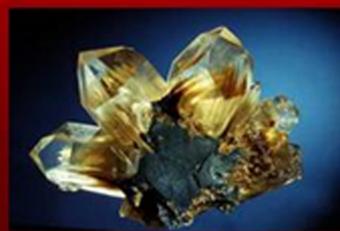
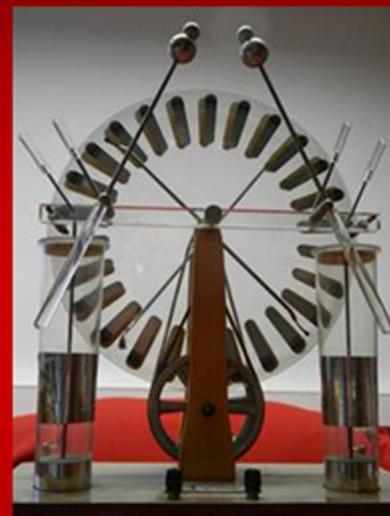


Gudrun Wolfschmidt (ed.)

Enhancing University Heritage- Based Research

XV Universeum Hamburg 12.-14. June 2014



**XV Universeum Network Meeting,
Hamburg, 12-14 June 2014**



Gudrun Wolfschmidt (ed.)

XV Universeum Network Meeting

**Enhancing University Heritage-Based Research
University of Hamburg, Germany, 12–14 June 2014**

Booklet of Abstracts



**Hamburg: Center for History of Science and
Technology 2014**

Webpage of the conference:

<http://www.hs.uni-hamburg.de/DE/GNT/events/universeum-hh-2014.php>

Prof. Dr. Gudrun Wolfschmidt



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<http://www.hs.uni-hamburg.de/DE/GNT/w.htm>

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1.1 Call for Papers

The *European Academic Heritage Network UNIVERSEUM* announces its 15th annual meeting. UNIVERSEUM invites submissions of papers on academic heritage in its broadest sense, tangible and intangible, namely the preservation, study, access and promotion of university collections, museums, archives, libraries, botanical gardens, astronomical observatories, and university buildings of historical, artistic and scientific significance. The theme of the conference is *Enhancing University Heritage-Based research*, though papers on other topics are welcomed too. Post-graduate students are especially encouraged to attend.

Enhancing University Heritage-Based Research

Cultural heritage is widely studied, from collection studies to historical and social studies of science, research in the natural sciences, didactic research, museum studies, and conservation and restoration analysis. Research is one of universities' core missions. How can university heritage based-research be regarded with respect to this mission? What kind of research is being done and how is it presented to the general public? How can we make university heritage more relevant in research development and outreach? How does research contribute to transform the places where universities' everyday activities are taking place into heritage? How can it turn artefacts, specimens, books, manuscripts and documents produced or gathered by universities into heritage? To what extent can university heritage as a whole be recognized as a multidisciplinary large-scale tool for research activities? We welcome experiences, case-studies and in-depth papers that help us identify the nature and specificity of these issues and concerns.

Programme – XV Universeum, Hamburg 2014 Ed. by Gudrun Wolfschmidt

1.1.1 SOC – Programme Committee

- Gudrun Wolfschmidt, University of Hamburg (Germany) – Chair
- Marta Lourenço, University of Lisbon (Portugal)
- Laetitia Maison-Soulard, University Michel de Montaigne (France)
- Sébastien Soubiran, University of Strasbourg (France)
- Sofia Talas, University of Padua (Italy)
- Roland Wittje, University of Regensburg, Germany

1.1.2 LOC

- Prof. Dr. Gudrun Wolfschmidt, UNIVERSEUM 2014 Chair
(Gudrun.Wolfschmidt@uni-hamburg.de)
- Dr. Antje Zare, Institut für Geschichte und Ethik der Medizin
(azare@uke.de)

1.1.3 Sponsors

The conference is supported by the

- University of Hamburg,
- Schimank-Stiftung of the Center for History of Science and Technology, University of Hamburg
- Universitätsklinikum Hamburg Eppendorf; Institut für Geschichte und Ethik der Medizin / Medizinhistorisches Museum Hamburg

1.2 Thursday, June 12, 2014

Morning: Geomatikum Lecture Room 2

(Bundesstrasse 55, Bus 4 and 15, stop “Bundesstrasse”)

Thursday, 8:00 – 9:00 Registration

Thursday, 9:00 – 9:30

1.2.1 Opening Session

Chair: **Gudrun Wolfschmidt**

Prof. Dr. Claudia Leopold, University of Hamburg
(Member of the “Präsidium” – Steering Committee of Hamburg University)

Dr. Sofia Talas (President of Universeum)

Prof. Dr. Gudrun Wolfschmidt (Universeum 2014 Chair)

Thursday, 9:30 – 11:00 Opening Session

Prof. Dr. Rosemarie Mielke:

Presentation of the recommendations of the German “Wissenschaftsrat”

Dr. Cornelia Weber (Managing Director of the Hermann von Helmholtz-Zentrum für Kulturtechnik, Humboldt University of Berlin):

Repositioning University Collections as Scientific Infrastructures. A New Approach in Germany

11:00 – 11:30 – Coffee break

Thursday, 11:30 – 13:00

Guided Tours – Collections of the University of Hamburg:

- Collection History of Science (Geomatikum) –
Gudrun Wolfschmidt
- Geological-Palaeontological Museum (Geomatikum) –
Dr. Ulrich Kotthoff (or staff member)
- Zoological Museum –
Prof. Dr. Thomas M. Kaiser (Martin-Luther-King-Platz 3, opposite of Geomatikum)
- Gypsum Replica Collection of the Archaeological Institute –
Heidi Tauber, M.A. (Grindelallee 48, Metrobus 4 stop “Grindelhof”)
- Jungius collection, State- and University Library Carl von Ossietzky –
Dipl.-Wiss.Hist. Eike Harden
(Von-Melle-Park 3, Metrobus 4 stop “Staatsbibliothek”)

