

## Personal information

Birthdate: May 21th 1960 in Basel, Switzerland  
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## Current Positions

- Prof. for Digital Humanities at the University of Basel
- Director of the “Data and Service Center for the Humanities” (DaSCH), a national research infrastructure

## Education

1967-1972: Primary School in Allschwil, BL  
1972-1976: Secondary School (“Progymnasium”) in Allschwil, BL  
1979-1980: Mathematics-Sciences-Gymnasium in Basel  
1980: Matura  
1980-1986: Studying physics, mathematics and astronomy at the University of Basel  
1986: Diploma (equivalent to Master) in experimental physics (condensed matter)  
1987: PhD “summa cum laude” in experimental physics (nanophysics)  
2007: Habilitation thesis in the faculty of Humanities, venia in “historical auxiliary sciences” and “media science”  
2013: Appointment as “Titular Professor”, faculty of humanities, University of Basel  
2017: Promotion to assoc. Professor in “Digital Humanities”

## Professional and academic experience

Since 2017: Assoc. Professor for “Digital Humanities”  
Since 2014: Head of the “Digital Humanities Lab”  
Since 2001: 100% staff member of the “Digital Humanities Lab”, faculty of Humanities  
1992-2001: Cadwork AG, Basel/Lausanne: senior SW developer for 3D, databases etc.  
1987-1992: Postdoc at ETHZ, image science group (Prof. O. Kübler)  
1986-1987: PhD Assistant in Nanophysics (Prof. H.-J. Güntherodt), Dep. of Physics (Basel)

- Head of the Digital Humanities Lab, Faculty of Humanities, University of Basel
- Head of the “Data and Service Center for the Humanities”, a national research infrastructure for the Humanities, finances by the Academy of Humanities and Social Sciences
- Deputy project leader of the “New infrastructure for critical editions” (CRUS P2 project)
- Member of the council of the universities of applied sciences northwestern Switzerland (Fachhochschulrat FHNW)

## Projects as leading investigator

- WordWeb / Intertextuality in Drama of the Early Modern Period – A new way of representing Intertextuality in Drama of the Early Modern Period (SNF #10DL15\_183259)
- Archives on the move: A project for the visualization and mediation of the historic photo archive of the Kunsthalle Basel (UBS foundation). See <http://archivesonthemove.org> .
- Bernoulli-Euler Online (BEOL): Development of a platform for digital editing and a virtual research environment for historical scientific texts (SNF #105215\_166072)

- SALSAH 2.0 – Augmenting a virtual research environment with source-centric analysis methods (SNF #105211\_137929) [2012-215]
- SBFi & swissuniversities: New Swiss Research Infrastructures of National Relevance for the period 2017-2020: "Swiss Digital Humanities Center" (Volume: approx. CHF 8 Mio, submitted 22.01.2014 / received best evaluation "A")
- DISTARNET - Distributed Archival Network (SNF#100012-105714)

Supervised PhD theses, important contributions to the career of scientists

*PhD theses:*

- Sepideh Alassi, Mechanics of Jacob Bernoulli, ongoing (together with Prof. H. Harbrecht, Dept. of Mathematics, University of Basel)
- Dr. Simon Margulies, Einführung zu digitalen Daten als Quellen der Geschichtswissenschaft (Introduction to digital sources in History Science), Basel (2008)
- Dr. Ivan Subotic, A Distributed Archival Network for Process-Oriented Autonomic Long-term Digital Preservation, Basel (2013)
- Dr. Tobias Schweizer, Historisch-kritische Editionen im digitalen Medium: Theorie, Methode, Praxis (2015)
- Dr. André Kilchenmann, Film und Bewegtbild in einer virtuellen Forschungsumgebung (Film and moving image for a virtual research environment)

