rise of a New Patentism

Andrei Koshelev (ETH Zurich)

Why Patent?

17:30 Break

18:00 Keynote

Peter H. Christensen (University of Rochester)

Better Living Through Chemistry?: BASF, 3M, and DuPont's Chemical Patents for the Building Industry in Critical Perspective

19:00 Apéro

THURSDAY, JUNE 19

08:45 Coffee & Croissants

09:15 (Trans-)National Perspectives
Moderation: Robin Rehm
(ETH Zurich)

Simona Valeriani (V&A Research Institute,Victoria and Albert Museum)
A Nexus of Design Innovation: Patents, Exhibitions, and Knowledge Sharing in 19th Century South Kensington

Asha Sumra
(Aarhus School of Architecture)
Patents and Patterns: Moving methods through the Gilardoni and Marseille roof tiles (1841–)

Nigel Isaacs
(Victoria University of Wellington)
Patents—Hiding Social History

11:00 Coffee Break

11:30 Innovating Wood Constructions

Alexander von Kienlin
(Technical University of Munich)
Otto Hetzer's Patents and Their Role in Industrial Timber Construction

Jonatan Anders
(Bauhaus-Universität Weimar)
Patents and Standards—Assessing Innovation in 20th-Century Timber Construction

12:40 Lunch Break

THURSDAY, JUNE 19

14:15 Inventions in Metal Façades
Moderation: Kirsten Angermann
(Bauhaus-Universität Weimar)

Nina Irmert
(ETH Zurich)

Patents in Practice: Ernst Koller and the Standardization of Swiss Metal Façades 1928–1957

Tiago Matthes
(ETH Zurich)

Competition and Collaboration: Intellectual Property of Swiss Façade Producers, 1957–1975

15:25 Coffee Break

16:00 Patents in Cultural History

Rouven Grom and Andreas Putz
(Technical University of Munich)

Constructive Form and Graphic Design—Building Systems between Trademark and Patent

Laura Mucciolo
(Sapienza University of Rome)

Architecture and Intellectual Maternity by Patents: Frances Gabe's Self-Cleaning House and the Legacy of Non-Pedigreed Architects

Laurent Stalder
(ETH Zurich)

Reading Patents Against the Grain

17:45 End of Conference Day 2

FRIDAY, JUNE 20

08:30 Coffee & Croissants

09:00 Towards Digital Architecture
Moderation: Silke Langenberg (ETH Zurich)

Tizian Rein, Marcel Studer and Dominik Reisach (ETH Zurich)
From Material to Market: How Materiality Drives Innovation

Benjamin Dillenburger (ETH Zurich) and Matthias Leschok (SAEKI Robotics AG)
From Patent to Production: Intellectual Property in Large-Scale Additive Manufacturing

10:10 Coffee Break

10:30 Patents as Construction Heritage

Carsten Diez (baubar urbanlaboratorium) and Volker Ziegler (École nationale d'architecture, Strasbourg)
Camus-Dietsch Panel Tectonics' Past and Present

Alberto Bologna (Sapienza University of Rome) and Ilaria Giannetti (University of Rome Tor Vergata)
The Tangible and Intangible Heritage of Proto-Design for the Disassembly in Post-War Italy: An Industrial Patent-Based Perspective

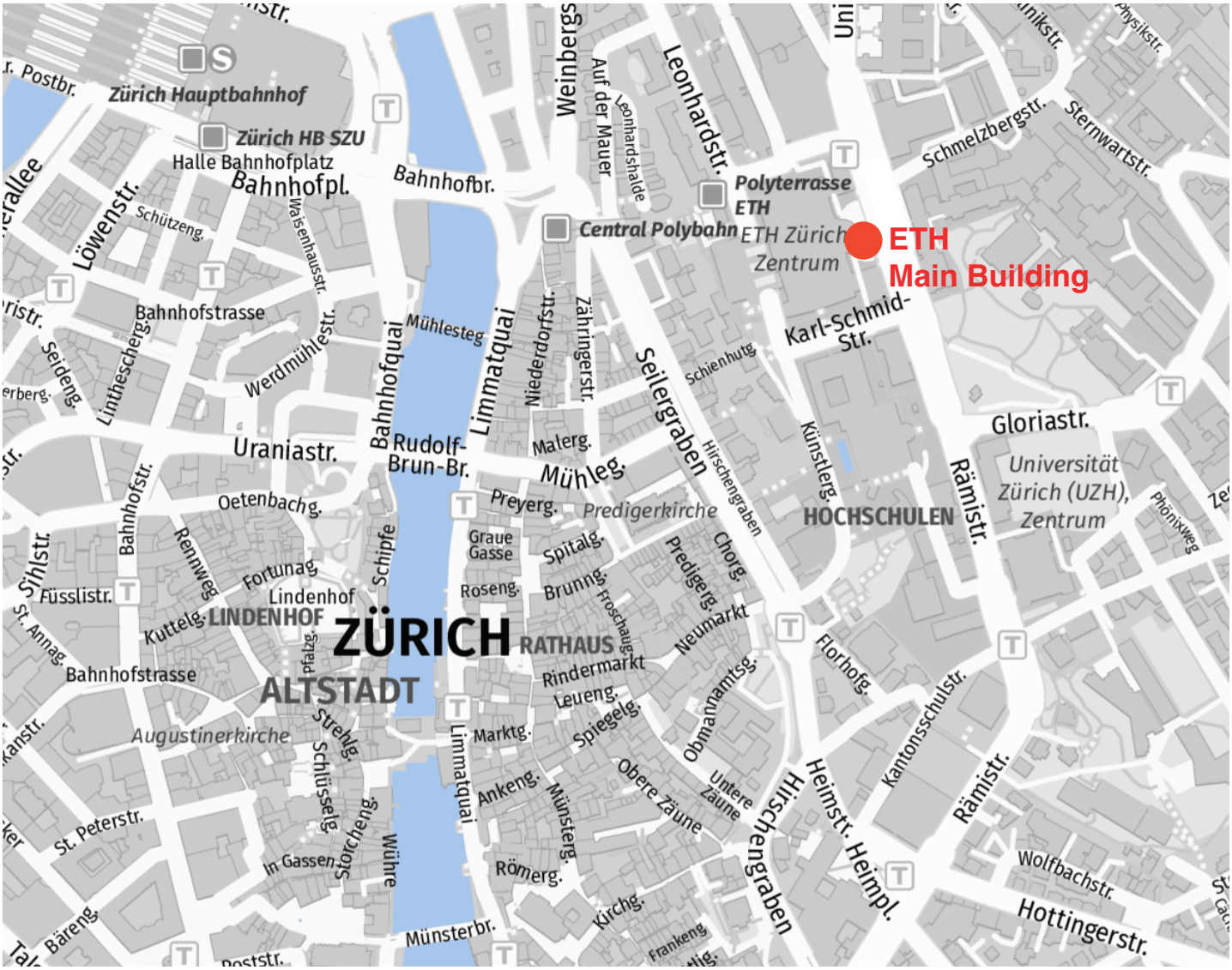
Tanja Scheffler (Dresden University of Technology)
Precast Concrete Roof Shells in East and West Germany—Patents, Application and Reception