13:00 – 13:30 Lunch – University Cafeteria (Mensa) Geomatikum

Afternoon: Hamburg (University) Observatory in Hamburg-Bergedorf
HS-Plan (S21 Sternschanze 13:39 / Dammtor 13:41 – 14:05 Bergedorf Bahnhof, Bus 135
- 14:09–14:19 “Justus-Brinckmann-Strasse”)

Thursday, 14:30 – 16:00

Welcome: Prof. Dr. Robi Banerjee, director of Hamburg Observatory

1.2.2 1. Session: Conservation and scientific research on Collections

Chair: **Marta Lourenço**

Beatrix Alscher (Berlin):

The conservation of the 1m-reflector telescope: Technical heritage at the Hamburg Observatory

Ilja Kogan, Birgit Gaitzsch (Freiberg, Germany):

Freiberg University makes fossils and coal available via the internet

Nathalie Séjalon-Delmas (Castanet Tolosan, France):

How herbarium specimens may give clues about XXIth century environmental questions

Bruno Vila (Marseille, France):

Is it possible to evaluate the impact of a collection on research?

16:00 – 16:30 – Coffee Break

Thursday, 16:30 – 18:00

1.2.3 2. Session: Heritage and research in history of science

Chair: **Sofia Talas**

James Caplan (Marseille, France):

Research as a line of defence of historic astronomical instrumentation

Liliya V. Kazantseva, Sergey A. Salata (Kyiv, Ukraine):

A comprehensive study of the scientific heritage of the Astronomical Observatory of Kyiv University

Lea Leppik (Tartu, Estonia):

A science museum without research into the history of science?

Eike-Christian Harden (Hamburg, Germany):

Preparing the transformation into heritage: what research has to be done before the presentation of the Jungius archive can start?

Anke Tietz (Freiberg, Germany):

A geoscientific heritage of the late 18th century in the periphery of universities

Thursday, 18:00 – Presentation and Guided Tours

Schmidt-Museum, Telescopes and Scientific Instruments –

Gudrun Wolfschmidt and *Förderverein Hamburger Sternwarte* (Association Promoting Hamburg Observatory) (PD Dr. Matthias Hünsch, Dr. Wolf-Dietrich Kollmann)

Photographic Plates – Dr. Detlef Groote

Archive and Library – Anke Vollersen

1.3 Friday, June 13, 2014

Morning: Geomatikum Lecture Room 2

Friday, 9:00 – 10:45

1.3.1 3. Session: Networks inside and outside universities

Chair: **Steph Scholten**

Elena Corradini (Modena , Italy), Luigi Campanella (Roma, Italy):

Disseminating the scientific knowledge: Interdisciplinary itineraries on common themes of the Italian university museums network

Daniëlle De Vooght, Tijl Vereenooghe, Simon Leenknecht (Mechelen, Ghent, Belgium):

Scientific heritage, inside and outside academia

Klaus Staubermann, Anita Quye (Edinburgh, Glasgow, Scotland):

Reinvent – Researching 19th century Scottish textile heritage

Simon Leenknecht, Danny Segers, Isabel Rotthier, Trudy Noordermeer, Frank Scheelings, Geert Vanpaemel (Ghent, Antwerp, Brussels, Leuven, Belgium):

Et in academia ego? Flemish university colleges and academic heritage

Nathalie Nyst (Brussels, Belgium):

From the city collections to the university collections Brussels and the ULB

10:45 – 11:15 – Coffee break

Friday, 11:15 – 13:00

1.3.2 4. Session: Research exchanges between public and academic audiences

Chair: **Klaus Staubermann**

Neil Curtis (Aberdeen, Scotland):

Public engagement with research and new opportunities for the university of Aberdeen's museums

David Gaimster (Glasgow, GB):

Reinventing the academic museum – the brief for a hunterian collections study centre

Jelle De Schrijver, Chantal Dugardin, Dominick Verschelde, Danny Segers (Ghent, Belgium):

Reflection about science at the Ghent University Museum

Martina Kölbl-Ebert (Eichstätt, Germany):

The interdisciplinary appeal of a natural history collection

Anne-Marie Delaune (Limoges, France):

The mission scientific of heritage preservation being hijacked

Marek Bukowski (Gdańsk, Poland):

Museum as a hero, museum as a tool ...

13:00 –14:00 Lunch – University Cafeteria (Mensa) Geomatikum

Afternoon: Geomatikum Lecture Room 2

Friday, 14:00 – 15:00

1.3.3 5. Session: New exhibitions

Chair: **Sébastien Soubiran**

Lourdes Cirlot, Santiago Vallmitjana Rico, Isabel Garcia Malet, Pilar Mateo (Barcelona, Spain):

Sharing heritage and knowledge among university collections: the case of the “images vives” exhibition

Janne Vilkkuna, Pirjo Vuorinen, Tanja Koskela (Jyväskylä, Finland):

Exhibition center Soihtu – How to squeeze 150 years of university's history into 188 m²?

Reet Mägi (Tartu, Estonia):

The new permanent exhibition of the university of Tartu Natural History Museum: Education based on science of the past and present

Friday, 15:00 – 16:00

1.3.4 Poster session

Chair: **Bruno Vila**

Susanne Eberspächer, Christin Kehrer, Gerhard Heide (Freiberg/Saxony, Germany):

Digitization of the thin section collection of rocks at the TU Bergakademie Freiberg

Birgit Gaitzsch, Ilja Kogan, Norbert Volkmann (Freiberg, Germany):

Coal, petroleum and leaves – the fossil fuel geology collection at the TU Bergakademie Freiberg

Beata Heide, Andreas Massanek, Gerhard Heide (Freiberg, Germany):

249 coloured plates of Meissen porcelain: a part of the mineral collections of Abraham Gottlob Werner

Irena Kampa (Kiel, Hamburg, Germany):

The collection of Hevelius' academic heritage in Gdańsk and its benefits for the study of scientific instruments

Laetitia Maison (Bordeaux, France):

The ten years of "PATSTEC" in France (2003–2013)

Pilar Irala Hortal (Zaragoza, Spain):

Photographic archives for student research

Alberto Faria (Lisboa, Portugal):

The virtual museum of the Faculty of Fine Arts, University of Lisbon

Ethel R. Handfas (Rio de Janeiro, Brasil):

Scientific and cultural heritage at the Brazilian university

Judith Blume, Vera Hierholzer, Lisa Regazzoni (Frankfurt am Main):

Explorative teaching – what can objects tell?

