

Übersicht Fachpublikationen

Books / Chapters in Books

- “From data to destiny: the role of leadership in successful digital transformations.” Chapter in *The DataCentric Enterprise* by S. Brock et al. (Springer-Verlag, 2025, in press).

BFH SocietyByte Articles

I feel strongly that BFH SocietyByte magazine is a very effective means to showcase how our applied research impacts Bern, Switzerland, and the world. So I take every opportunity to support this magazine by writing articles and encouraging others to do so.

2026

- [xxx](#), 2026
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2025

- [Decision Intelligence: the Bridge between AI Investment and Impact, Part 1 of 3](#), 2025
- [Decision Intelligence: from Business Predictions to Business Outcomes, Part 2 of 3](#), 2025
- [Decision Intelligence: Operationalizing a Human Digital Transformation Part 3 of 3](#), 2025
- [Wenn KI das Museumserlebnis erweitert: Innovative Souvenirs im digitalen Zeitalter](#), 2025

2024

- [Die unerwarteten Nutzen der BFH-Sulabh-Learning-App](#), 2024
- [Wo steht die App für Nutzscheine nach dem ersten Jahr?](#), 2024
- [Mit datenbasiertem Tool das Klassenklima und Wohlbefinden in Schulklassen reflektieren](#), 2024
- [Vom IT-Boom zu Nachhaltigkeit: Indiens neue Herausforderungen](#), 2024
- [Von Schatten-IT und versehentliche Servitisierung](#), 2024
- [Wie die BFH digitale Kompetenzen der Studierenden fördert](#), 2024

2023

- [Datenzentrierte Unternehmen – wo Revolutionen zusammenlaufen](#), 2023.

2022

- [Wie Digital Natives, Millennials und Gen-Z die IT-Branche heute gestalten – 60 Jahre Digitalisierung, Teil 4](#), 2022
- [Wie Händler die Minicomputer überall etablierten – 60 Jahre digitale Transformation, Teil 3](#), 2022
- [Über die Grossrechner des eisernen Zeitalters – 60 Jahre digitale Transformation, Teil 2](#), 2022
- [Von Lochkarten verschlingenden Monstern zu den ersten Computern – 60 Jahre digitale Transformation, Teil 1](#), 2022

Press Releases and Citations

Both my applied research and teaching have been cited in several publications, including Switzerland and India.

- “Studierende entwickeln eine Komponente für den digitalen Euro,” in [Bitcoin News](#), February 5, 2025.
- [Aktuelle Technik: das Fachportal für Automation & Digitalisierung](#), February 7, 2025.
- “Students of the BFH School of Engineering and Computer Science implement component for the digital euro,” 05.02.2025 ([DE](#) / [FR](#) / [EN](#)).
- ಇಂಗ್ಲಿಷ್ ಕಲಿಕೆಗೆ ಆಪ್ ಲೆ ಲೋಕಾರ್ಪಣೆ (App launched for learning English), Prajavani newspaper, Bangalore, May 16, 2024.
- ಸಕಾಪರಿ ಶಾಲೆಯಲ್ಲಿ ಗುಣಮಟ್ಟದ ಶಿಕ್ಷಣಕ್ಕೆ ಒತ್ತು (Emphasis on quality education in government schools), Vijaya Karnataka newspaper, Karnataka, May 18, 2024.

BFH work cited in peer-reviewed journals and forums

My work is primarily focused on applied research to build IT systems that solve real-world challenges, not doing research for academic publications. Nevertheless, I am pleased when my work is cited by others peer-reviewed academic publications or in other academic and professional forums.

2026

- “Engaging Nephrologists in ‘Green Kidney’ Conversations - A technology-driven endeavor,” J. Fehr, L. Robra, V. Luyckx, W. Sieber, K. Ritley, 2026 (in preparation, for *Nephron*).

- “Pig Health Info System – Gesundheitsmonitoring in der Schweizer Schweineproduktion,” C. Egle, C. Nathues, D. Hadorn, D. Kümmerlen, H. Nathues in Veterinärspiegel, 15. Dezember 2023 (DOT: 10.1055/a-2160.6411).

