

Berne Scientifique

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h UNIVERSITÄT BERN



Burgergemeinde

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weizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs, Education and Research EAER State Secretariat for Education, Research and Innovation SERI

- → Zwischen Start und Ziel: Beim Zytglogge-Turm beginnt jeder Wissenschaftsspaziergang. Für alle, die sich nicht ständig die Karte unter die Nase halten wollen oder kein Google Maps auf ihrem Mobil mögen, ist ein Wegverlauf beschrieben.
- **Übrigens**: Interessantes, Wissenswertes und Überraschendes ist in Kurzform zu lesen.
- **△ Um die Ecke:** Was es in der Nähe auch noch zu entdecken gibt. Eine Kategorie für alle, die gerne Umwege machen oder auf Abwege geraten.

1 Hallerstrasse, Hallerstatue Grosse Schanze

→ Zytglogge – Marktgasse – Spitalgasse – Bahnhof – Bubenbergplatz – Schanzenstrasse – Hochschulstrasse – Grosse Schanze.

2 Haus der Universität, Kocherpark

→ Zytglogge – Marktgasse – Spitalgasse – Bahnhof – Bubenbergplatz – Hirschengraben – Effingerstrasse – Belpstrasse.

3 Haus der Akademien

→ Zytglogge – Marktgasse – Spitalgasse – Bahnhof – Bubenbergplatz – Laupenstrasse.

4 Tumarkinweg

→ Zytglogge – Marktgasse – Spitalgasse – Bahnhof – Bubenbergplatz – Schanzenstrasse – Hochschulstrasse - Tumarkinweg.

5 Studerstein, «Bei den Eichen»

→ Zytglogge – Marktgasse – Spitalgasse – Bahnhof – Bubenbergplatz – Schanzenstrasse – Länggassstrasse – Mittelstrasse – Neubrückstrasse – Studerstrasse.

6 Uni Hauptgebäude, Grosse Schanze

→ Zytglogge – Marktgasse – Spitalgasse – Bahnhof – Bubenbergplatz – Schanzenstrasse – Hochschulstrasse - Grosse Schanze.

7 Gertrud-Woker-Strasse

→ Zytglogge – Marktgasse – Spitalgasse – Bahnhof – Bubenbergplatz – Schanzenstrasse – Länggassstrasse - Bühlstrasse - Bühlplatz - Gertrud-Woker-Strasse.

8 Einstein-Museum

\mapsto Zytglogge – Kramgasse – Münstergässli – Münsterplatz – Münsterplattform.

9 UniS

→ Zytglogge – Marktgasse – Spitalgasse – Bahnhof - Bubenbergplatz - Schanzenstrasse - Schanzeneckstrasse.

10 Anna-Seiler-Brunnen

→ Zytglogge – Marktgasse – Anna-Seiler-Brunnen – Käfigturm.

11 Huberstrasse

→ Zytglogge – Theaterplatz – Casinoplatz – Kochergasse – Bundesgasse – Effingerstrasse – Loryplatz – Schlossstrasse - Huberstrasse.

12 Botanischer Garten

→ Zytglogge – Kornhausplatz – Zeughausgasse – Aarbergergasse – Genfergasse – Hodlerstrasse – Paul-Klee-Platz – Lorrainebrücke – Botanischer Garten.

13 Zentrum Paul Klee

→ Zytglogge – Kramgasse – Gerechtigkeitsgasse – Nydegggasse - Nydeggbrücke - Grosser Muristalden -Schlosshaldenstrasse - Zentrum Paul Klee.

14 «Chemical Landmark», Holzikofenweg 36

→ Zytglogge – Marktgasse – Spitalgasse – Bahnhof– Bubenbergplatz – Hirschengraben – Effingerstrasse – Monbijoustrasse – Wander – Holzikofenweg.

15 Unitobler

→ Zytglogge – Marktgasse – Spitalgasse – Bahnhof - Bubenbergplatz - Schanzenstrasse - Falkenplatz -Länggassstrasse.

16 Klima und Prof. Thomas Stocker → Zytglogge – Marktgasse – Spitalgasse – Bahnhof – Bubenbergplatz - Schanzenstrasse - Hochschulstrasse.

17 Bundeshaus

→ Zytglogge – Theaterplatz – Casinoplatz – Kochergasse – Bundesgasse – Bundesterrasse.

18 Inselareal, sitem-Insel

→ Zytglogge – Marktgasse – Spitalgasse – Bahnhof - Bubenbergplatz - Laupenstrasse - Murtenstrasse -

Freiburgstrasse. 19 Nachhaltigkeit und Prof. Peter Messerli → Zytglogge – Marktgasse – Spitalgasse – Bahnhof – Bubenbergplatz – Schanzenstrasse – Länggassstrasse - Mittelstrasse.