16:00 – 16:30 – Coffee Break

Friday, 16:30 – 18:00

1.3.5 6. Session: Teaching and students' engagement with collections

Chair: **Roland Wittje**

Frédérique Andry-Cazin, Santiago Aragon (Paris, France):

Exhibition "In the footsteps of science": An example of interaction between research and heritage

Margherita Bongiovanni, Federica Stella (Torino, Italy):

The Curioni collection: Educational models between "Building science and art"

Frank Meijer, Esther Boeles (Amsterdam, The Netherlands):

Wikipedia & University collections: Getting the students involved

Anne Vähätalo (Aalto, Finland):

From showcase to virtual study piece

19:00 – **Conference Dinner**

Restaurantschiff Bergedorf (1955)

Ponton Neumühlen, Hamburg-Oevelgönne

(ferry boat 62 direction Finkenwerder, stop Oevelgönne)

1.4 Saturday, June 14, 2014

**Morning: Medical History Museum,
University Medical Center (UKE), Hamburg-Eppendorf (Universitätsklinikum)**

(Metro U3 Schlump to Kellinghusenstrasse 09:02–09:07,
Bus 22, 09:12–09:18, stop “Julius-Reincke-Stieg”)

Saturday, 9:30 – 11:30

1.4.1 Workshop – Working Groups

Recent Heritage of Science (URHS) Workshop (Roland Wittje), see Selection Criteria:
<http://universeum.it/docs/Universeum-Selection-criteria-recent-heritage-2014.pdf>

11:30 – 12:00 Coffee Break

Saturday, 12:00 – 13:00 Guided Tour

Medical History Museum (Dr. Antje Zare and staff)

13:00 – 14:00 Lunch

**Afternoon: Medical History Institute,
University Medical Center (UKE), Hamburg-Eppendorf**

Saturday, 14:00 – 15:00

1.4.2 7. Session: Curating collections

Chair: **Ing-Marie Munktel**

Steph C. Scholten (Amsterdam, The Netherlands):

Into the 21st century: Curating digital collections

Laila Zwisler (Lyngby, Denmark):

Three things in one go – Heritage, research and dissemination at the Technical University of Denmark

George N. Vlahakis, Faiy Tsitou, Flora Papparou, Panagiotis Lazos (Patras, Athens, Greece):

The scientific collections of the Athen's University Museum. A critical view

Saturday, 15:00 – 17:00

1.4.3 Universeum General Assembly

Saturday, 17:00 – 19:00 – **Visits – Guided Tours**

- Excursion to places of history of science and technology in Hamburg by Gudrun Wolfschmidt (including boat trip)
- Botanical Garden of Hamburg University in Flottbek, opening hours 9–20 h
- Old Botanical Garden “Planten un Blomen” (*1820), http://en.wikipedia.org/wiki/Planten_un_Blomen, opening hours 7–23 h, history: DISA 01.13
<http://www.bghamburg.de/disa-newsletter/368-disa-newsletter-012013>
- Tropical Greenhouses <http://www.bghamburg.de/tropengewaechshaeuser>, Saturday 10:00–17:45 h,
Teahouse in the Japanese Garden, Tuesday to Saturday, 15–18 h
- “Wasserlichtspiele” Parksee (sound and light show with a water organ in the lake, <http://plantenunblomen.hamburg.de/wasserlichtspiele/>)
in the Old Botanical Garden, Thursday to Sunday, 22 h (summer term 1.05.–5.10.2014)

1.5 Suggestion for visits on Sunday

- Tropical Greenhouses in the Old Botanical Garden (Planten un Blomen: <http://plantenunblomen.hamburg.de/>),
opening hours Sunday 10:00–17:45 h
- Loki-Schmidt-Haus – Museum and Botanical Garden of Hamburg University in Flottbek,
opening hours Sunday 9–20 h
- Zoological Museum of Hamburg University, Martin-Luther-King-Platz 3,
opening hours: Sunday 10–17 h
- Mineralogical Museum of Hamburg University, Grindelallee 48,
opening hours: Sunday 10–17 h

1.6 Links to Hamburg University Collections and Places of Interest

- Museums and Collections of Hamburg University (Museen und Sammlungen der Universität Hamburg), <http://www.uni-hamburg.de/einrichtungen/zentrale-einrichtungen/museen.html>
- Flyer – Hamburg University Collections “Schätze, die die Welt erklären”, <http://www.uni-hamburg.de/einrichtungen/zentrale-einrichtungen/museen/flyer-schaetze.pdf>
- Flyer – Science Museums and Collections of Hamburg University (Naturwissenschaftliche Museen und Sammlungen), <http://www.uni-hamburg.de/UHH/vnsh-flyer.pdf>
- Arbeitskreis Sammlungen der Universität Hamburg, <http://www.uni-hamburg.de/einrichtungen/zentrale-einrichtungen/museen/arbeitskreis-sammlungen.html>, contact Dr. Antje Zare, Tel.: +49-40-7410-57261
- Gesellschaft für Universitätssammlungen e.V., founded in Göttingen October 4, 2012, <http://wissenschaftliche-sammlungen.de/de/gesellschaft/>