Silke Langenberg (ETH Zurich)
Closing Remarks

12:30 End of the Conference

CONFERENCE VENUE

ETH Main Building
Semper Auditorium
HG G 60
Rämistrasse 101
8006 Zurich



ABSTRACTS

From Form to Function:
A Patent Attorney's Perspective of Architecture

Zacharias Stelzer
E. Blum & Co. Ltd

Zacharias Stelzer is a Swiss and European patent attorney, working in private practice in a Zurich-based IP law firm. His areas of practice include general patent counselling of clients—from startups to international companies—, patent drafting, prosecution and litigation, as well as freedom-to-operate analyses and opinions.
Stelzer studied geophysics at the Karlsruhe Institute of Technology (DE) as well as at NTNU Trondheim (NO) with a specialization in the measurement and processing of seismic waves. He then obtained a PhD from ETH Zurich (CH) with a PhD thesis in the field of geomagnetism, for which he was awarded an ETH medal.
After working several years in IT and management consulting, Stelzer now enjoys collaborating with innovative minds for protecting and defending their technical inventions.

Patents—Threat or Opportunity for Architects? In earlier times, patents—the protection of technical inventions—played only a minor role in architecture. Their relevance was mostly limited to specific fields, such as construction technologies and materials. However, in an era where architecture increasingly intersects with engineering, technology, and sustainability, patents gain importance for protecting and defending intellectual property also more generally in architectural practice.
This paper introduces the fundamentals of patent protection, explains how it differs from other intellectual property rights, and demonstrates its growing relevance in architectural innovation. From adaptive facades and modular construction systems to building-integrated technologies, many architectural solutions today solve technical problems that qualify for patent protection. First, we explore the broader landscape of intellectual property rights in architecture, followed by a focused look at what makes an invention patentable under European and Swiss patent law—highlighting criteria such as novelty, inventive step, and industrial applicability.
The talk includes a case study of European patent EP1455033, granted to Hans Zwimpfer in 2006. This patent protected a residential building with staggered dwellings, each having a single-storey part and a two-storey part—an innovation that bridges architectural design and construction efficiency. The Zwimpfer case exemplifies how architectural practice can extend into patentable territory.
Attendees will leave with a clearer understanding of how patents apply to architecture, when and why to consider them, and how to align research and development, publication, and protection strategies.

Architects' Patents and the Profession in 19th Century Britain

Marta Iljadica
University of Glasgow

Marta Iljadica is Senior Lecturer at the School of Law and part of CREATe, the Centre for Regulation of the Creative Economy, at the University of Glasgow.
She researches architecture and art at the intersection of intellectual property, planning and land law in history and practice. She is currently writing a history of architectural copyright as part of a Leverhulme Trust Research Fellowship project on IP and the built environment which asks "what, legally, is a building?".

Patent and copyright legislation proliferated in the 19th century and architects were engaged in lobbying for both forms of intellectual property protection. Since the Fine Arts Copyright Act of 1862, copyright could subsist in original drawings as works of art and so covered architectural plans. What architects did not have, however, was copyright protection for buildings (that would not come until the Copyright Act of 1911, which excluded methods of construction from the ambit of protection). Against this background this paper analyzes a patent application made under the Patents, Designs and Trade Marks Act 1883 by an English firm of architects. The claimed invention was for an improved arrangement for the plan of public buildings and it caused an uproar within the profession. While examples abound of patents granted to inventors identifying as architects, or for processes (and later products) relating to the built environment such as a rhomboid brick or a triangular pavement, architects objected to the attempted monopolisation of a type of spatial organisation. Numerous complaints were submitted to the Royal Institute of British Architects. The RIBA subsequently sought legal advice and urged the architects to withdraw their application. As such this patent application offers insights into professional debates over the protection of architectural works and shows how, in practice, patenting was an attempt to regulate architectural practice in the absence of a broad range of intellectual property protection for architects.

Acknowledgement: this work is based on archival research undertaken as part of the research fellowship "Intellectual Property and the Built Environment" funded by the Leverhulme Trust.

US-D827154-S: Steve Jobs Theatre and the Rise of a New Patentism

Georgios Eftaxiopoulos
University of California, Berkeley

Georgios Eftaxiopoulos (BArch (Hons), AADipl, AAPhD) is an architect. He is assistant professor of architecture and urbanism at the University of California, Berkeley, and principal at the architecture and urban design practice EO. Previously, he practiced in Belgium and Switzerland and, most recently, he has taught at the Royal College of Art, the Architectural Association, and the Aarhus School of Architecture.

Opened on September 12, 2017, Steve Jobs Theatre is a 1,000-seat subterranean auditorium named after the co-founder and former CEO of Apple and designed to host, among other, the tech giant's new product launches. It is positioned atop one of the highest points of the company's new five-billion-dollar research and development facility—Apple Park—in the lush flats of Cupertino, California, and extends above ground with a cylindrical structure comprised of 44 radial seven-meter-high panels and a 47-meter carbon-fibre canopy. Together with the famous four-storey ring that brings under its roof more than 12,000 employees, the circular clear-glass building emerges as a true testament to Apple's ideals. Sleek and flawless, every corner of its refined design reflects the company's ethos and dedication to research, material innovation, and detailing. Yet, different to other architectures designed by the tech behemoth, the largest structure in the world solely supported by glass received for its design a patent by the United States Patent and Trademark Office in 2018. Filed two and half years earlier, the patent US-D827154-S signifies the first time the tech giant extended its patenting beyond a mere layout of retail experiences or a single architectural element. This paper scrutinizes Steve Jobs Theatre's patented design and discusses an approach that extends beyond a mere technology or detail to the entire building. It argues that, even if patenting for Apple is not uncommon, the company not only echoes its processes from a pocket-sized electronic device into its Cupertino building, but instrumentalizes patenting to extent its constantly increasing patent portfolio. In this process of transforming the ordinary into the extraordinary and everything into a commodifiable product, the patented appearance of the above-ground glass building becomes only the beginning of a new type of patentism and relationship between architecture, patents and identity.

Why Patent?

Andrei Koshelev
ETH Zurich

Since 2018, Andrei Koshelev has led Asset Management Hönggerberg at ETH Zurich, managing over 50 educational and research buildings and more than 100 projects annually. He co-founded ks:architecture, a planning and consulting practice in Zurich, in 2005. As a Project Architect and Associate at Skidmore, Owings & Merrill in Chicago and London in 1998–2005, Andrei worked on large, technologically complex projects. Independently and with SOM he has realized public, commercial and residential projects in the USA, UK, Russia, and Switzerland. Andrei holds an Architect's Diploma from Moscow Architecture Institute (Cum Laude, 1994) and a Master of Science in Architecture from the University of Cincinnati (1996). He is an IPMA-Certified Project Manager, a licensed architect in the USA, and a member of the American Institute of Architects (AIA) and the Swiss Union of Architects and Engineers (SIA).