20 Gebäude der Exakten Wissenschaften (ExWi) → Zytglogge – Marktgasse – Spitalgasse – Bahnhof –

Bubenbergplatz – Schanzenstrasse – Sidlerstrasse. 21 Casino Bern

aupenstrasse

→ Zytglogge – Theaterplatz – Casinoplatz.





Strolling through science

Explore the city of Bern from a new perspective with *Berne Scientifique*. As you stroll through the city, learn how memorable locations related to science intersect with the lives of notable researchers. Covering 14 people and 14 places connected to research and academia in Bern, these 21 walks around the city are grouped into seven science hotspots and can be easily combined. Discover, experience, and feel the spirit of this World Heritage Site!



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Additional information: *Historical Dictionary of Switzerland (HDS)* https://beta.hls-dhs-dss.ch (in German, French, and Italian)

Bern in numbers

- 5 a.m. is when the Zibelemärit (onion market) festival starts on the 4th Monday in November
- 6 km of arcades stretch through Bern Europe's longest covered shopping promenade
- 11 Renaissance fountains grace Bern's historic town centre
- **50** metres below, the Aare River loops around Bern's historical centre
- 51.6 km² of land lie within the city's perimeter
- **100.6** metres is the height of Bern's cathedral spire
 - **105** metres of track make the Marzilibahn Switzerland's shortest funicular
 - 294 figures crowd into the arch above the gothic cathedral's main entrance
 - 542 metres above sea level is Bern's elevation
 - **1191** marks Bern's founding year by the dukes of Zähringen
 - 1779 was when Goethe called Bern "the most beautiful place we've ever seen"
 - **1983** was the year UNESCO declared the historical centre a World Heritage Site
 - 6000 m² of the Aare's banks are home to bears right in the middle of the town
- **18,019** students are enrolled at the University of Bern (2018)
- 142,100 people live in Europe's smallest capital city

#BerneScientifique



New ideas

How can we help visitors from Switzerland and abroad better acquaint themselves with Bern as a city of science? At the Swiss Academies of Arts and Sciences (a+), this question served as the catalyst for creating Berne Scientifique, which is intended to impact beyond the 25th anniversary of the All European Academies. This is just one example of the Academies' commitment to fostering dialogue between science and society. This walking guide is a joint project of the Swiss Academies of Arts and Sciences and the University of Bern. Walking is the best and easiest way to get to know a city and soak in its atmosphere. That is why so many philosophers - including Kant, Nietzsche, and Rousseau - avidly explored the city on foot. Even for those less interested in the sciences, Berne Scientifique offers useful tips for discovering the city – whether for buying shiny, farm-fresh apples at the picturesque weekly market or admiring the Alps from the Bundesterrasse (Federal Terrace). Amidst such impressive surroundings, you just might become inspired by a new idea ...

 Prof. Dr. Dr. h.c. Antonio Loprieno, President of the Swiss Academies of Arts and Sciences –



Time is not absolute

Albert Einstein made his teachers' lives difficult and even got kicked out of school. In 1902, this "rebel" moved from Germany to Bern, where he initially tutored university students and later found work at the patent office. Even though he was not affiliated with an institution of higher education, Einstein managed to shake the very foundations of physics - practically a miracle in academia. The backdrop for this "Einstein saga" is also fitting for a Hollywood film: The Einsteins lived at Kramgasse 49, close to the soaring and picturesque Zytglogge clock tower, which is still standing today. This tower is said to have inspired Einstein's thoughts on the concept of time. With his theory of relativity, he was able to show that time is not absolute and simultaneity is relative. Not Einstein, but the Reformation in the 16th century shaped the University of Bern. At that time, the church needed more staff, so a school of theology was founded. It later became the Academy and then the present-day University of Bern with its eight faculties. The university is known internationally for top-level research in a range of disciplines, including space research. When exploring the university, a leisurely stroll through Bern is also worthwhile – specially since time is not absolute.

Prof. Dr. Christian Leumann, Rector of the University of Bern –



"Take it slow!"

My favourite way to get around Bern is by bike – except for in the historical area. Bern's city centre – also a UNESCO Heritage Site – is worth navigating on foot. Why?

Because of the arcades - or das Rohr (the pipe), as we like to call the 6 km of arcades that lend character to the historic town centre. Thanks to these arcades. we can easily walk from the Bear Park to the railway station on a rainy day and barely get wet. If it's raining on a Sunday, we sometimes relocate our afternoon strolls to the pipe, where we enjoy meeting new people and running into old friends. All the while taking it slow, of course - why hurry? No one needs to show us Bernese how to ease up and relax - we're already experts at taking it slow. What's our recipe for success? "Nume nid gschprängt!", or "Take it slow!" A leisurely walk has been known to lead to fresh ideas, renewed courage, and even spectacular discoveries. You just have to know when and how to take your foot rerator.