2024

- “Digitalisierung in der Schweizer Bestandsbetreuung,” C. Egle (Der Hoftierarzt, March 2023).

Invited talks

- “IT innovation projects sponsored by Swiss federal agencies,” U. Fiedler, K. Ritley, BFH Departement Wirtschaft, 19.04.2025 (scheduled).
- “Digital Transformations: Lessons learned for life” given to the Data, AI, Analytics Team of Porsche AG, 16.12.2021.
- “Digital Transformations,” K. Ritley, BFH T&I ResearchXchange, 26.11.2021.

Work cited in research conferences and events

My work is primarily focused on applied research to build IT systems that solve real-world challenges, not doing research for academic publications. Nevertheless, I am pleased when my work is cited by others peer-reviewed academic publications or in other academic and professional forums.

- CHIS – Cattle Health Info System, M. Mudry, M. Bodmer, 4. Jahrkurs mit Schwerpunkt Nutztiere, Vetsuisse-Fakultät Bern, 20.02.2025.
- CHIS- Cattle Health Info System, M. Mudry, M. Bodmer (Vetsuisse-Nutztierabend, 12.12.2024)
- Pig Health Info System – Systematic recording and analysis of health-related data, C. Egle (European Veterinary Surveillance Network, 13.09.2024).
- **Project SAFI – Softwarebasierte Analyse und Förderung sozialer Integration**, S. Wüthrich ([Schweizer Kongress für Heilpädagogik](#), 10. September 2024).
- **Forum Schulführung 2024, Teilhalbe im Fokus, Vielfalt als Chance**, 16. Mai 2024.
- Lanzierung der PHIS-App sowie Neuerungen bei den Programmen PathoPig und Zoe-BTA, C. Egle, D. Hadorn, C. Nathues (Vetsuisse-Nutztierabend, 14.03.2023).
- PHIS – Das Pig Health Info System in der Schweiz, C. Egle (Geflügeltagung 2023 von BLV und WPSA Gruppe Schweiz, 02.03.2023).

BFH Projects in Social Media

My passion and the most rewarding aspect of my work at BFH is when I can help BFH colleagues and BFH students to develop real-world IT systems that are successfully rolled out and used. These are just the main posts for each BFH project.

- [Green Kidney](#) application (with BFH intern S. Sultanov), 2025

- [GenAI for digital assessments](#) (based on the app developed by BFH students C. Schmidhalter and R. Schneiter), 2025
- [Lookup component for digital euro](#) (with BFH students M. Spiess, P. Stettler, P. Stoop, D. Wenger), 2025
- [Sustainability and environment](#) application (with BFH students X. Frèlechoz, Q. Vaney), 2024
- [Learning management app for rural India](#) (with BFH students T. Erpen, L. Vogel, A. Hiltmann). Since May 2024 this app has been cited 20+ additional times, as it has continued to be rolled out to government schools in south India.

BFH Bachelor theses supervised

The BFH TI Computer Science department does an amazing job of training students to an exceptionally high professional level. I am very proud I can use my 20+ years of professional experience as “coach” to help students achieve their best results. Whenever possible I seek collaborations with Swiss companies. My regret is that my time does not allow me to supervise more talented students each semester.

HS 2026-2027 (in progress)

- **XXX – XXX** by Noah Ferarri: A ...

FS 2026

- **Apertura – Science as Art** by Max Spiess: An Internet platform to enable scientists to share the beauty of their scientific images with the world.
- **A Self-Service Hub for Travellers without valid Tickets** by Thu An Vu: a digital solution that enables travelers without a valid ticket to submit their concerns independently via a structured web interface. The goal is to reduce the manual processing workload in customer service while at the same time improving efficiency and processing times.
- **Decentralized Workflow Execution in a Smart Factory Environment** by Joel Meier: a decentralized approach in which workflows are described through required capabilities, while machines decide locally which open tasks they can execute.
- **Hugin & Munin – Nähe zum Leben** by Mathis Heldner, Maria Gruber, Fabia von Mühlemann: a modular software system that enables people with the most severe physical impairments to participate digitally, without having to operate the system themselves.