1.6.1 Astronomy, History of Science, DESY

- Hamburg Observatory (Hamburger Sternwarte), Gojenbergsweg 112, D-21029 Hamburg, <http://www.hs.uni-hamburg.de/>
 - Collections of Hamburg Observatory with Schmidt Museum (Sammlungen Hamburger Sternwarte mit Schmidt-Museum), http://www.hs.uni-hamburg.de/DE/GNT/events/Sammlungen_HS.htm, contact: Gudrun Wolfschmidt
 - Digital Plate Archives of Hamburg Observatory – Hamburger Sternwarte Fotoplattenarchiv, <http://plate-archive.hs.uni-hamburg.de/index.php/en/>, contact: Dr. Detlef Groote (groote@hs.uni-hamburg.de), Tel. +49-40-42838-8516
 - Archive and Library, contact: Anke Vollersen (bibliothek@hs.uni-hamburg.de), Tel. +49-40-42838-8516
- Collections of the Center for History of Science and Technology – Scientific Instruments and Models (Sammlungen des Zentrums für Geschichte der Naturwissenschaft und Technik – Wissenschaftliche Instrumente und Modelle), http://www.hs.uni-hamburg.de/DE/GNT/events/Sammlungen_IGN.htm, Bundesstrasse 55 Geomatikum, D-20146 Hamburg, contact: Gudrun Wolfschmidt
- DESY – *Deutsches Elektronen-Synchrotron* (http://www.desy.de/index_eng.html)
 - A Research Centre of the Helmholtz Association (Ein Forschungszentrum der Helmholtz-Gemeinschaft), Notkestrasse 85, D-22607 Hamburg, contact: Gerrit Hoerentrup (gerrit.hoerentrup@desy.de), Tel: +49 40 8998 4596.

1.6.2 Medical History

- Museum of Medical History (Medizinhistorisches Museum), <http://www.uke.de/medizinhistorisches-museum>, University Hospital (UKE) Hamburg-Eppendorf Flyer (PDF http://www.hs.uni-hamburg.de/DE/GNT/events/pdf/MMH_Flyer.pdf) (Anatomical Collection (Anatomische Sammlung, http://www.uke.de/institute/zellulaere-neurobiologie/index_4699.php), UKE), Fritz Schumacher-Haus (Haus N30.b), Universitätsklinikum Hamburg-Eppendorf (UKE), Frickestrasse / Schedestrasse, D-20246 Hamburg, contact: Dr. Antje Zare (azare@uke.de), opening hours: Wednesday, Friday, Saturday 14–18 h, Sunday 12–18 h, (Bus 20, 25 and 281) – Map of UKE with Museum (http://www.hs.uni-hamburg.de/DE/GNT/events/pdf/Lageplan_UKE-Medizinhist-Museum.pdf)

1.6.3 Archaeology

- Gypsum Replica Collection of the Archaeological Institute (Gipsabguss-Sammlung des Archäologischen Instituts), <http://www.uni-hamburg.de/archaeologie/gipse.html>, Archäologisches Institut, Edmund-Siemers-Allee 1, D-20146 Hamburg - How to get to the museum (http://www.uni-hamburg.de/archaeologie/klarcho_weg_gipse.html), contact: Juniorprof. Dr. Stephan Faust (stephan.faust@uni-hamburg.de)

1.6.4 Geo Science: Palaeontology and Mineralogy

- Geological-Palaeontological Institute and Museum (Geologisch-Paläontologisches Institut und Museum), http://www.uni-hamburg.de/geo1_pal/museum.html, Bundesstrasse 55, D-20146 Hamburg, contact: Dr. Ulrich Kotthoff (ulrich.kotthoff@uni-hamburg.de), opening hours: 9-18 h, Saturday (during the semester) 9–12 h
- Mineralogical Museum (Mineralogisches Museum), <http://www.museen.uni-hamburg.de/mineralogie/de/start/index.html>, Hamburg, Grindelallee 48, D-20146 Hamburg, contact: Prof. Dr. Jochen Schlüter (jochen.schlueter@uni-hamburg.de), opening hours: Wednesday 15-18 h, Sunday 10–17 h

1.6.5 Biology: Zoology and Botany

- Biocenter Grindel and Zoological Museum (Biozentrum Grindel und Zoologisches Museum), <http://www.uni-hamburg.de/biologie/BioZ/zmh/index.html>, Martin-Luther-King-Platz 3, D-20146 Hamburg, contact: Prof. Dr. Thomas M. Kaiser (Thomas.Kaiser@uni-hamburg.de) (Daniel Bein, daniel.bein@uni-hamburg.de), opening hours: Tuesday to Sunday 10–17 h, Metrobus 4 stop Grindelhof
- Tropical Greenhouses in the Old Botanical Garden (Tropengewächshäuser im Alten Botanischen Garten – Pflanzen un Blumen),

- <http://www.bghamburg.de/tropengewaechshaeuser>, – 1962/63 International Horticulture Exhibition (Internationale Gartenbauausstellung), pharmacist garden (Apothekergarten, <http://plantenunblomen.hamburg.de/apothekergarten/>) opening hours of the Greenhouses on workdays 9:00–16:45 and Saturday, Sunday 10:00–17:45 h,
- Old Botanical Garden “Planten un Blomen”, http://en.wikipedia.org/wiki/Planten_un_Blomen, opening hours 7–23 h
 - Biocenter Klein Flottbek and Botanical Garden (Biozentrum Klein Flottbek und Botanischer Garten), <http://www.bghamburg.de/>, Ohnhorststr. 18, 22609 Hamburg, opposite of S-Bahn Stop Klein-Flottbek, S-Bahn S1, Bus 21 and Metrobus 15 – Stop: Klein Flottbek.
 - Botanical Garden of Hamburg University (“Loki-Schmidt-Garten” – Botanischer Garten der Universität Hamburg), <http://www.bghamburg.de/>, contact: Dr. Carsten Schirarend (hortus@botanik.uni-hamburg.de), opening hours: every day 9–20 h
 - Loki-Schmidt-Haus – Museum für Nutzpflanzen, <http://www.biologie.uni-hamburg.de/bzf/museum/index.htm>, contact: Dr. Petra Schwarz (museum@botanik.uni-hamburg.de), opening hours: Tuesday to Saturday 13–17 h, Sundays 10–17 h
 - Herbarium Hamburgense (HBG), <http://www.herbariumhamburgense.de/>, 1.8 million specimens, *A Botanical Odyssey* (http://www.hs.uni-hamburg.de/DE/GNT/events/pdf/Botanical_Odyssey_Poppendieck.pdf) by H.H. Poppendieck, contact: Prof. Dr. Norbert Jürgens (norbert.juergens@uni-hamburg.de) or Dr. Hans-Helmut Poppendieck (hans-helmut.poppendieck@uni-hamburg.de) (Retired Custos)
 - Microalgae and Zygnematophyceae Collection Hamburg with over 550 living strains (Sammlung von Conjugaten-Kulturen – Lebendkulturen von Mikro-Algen), <http://www.biologie.uni-hamburg.de/bzf/zeph/zephsvck.htm>, contact: Prof. Dr. Dieter Hanelt (dieter.hanelt@botanik.uni-hamburg.de)