Most complex man-made objects are tied to patented inventions. Architectural patents, however, are rare. What prevents patenting from entering the architectural mainstream? As an architect who patents an invention, I will address the following three areas:

Space for patents

Architectural culture has been untouched by patents. The focus on unique, site-specific works positions architects closer to artists than to inventors or producers. Peer recognition, a primary motivator in architectural practice, does not extend to patents. Spatial inventions lie outside the framework of architectural discourse. Economic incentives for patenting are absent, as architects do not benefit from long-term economic returns of buildings. The profession's emphasis on aesthetic novelty over innovative planning devalues its core competencies.

Patents for space

Inventions that fundamentally changed the use of space have been patented and extensively used. The term "architecture" has also been appropriated by the information industry, which patents inventions in non-physical architectures. At the same time, the patenting potential of physical space inventions remains unealized. Forgoing name recognition and monetization potential, these inventions enter public domain directly, leading to immediate copying and new interpretations, greatly enriching built space but not the inventors.

Why do I patent?

Despite the above, I am patenting a spatial arrangement for laboratory buildings. The process tests architectural ideas against "non-architectural" criteria of commodity, non-obviousness, and place within the prior art. It provides a critical lens through which to examine architecture's values, placing common utility above artistic singularity. The patenting paradox reveals the profession's deeper issues. As the space of innovation expands, the relevance of traditional architectural practice seems to diminish. Could the role of utility, innovation, and patenting serve to realign the profession's priorities and expand its boundaries?

KEYNOTE

Better Living Through Chemistry?: BASF, 3M, and DuPont's Chemical Patents for the Building Industry in Critical Perspective

Peter H. Christensen
University of Rochester

Peter H. Christensen is Arthur Satz Professor of the Humanities, Ani and Mark Gabrellian Director of the Humanities Center, and Senior Associate Dean of the School of Arts and Sciences at the University of Rochester. He has authored over 100 books, volumes, chapters and articles including Germany and the Ottoman Railways: Art, Empire and Infrastructure (Yale University Press, 2017), winner of the 2020 Alice Davis Hitchcock Award from the Society of Architectural Historians, Precious Metal: German Steel, Modernity and Ecology (Penn State Press, 2022), and Prior Art: Patents and the Nature of Invention in Architecture (MIT Press, 2024), a Choice Outstanding Academic Title. His honors include fellowships from the Guggenheim Foundation, the Institute for Advanced Study, the National Endowment for the Humanities, the Gerda Henkel Stiftung, the Berlin Prize, and the Clark Professorship at Williams College. He holds a PhD and MDesS from Harvard University and BArch from Cornell University.

A keyword of the modern epoch is *invention*. In architecture, proponents of modernism hailed the pursuit of invention, fueled by the Industrial Revolution, as the fount of progress and the primary means of escape from staid cycles of style in architecture. Although concepts of property in building had existed since antiquity, it was not until the second third of the nineteenth century that architects embraced the practice of patenting in significant numbers. Patents could, as they did for architects' engineering brethren, ensure the economic and cultural benefits afforded by exclusive intellectual property rights. But patent culture was never directly translatable to the field of architecture either, which had always negotiated the very real issues of technological innovation with the more abstract issues of artistic influence and formal expression. Consequently, since the Industrial Revolution, architects and engineers participating in what was the consistent but never explosive practice of patenting aspects and design of building construction have had a complex relationship with the kind of "inventions" patents marks.

This talk will look at one type of environment in which architectural patents were produced to consider the particular valences of corporate intellectual property on architecutre: the commercial laboratory. Beginning with the German chemical industry of the 1860s, chemical inventions shaped the building industry at firms like BASF and through chemist Heinrich Caro, including paint dyes and wood sealants. Moving into the 20th century, we will consider a number of companies crucial to the development of patented products in the building sector: tar paint at BASF, sandpaper at 3M, and Tyvek at Dupont. Key here is a reflection on the often fraught dialectic between the individual and the corporation in the pursuit of commercial patents and how various parties navigated the quest to extend authorial recognition while also protecting corporate proprietary interests.

A Nexus of Design Innovation: Patents, Exhibitions, and Knowledge Sharing in 19th-Century South Kensington

Simona Valeriani
V&A Research Institute,
Victoria and Albert Museum

Simona Valeriani graduated in Architecture in Genova (Italy) and earned a PhD in Building Archaeology, Heritage Conservation and Art History at TU Berlin (Graduiertenkolleg Kunstwissenschaft, Bauforschung und Denkmalpflege).
From 2004 to 2012 she worked at the London School of Economics, on projects exploring knowledge formation in a global context, focusing on architectural and technical knowledge (How Well Do Facts Travel?, Leverhulme Trust; Useful and Reliable Knowledge in Global Histories of Material Progress in the East and the West, ERC).

In the mid-19th century, professional identities—including architecture—underwent significant transformation.
Key developments included the founding of the Royal Institute of British Architects (1834) and the Architectural Association (1847), but equally influential was the emergence of the South Kensington complex in London. Established in the 1850s, this cultural hub brought together the Schools of Design and a series of museum that later became the V&A, the Science Museum, and the Natural History Museum. It also hosted institutions such as the Museum of Patents and the Museum of Construction and Building Materials, set up to collect and showcase recent innovations.
Britain had long supported innovation through different models: the Royal Society of Arts encouraged open sharing to promote progress, while registered designs and patents safeguarded intellectual property. The South Kensington ‘project’ stands out for its programmatic aim to combine private and state-sponsored initiatives to develop, test, and apply new building materials and technologies. They ranged from innovative cements to mosaics for floors and walls and the creation of easily transportable temporary structures.
South Kensington became a “giant experiment” in both technological and social terms, where the school, the building site and the Royal Engineers’ training grounds overlapped. The Corps came to be understood as “the scientific servants of the crown in war and peace”, while individual officials took out patents. Meanwhile, the Schools of Design there were Britain’s leading centre for advancing theoretical and applied approaches to high-quality design applied to industry.
The presentation examines how patents shaped this system of knowledge creation and commercialization. It focuses on case studies of patented materials and processes developed or displayed in South Kensington. Central questions include the role of patents in innovation and branding, the impact of museum exhibitions on perceived value, and how success was tied to mechanization and industrial promise.

Patents and Patterns: Moving methods through the Gilardoni and Marseille roof tiles (1841–)

Asha Sumra
Aarhus School of Architecture

Asha Sumra is an Architectural Designer and PhD fellow at Aarhus School of Architecture where she investigates Itineraries of Residue through the Mangalore tile. Her work includes the book chapter “Imprints of the Basel Mission Industries on Indian Ocean Architectures” (with Arijit Chatterjee) in Architectural Encounters in Asia Pacific: Built Traces of Intercolonial Trade, Industry and Labour, 1800s–1950s, edited by Amanda Achmadi, Paul Walker, Soon-Tzu Speechley (Bloomsbury Academic, 2024); the article “Of Coconuts and Clay” in: Material Practices: Positionality, Methodology and Ethics, edited by Meike Schalk, Karin Reisinger, Elena Markus and Uta Leconte (Munich: TUM School of Engineering and Design, 2023); and exhibiting at the Works + Words 2022 Biennale in Artistic Research in Architecture (with Arijit Chatterjee), Copenhagen. She is a visiting faculty at Bengal Institute for Architecture, Landscapes and Settlements, Bangladesh.