Alec year oraffenried, Mayor of Bern –



Only in Bern!

Street names and buildings in prominent locations, tucked away in hidden corners, and bordering guiet squares bear witness to excellence in academics and research. Bern is a city of science with a rich, diverse history. It lies near linguistic borders, is closely connected to the centre of political power, and is host to exceptional cultural diversity. And for over 35 years, Bern's historical centre has been on the UNESCO's World Heritage List. When Bern was founded in 1191, the dukes of Zähringen strategically built on a peninsula for greater protection. Until 1798, Bern was the largest city state north of the Alps. Its picturesque location overlooking the Aare River inspired many to visionary ideas. The medieval, fundamental idea of the Burgergemeinde, guilds and societies banded together to support one another in times of need. Having survived various periods of political and social upheaval as well as city fires, the Burgergemeinde was embedded in the canton of Bern's constitution in 1831, thus enshrining the right to solidarity. Nowadays the Burgergemeinde is active in science and culture and it oversees institutions such as the Casino, the nearby Burgerbibliothek public archives, and Bern's Natural History Museum.

 Bernhard Ludwig, President of the Burgergemeinde Bern –



Berndeutsch

In the narrow streets of Bern, you can feel the pulse of public life and hear the unique melody of Berndeutsch, the Swiss German dialect spoken throughout the city. Not one but four varieties exist: the Berndeutsch variety spoken by the upper-classes. a middle-class (or city) variety, and the Mattenberndeutsch and Mattenenglisch a secret language the latter not actually being English at all. Up until a century ago, the upper classes often spoke French in their everyday lives. So much linguistic diversity in such a small space reflects Bern's social diversity. It would make Bern the perfect setting for My Fair Lady, the musical based on George Bernard Shaw's play Pygmalion. Perhaps the flower girl would meet the linguistics professor at the market in front of the Federal Palace? By the way, this market, is one of the most beautiful in Switzerland and is held every Tuesday and Saturday morning. Friendly farmers and chatty vendors sell flowers, vegetables, fruits, cheese, and anything else that tickles the taste buds. They'll welcome you with "Grüessech!" - short for "Greetings to you!" - using the polite form or address, of course. That's Berndeutsch for you!



Hallerstrasse, Haller Statue Grosse Schanze

A Bernese Polymath

Albrecht von Haller's gaze is directed over the rooftops of the city towards the Alps of the Bernese Oberland and the snowy peaks of Eiger, Mönch, and Jungfrau. His bronze statue stands high up on a pedestal in front of the university's main building. During his lifetime (1708–1777), Haller tirelessly pursued knowledge in disciplines across the arts and sciences. A true polymath, he was not only a physician, natural scientist, and botanist but also a poet and scientific writer. In 1751 at the University of Göttingen, Haller was influential in founding the Royal Society of Sciences (later the Academy), where he served as its first president.

Where on Haller's accomplishments can be found in over 9000 reviews of his work. Between 1729 and 1736, Haller practiced medicine in Bern and opened an anatomical theatre for teaching physicians. Although he never attained the position of city physician, he was politically successful in Bern's Cantonal Parliament. Haller helped to reform Bern's school and health systems and was one of the founders of the orphanage.



University House, Kocherpark

Bern's own Nobel Prize winner

For 45 years, Bern-based Theodor Kocher (1841–1917) played a decisive role internationally in the field of surgery without ever accepting a professorship abroad. He was committed to reducing mortality during surgery by using new disinfection procedures and carefully controlling bleeding with "Kocher's artery forceps", and he advocated for safe surgical procedures in his Text-Book of Operative Surgery. In 1909, Kocher was awarded the Nobel Prize for his work on the thyroid gland. On his 40th anniversary at the university, Kocher donated 200,000 Swiss francs to support basic medical research. In 1950, this donation led to the establishment of the Theodor Kocher Institute.

Kocher treated goitre by removing the enlarged thyroid gland. Goitre was widespread in Switzerland at that time; however, the gland had not yet been researched. Thanks to Kocher, the University House at Schlösslistrasse 5 has a rich history. He bought the house, dating back to the 1830s, for use as a guest house for the Kocher Hospital next door; the area around the house was then named Kocher Park.



House of Academies

Dedication to Science and Politics

Over 100,000 people from research, science and teaching walk through the doors of the House of Academies each year. These 100,000 people have a shared objective, an invisible force that links them together: to network, engage in dialogue, and follow new developments in science. Members of the Academies are interested in current research issues and foster the interdisciplinary exchange of ideas. They discuss which scientific efforts could benefit society, how each discipline can sustainably improve quality of life, and what types of expertise are needed. They seek out dialogue with stakeholders in politics and society and present scientific findings in a way that is accessible to the public. They also get young people excited about science and technology. Because in the end, education and science are Switzerland's most important resources in its quest to remain internationally competitive.