1.7 Web Links to University Museum Societies and Scientific Instruments

- Universitätsmuseen und Sammlungen in Deutschland (Hermann von Helmholtz-Zentrum für Kulturtechnik) <http://publicus.culture.hu-berlin.de/sammlungen/detail.php?dsn=717>
- Council of Europe (<http://www.universeum.it/council.html>): Recommendation Rec(2005)13 of the Committee of Ministers to member states on the governance and management of university heritage <https://wcd.coe.int/ViewDoc.jsp?Ref=Rec%282005%2913&Language=lanEnglish>
- European University Heritage Network UNIVERSEUM <http://www.universeum.it/>

- University Museums and Collections (UMAC)
<http://publicus.culture.hu-berlin.de/umac/> –
International Council of Museums (ICOM) <http://icom.museum/>
- International Committee of Museums of Science and Technology (CIMUSET)
<http://www.cimuset.net/>
- Scientific Instrument Commission (<http://www.sic.iuhps.org/>), a constituent organization of the International Union of the History and Philosophy of Science (IUHPS) <https://sites.google.com/a/dhstweb.org/www/>

Abstracts for Lectures –
XV Universeum, Hamburg 2014

REPOSITIONING UNIVERSITY COLLECTIONS
AS SCIENTIFIC INFRASTRUCTURES.
A NEW APPROACH IN GERMANY

C. Weber

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Keywords: *Research, Teaching, Education*

Abstract

In 2012, the *Helmholtz-Zentrum für Kulturtechnik* at Humboldt University of Berlin started a project to coordinate scientific university collections in Germany, funded by the Federal Ministry of Education and Research. The objective is to further develop and integrate university collections as decentralised infrastructures for research, teaching and education, with due regard for their diversity and specific local characteristics – on an interdisciplinary and cross-site basis. Since there is no comparable project anywhere – neither in Germany nor the rest of the world – the Coordination Centre is breaking new ground in the academic field (<http://wissenschaftliche-sammlungen.de>).

In my talk, I will give a short overview of the situation and development of university collections in Germany in the last years and I will present the project's goals, strategies and previous results.

Cornelia Weber is Managing Director of the Hermann von Helmholtz-Zentrum für Kulturtechnik at the Humboldt University in Berlin and Head of the Coordination Centre for Scientific University Collections in Germany. She holds a doctoral degree in German literature studies and has published extensively on university collections.

**THE CONSERVATION OF THE 1-M-REFLECTOR TELESCOPE:
TECHNICAL HERITAGE AT THE HAMBURG OBSERVATORY****B. Alscher***Dresdener Str. 23, 10999 Berlin, Germany*
alscher@alscher-restaurierung.de***Keywords: 1-m-Reflector Telescope of the Hamburg Observatory,
conservation, technical heritage, Carl Zeiss / Jena*****Abstract**

The 1-m-reflector telescope is an over 100 year old device that is particularly relevant to the history of technology basically in the field of research. There are two unique points of research: The field of astronomic research made with this telescope within its scientific findings. These findings are archived in form of documents or photographic plates but they also left typical traces of use at the instrument's surface, because for each research project special technical equipment had to be fixed or a technical change was necessary. At the bodyshell of the telescope these traces are still visible and of high value, because these conversions and additions made over time, give evidence of a long period of astronomic research especially for the change from astrometry to astrophysics. A recent field of research is the conservation activity to identify the traces of use and to find a conservation-practice to preserve them.

The lecture will deliver an insight to the field of conservation-research to explain the importance of "traces of use" at the bodyshell/surfaces of the objects we are talking about – to create a "red thread" between the document source and the conserved object-source. The 1-m-telescope offers an extremely rare value of authenticity which had to be preserved. First step of the restoration-work was to create a conservation concept and to perform a series of tests aiming at the specific conservation method. Therefore scientific analysis had to be made, to identify the different aged materials as well as to determine the surface coating system or to define the composition of its layers. The main concept of the work was the preservation of the historical substance as a whole to make the different layers of time visible in terms of paint and materials used as well as the change of any applications of technical equipment. The aim/purpose of the project was to enable the viewer to comprehend these traces of use at the object directly, which will, literally speaking, be an "eye-opening" experience for them; to arrange a visible transfer of research-history through the aged surface of this precision instrument made by Carl Zeiss / Jena.

Beatrix Alscher is conservator with a Diploma from the University of Applied Sciences, Berlin (2006), specialized in conservation of objects of technical heritage as well as the conservation of fine metal-work of art. Scientific interests are documentation, the artifact as cultural source, and surface treatment of objects of non-ferrous metal.

FREIBERG UNIVERSITY MAKES FOSSILS AND COAL AVAILABLE VIA THE INTERNET

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Keywords: *Geoscientific collection, digital database, fuel geology collection, Abraham Gottlob Werner*

Abstract

The University of Freiberg was founded in 1765 as world's first institution in which mining teaching was put on a scientific basis. From the beginning, teaching was illustrated by collections, which were also partially exposed to the public. As a part of the geological and mineralogical collection, fossils served as evidence supporting the 'geognostic' view of Freiberg professor Abraham Gottlob Werner (1749–1817), who in 1799/1800 held the first lecture on petrification worldwide. Later, geologists recognized the importance of fossils for the detection of natural resources and taught their students to use paleontological information for determination of age and environment.