Using key patents, patterns, catalogues, tiles and constructions, this paper interrogates the architectural consequences of patents within production *of* and construction *with* interlocking clay roof tiles. Tile patents by the Gilardoni (1851) and Martin (1858) brothers, along with equipment patents (1856), occurred in the context of an act revising modern patent law in France (1844), which distinguished three cases of “inventions or discoveries” as, “invention of new industrial products, …invention of new ways, …new application of known methods to produce a result or an industrial product.” [1]

Steam power facilitated movement of methods and products, enabling precise movement on material; railways and the Rhône-Rhine canal enabled movement of material and apparatus; while exhibitions, building journals and company catalogues spread knowledge of products and construction systems. What moved was not simply the patent, machinery, mould or the tile, but the brothers themselves. In 1844, the Gilardoni brothers first sold their patent: Xavier went to Marseille to manage construction of a modern factory[2], leading to the Martin Frère tile, and development of the Marseille pattern which proliferated across the Mediterranean and informed the Mangalore tile in South India.

Within multiple forms of dissemination, what was the role and consequences of these patents in the transfer of production and constructional knowledge? Where tile patterns, moulds and building catalogues were freely available, was the patent more notable for its existence or absence within processes of conveyance?

[1] article 2 of the 1844 Act in Gabriel Galvez-Behar. The Patent System during the French Industrial Revolution: Institutional Change and Economic Effects. Jahrbuch für Wirtschaftsgeschichte / Economic History Yearbook, 2019, Patent Law and Innovation in Europe during the Industrial Revolution, 60 (1), pp.31–56.

[2] Patrick Madenspacher, “Gilardoni François-Xavier”, in Nouveau Dictionnaire de biographie alsacienne, 1988: https://www.alsace-histoire.org/netdba/gilardoni-francois-xavier/ (accessed June 17, 2024).

Patents—Hiding Social History

Nigel Isaacs
Victoria University of Wellington

Dr Nigel Isaacs is a Senior Lecturer at the School of Architecture, Victoria University of Wellington, New Zealand, where he teaches environmental science, heritage architecture, and the history of building technology to architecture and building science students. He is a member of the Construction History Society, the Association for Preservation Technology (APT) and ICOMOS New Zealand. His research interests include energy use in buildings, the historical development of construction technology and the evolution of building controls. His exploration of the history of building paper based on patents and trademarks will be published in mid-2025 as a special issue of the APT BULLETIN.

Although patents record technology advances, hidden in their legal pages can be the stories of the societies from which they were born, as well as narratives of the inventor. The trials and tribulations may be laid out in the reasoning behind the invention formally documented in the patent. Research into the development of hollow concrete blocks, roofing nails, building paper and cement sheet in UK, USA and New Zealand has provided a rich source of technical and social history. The paper explores, through these patents, some of the social issues and stories behind the inventions. These include stories of: frustrated inventors, who unable to profit due to the existence of one patent create an invention which they promptly patent to limit others with similar ideas; the transport of patents and patented machinery to create new opportunities in lands distant from the original inventor; the development of patents to deal with specific local issues; and how a serendipitous discovery resulting from one patent led to a colourful new patent.

The paper explores the social history behind a selection of patents, asking whether this approach may lead to improved understanding of the mostly poorly documented part of the nineteenth-century and early-twentieth-century construction and architecture world—the people and the inventions which make todays' buildings possible.

Otto Hetzer’s Patents and Their Role in Industrial Timber Construction

Alexander von Kienlin
Technical University of Munich

Alexander von Kienlin is full professor at the Technical University of Munich, where he teaches architectural history, building archaeology, and monument preservation. He studied architecture at TUM from 1989 to 1995. In the following years, he was partner in an architectural office in Berlin and became member of the Berlin Chamber of Architects in 1997. From 1997 to 2007, he worked as a research assistant at the Chair of Building History at the Technical University of Munich. In 2004, he received his doctorate from the TUM with a thesis on the Agora of Priene. From 2007 to 2013, he worked as a senior scientist and titular professor at the IDB at ETH Zurich. In 2013, he became full professor of building history at the Technical University of Braunschweig. In the winter term 2019/2020, he returned to TUM. His current research focuses on ancient building history and its modern perception, Jewish architectural and cultural history, and the history of building technology.

The field of construction systems and industrial prefabrication in modern timber construction is broad. One of the most important innovations of the early 20th century, still having an impact today, was the development of high-performance glued laminated timber beams with composite beam cross-sections by Otto Hetzer (1846–1911), who filed several patents for this himself and was able to realize some of them.
The idea of composite beams was not new: One of the earliest proposals for a system construction using composite cross-sections was published by Philibert de l’Orme already around the middle of the 16th century. In 1809, Carl Friedrich Wiebeking recommended constructing bridges and staircases, made from glued laminated elements, although larger examples of this construction method were not initially realized. Further developments in the direction of glued laminated timber (glued planks) can be found primarily in France and England in the mid- and late 19th century. The decisive step towards “modern” glued laminated timber was not taken until 1906, when the carpenter Otto Hetzer (1846–1911) filed a patent for his construction method for curved timber components. Hetzer envisioned joining timbers with casein glue (made from lime and glass, later replaced by synthetic glues) and developed a sophisticated arrangement of wooden elements within the trusses. As early as 1907, the first roof structure using the Hetzer construction method was realized above the Natural History Museum in Altenburg, Thuringia; in the following years, engineered timber construction using glued laminated timber trusses experienced its first boom. A highlight was the Reichsbahn exhibition hall, built by Hetzer at the Brussels World’s Fair in 1910, with a span of 43m. Despite this early success, the broad impact of these patents during their time is difficult to assess, as “conventional” trusses continued to dominate the construction industry. This paper briefly traces the history and further development of the Hetzer patents and discusses their role in subsequent developments in industrial timber construction methods in the 20th century.

Patents and Standards—Assessing Innovation in 20th-Century Timber Construction

Jonatan Anders
Bauhaus-Universität-Weimar

Jonatan Anders is a doctoral researcher at the International Heritage Centre of the Bauhaus-Universität Weimar in Germany. Since 2024 he is part of the research project “Inherent values of constructions” of the DFG Priority Programme “Cultural Heritage Construction”. He is a qualified architect and worked in an architectural office specialising on the conversion of historic buildings between 2021 and 2024. He studied architecture at TU Braunschweig, Virginia Tech and TU München from 2012 to 2020.