Since 2015, all member organisations of the Swiss Academies of Arts and Sciences have been able to use the building at Laupenstrasse 7 to socialise, hold meetings, and host events. The Swiss Academies of Arts and Sciences is an association of the Swiss Academy of Sciences (SCNAT), the Swiss Academy of Humanities and Social Sciences (SAHS), the Swiss Academies of Medical Sciences (SAMS), the Swiss Academy of Engineering Sciences (SATW), and both centres of excellence TA-SWISS and Science et Cité.



Tumarkinweg

Europe's first female professor

Twenty years ago, Anna Tumarkin (1875–1951) was finally honoured with a paved pathway in her name that goes right past her former university lecture hall. Otherwise, no grand boulevards or monuments remind us of the accomplishments of this outstanding pioneer in teaching and science, despite the fact that Tumarkin was the first woman in Europe to become a full professor. With her promotion to a full professor of philosophy and aesthetics, she became the first woman in Europe with the authority to supervise and examine doctoral and professorial candidates.

Russian philosopher Tumarkin actively supported the Swiss Association of University Women, founded in 1924, and promoted women's rights. She was the first woman in Bern and the third in Switzerland to qualify as a university lecturer, after Emilie Kempin-Spyri in Zurich and Ida Welt in Geneva. However, little personal information is available about her, not even in the *Historical Dictionary of Switzerland*.

 The Haupt bookstore on Falkenplatz is a three-minute walk from Tumarkinweg. Practically in the shadow of the university, Paul Haupt started a publishing company for scientific books 112 years ago. Even then it was impossible for researchers to build a reputation without publishing. Moving away from its purely academic roots, the company now publishes non-fiction books, yet remains a traditional family-run business.



Studerstein, «Bei den Eichen» (By the Oaks)

The mountains are calling

The Studerstein was dedicated to Gottlieb Samuel Studer (1840– 1890) in 1893 and is located on the corner of Neubrückstrasse and Studerstrasse in an open woodland known as *Bei den Eichen* (by the oaks). From this and other vantage points, Studer, a talented painter, created over 700 meticulously detailed panoramas of the Bernese Alps. Studer began his 16-year career as prefect of Bern in 1850 and he co-founded the Swiss Alpine Club (SAC). His cousin Bernhard Rudolf Studer (1794–1887), also an avid alpinist, was a professor of geology in Bern.

Bernhard's father Samuel Studer (1757–1834) was a theologian, naturalist and co-founder of the "Naturforschende Gesellschaft" in Bern. As a professor of practical theology, Studer was an early proponent of the theory of evolution. Between 1779 and 1827 he took meteorological measurements daily and was the first researcher to collect Swiss molluscs, including snails and mussels. His collection is stored in the Bern Natural History Museum.



University of Bern's main building, Grosse Schanze

University of Bern

Majestically towering over the city, the university's main building is impossible to overlook. The olive-green Bernese sandstone of its facade, though a soft material, lends it the requisite gravitas. Early construction on the site goes back to the 16th century, though the university as we know it was not established until 1834. Following the Reformation, a new cohort of clergymen was educated here in the "Hohe Schule" theological school. As part of the reorganisation of higher education in 1805, faculties for lawyers and physicians joined the one for clergymen. When it became a university in 1834, 45 lecturers taught 167 students – all male. It was not until 1870 that women were allowed to enrol. The main building on the Grosse Schanze was officially opened in 1903.

Votation Today more than 18,000 students are enrolled at the university – over half of whom are women. The university now has eight faculties, approximately 750 professors and lecturers, and about 2000 teaching and research assistants, including PhD students. The university focuses on five main research areas: sustainability, health and medicine, matter and the universe, intercultural knowledge, and politics and administration.

The university is located just north of the railway station.
 Following a very close local vote in 1864 – with a margin of four –
 the Christoffelturm, a tower built in the 14th century, was torn
 down to allow the university to expand. Its foundations were
 unearthed in 1974 and portions can be seen in the station's under ground concourse. In 1969, Bern was in the movies: James Bond
 was filmed driving over the Nydegg Bridge – in a Rolls Royce,
 not his trademark Aston Martin.



Gertrud-Woker-Strasse

A life dedicated to science and politics

Gertrud Woker studied, received her PhD, and qualified as a professor at the University of Bern. She was the first woman to become an associate professor of physico-chemical biology. Science, however, was not Woker's only passion during her long life (1878– 1968): This pioneer also fought for women's rights and became active in the Women's International League for Peace and Freedom (WILPF) during the First World War. Woker also protested against the appropriation of science by the arms industry. Alongside her scientific publications, Woker wrote on pacifist issues and after the Second World War, she joined the Swiss movement against nuclear armament.