Coal is a natural resource that mainly consists of fossilized plant material. Therefore, samples of coal are of interest for palaeobotany and mining studies. Coal samples have been incorporated in the Freiberg collection since Werner's time and have received increased attention after the inauguration of a chair for fuel geology on the eve of First World War. The collection of coal built up over the following decades became unique in its completeness and relevance for teaching and research. This collection has been selected for web-based digitization in a current pilot project designed to make geoscientific collections available to a broad audience, funded by the German Research Foundation (DFG). The pilot project will be presented in this paper.

Ilja Kogan is a palaeontologist who is currently engaged in a PhD thesis on Triassic bony fishes. He is a research associate in the Coal Collection of the TU Bergakademie Freiberg and interested in vertebrate palaeontology, evolution, and history of science.

Birgit Gaitzsch has a Phd in geology and is curator of the Palaeontological and Stratigraphical Collection of the TU Bergakademie Freiberg. Her fields of research include sedimentology, palaeoenvironment reconstruction, and history of science.

HOW HERBARIUM SPECIMENS MAY GIVE CLUES ABOUT XXITH CENTURY ENVIRONMENTAL QUESTIONS

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Keywords: Herbariorum TL, atmospheric pollution, climatic change

Abstract

Natural History Collections of the University Paul Sabatier-France (Sciences) mainly come from the Pyrenees. They are managed by a specific department dedicated to their preservation and inventory. However, the role of our University is to maintain collections available for teaching or research work, for example as evidence of the environmental conditions in the last century. In this sense, dried plants in herbaria are precious samples. Traditionally used for taxonomy or molecular phylogeny, they may also help to address questions on atmospheric pollution or climate change. For example, mosses and lichens have been used to gain an insight into past metallic pollution compared to current pollution, and have allowed identifying emergent pollutants. Herbarium samples may also be used for image analysis of stomata, in order to describe the effect of atmospheric CO₂ rise on plant leaves. Measurement of natural abundance of isotopes like N¹⁵ may be a tool to address the question of climate change, but also of nitrogen plant feeding under different soil conditions. The advantages of these advanced technologies, like mass spectrometry and fluorescence microscopy, are their high resolution, which allows analysis on small parts of a sample, thus preserving the main part of it for the next generations.

Nathalie Séjalon-Delmas' research work is focused on the use of herbarium specimens from the 20th century as an historical basis to address ecological concerns of the 21st century. The aim is to put university collections at the center of research with the use of new and advanced technological tools.

IS IT POSSIBLE TO EVALUATE THE IMPACT OF A COLLECTION ON RESEARCH?

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Keywords: *Collection's impact, research, h-index*

Abstract

Universities evaluate the productivity of researchers in various ways, mainly based on publications. Collections, however, are frequently judged uniquely on their impact – or supposed impact – on the public, and their importance for research goes unrecognized or is largely under evaluated. I will take a note published in *Nature* in 2013 as point of departure, in which the research value of collections was evaluated using the “*h-index*”. I discuss this approach, evaluating the possible application to the different types of collections. Correctly used, such an index could be a strong argument concerning the conservation of the collections to bring to the attention of university administrations.

Bruno Vila is *Maître de Conférence* at the University of Aix-Marseille where he teaches biology and ecology. He is in charge of the botanical collection of the University. He has also been put in charge of developing reflections on the collections of the University of Aix-Marseille and their management.

**RESEARCH AS A LINE OF DEFENCE
OF HISTORIC ASTRONOMICAL INSTRUMENTATION**

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Keywords: Historical research, observatories, instruments, networks

Abstract

Museums and collections, requiring space and financing, are seen by some university officials not as treasures but as burdens, draining meagre budgets. This is a problem particularly for collections of historic instruments, because (unlike the specimens in herbaria or fossil collections) these instruments no longer lead to the hard-scientific research publications that contribute to a university's international rankings.

Some university agents regard such historic instruments simply as a convenient resource for public relations. Unfortunately, such use is often carried out with disregard for professional museum practices, not to mention academic standards of presentation. "Treasures" are overemphasised, and the need for adequate storage facilities is totally ignored. Being neglect would be preferable to such misuse.

Protectors of these collections must encourage research publications about their instruments, so as to demonstrate their academic importance for the history of science. But collections of university-affiliated observatories are relatively neglected by researchers, in part because it is often insufficient to study a single specimen, often incomplete, in isolation. Such studies, and the work of curators, would be greatly facilitated by forming, or reactivating, a network of observatory collections, allowing researchers to locate all interrelated but geographically separated instruments.

James Caplan studied physics (University of Chicago) and earned a PhD in astronomy (Northwestern University). At LAM (formerly Observatoire de Marseille), where he is now *astronome  m rite*, he developed Fabry-Perot interferometer instrumentation to observe the interstellar medium. He has been working to conserve, study and display the observatory's heritage.

**A COMPREHENSIVE STUDY OF THE SCIENTIFIC HERITAGE
OF THE ASTRONOMICAL OBSERVATORY OF KYIV UNIVERSITY**

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Keywords: Scientific heritage, history of astronomy, university heritage, university museum

Abstract

The scientific heritage of universities requires deep and extensive research. It is important that this research is carried out in joint projects by professionals of the respective specific scientific field and by professionals of museology, monument study, architectural history, biographical studies, history of science, local history, among others. If an integrated approach is not followed, a considerable number of important aspects and details will be missed.