What conclusions about innovations in the history of construction can be drawn from the relationship between patents and standards? Within the historiography of construction, patents are often cited to demarcate the invention of building techniques or products. However, the value of such patents only becomes evident through successful implementation, broad dissemination, or demonstrable influence on subsequent construction practices. As articulated by the economist Joseph Schumpeter, innovation emerges from the synthesis of invention and application. Accordingly, patents—typically filed prior to real-world implementation—are insufficient as standalone indicators of innovation. Their significance must be interpretated within a wider contextual framework. The paper explores the idea that the history of standards can provide such a context. Based on Schumpeter’s three stages of invention, innovation, and diffusion, standards are seen as evidence of diffusion—when a building method becomes established as part of the recognised rules of construction.
A technique’s inclusion in a formal standard suggests not only technical success but also broad acceptance within the industry. Firstly, the history of standardisation of timber construction in Germany is used as a case study. The paper traces how standards for timber construction evolved over the 20th century. Consequently, the investigation focuses on the DIN 1052 *Holzbauwerke; Berechnung und Ausführung,* particularly highlighting the inclusion of new building techniques.
Secondly, the inclusion of gang-nail trusses in the 1988 edition of DIN 1052 is used as an example to show the importance of single patents highlighting the history of the technology, corporate competition and realisations of gang-nail trusses.
In conclusion, the paper shows that only by investigating the interaction between patents, standards, and building practice it is possible to assess innovation in construction history.

Patents in Practice: Ernst Koller and the Standardization of Swiss Metal Façades 1928–1957

Nina Irmert
ETH Zurich

Nina Irmert is a research assistant and doctoral candidate at the Professorship of Construction Heritage and Preservation at ETH Zurich. Her research on patented metal elements and ready-made building products is part of the SNSF-funded project “Architecture & Patent: The Buildings of the ETH Domain”. In 2019, she completed her master’s degree in building archaeology and preservation at the Technical University of Berlin with a master’s thesis on the first prefabricated GDR-watchtower designed for the Berlin Wall. From 2018 to 2020, Nina was a research assistant at the German Archaeological Institute in Berlin and Yeha, Ethiopia. From 2020 to 2022, she worked at Krekeler Architekten on preservation concepts of listed warehouses in the port of Hamburg and a listed 1970s’ housing complex in Berlin.

Based on improved material formulas patented in Switzerland throughout the 1920s, Allega—a subsidiary of the country’s largest aluminium company Aluminium Industrie AG (AIAG)—produced the country’s first extruded aluminium profiles in 1933. The semi-finished goods were quickly adopted by many storefront and window manufacturers. Ernst Koller, for example, an emergent metal entrepreneur at that time, used the novel material for custom-made sliding-windows in Haus Huber (1929, arch. Paul Artaria and Hans Schmidt) or metal details in the Hoffmann-La Roche administration building in Basel (1935, arch. Otto Rudolf Salvisberg and Otto Brechbühl). He standardized his methods further by patenting a system for permanently joining sections in 1947 and various construction details. Koller thereby secured his foothold as one of Switzerland’s leading façade constructors. The ETH Zurich Institute of Agriculture and Forestry (1947–1955, arch. William Dunkel), for example, featured patented window types by Koller; the AIAG administration building (1954–1957, arch. Hans Hoffmann) was equipped with an early example of an all-metal façade.
This paper uses Koller’s shifting construction methods to trace the transformation of Switzerland’s metal façade constructions from 1928 to 1957: from immaterial property to a standardized building product and from semi-finished components to construction solutions tailored to the architectural design. With that, Koller’s patents will be analyzed within the broader context of Swiss metal façade construction, highlighting how the complex interplay between inventive craftsmanship, economic competition, and new requirements in the building industry shaped both technical and architectural innovation.

Competition and Collaboration: Intellectual Property of Swiss Façade Producers, 1957–1975

Tiago Matthes
ETH Zurich

Tiago Matthes is a research assistant and doctoral candidate at the Professorship of Construction Heritage and Preservation at the Swiss Federal Institute of Technology Zurich (ETH). His research on patents of skeleton construction as well as façade and construction elements are part of the SNSF-funded project “Architecture & Patent: The Buildings of the ETH Domain”. In 2011, he obtained his diploma in architecture at the Gottfried Wilhelm Leibniz University Hanover. From 2011 to 2015, he worked as an architect at Spillmann Echsle Architekten in Zurich, where he worked as project leader on the conversion of the Maag Music Hall. From 2013 to 2019, Tiago worked as a research assistant and taught at the Karlsruhe Institute of Technology (KIT) at the Professorship of Building Construction and Design.

Building on Nina Irmert’s contribution, this paper focuses on Ernst Koller’s patents and on emerging façade systems of the 1960s. Using various façade patents, it scrutinizes both the network of Swiss façade producers and their strategies for transforming intellectual property into economically successful goods.
In parallel with the invention of technically improved extruded aluminium profiles, Koller patented façade components like mounting elements to standardize his building elements. His efforts to create a unique façade system culminated in the so-called ‘pat. System Koller’. An early example featuring this system is the Waltisbühl commercial building on Zurich’s Bahnhofstrasse finished in 1957. The design of the façade can be considered a local interpretation of the Lever House in New York City, designed by Skidmore, Owings and Merrill (SOM) in the early 1950s.
The development of the System Koller seems to implicate a linear progression from individual window patents to integrated façade systems. However, the competing façade systems that arose in the 1960s complicated this development for the Swiss context. The alliance of five competitors to execute the ‘pat System Koller’ for the Nestlé headquarters in Vevey reveals an intricate relationship between competition and collaboration of the façade producers. A true showcase for the development of competing façade systems then were the first building stages of the Swiss Federal Institute of Technology’s (ETH) new campus Hönggerberg in the 1960s and 1970s. The façade system of the first stage (the ‘AL-Sec’ system from Alusuisse) as well as that of the second stage (the ‘ISAL’ system from the Hans Schmidlin AG) became widely used products on the Swiss market. To avoid the resulting monopolies on individual parts of competing systems, both producers searched for alternative methods using patents protecting their intellectual property, while the economic utilization and the use by competitors remained possible.

Constructive Form and Graphic Design— Building Systems between Trademark and Patent

Rouven Grom and Andreas Putz
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Rouven Grom M.A. is a research associate at the Professorship of Recent Building Heritage Conservation at the Technical University of Munich. He studied architecture at Hochschule Darmstadt, Aalto University in Helsinki and graduated at TU Munich. Since then, he was employed in architecture offices in Stuttgart and Zurich. Since 2019, he has been working on the research project “Findbuch Josef Gartner GmbH, 1955–1985”, funded by the Wüstenrot Stiftung. Based on his research, he is currently completing his dissertation on aluminium curtain walls in the post-war period. From 2021 to 2022, he was involved in the ZukunftBau research project “HochhausBestand”. Since 2023 he has been working on the research project “CONSTEMO. Recurring Elements of Modern Façades (1960–1990)”.