Woker's father taught general history and the history of religion at the university. Among his students were Rosa Luxemburg, Vladimir Lenin, and Leo Trotsky. The discussions held in his "Friday evening students" group impressed his young daughter when she was in high school; she learned much about politics and the importance of open discourse from exposure to this international, liberal-minded group.

 The Muesmatt Observatory is located in the building that for- merly housed the Institute of Astronomy at Muesmattstrasse 25. Every Thursday when the sky is clear, the public can access the telescope. A windup mechanism with a centrifugal governor allows the telescope to track the night sky. The copper dome's wooden interior provides a romantic setting for gazing at the moon, the planets, and even binary stars − right in the middle of the town.



Einstein Museum

Einstein's home at the Kramgasse

The middle-class flat on the second floor of the Kramgasse 49 is still furnished as it was when Einstein lived there with his wife in 1903. Einstein (1879–1955) moved from Schaffhausen to Bern in 1902 and applied for a job as a clerk at the federal patent office. To make ends meet, he tutored university students in physics and mathematics. In September of the same year, Einstein's first paper on the foundations of thermodynamics was published in the scientific journal *Annalen der Physik*.

In 1905, Einstein published more papers in the Annalen der Physik, including his paper on quantum theory, for which he was awarded the Nobel Prize in 1921. Almost as an afterthought in a short appendix to another paper, Einstein proved the massenergy equivalence ($E = mc^2$). In July 1905, he submitted "A New Determination of Molecular Dimensions" for his doctorate from the University of Zurich. Einstein's creative output while living on Kramgasse and working at the patent office was exceptional. He remained in Bern until 1909, when he embarked on his academic career at the University of Zurich.



UniS

Living science

Studying, immersing yourself in a subject, reading, listening, reflecting – being a university student can sometimes be lonely. That's why places to meet others, enter into discussions, and exchange ideas are so important, as for example the UniS, where something is always happening. At the "UNIESS", which is open to the public, you can load up on calories while socialising with other students, lecturers, and visitors. The UniS also houses parts of the Faculty of Business, Economics and Social Sciences, which offers classes in business administration, economics, political science, sociology, and communication and media studies.

The UniS is also home to the Center of Competence for Public Management. This program reaches across faculties in the areas of law, economics, and political science. An additional program focusing on basic research in public administration was established to take advantage of the university's close proximity to the centre of Swiss political and administrative power.

The UniS is located in a former maternity hospital. City architect Friedrich Salvisberg (1820−1903) oversaw its construction of the hospital, which was completed in 1876. The building has a very lively history – lively in that generations of women entered the building in the throes of childbirth and left a few days later having given life to a brand-new Bernese citizen. The hospital was converted into the UniS building almost 20 years ago.



Anna Seiler Fountain

Cardinal virtues

"Considering that nothing is more certain than death, but nothing more uncertain than the hour of death, I affirm that I have been deceived by no one and am writing knowingly, in my right mind, with great thought, and after careful deliberation ... " wrote Anna Seiler in her will in 1354. The widow of the former hospital director, Seiler established in her will a hospital for 13 bedridden and needy people. After the Reformation, Anna Seiler's hospital was moved to the Dominican convent "St. Michael in der Insel" – now the Inselspital, or Bern University Hospital. In 1954, one of its buildings was named the Anna-Seiler-Haus in her honour. And the Anna Seiler Fountain has occupied a prime location on the Marktgasse since the 19th century.

The female figure on the Anna Seiler Fountain symbolises temperance, along with justice, courage and prudence, one of the four cardinal virtues. She is pouring water from a small jug into a bowl. There are eleven fountains in the narrow streets of Bern, all built between 1542 and 1549. They were likely erected as part of an instructional programme launched by Bern's City Council following the Reformation; after all religious pictures were removed in iconoclastic fervour, there were few other opportunities to influence and instruct the citizenry.

 The Holländerturm at the nearby Waisenhausplatz also relates to the cardinal – though more to sins than virtues. In 1659, Bernese officers who had served as mercenaries in Holland summarily repurposed this former defensive tower as a haven where they could smoke and drink – activities forbidden at that time for economic reasons. The smoking ban was eased in the 18th century after it had proved ineffective, all the more since the town elders had themselves gotten into the tobacco trade.