The Astronomical Observatory of Kyiv National Taras Shevchenko University, operating since 1845, is located on the Kyiv 'Observatory Hill', a site and building that is a listed monument of history and architecture. It encompasses several pavilions with *in situ* instruments recognized as material documents for the history of science and technology. In addition, the Observatory has a museum hosting multiple exhibits, archives and a library holding rare editions. Several prominent scientists worked and lived at the Observatory. Throughout its history, the Observatory has been the site for events with profound impact in society. Today, Kyiv Observatory is located in the city centre, inside the landscape of a unique park that deserves to become an ecological reserve. All these separate aspects require further research and an integrated approach into the history of the Observatory. This paper will contribute to this integrated approach, highlighting its most significant aspects.

Liliya Kazantseva is Director of Astronomical Museum. She is a research associate with a PhD in astronomy. She works in popularising science, and investigates the history of astronomy in Kyiv.

Sergey Salata is a second year post-graduate student. His research topic is a comprehensive history of science and technology of the Astronomical Observatory of Kiev University and its heritage.

A SCIENCE MUSEUM WITHOUT RESEARCH INTO THE HISTORY OF SCIENCE?

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Keywords: Science museum, research

Abstract

In Estonia, there is one museum dedicated to the history of science at the oldest university in Estonia, the University of Tartu, founded in 1632. However, there is no professorship dedicated to history of science at the University of Tartu and students cannot specialise in this subject. Research in the history of science has mostly been spearheaded by enthusiasts and retired professors.

In the 1960s, when collecting of historical items at the University was initiated, the group of enthusiastic collectors was made up of scientists. Today, the Museum is mainly staffed by historians, who are having trouble describing the items, let alone understanding their function. As a rule, the younger generation does not speak German or Russian fluently, and is not able to delve into the ideas of the creators of the old instruments.

The Museum's priority is to be more attractive. Even though the need for research concerning collections is great, in reality this is held back by lack of time and resources. Considering the boundary-crossing nature of science is perhaps a solution to stimulate collaborations with other science museums. This paper will discuss how far it is possible and why we still need more research connected to our cultural area.

Lea Leppik is research director of the University of Tartu Museum and associate professor at the UT Institute of Social Studies. Main research interests include history of science, biographies of scientists and history of institutions.

**PREPARING THE TRANSFORMATION INTO HERITAGE:
WHAT RESEARCH HAS TO BE DONE BEFORE THE PRESENTATION
OF THE JUNGIUS ARCHIVE CAN START?**

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Keywords: Manuscript collection, Historical/social studies of science, Digitisation, Information science

Abstract

Hamburg University is young; it was founded in 1919. On the other hand, a Higher School was established already in 1613, which at times has been regarded as Hamburg's starting point of a tradition of 'post-secondary education', as we would call it today. In the early seventeenth century, Joachim Jungius (1587–1657) was the most renowned professor and researcher at this institution. His papers may have been the largest collection of research notes one single individual had ever collected until the end of the seventeenth century. It may have amounted to 300,000 pages of manuscripts. Of these, more than 80,000 are still extant and in possession of Hamburg State and University Library; a digital presentation is being prepared. In order to expand research on these documents, they have to be indexed, their visibility has to be enhanced, and much background information has to be gathered, processed and presented. It is not quite clear, though, just how much information is necessary for this purpose. In this paper I will share my experience with the archive and discuss its transformation into a research and heritage archive at the University of Hamburg.

Eike-Christian Harden studied history of science at Hamburg University. Since the summer of 2012 he is aiming for the doctor's degree (supervisor Gudrun Wolfschmidt), researching the astronomical, meteorological and optical studies of Joachim Jungius, whose papers are in possession of Hamburg State and University Library.

A GEOSCIENTIFIC HERITAGE OF THE LATE 18TH CENTURY IN THE PERIPHERY OF UNIVERSITIES

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Keywords: History of geosciences, 18th century, collections, citizen-science

Abstract

The formation of the historical geoscientific collection of the Upper Lusatia Society of Sciences in Görlitz started in 1779 in the time of early beginnings of academic geosciences. This unique heritage of about 11.000 geoscientific objects and written documents contains, since 1807, the geological collection of the private scientist Adolf Traugott von Gersdorf (1744–1807). Gersdorf's collection is comparable with the collections of Abraham Gottlob Werner (1749–1817) in Freiberg and Johann Wolfgang Goethe (1749–1832) in Weimar. Gersdorf focused on earth sciences since about 1765, travelled a lot, and stood in contact with university and private scientists in Freiberg, Leipzig, Bern, Geneva and Lausanne.

Through an interdisciplinary research project at Collegium Helveticum Zürich (SNF 116159), it has been possible to explore a part of the geoscientific heritage of Gersdorf: the objects and documents of his six months travel to Switzerland in 1786. The results enable us to gain an insight into concrete research intentions and the beginnings of specializations of earth-science as university research. Systematic studies of detailed handwritten sources allow statements about practice and function of collections in the late 18th century and international networking between citizen-science and the beginning of university research. I will also add some reflexions on what this tells us about our own time.

Anke Tietz is a PhD-student at the TU Bergakademie Freiberg. Her main research interest is the history of geology in 18th and 19th century. Starting from the geoscientific heritage of two scientific societies in Görlitz, she studies geological collections, the scientific exchange and its influence on the earth sciences.

**DISSEMINATING THE SCIENTIFIC KNOWLEDGE:
INTERDISCIPLINARY ITINERARIES ON COMMON THEMES
OF THE ITALIAN UNIVERSITY MUSEUMS NETWORK**

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Keywords: Digital technologies, Italian university museums network, landscape, scientific instruments

Abstract

The Italian University Museums Network has identified, in the first network web portal that we are realizing using digital technologies, four common themes to diffuse the knowledge of the realized or in progress researches about the most important university museum collections. The four common themes (stories, scientific instruments stories, landscape, environment) will be developed by interdisciplinary itineraries taking into consideration historical, social and cultural contexts in order to design a new image of the museums and to promote national and international synergies.