Andreas Putz
(CV see Moderators)

Trained as carpenter, sculptor and graphic designer, Eberhard “Hardy” Gotthard Rensch designed well-known brand logos and trademarks such as Condor Airline in 1953, Radio Bremen in 1959 or Beromycin in 1961. However, for the history of architecture and construction of the 20th century, he’s important as inventor of two building systems with prefabricated modular components in aluminium. The systems, known as “Trelement” and “ASB”, both enjoyed widespread international distribution from the 1960s to the 1980s for a variety of architectural applications. Both systems allow for easy modification, flexibility and expansion.
Mass production was carried out by various manufacturers on the basis of licenses. For both systems, the catchy graphic conception of the junction element was essential, unmistakably constituting the respective design idea in the layout. With prototype houses built in “Trelement” system in 1962 and “ASB” in 1970, Rensch started filing numerous intellectual property rights for both systems and their technological innovation in over 30 countries. At the same time, he focused on establishing distinctive product brands for both systems, to differentiate from competing building systems. Based on the aforementioned examples, this paper will discuss the role and relevance of different intellectual property rights, like patents, utility models and trademarks. This paper at first presents the two building construction systems based on contemporary architectural reviews and publications with a focus on the trademarks. Developed as graphic structures, the system’s constructive and visual form reflects the continuity of Rensch’s work as graphic designer. The narratives used in these marketing publications will be contrasted subsequently with the diverse technical specifications in the patents and their emphasis on various structural, construction-related innovations. The formal requirements of the different intellectual property rights necessitated different patterns of argumentation but also allow for different historiographical approaches to these building systems and the ensuing architecture.

Architecture and Intellectual Maternity by Patents: Frances Gabe's Self-Cleaning House and the Legacy of Non-Pedigreed Architects

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Laura Mucciolo, PhD architect in Architecture, Theories and Design from Sapienza University of Rome, with the dissertation "The House of Pan: Thinking Architectures in Uncertainty." In 2023, she was scientific coordinator for the peer-reviewed starting research project "Journey through Europe: A Suburban Grand-Tour Exploring Altered Domesticity." Since 2024, she is scientific coordinator for the peer-reviewed starting research project "Revisiting Zodiac 1963–1973: The Architectural Publishing Legacy of Maria Bottero." Member of national and international research groups (2020–2023: "Tedea. Theories of Architecture", scientific coordinator prof. Sara Marini, IUAV; 2024: Advisor Early-Research-Career for City Space Architecture), she published Terzo Paradiso with Libria (2022) and in 2025 she was finalist for the American Fellowship Program in Rome.

This contribution examines the role of patent production in shaping and disseminating architecture, facilitating the obsolescence of models and narratives that have defined the domestic architectural imaginary. This is exemplified in the case of Frances Gabe's house, the "inventor" or "architect" of the self-cleaning house, or "dishwasher house," a prototype conceived around 68 patents obtained by Gabe over time. This case study, technically little known in academic circles, gained international attention only upon the non pedigreed author's death in 2017 (Rudofsky 1964), when the New York Times headlined: "Frances Gabe, Creator of the Only Self-Cleaning Home, Dies at 101.[...] Ms. Gabe made the house do its own scrubbing".
Gabe's system anticipated contemporary reflections on hygiene as a structuring principle of domestic space (Colomina 2019), however, despite its innovative potential, Gabe's case mostly circulated in minor journalistic outlets or recently in books for children (Dershewitz, Romberg 2019). Due in part to the irascible character of its creator, the prototype—realized in a single iteration—failed to achieve significant popularity. This study investigates the trajectories of intellectual maternity and architecture through Gabe's case, which challenges the boundaries between patents and architecture and explores how spatial and cultural innovations are disseminated. Due to issues of reproduction, dissemination, and the ambiguity with which patents define authorship, architecture and patents have remained largely disconnected, at least apparently. Yet patents, by formalising innovation in materials, construction technologies and the invention of machines, offer a key to understanding the evolutionary sequences of built architecture by constructing a history of industry (Christensen 2024). Moreover, patents intersect with broader narratives of how architectural knowledge emerges through collaborative innovation, revealing or obscuring key contributions to project cultures—reflecting what is documented and omitted—toward a critical understanding of how architectural knowledge is produced and shared.

Reading Patents Against the Grain

Laurent Stalder
ETH Zurich

Laurent Stalder is professor for the history and theory of architecture at ETH Zurich. The main focus of his research and publications is the history and theory of architecture from the nineteenth to the twenty-first centuries where it intersects with the history of technology. His most recent publications include Un dessin n'est pas un plan (Caryatides 2023) and On Arrows. Essays in British Architecture and its Environments (MIT 2025).

Patents protect new technological innovations in architecture, from construction processes systems in concrete to systems for ceilings and walls to new devices such as doors or windows. As such, they are an important source material for modern historiography, not only to study technical innovation, but even more so, as a cultural and social record of an era to study, for instance, notions of comfort, safety, and efficiency. Reading the descriptions of patents against the grain, this paper will hypothesise that patents are first and foremost a social-cultural account, before they are a technological one.

From Material to Market: How Materiality Drives Innovation Transfer in Architectural Technologies

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This contribution presents findings from a longitudinal study of digital design and fabrication projects showcased at the FABRICATE conferences (2011 to 2024), with a particular focus on the role of materiality in shaping innovation trajectories. We argue that, in contemporary architecture, material understanding increasingly precedes technological development and underpins entrepreneurial transformation. Using a mixed-methods approach—including patent analysis, visual mapping, and expert interviews—the study traces how material-based research evolves into fabrication systems and, in selected cases, into patented technologies and spin-off companies. Our analysis reveals a recurring pattern: rather than emerging from abstract problem-solving, recent innovations in architecture often originate from embodied engagement with materials and their digitally mediated manipulation. Instead of inventing new materials, these projects typically intensify interaction with conventional materials—such as wood, adobe, steel, or wax—leveraging digital sensing, algorithmic control, and robotic tooling, to unlock latent material behaviors and devise fabrication techniques unattainable through conventional production methods. Over time, the examined projects show a shift from experimental materials toward more conventional ones, and from prototypical methods to fabrication processes more closely aligned with industrial standards. These findings suggest that architectural innovation can emerge from a renewed engagement with familiar materials through the application of novel technologies, and that such material-driven explorations could lead to the development of construction technologies with long-term practical impact.

From Patent to Production: Intellectual Property in Large-Scale Additive Manufacturing

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Benjamin Dillenburger is Professor for Digital Building Technologies at the Institute of Technology In Architecture (ITA) at the Department of Architecture, ETH Zurich. His research focuses on the development of building technologies based on the close interplay of computational design methods, digital fabrication and new materials.
He previously was appointed as Assistant Professor at the John H. Daniels Faculty of Architecture, Landscape and Design at the University of Toronto, and worked as a senior lecturer in the CAAD group at Swiss Federal Institute of Technology's architecture department in Zurich.
Benjamin Dillenburger was shortlisted for the MoMA PS1 Young Architects Program. His work has been widely published and exhibited at the FRAC Archilab 2013 exhibition, the Art Basel / Design Miami, and the Design Exchange Museum in Toronto.

Matthias Leschok is Co-Founder & COO of the manufacturing-startup SAEKI Robotics AG. Founded at ETH Zurich, SAEKI combines advanced manufacturing technologies with industry expertise to deliver on-demand solutions for large-format components.
Leschok holds a PhD from the chair for Digital Building Technologies (dbt), Institute of Technology in Architecture (ITA) at the Department of Architecture, ETH Zurich. In 2015, he received his architectural degree, with distinction, from the KIT and kept on working at the Karlsruher Institute for Technology until 2016. In 2017 he graduated from the MAS in Architecture and Digital Fabrication.