*Prizes, fellowships, distinguished memberships*

- 2013: Science award of the city of Basel (together with Prof. R. Gschwind) for the outstanding contribution to interdisciplinary research in digitization and long-term archiving in the field of cultural heritage, and for providing longevity and access to the research data in the Humanities (Endowment of CHF 20'000)
- Institution of Electrical and Electronical Engineers (IEEE): member since 1987
- Imaging Science & Technology: member since 2007
- Board of Trustees of e-codices
- Scientific Advisory Board of the Swiss Linguistic Research Infrastructure

Organisation of conferences

- General chair of "Archiving 2019"
- Program chair of "Archiving 2018" in Washington DC

Outreach

- many talks for general public (not complete list):
  - Universitätsbibliothek – Auslaufmodell im digitalen Zeitalter (Freiwillige Akademische Gesellschaft & Alumni, 18.10.2018)
  - A data center for the Humanities (IT for research days/Switch, 19.09.2018)
  - Der Weg zum digitalen Bildarchiv – digitale Fallen und analoge Stolpersteine: ein Erfahrungsbericht (Vernissage Kunsthalle, 2.11.2017)
  - Digitale Amnesie – Werden unsere digitalen Daten die Jahrhunderte überdauern (Flying Science, 14.06.2016)
- Newspaper articles:
  - Hardrock und Wissenschaftliche Fotografie (Ueli Mäder), Aargauer Zeitung (19.3.2018)
  - Der paranoide Techniker im Maschinenraum des kulturellen Gedächtnisses (Matthias Oppliger, Felix Michel) Tageswoche (10.03.2016)
  - Basler Forscher entwickeln Speichermedium für die Ewigkeit (Michael Benzing), Aargauer Zeitung (17.10.2013)

## Major scientific achievements

### *Data and Service Center for the Humanities (DaSCH V1.0)*

The creation of the DaSCH has certainly been my major achievement of the past 10 years. It has been a long, but steady process which involved both technical, methodological and political “groundwork”. One of the major insight I got from the collaboration with humanities researcher (e.g. early prints, HyperHamlet etc.) was that research data in humanities are *qualitative*, *complex* and *interlinked*. Besides the sources (images, texts etc.) there are a lot of small annotations and commented references which together form a new whole. Thus a traditional OAIS-archive which basically simulates a traditional analogue archives of “objects” will not work. The main result was the creation and implementation of a “keep alive”-archive. It’s implementation Knora (<http://knora.org>) has formed a very successful framework for the DaSCH. In addition to the methodological and technical solution, the creation of the DaSCH required a very intensive political groundwork to convince the financial donors to incorporate the DaSCH as a national research infrastructure.

Within the work of the DaSCH it became obvious to me that in humanities there is a serious lack of standards for interoperability between data sources. I was intrigued by the “International Image Interoperability Framework” (IIIF, <http://iiif.io>) which established such a standard for digital images (and I implemented a high-efficient IIIF conformant image server that preserves important metadata such as EXIF, IPTC and – of especial importance in humanities – color profiles for a trueful color reproduction). We are currently working within the DaSCH to generalize the concept of the IIIF to research data and to implement such a API. BTW, ll the development of the DaSCH is open source and available on github.

### *Platform for critical editions (Bernoulli-Euler Online)*

In order not only to be a service provider but also a user “who has to swallow his own medicine”, I’m heading the research project for a new online edition of the works of the Bernoulli dynasty and Leonhard Euler (BEOL). It involves manuscripts in 5 languages (german, latin, french, english and russian), old mathematical notation of formulas that today’s mathematicians and physicist cannot read anymore, sketches etc. It includes the correspondence with other scientists of this time, e.g. Newton, Leibnitz etc. The goal is a multi-layered presentation that allows to get step by step from the facsimile of the manuscripts to “translations” of text and formulas which a modern scientist is able to read. A beta-release is expected end of March. The platform uses and integrates norm databases such as the Universal Authority File (*Gemeinsame Normdatei*) of the Deutsche Nationalbibliothek. It is based on the DaSCH platform.