Huberstrasse

Just law

As a journalist and a jurist with a PhD, Eugen Huber (1849–1923) wrote extensively about the conflicts surrounding the construction of Swiss railways – conflicts which upset him so much that he quit his job at the *NZZ* newspaper. He was later appointed professor at the University of Basel. Huber drafted Swiss civil law, and in doing so gained a new appreciation of the Swiss national character. In 1892, the University of Bern appointed him chair of Swiss civil law, the history of law, and the philosophy of law and he was later commissioned by the Swiss Confederation to write the Swiss Civil Code, which came into force in 1912. Huber also represented Switzerland at the Permanent Court of Arbitration in The Hague.

We Huber's *Das Absolute im Recht* was published the year before he died – a kind of legal legacy. Huber advocated the idea of just law based on reason and a subjective sense of justice; he believed that a legal system must arise from the synthesis of the theory of just law with its practice under local sociological and cultural conditions.



Botanical Garden

City plants

Many roads lead to the university's botanical gardens (BOGA). And it is easy to find, located directly under the Lorraine Bridge and just one tree-lined road beyond the far side of the Aare. Even if you prefer lower elevations to scaling peaks, you can still admire some of the most beautiful alpine plants right in the middle of Bern. In the 1950s, large blocks of limestone from the Jura Mountains were used in creating the BOGA's alpine garden. Their expert arrangement along the hillside as it slopes down to the river lends the garden a very natural appearance.

Plants have been growing and blooming in the BOGA since 1860. With more than 5500 different species from around the world, the garden represent a kind of open-air lecture hall. In the medicinal plants garden, plants used in pharmaceutics and folk medicine are arranged according to their active ingredients, for example alkaloids, essential oils, and bitter compounds. The university's Institute of Plant Sciences is located in the upper part of the BOGA; it specialises in basic research as well as agriculture, conservation, and climate change.

The Lorraine neighbourhood is not only home to the BOGA, it
 is also where an eclectic community of people lives. You can see
 a different side of Bern while walking along Lorrainestrasse −
 crisply attired officials are rare here, and politicians dressed to
 the nines might feel a bit out of place. And yet, the urban pressure
 to build expensive flats is growing even in the Lorraine neighbourhood.



Zentrum Paul Klee

Knowledge through art and science

Research and art both influence our knowledge of the world. Good scientific practice dictates that research be reproduceable. Art, on the other hand, makes an immediate impression on us and awakens emotions – without the requirement of reproducibility. Bern-based Maurice E. Müller (1918–2009) extensively researched orthopaedic surgery and used screws, plates, and wires to fix bone fractures. This pioneer in osteosynthesis was awarded 12 honorary doctor titles and was named Orthopaedic Surgeon of the Century in 2002. Because Müller was an admirer of Paul Klee (1879–1940), one of the most significant artists of the 20th century, he donated land and money in 1998 to establish the Zentrum Paul Klee as a museum and research centre.

Solution Constant Con



"Chemical Landmark", Holzikofenweg 36

Patron instead of professor

As a pharmacist and chemist with a PhD, Albert Wander (1867– 1950) dreamed of an academic career but dutifully took over his father Georg's laboratory instead. Together, father and son researched and produced dietary supplements and medicinal products. In 1904, Albert Wander succeeded in producing a nourishing malt extract rich in vitamins – Ovomaltine was born. Clinical tests confirmed its positive effects on the ill and malnourished, which is why Ovomaltine was first launched as a medicinal product.

V It was not until 1922 that Ovomaltine was reclassified as a foodstuff and then quickly became a cult favourite for Swiss children and athletes. The 1980s TV ad with its catch phrase *"Häsch dini Ovo hüt schon gha?"* ("Have you had your Ovo today?") has become a Swiss classic. In 2018, the Swiss Academies of Sciences (SCNAT) designated the former site of the Wander factory a "Chemical Landmark", an honour celebrating the importance of chemistry research to Switzerland's prosperity. This designation is displayed on a plaque at Holzikofenweg 36. Albert Wander conducted research on his classic Swiss drink in this building – today it is the main office of the State Secretariat for Economic Affairs (SECO).

 On your way back via Monbijoustrasse, turn right onto Effingerstrasse towards the Kleine Schanze park − the ideal place to take a break. You can't miss the messengers encircling the globe in the monument to the Universal Postal Union (UPU), founded in Bern in 1874. The UPU has been a part of the United Nations since 1948 and still coordinates the international postal system today. Historically important, the UPU serves as a very early example of overcoming national borders.



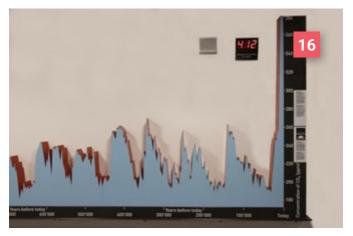
Unitobler

Sweet studies

Even though it may sound too good to be true, students at the university really do study in a chocolate factory – in the former Tobler chocolate factory, that is. The historic Unitobler building on Länggassstrasse has been used by the university since 1993. It houses the Faculty of Humanities and provides a unique setting for cultural studies and the humanities. A range of subjects are offered, including such classics as history, languages, and literature as well as the cultural sciences. Approximately 50 professors teach and research at the former chocolate factory.