HS 2025-2026

- **Factory Flow Insight – An IT system to monitor heterogeneous Smart Factory operations** by Markus Trachsel: a factory floor comprised of many interconnected stations may experience operational issues, and in real industrial settings those issues need to be solved ASAP. FactoryFlowInsight is a technology-agnostic monitoring tool that lets workers in a factory identify and debug hardware problems as soon as they occur.

- **Miro Learn** by Fabian Trunz: Miro has 100+ Million users and is the world's pre-eminent collaboration tool. MiroLean allows teachers to clone boards, distribute them to their students, and very easily manage the teacher/student interactions using Miro.

FS 2025

- **LogBuech – A GenAI solution for personalized digital assessment tests** by Sabine Kalbermutter, Wiktor Kepczynsky, T. Mühlemann: A social media platform for sharing links to movies and books.
- **A GenAI solution for speech-to-text translation of Indian languages** by David Pfister and Marcel Zbinden: As a follow-up to the successful LMS-for-Rural-India application, the project targets an important area that even the larger companies (e.g. Google) have neglected. This will be a key feature in the learning app that will hopefully impact the lives of thousands of rural Indian students and teachers.
- **Swiss Food Quiz** by Xavier Frèlechoz and Quentin Vaney: The students are collaborating with BFH Health to develop an app to be used by the entire population of Switzerland to survey their eating habits and nutrition.
- **Receiptbox – A universal receipt manager** by Nathan Luè and Daniel Matt, co-supervised with Moritz Meier from the BFH TI Industrial Engineering: Our lives today are increasingly digital, yet a very important area still has no standards or interoperability, namely, the receipts when we buy things. The project builds a digital infrastructure that can be used by all POS devices, providing all shoppers with standardized receipts they can store. The goal is to enable a quantum leap in how people manage their budgets and expenses.

HS 2024-2025

- **Digibot – A GenAI solution for personalized digital assessment tests** by Christian Schmidhalter & Roman Schneiter: A system that creates personalized examination questions based on individual user profiles. The project went beyond implementation to include scientific research with over 50 users to evaluate the effectiveness of custom-tailored questions.

FS 2024

- **Learning Management System for Rural India** by Tobias Erpen, Alayne Hiltmann, and Lukas Vogel: A "made-for-rural-India" application to help teachers and students in rural India take online classes. The project culminated in field tests in Indian villages and is now benefitting over 2000 students at 69 government schools in India.
- **HomeSpeak** by Danaël von Bergen: A complex end-to-end system for voice-controlled home automation using Raspberry Pi, ESP32, WLAN, MQTT, cloud computing, and speech recognition. The project tested the boundaries of what would and wouldn't work in IoT home automation, representing the most complex technological environment among all supervised theses.
- **Collaborative Trip Planner** by Lukas Moser: A project using PHP/Laravel stack with various modern web technologies. The thesis formed the basis of a start-up company.
- **Miro als Classroom-Tool** by Petru Lazar: A web application using the Miro REST API to give teachers the ability to handle Miro boards privately with their students. The project addressed confidentiality requirements for teaching, enabling private sharing of exams

and homework between teachers and students.

FS2023

- **A tour history algorithm for a fleet of e-vehicles** by Marius Lauener: A complex application integrating real-time telemetry data to provide important details about package delivery and optimization for Quickpac AG. The project was related to Marius's job as a software developer with Switzerland's largest e-vehicle delivery company.
- **enstutz.ch – Entwicklung einer Online-Spendenplattform** by Carolina Osei Alvarez: A sophisticated mobile app enabling secure small donations to the homeless, ensuring the money would be used for food. The project was based on Carolina's passion for helping people and included surveying over 10,000 people to validate the concept.
- **Food Truck Finder** by Mei Yung Wong and Chun Fatt Wong: An application to help food truck enthusiasts search for food trucks, discover new ones in their area, and write reviews. The project reflected the students' passion for the growing food truck scene in Switzerland.
- **Infrastructure as Code** by Gaylord Rohlf: A comparative study for Nanotronic AG about use cases for Infrastructure as Code and related products. The project benefited from Gaylord's extensive IT experience across programming, server/storage/network management, datacenter operations, and mobile device management.