### *Distarnet*

Longevity of digital sources depends on counteracting to the obsolescence of hardware- and software-standards on one hand, but also on the relatively short lifespan of digital media. Hards disks, magnetic tapes usually become obsolete after 3-7 years due to changing interface standards, incompatible changes hardware (increasing capacity) etc.. Thus the only way is to constantly migrate to new HW every 5-7 years – a tedious process. With my team I’ve devised new methods (DISTributed ARchival NETwork) based on a self-organized, redundant, self-replicating fail-safe p2p network which maintains multiple copies of all data. Migration can be performed just by exchanging a storage node with new, “empty” hardware. DISTARNET will automatically replicate all data.

## Publications of Prof. Dr. Lukas Rosenthaler (last 5 years)

Complete list:

<https://www.dropbox.com/s/fpzghmbt66zd5bv/LukasRosenthaler-Publist.pdf?dl=0>

Publications that have a direct bearing on the research project are labelled by an asterisk (\*)

### 1) Peer-reviewed conference proceedings

- (\*) Ivan Subotic, [Lukas Rosenthaler](#), *Preservation of Evolving Complex Information Objects*, in IS&T Archiving 2018 Conference Proceedings, Lisbon (2019)
- (\*) André Kilchenmann, Flavie Laurens, and [Lukas Rosenthaler](#), *Digitizing, Archiving...and then? Ideas about the Usability of a Digital Archive*, in IS&T Archiving 2018 Conference Proceedings, Lisbon (2019)
- Sepideh Alassi, Tobias Schweizer, Michael Hawkins, Robert Iliffe, [Lukas Rosenthaler](#), Martin Mattmüller, Helmut Harbrecht, *Newton virtually meets Euler and Bernoulli*, Digital Humanities 2019 Conference Abstracts (to be published 2019)
- Sepideh Alassi, Tobias Schweizer, Martin Mattmüller, [Lukas Rosenthaler](#), Helmut Harbrecht, *A Digital Edition of Leonhard Euler's Correspondence with Christian Goldbach*, in Digital Humanities 2018 Conference Abstracts (2018)
- (\*) André Kilchenmann and [Lukas Rosenthaler](#), *Bring All Together—An Approach of a Multimedia Keep-Alive Archive*, in IS&T Archiving 2018 Conference Proceedings, Washington DC (2018)
- Tobias Schweizer, Sepideh Alassi, Martin Mattmüller, [Lukas Rosenthaler](#), *Integrating historical scientific texts into the Bernoulli-Euler Online platform*, in Digital Humanities 2017 Conference Abstracts, McGill University, Montreal (2017), pp. 585-587.
- (\*) [Lukas Rosenthaler](#), Andrea Bianco, Peter Fornaro, *Integrating Image Resources Into Virtual Research Environments For The Humanities – a Simple Image Presentation Interface (SIPI) based on IIIF*, in Digital Humanities 2017 Conference Abstracts, McGill University, Montreal (2017), pp. 566-567.
- Peter R. Fornaro, Andrea Bianco, Aeneas Kaiser, [Lukas Rosenthaler](#), Lothar Schmitt, Heidrun Feldmann, *Enhanced Reflectance Transformation Imaging for Arts and Humanities*, in Digital Humanities 2017 Conference Abstracts, McGill University Montreal (2017), pp. 231-233.
- Peter R. Fornaro, Sofias Georgakopoulou, [Lukas Rosenthaler](#), *PERSONalized COlour ProfilEs PERiSCOPE: A modern methodology for rendering colour in digital media displays*, in Digital Humanities 2017 Conference Abstracts, McGill University, Montreal (2017), pp. 233-235.
- (\*) Peter Fornaro, [Lukas Rosenthaler](#), Erwin Zbinden, Martin Kaiser, *TIFF in Archives: A Survey about Existing Files in Memory Institutions*, in IS&T Archiving 2017 Conference Proceedings, Riga (2017)
- (\*) [Lukas Rosenthaler](#), Peter Fornaro, Andrea Bianco, *Simple Image Presentation Framework (SIPI) – an IIIF-based Image-Server*, in IS&T Archiving 2017 Conference Proceedings, Riga (2017)
- (\*) Tobias Schweizer, Peter Fornaro, [Lukas Rosenthaler](#), *Content-based Interoperability: Beyond the Merely Technical Specifications of Interfaces*, in IS&T Archiving 2017 Conference Proceedings, Riga (2017)
- Fornaro Peter, Bianco Andrea, Kaiser Aeneas, [Rosenthaler Lukas](#), *Enhanced RTI for gloss reproduction*, in Electronic Imaging, 8 (2017), pp. 66-72, <https://doi.org/10.2352/ISSN.2470-1173.2017.8.MAAP-284>
- Peter Fornaro, Andrea Bianco, Aeneas Kaiser, [Lukas Rosenthaler](#), Lothar Schmitt, Heidrun Feldmann (2016) *Enhanced Reflectance Transformation Imaging for Arts and Humanities*, Euromed World Cultural Heritage Conference 2016, Zypres, Greece, 3. November 2016