The Unitobler is a shining architectural example of adaptive reuse. Here, chocolatier Theodor Tobler first mixed honey and almonds into milk chocolate in 1908. He poured this mixture into moulds for bite-sized chocolates shaped like the Matterhorn and called his unique creation "Toblerone". Nowadays you can find Toblerone chocolate in hotel minibars around the world. It is produced locally in Bern-Brünnen, but the brand is now owned by an international food giant.

 Swiss singer-songwriter Bernhard Stirnemann (1936–2011) wrote the song "Mys Käthi" about his feelings for a woman who works at the Toblerone chocolate factory and smells so sweet he could eat her up. For over 20 years, Stirnemann ran his own theatre in Bern called "Die Rampe". A teacher and member of the Social Democratic Party, he served in Bern's city and cantonal parliaments.



Climate and Prof Thomas Stocker

A changing climate

Climate scientists work on the edges of the classical disciplines seeking solutions for one of the greatest challenges we face today: climate change. They look for answers where physics, geography, biology, chemistry, history, economics, political science, and philosophy converge. The interdisciplinary Oeschger Centre for Climate Change Research (OCCR) was founded in 2007 at the university and named after Hans Oeschger (1927–1998), a pioneer of modern climate research. The OCCR plays a leading role in international assessment processes and contributes, for example, to the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Platform on Biodiversity and Ecosystem Services.

V Thomas Stocker, Professor of Climate and Environmental Physics at the University of Bern's Physics Institute, is often consulted regarding climate change. Stocker is a renowned climate scientist and has received many awards and distinctions. He has analysed the changes in and effects on the climate using ice core drilling samples from Greenland and Antarctica. Stocker has won the Prix Benoît and is a member of the Swiss Academy of Sciences' ProClim forum, which facilitates the dialogue between scientists, policy-makers, the business community, and the public. In addition, Stocker has been reporting to the IPCC since 1998.

 With a collection spanning centuries, the Kunstmuseum Bern at Hodlerstrasse 12 reflects Europe's rich cultural history. It is the oldest art museum in Switzerland, and its works by Swiss painter Ferdinand Hodler (1853−1918) in particular are worth a visit. In expertly capturing varied nuances of light, Hodler made the very atmosphere and climate of the Swiss landscape visible.



Federal Palace

Women and their rights

When Marthe Gosteli (1917–2017) was awarded an honorary doctorate by the University of Bern at the age of 78, many women could no longer imagine a life without political rights. Yet that was exactly what Gosteli had fought for – until Swiss women finally gained the right to vote in 1971. Ironically, this right had to be won through a popular vote in which only men could cast a ballot! Gosteli is a prime example of using the possibilities of a civil society to work for change in a direct democracy. Her approach was not to strike, but to inform and educate. Switzerland's Federal Council consists of seven members elected by Parliament; currently four are men and three are women – thanks in part to Marthe Gosteli.

Vert The Federal Palace complex is comprised of the Parliament Building and its East and West Wings. It was built from 1894 to 1902 in the neo-Renaissance style, inspired by Florentine palaces. Three portals lead into the central hall, with a floor plan shaped like a Swiss cross. Three female statues stand watch on top of the portico – with Helvetia, the female personification of the Swiss Confederation, in the middle. And another female sculpture, a bathing woman called "Die Badende", has graced a fountain on the Bundesterrasse in front of the West Wing since 1927. Tours of the Federal Palace are available when Parliament is not in session (reservations www.parlament.ch).

 105 meters in one minute – the funicular by the Federal Palace is no mountain adventure, but riding the "Marzilibahn" will still leave you in good spirits. The Marzili swimming pool next to the Aare and directly under the Parliament Building is a popular summer hangout. Its female nudist area is often referred to as "Paradiesli" by ladies lounging in their birthday suits. On the way back, one passes by the campus of the Bern University of Applied Sciences. The dual educational system opens the way to practice-oriented teaching, further training and research.



Insel area, sitem-insel

Insel area: a hub of health

Only 34 narrow beds for the sick were in the Dominican convent "St. Michael in der Insel" in 1531. It has since expanded into the hospital campus called the "*Inselareal*". What started out so small is now an immense hospital complex. In the 1990s, there were 40 university clinics and institutes; after reorganising, there are now only nine. In late 2009, the cantonal government resolved to consolidate the university's Inselspital with the hospitals from the Spital Netz Bern AG in order to enhance medical services. The "Masterplan Inselspital" was accepted in a popular vote in 2015, so now the university can pursue its goal of offering outstanding medical care.