HS2022-2023

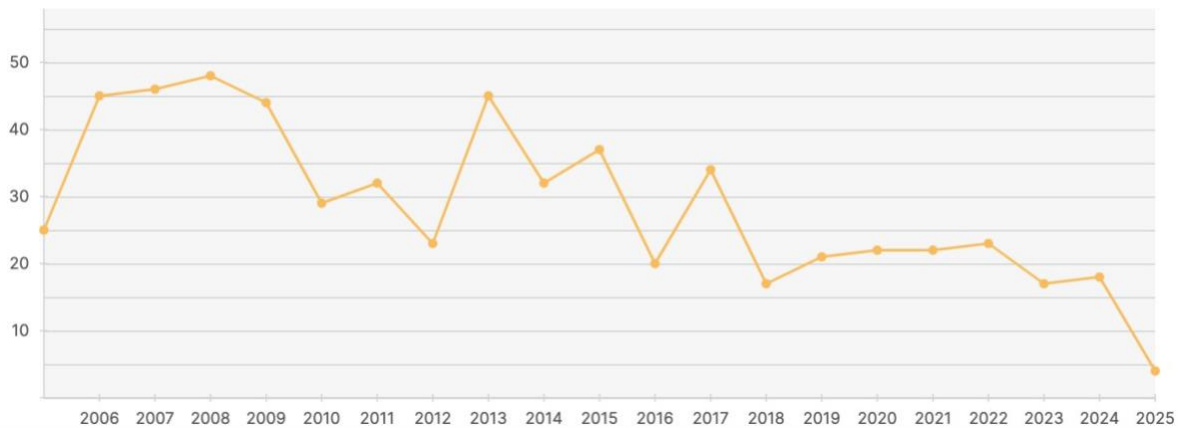
- **Online Ticketing System for FC Biel/Bienne 1896** by Jonas Herzog and Adrian Berger: A foundation project to help the football club grow to the next level, executed with high quality standards. The project included detailed risk analysis for handling third-party issues and a make-buy analysis for optimizing build efforts, earning special recognition in the BFH newsletter.
- **Digital Retirement Planner** by Markus Joder: A retirement planning tool designed to be usable by anyone without requiring a "lock-in" to a specific financial services company. The application incorporated extensive business logic, combining Markus's professional financial planning experience with his IT education.

HS2021-2022

- **ElasticSniff** by Severin Thalmann: A project conducted between Swisscom and the Bern University of Applied Sciences involving software engineering and network technology. The project addressed an important business challenge, leveraging Severin's background as a talented and experienced network engineer.

Peer-Reviewed Citations and Publications Prior to Joining BFH

I started my professional career as a research physicist in experimental condensed matter physics. Even today, over 20 years later, I am proud that several of my publications continue to be heavily cited in this field. As of 2025 I have 836 citations and an h-index of 12.



2002

- Huth, M., Oster, J., Adrian, H., Ritley, K.A., & Dosch, H. (2002). High ordered Fe and Nb stripe arrays on faceted $\alpha\text{-Al}_2\text{O}_3(10\{1\}0)$. *Advanced Functional Materials*, 12.

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- Kempf, S., Pfalzner, S., Bauerdick, L.A.T., Fox-Murphy, A., Haas, T., Stonjek, S., Tassi, E., Papadopoulos, C.G., Bowler, D.R., Miyazaki, T., et al. (2001). Computational physics. *Computer Physics Communications*, 137, 429-431.

2000

- Ritley, K.A., Just, K-P., Schreiber, F., Dosch, H., Niesen, T.P., & Aldinger, F. (2000). An X-ray reflectivity study of solution-deposited ZrO_2 thin films on SAMs: growth, interface properties, and thermal densification. *Journal of Materials Research*, 15, 2706-2713.
- Ritley, K.A., Schreiber, F., Just, K-P., Dosch, H., Niesen, T.P., & Aldinger, F. (2000). Annealing studies of solution-deposited ZrO_2 thin films on self-assembled monolayers. In *Fourth International Conference on Thin Film Physics and Applications* (Vol. 4086, pp. 414-417). SPIE.