- (\*) Peter Fornaro, Lukas Rosenthaler, *Long-Term Preservation and Archival File Formats: Concepts and Solutions*, Universität Basel (Switzerland), in Archiving, Society for Imaging Science and Technology (2016), pp. 87-90
- Peter Fornaro, Andrea Bianco, Lukas Rosenthaler, *Digital Materiality with Enhanced Reflection Transformation Imaging*, Universität Basel (Switzerland), in Archiving, Society for Imaging Science and Technology (2016), pp. 11-14
- (\*) Lukas Rosenthaler, Peter Fornaro, *The International Image Interoperability Framework and its Implication to Preservation*, Universität Basel (Switzerland), in Archiving, Society for Imaging Science and Technology (2016)
- (\*) Fornaro, P., Rosenthaler, L. (2016). *File Formats for Archiving: Stability and Persistence Issues*. In Digital Humanities 2016: Conference Abstracts. Jagiellonian University & Pedagogical University, Kraków, pp. 507-508
- (\*) Rosenthaler, L., Immenhauser, B., Fornaro, P. (2016). *Implementation of a National Data Center for the Humanities (DaSCH)*. In Digital Humanities 2016: Conference Abstracts. Jagiellonian University & Pedagogical University, Kraków, pp. 339-341.
- (\*) Kilchenmann, A., Rosenthaler, L. (2016). *Moving Images and the Connection to other Media Types*. In Digital Humanities 2016: Conference Abstracts. Jagiellonian University & Pedagogical University, Kraków, pp. 821-822
- (\*) Lukas Rosenthaler, Peter Fornaro and Claire Clivaz: „*DASCH: Data and Service Center for the Humanities*”, Digital Scholarship in the Humanities, Oxford University Press (2015)
- (\*) Lukas Rosenthaler, Peter Fornaro and Claire Clivaz, „*National Data Curation and Service Center for Digital Research Data in the Humanities*”, Digital Humanities 2014: book of abstracts (2014)
- (\*) Peter Fornaro, Andreas Wasmer, Lukas Rosenthaler and Rudolf Gschwind, „*Monolith: Materialised Bits, the Digital Rosetta Film*”, Digital Humanities 2014: book of abstracts (2014)
- Ivan Subotic, André Kilchenmann, Tobias Schweizer and Lukas Rosenthaler, „*Future Development of a System for Annotation and Linkage of Sources in Arts and Humanities*”, Digital Humanities 2014: book of abstracts (2014)
- (\*) André Kilchenmann, Lukas Rosenthaler, „*Annotation and Linkage of Motion Picture in an Interactive and Collaborative Environment*”, in Archiving 2014, Society for Imaging Science and Technology (2014)
- (\*) Stefan Keller, Alice Keller, Heike Neuroth and Lukas Rosenthaler, „*Project management and sustainable revenue models in the Digital Humanities*”, (Workshop), Digital Humanities 2014: book of abstracts (2014)
- (\*) Tobias Schweizer, Andreas Wassmer, Lukas Rosenthaler, „*Long-term Access to Primary Research Data as a Challenge to Migration*”, in Archiving 2014, Society for Imaging Science and Technology (2014)
- (\*) Tobias Schweizer and Lukas Rosenthaler, „*Building Digital Editions on the Basis of a Virtual Research Environment*”, Proceedings of the Digital Humanities Congress 2012. Studies in the Digital Humanities. Sheffield: HRI Online Publications, 2014. Available online at: <http://www.hrionline.ac.uk/openbook/book/dhc2012> (2014)