Bern aims to become the hub of the medtech and life sciences industry. To this end, a new headquarters for sitem-insel, the Swiss Institute for Translational and Entrepreneurial Medicine, was recently completed on the Inselspital campus. sitem-insel supports bottom-up projects initiated by hospitals, basic science, start-ups, and private companies. The institute is a non-profit public private partnership.

 Granted, most people don't voluntarily go to the hospital. But it might be worth stepping into the lift at this high-rise bastion of beds. You'll find the Panorama restaurant on the top floor − with a terrace, of course. So if you're not in the mood to climb the Münster cathedral's tower that has more than 300 steps, you can enjoy an equally spectacular view from atop the hospital − without all the wheezing.



Sustainability and Prof Peter Messerli

Sustainability in Bern

Peter Messerli's workload increased drastically after one particular announcement by Ban Ki-moon, UN Secretary-General at that time. Messerli, a professor of sustainable development and the co-director of the Centre for Development and Environment (CDE), was called to lead, together with Endah Murniningtyas from Indonesia, a team of 15 experts charged with submitting the first Global Sustainable Development Report – alongside his other work. In alignment with the UN's Agenda 2030, the report is intended to work out the path to sustainable development and initiate the transformation process. Messerli is also active in the Swiss Academy of Sciences' ProClim forum for climate and global change.

The CDE at Mittelstrasse 43 was established at the University of Bern in 2009 as an interdisciplinary research centre. The centre employs approximately 100 people from 17 disciplines and is active in five regions of the global South as well as in Europe. It is currently conducting over 80 ongoing projects and offers courses in sustainable development and global change.

 A favourite local hotspot, especially on days when temperatures rise, is located near the CDE at Mittelstrasse 15. A group of young people from Bern developed an idea for a start-up based on their lasting childhood memories of camping in Italy. Together, they travelled back down to Verona to learn the Italian art of making gelati at the best gelateria in the city. Then in 2010, they opened their first Gelateria di Berna − now there are four.



Bulding for Exact Sciences

Archaeologist in space

She wanted to study archaeology and ended up as an astrophysicist. Kathrin Altwegg (1951) began researching and teaching at the university's Physics Institute in 1982. In 2004, she took charge of the Rosetta mission involving the melodically-named ROSINA mass spectrometer. In 2014, the spectrometer landed on the tail of the Churyumov-Gerasimenko comet, or "Chury", for short. For the past 50 years, measuring instruments from the University of Bern have been used on important missions in space research, including the solar wind sail used during the first moon landing in 1969. On 30 September 2016, ROSINA's mission came to an end – with a controlled crash landing on Chury's surface.

The Rosetta mission was intended to unravel the mystery of our solar system's origin. Once it was completed, the task of evaluating over two million data records began. Because the project is funded by the European Space Agency, all raw data, in the original form beamed down by ROSINA, has been made available to the public. To return to our protagonist, Altwegg is not just a pioneer of space research – she also advocates for more women to pursue career paths in science.

 Matter and the Universe, an informative exhibit open to the public, can be visited at the ExWi − short for Exact Sciences − at Sidlerstrasse 5 in the Länggasse neighbourhood.



Casino Bern

The university's beginnings

Bern was not alone in the 16th century when it founded a "Hohe Schule" – Protestant cities throughout Europe were doing the same. These institutions, which later became academies, educated clergymen and magistrates in the classical languages, philosophy, and theology. Bern's "Hohe Schule" was unceremoniously erected on the remains of a monastery on Herrengasse. In 1834, it became a university with nine faculties, and the number of students doubled to 1000 by the end of the century. With the university bursting at the seams, the decision was made to build on the Grosse Schanze – a project completed in 1903. The old site was then used for the new casino.

Bern's casino had to make way for politics in 1895 when the Federal Palace was built. Fortunately, the site at the end of Herrengasse had become free when the university moved to the Grosse Schanze in 1903. Construction at the new location began in 1907, overseen by the *Burgergemeinde* (citizen's group). Two years later, the new casino and its restaurant with a treelined terrace opened.

 The Kirchenfeld Bridge takes you from the casino to Helvetiaplatz. When crossing, it's worth turning back to look at the Parliament Building and the cathedral. Around Helvetiaplatz, museums known collectively as the Museumsinsel offer something for every taste, from the informative to the absurd. You can visit Bern's historical museum and its Einstein Museum or the Swiss Alpine Museum. Or go see Barry, the stuffed dog who saved over 40 lives, in Bern's Natural History Museum. And don't forget the Kunsthalle, the Swiss Rifle Museum, the Museum of Communication, and ...