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- Ritley, K.A. & Flynn, C.P. (1999). The effect of strain on the magnetic properties of b-axis-oriented Dy thin films. *Journal of Magnetism and Magnetic Materials*, 198, 596-598.

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- Ritley, K.A. & Flynn, C.P. (1998). The Effect of Strain on the Magnetoelastic Properties of b-Axis-Oriented Dy Thin Films. In *APS March Meeting Abstracts* (pp. C22-12).
- Ritley, K.A. (1998). Growth and Magnetoelastic Behavior of β -axis-oriented Dysprosium. PhD Thesis, University of Illinois at Urbana-Champaign.

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- Theis-Brohl, K., Ritley, K.A., Flynn, C.P., Hamacher, K., Kaiser, H., & Rhyne, J.J. (1997). Connection between Structure and Magnetism in Dy/Y Superlattices. In *APS March*

Meeting Abstracts (pp. N22-05).

- Ritley, K.A., Ghosh, V.J., Lynn, K.G., McKeown, M., & Welch, D.O. (1997). The SPRITE and POS-SPRITE user report: An extensible calculation of particle, positron and electron implantation in solids. Technical Report, Brookhaven National Lab (BNL), Upton, NY.
- Hamacher, K.A., Kaiser, H., Rhyne, J.J., Ritley, K.A., Flynn, C.P., & Theis-Bröhl, K. (1997). Neutron diffraction study of magnetic properties of Dy/Y superlattices. *Physica B: Condensed Matter*, 241, 719-721.
- Theis-Brohl, K., Ritley, K.A., Flynn, C.P., Van Nostrand, J.E., Cahill, D.G., Hamacher, K., Kaiser, H., & Rhyne, J.J. (1997). Coexistence of different magnetic phases in Dy. *Journal of Magnetism and Magnetic Materials*, 166(1-2), 27-37.

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- Hamacher, K.A., Kaiser, H., Rhyne, J.J., Theis-Bröhl, K., Ritley, K.A., & Flynn, C.P. (1996). Magnetic Properties of (1102)[Dy|Y] Superlattices. In APS March Meeting Abstracts (pp. E22-11).
- Zhang, H., Satija, S.K., Gallagher, P.D., Dura, J.A., Ritley, K., Flynn, C.P., & Ankner, J.F. (1996). Diffraction of neutron standing waves in thin films with resonance enhancement. *Physica B: Condensed Matter*, 221(1-4), 450-454.

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- Ritley, K.A., Lynn, K.G., Ghosh, V., & Welch, D.O. (1994). The effects of low-energy scattering on positron implantation. In AIP Conference Proceedings (Vol. 303, No. 1, pp. 64-72). American Institute of Physics.
- Weiss, A.H., Ottewitte, E.H., & Augenstein, B.W. (1994). Summary of the fifth international workshop on slow positron beam techniques for solids and surfaces. *Radiation Physics and Chemistry*, 44.

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- Ritley, K.A., McKeown, M., & Lynn, K.G. (1991). A Monte-carlo model of positrons and electrons in matter. In AIP Conference Proceedings (Vol. 218, No. 1, pp. 3-18). American Institute of Physics.
- Ritley, K.A., Lynn, K.G., Dull, P., Weber, M.H., Carroll, M., & Hurst, J.J. (1991). A search for tritium production in electrolytically deuterided palladium. *Fusion Technology*, 19(1), 192-195.

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- Ritley, K., McKeown, M., & Lynn, K.G. (1990). Positron beams for solids and surfaces. American Institute of Physics, New York, 3-18.
- Ritley, K., Wiesmann, H., Dull, P., Lynn, K., & Weber, M. (1990). A search for cold fusion signatures in cathodically charged palladium. Technical Report, Brookhaven National Lab, Upton, NY.