## 2) Review articles

- (\*) Lukas Rosenthaler, „*Datenstandards in den Geistes- und Sozialwissenschaften*”, SAGW Bulletin 3/2018 (2018), pp. 48-49
- (\*) Lukas Rosenthaler, „*Geisteswissenschaftliche Daten sichern und verfügbar halten*”, SAGW Bulletin 4/2015 (2015), pp. 46-47
- (\*) Lukas Rosenthaler and Peter Fornaro: „*Big Data – Bedrohung oder Chance für das Kulturerbe?*”, NIKE Bulletin 6 (2014)
- (\*) Lukas Rosenthaler, „*Technische Herausforderungen in den Digital Humanities*“, in: Bulletin der Schweizerischen Akademie der Geistes- und Sozialwissenschaften, Bern (4/2013)

### 3) Monographien

#### 4) Contributions to books

- (\*) Tobias Schweizer, Lukas Rosenthaler und Ivan Subotic: "*Visualisierung von Annotationen und Verknüpfungen in SALSAH*", in: „Informatik und Geschichte“, Vol. 18/19, Chronos Verlag (2015)

#### 5) other relevant publications

- (\*) Lukas Rosenthaler, "*Final report for the pilot project "Data and Service Center for the Humanities" (DaSCH)*", Akademien der Wissenschaften Schweiz (2015)

#### 6) Oral contributions to international conferences

- (\*) Rosenthaler, Lukas; Geer, Benjamin; Subotic, Ivan; Schweizer, Tobias; Fornaro, Peter, A *Platform For Long-Term Accessibility Of Research Data In The Humanities*, Digital Humanities Conference 2017, Montreal
- (\*) Lukas Rosenthaler, *Der Weg zum digitalen Bildarchiv – digitale Fallen und analoge Stolpersteine: Ein Erfahrungsbericht*, Kunsthalle Basel, Oct 2nd 2017
- (\*) Lukas Rosenthaler, *Simple Image Presentation Interface - a versatile high-performance open source IIIF-server*, International IIIF conference 2017, Vatican (2017)
- (\*) Lukas Rosenthaler, *IIIF and long term preservation of digital media*, International IIIF conference 2017, Vatican (2017)

#### 7) Outreach activities

- (\*) Lukas Rosenthaler, *Presentation of the "Data and Service Center for the Humanities" to the government of the Canton Basel-Stadt*, May 11th 2017
- (\*) Lukas Rosenthaler, "*Preserving research data*", 100 year anniversary of the Zentralbibliothek Zürich (central library of Zurich), 2017
- (\*) Lukas Rosenthaler, *Digitale Amnesie – werden unsere digitalen Daten die Jahrhunderte überdauern ?*, Flying Science, June 24th 2016
- (\*) Lukas Rosenthaler, *Digital Humanities – eine Eintagesfliege oder eine grundsätzliche Umwälzung der Geisteswissenschaften?*, Jahresversammlung der Freiwilligen Akademischen Gesellschaft Basel, May 18th 2016