This presentation traces the trajectory of two patented large-scale additive manufacturing (LSAM) technologies developed for architectural applications, highlighting the challenges and opportunities encountered from early ideation to industrial deployment. The first patent, developed in collaboration with a leading formwork company, introduces a water-dissolvable 3D printed formwork system. By using thermoplastic materials that can be removed through dissolution after casting, the system enables the creation of highly complex concrete geometries that are otherwise infeasible with conventional demoulding strategies. This patent exemplifies a successful academia-industry partnership, where architectural design intent and construction practicality were brought together to co-develop a functional, field-oriented innovation. The second patent, initiated within an interdisciplinary research environment at ETH Zurich, focuses on Hollow-Core 3D Printing (HC3DP)—a method for extruding closed-section thermoplastic profiles to fabricate ultra-lightweight and structurally efficient formwork and façade components. The approach addresses key limitations of solid-section 3D printing in construction by reducing material consumption while preserving geometric freedom and mechanical integrity. Navigating the patenting process in both contexts—one with an industry partner, the other in an academic setting—revealed distinct challenges in defining inventive scope, managing intellectual contributions, and aligning research goals with protection strategies. The presentation reflects on these dynamics, as well as the shift from lab-scale prototypes to real-world deployment. It concludes with insights into the commercialization of HC3DP through SAEKI Robotics AG, covering IP licensing, early market validation, and venture-backed growth. Together, these two cases underscore how architectural innovation can lead to patentable technologies that bridge disciplinary boundaries and reshape fabrication practices in construction.

Camus-Dietsch Panel Tectonics' Past and Present

Carsten Diez,
baubar urbanlaboratorium
Volker Ziegler,
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Carsten Diez, Dipl.-Ing. Architect BDA AKS DWB studied architecture at the RWTH Aachen University and the TU Vienna. In 2000, together with Igor Torres, he founded the architecture studio baubar urbanlaboratorium in Saarbrücken. In 2006, he was awarded the Saarland Heritage Prize for the online magazine Laborbericht. In 2007, he was appointed to the Association of German Architects (BDA) and has since held various teaching assignments at the Saarland University of Applied Sciences (htw saar). Since 2022, he has been honorary chairman of the urban planning advisory board of the city Saarbrücken. Over the past 20 years, baubar urbanlaboratorium has realized a multitude of new buildings and renovations of various scales, primarily for the public sector. The studio also undertakes the sensitive renovation of historic and listed buildings, as demonstrated by the renovation of the Camus-Dietsch prefabricated bungalow, awarded with the Saarland Monument Preservation Prize in 2023.

Volker Ziegler, Assoc. Prof.-Ing., École nationale supérieure d'architecture (ENSA) Strasbourg, studied architecture and urban planning at the Technical University of Karlsruhe (KIT) and the ENSA Paris-Belleville and worked as an architect in Paris on international commissions. After a Fullbright research fellowship at Columbia University/NY, he was a research assistant at the ENSAs Paris-la-Villette and Strasbourg and at the Cité de l'architecture et du patrimoine in Paris until 2002 when he was appointed associate professor of urban planning at the ENSA Nancy.
At the ENSA Strasbourg since 2006, he is co-director of the Franco-German double master's program with the KIT. As a curator and a researcher at the AMUP laboratory, he works on dissonant heritage, modernization processes and cultural transfer, in particular on Franco-German relations in architecture and urbanism since the 19th century. He is a member of the Deutscher Werkbund Saarland.

The contribution focuses on the cultural potential of a major prefabrication building patent from the post-war housing boom. Until the 1970s, prefabricated concrete panel buildings were a symbol of cheap, progressive, and rapid construction shaping large housing estates. With Raymond Camus' panel construction system, first patented in France (1948), technology transfer crossed national borders, with the plant in Forbach/France playing a key role in the expansion into German-speaking countries. From the 1950s, Camus-Dietsch Constructeurs built thousands of homes in workers' housing estates for the industrial areas of Saarland and Moselle. In the 1960s, Camus-Dietsch diversified into the construction of single-family homes. The company initiated a collaboration with the Swiss graphic designer Robert Sessler to create a visual representation of its products and working methods and to develop a brand message. The development of corporate identity and image, together with the idea of offering customized prefabricated houses, ensured the company's survival in a context of declining public sector contracts.
In many residential neighbourhoods built in the 1960s and 1970s in Saarland and Moselle, "Camus-Massivhäuser" are a familiar sight. A team of well-known Saarbrücken architects, the Camus-Planung GmbH, specialized in the Camus process, planned the solid construction, modern design, and well-thought-out layouts of the bungalows, which won over many customers until the company's insolvency in 1983.
When renovating a Camus-Dietsch B120 bungalow, the owners wanted to preserve its original appearance and challenged the architects to upgrade the 1965 building in terms of energy efficiency, modern living standards, structural improvements and optimized building technology—without compromising its distinctive architecture based on the fundamental idea of the patent of setting and joining building elements. To preserve the history of the building, the panel construction had to remain visible and external insulation was not an option. The project demonstrates how Camus houses can be given a second life through careful renovation and intelligent energy improvements.

The Tangible and Intangible Heritage of Proto-Design for the Disassembly in Post-War Italy: An Industrial Patent-Based Perspective

Alberto Bologna,
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Alberto Bologna, Architect, PhD, is an Associate Professor in Architectural Design at the Faculty of Architecture / Department of Architecture and Design (DiAP) at the Sapienza University of Rome. In 2011, he obtained a PhD in 'History of Architecture and Town Planning' at Politecnico di Torino. He was a post-doc scientist at the École Polytechnique Fédérale de Lausanne, Switzerland (2011–15), an Assistant Professor (RTDa) at the Politecnico di Torino, Italy (2017–20), a visiting scholar at Tsinghua University in Beijing, China, and he worked as an Adjunct Professor at the Politecnico di Milano, the Universities of Genoa and Ferrara and at the SUPSI Mendrisio. Architecture and construction are the key terms that define his main areas of study, and he focuses his research on expressive codes in relation to structural conception, tectonics, ornament, and spatial quality in contemporary architecture.

Ilaria Giannetti, Architect, PhD, is an Associate Professor in Architectural Engineering at Department of Civil and Computer Science Engineering at the Tor Vergata University of Rome. In 2012, she obtained a PhD in 'Civil Engineering: Architecture and Construction' from the same institution. She was post-doc researcher at Archivio del Moderno, Università della Svizzera Italiana and Associated Researcher of the Archivio del Moderno, Università della Svizzera Italiana. Her research delves into the history of construction and history of engineering of the 19th and 20th century, contemporary engineering and architectural heritage studies, with a particular focus on the evolution of 20th-century construction techniques and postwar industrialized buildings' history and heritage.

This study is conducted within the project *Upcycling Architecture in Italy. Forging and Promoting a Renewed Building Culture* (funded by European Union / Next Generation EU / PRIN 2022 PNRR). Specifically, this contribution represents the first outcome of the study of the unexplored collection of industrial patents related to architecture and construction, kept in the archive of the Italian Office for Patents and Trademark.
The study aims to identify the patent as one significant investigative tool to support a reframing analysis of design strategies in the historical context of the Italian prefabricated building stock from the postwar decades (1945–1965). Framed in the evolving domain of the 'living preservation' approach, intending to maintain a balance between architectural heritage and contemporary needs, the contribution focused on industrial patents as a key documentary source for identifying and assessing the architectural heritage values of prefabricated systems. The study, carried out by identifying an initial sample of about 100 patents, focuses on prefabricated and demountable building systems and their application. It highlights the use of patents both to gain an in-dept understanding of the construction process, technical innovations with the state-of-art, manufacturing process, and design approaches as intangible values of the postwar Italian prefabricated buildings that merit protection, even when these aspects are not entirely evident in the materiality of the built structures. Furthermore, it explores the design culture in which each selected patent was developed as well as the local socio-economic conditions of the time. In this sense, patents should not be seen merely as valuable archival documents but as genuine design tools that embody a construction culture based on the interpretation of the concept of tectonics, understood as the art of assembly: their use, in this perspective, is essential to grasp the distinctive approach that laid the foundations of the Design for Disassembly.

Precast Concrete Roof Shells in East and West Germany—Patents, Application and Reception

Tanja Scheffler
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Architectural historian and scientific journalist. She studied architecture and worked as an architect; 2004–07 research and teaching at the Chair of Architectural History (Prof. Lippert) at the TU Dresden; since 2008 freelance architectural historian, scientific author and architectural journalist with additional teaching assignments at various universities, including the Faculty of Architecture at the TU Dresden, the Institute of Art History at the University of Leipzig and the Chair of Architecture and Spatial Art at the Dresden University of Fine Arts. 2019–24 research assistant at the Chair of Architectural History (Prof. Lippert/Prof. Hnilica), since 2025 at the Chair for Structural Design (Prof. Beckh) of the Faculty of Architecture at TU Dresden. She also co-curates architecture exhibitions on a freelance basis, writes articles for catalogs, books and magazines, and prepares preservation reports for buildings of the 20th century.

This contribution presents the different conditions for the development of new constructions and the protection of technical innovations through patents in East and West Germany using the example of two comparable double-curved concrete roof shells, including the differences in their later use and reception.
After the Second World War, new prefabricated shell and folded plate roof structures for wide-span buildings were developed in many European countries, in the GDR (East Germany) primarily by the structural engineer Herbert Müller (“Schalenmüller”) in Halle/Saale, in the FRG (West Germany) among others by Wilhelm Johannes Silberkuhl and his company Normko in Essen. Both applied for patents for their prefabricated roof constructions, for the “HP shells” (Müller/GDR) from 1954 onwards, for the “Silberkuhl shells” (FRG) from 1957 onwards. The Silberkuhl shells were later used on a large scale in Western Europe, North and South America, the HP shells in the GDR in standardized buildings as well as in individually planned prestige and social buildings.
The further development and international patent protection of the GDR shells was repeatedly thwarted by socialist resistance to innovations (with 5-year plans, a lack of foreign currency for registering patents abroad and a lack of resources for the construction of further experimental buildings). This finally ended in a German–German patent dispute in the early 1960s.
The East German HP shells, which were protected by patents, could also be used nationwide by other state-owned companies as a “reuse project” thanks to the significant changes in socialist patent law from the 1950s onwards with “economic patents”, exploitable by the state (not by the inventors).
The different application of these constructions—HP shells mainly for standardized sports halls, indoor swimming pools and representative circular buildings (kindergartens, restaurants, planetariums, panorama museum); Silberkuhl shells mainly for factory buildings —led to a different reception of these buildings, also regarding to their potential monument value.

MODERATORS

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Dr. sc. Andreas Putz is Professor of Recent Building Heritage Conservation at the Technical University of Munich. After studying at the TU Dresden and the University of Edinburgh, he completed his architecture studies at ETH Zurich, where he also received his doctorate in 2015. In 2017 he was appointed Tenure Track Assistant Professor at the TU Munich and Associate Professor in 2023. His research on the recording and conservation of modern architectural heritage is supported by research grants from ERC, DFG, DBU, and BBSR.
He is a member of the board of the Arbeitskreis Theorie und Lehre der Denkmalpflege (AKTLD), the Koldewey-Gesellschaft and the German National Committee of ICOMOS, and, among others, in the ICOMOS Monitoring Group for the UNESCO World Heritage Sites “The Bauhaus and its Sites in Weimar, Dessau and Bernau” and “Fagus Factory in Alfeld”.

Kirsten Angermann
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Kirsten Angermann is a postdoctoral researcher at the International Heritage Centre at Bauhaus-Universität Weimar where she is co-director of the research project “Inherent Values of Constructions” within the DFG Priority Programme “Construction as Cultural Heritage“ (together with Prof. Dr. Hans-Rudolf Meier). Kirsten studied architecture at Technical University Dresden, Università degli studi Roma Tre and Bauhaus-Universität Weimar, where she also received her PhD in 2022. From 2019 to 2024, she worked as a research and teaching assistant in Weimar. She was a visiting lecturer in conservation at China Academy of Arts, Hangzhou, and Estonian Academy of Arts, Tallinn. She co-edited the volumes “Denkmal Postmoderne. Bestände einer (un)geliebten Epoche”, “High-Tech Heritage. (Im) permanence of Innovative Architecture”, and “Zirkuläre Stadt. Zirkuläres Bauen. Denkmalpflege?” (all 2024). Her dissertation on postmodern architecture and discourse in the former German Democratic Republic was published in spring 2025.

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Silke Langenberg is full professor for Construction Heritage and Preservation at ETH Zurich. Her professorship is associated to the Institute for Monument Preservation and Historic Building Research as well as to the Institute of Technology in Architecture. She studied architecture in Dortmund and Venice. At ETH Zurich, she addresses theoretical and practical challenges in the inventory and preservation of monuments as well as younger building stocks. Since her engineering dissertation, her research focusses on the rationalization of building processes as well as the development, repair and long-term preservation of serially, industrially and digitally manufactured constructions.

Robin Rehm
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Robin Rehm is art historian and senior scientist at the Institute for Preservation and Construction History at ETH Zurich. He is head of research at the Professorship for Construction Heritage and Preservation and co-director of the research project “Architecture & Patent: The Buildings of the ETH Domain”. He was previously a lecturer at the Institute of Art History at the University of Regensburg (2013–2020) and senior researcher at ETH Zurich (2009–2012). His research activities concentrate on the theory and history of architecture as well as interior and furniture of the 19th and 20th century.

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Sarah M. Schlachetzki is scientific collaborator at the Institute for Preservation and Construction History at ETH Zurich. She is co-director of the research project “Architecture & Patent: The Buildings of the ETH Domain”. Sarah studied art history, sociology, and French literature at the Universities of Trier, Leipzig, and at the Université François-Rabelais de Tours. She obtained her PhD at the University of Zurich in 2011. From 2014 to 2022, she was junior faculty member at the Department of Architectural History and Preservation at the University of Bern. In 2015/2016, Sarah was visiting fellow at New York University and 2019/2020 guest researcher at Humboldt-Universität in Berlin. Her research interests include the history of architectural modernism as well as architecture in (East) Central Europe from the 18th to the 21st century.

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