We will present some examples of good practices. The first one is the itinerary concerning Optics realized by the thirteen Museums of the University of Roma “La Sapienza” in two different ways: the content of the exposed collections and the scientific point of view of Sapienza in the worldwide research framework. Another example is the exhibition, realized by the University of Modena in collaboration with the University of Florence, about the story of Giovanni Battista Amici’s scientific career, one of the most important Italian astronomer and instrument maker, who was professor in the Universities of Modena and Pisa during the first middle of the XIX century and designed relevant instruments for many scientists in Italy and Europe.

Elena Corradini is Professor of Museology, coordinator Museum Studies area Doctoral School Human Sciences, director of the master “Cataloguing and accessibility of cultural heritage”, University of Modena R.E.; Chancellor’s delegate CRUI-Musei, vice-President UMAC, national coordinator MIUR project “Network Italian University Museums network”. She is author of more than 150 publications.

Luigi Campanella is Professor of Analytical Chemistry since 1981, of Agricultural Chemistry and Soil Chemistry since 1994 and of Restoration Chemistry since 1998 at the University La Sapienza Rome. He is Chancellor’s delegate, President of the Polo Museale of the University La Sapienza and author of more than 500 publications.

SCIENTIFIC HERITAGE, INSIDE AND OUTSIDE ACADEMIA**D. De Vooght^a, T. Vereenoghe^a, S. Leenknecht^b**^a *ETWIE, Van Beethovenstraat 8-10, Mechelen, 2800, Belgium*^b *Interuniversity Platform for Academic Heritage,
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info@etwie.be****Keywords: Scientific heritage, networking, cooperation, sharing of expertise*****Abstract**

Throughout their activities, private companies, museums, hobbyists and universities have gathered, at times, a similar array of scientific objects. However, their context of creation, acquisition and use of scientific objects can differ significantly.

In Flanders (Belgium), ETWIE is the Centre of Expertise for Technical, Scientific and Industrial Heritage. It is a government-funded organization that aims to locate (im)material scientific heritage among different types of collectors and determine its value as a part of scientific history. Besides ETWIE, there is the Interuniversity Platform for Academic Heritage, a collaboration between four Flemish universities that identifies academic collections and aims to raise awareness of academic heritage. Where the Interuniversity Platform has an intentionally exclusive focus on universities and affiliated institutions for higher education, ETWIE mainly addresses scientific heritage outside academia.

Should ETWIE and the Interuniversity Platform work together and share their expertise on scientific heritage? Questions raised in this paper concerning a collaboration between these organizations touch upon broader questions about the similarities and differences between scientific heritage in and outside academia. It also offers an occasion to discuss the possible advantages and pitfalls of collaboration between university collections on the one hand and the public and private heritage sector on the other hand.

Dani'elle De Vooght obtained a Ph.D. in history at the Vrije Universiteit Brussel. Since 2012, she is coordinator at the Centre of Expertise for Technical, Scientific and Industrial Heritage (ETWIE).

Tijl Vereenoghe studied archaeology at Leuven University. Since 2012, he is coordinator at the Centre of Expertise for Technical, Scientific and Industrial Heritage (ETWIE).

Simon Leenknecht studied art history, conservation and exhibition of contemporary art and Teacher Training at Ghent University. He is currently working on a project of the Interuniversity Platform for Academic Heritage, funded by the Flemish Government.

**REINVENT – RESEACHING
19TH CENTURY SCOTTISH TEXTILE HERITAGE**

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Keywords: Textile manufacture, academic heritage, research and outreach, Scotland

Abstract

Last year, the Royal Society of Edinburgh awarded a major grant to the University of Glasgow and National Museums Scotland to explore textile manufacture in 19th century Scotland. Drawing on previous research and existing artefacts at both partner institutions and elsewhere this project, ReINVENT, brings together academics, practitioners, artists and amateurs in its aim to understand the making of historic textile artefacts. Research workshops and network events were held during 2013 and drew on collections and academic resources as well as local communities. Knowledge generated through this project informs research and teaching on an MSc, Doctoral and Postdoctoral level and a major arts & sciences gallery project at National Museums Scotland due to open in 2016. This paper looks at the research questions behind this ReINVENT, presents the outcomes of the workshops, their significance for the new museum galleries and outlines a Royal Society of Edinburgh funded follow-up project, ReCREATE, which will run over the next 18 months.

Klaus Staubermann is a Principal Curator of Technology at National Museums Scotland and an Honorary Fellow at the University of Edinburgh. His research interest is in the history of skills, practices, processes and techniques and their understanding through reconstructions and reenactments. He uses his insights in his role as National Museums Scotland's Science Engagement Coordinator and currently works on a major 'Maker' event as part of this year's Edinburgh International Science Festival.

Anita Quye is a Lecturer in Conservation Science at the Centre for Textile Conservation and Technical Art History at the University of Glasgow. Her research interest includes understanding the chemistry of the dyeing and textile manufacturing processes involving early synthetic dyes, and reconnecting the dyer's practice with the raw materials, equipment and textile products now in historic collections for interpretation and preservation.

ET IN ACADEMIA EGO?
FLEMISH UNIVERSITY COLLEGES AND ACADEMIC HERITAGE

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Keywords: *Flanders, Belgium, (university) colleges, academic heritage outside universities*

Abstract

Apart from universities, *hogescholen* or (university) colleges are the main institutions for higher education in Flanders (Belgium). These colleges offer professional and career-oriented education, often related to business administration, teacher training and communication, (applied) art, industrial engineering, nursing and clinical laboratory training. Over the years, many of these colleges have gathered numerous objects and collections for teaching and (rather exceptionally) for research. The college collections have not received much attention among professionals concerned with academic heritage. A current project by the Flemish Interuniversity Platform for Academic Heritage aims to identify this academic heritage at several colleges. Data on college collections provide insight into the specific problems associated with the preservation and valorisation of collections in smaller, market-oriented institutions. What kinds of objects were collected at these colleges? Did/do institutional changes in the past and present (such as the current ‘academisation’) affect the ways they deal/have dealt with academic heritage? Is the situation of academic heritage at colleges comparable to the situation at universities? How should we adapt our heritage policy to the aims and needs of these institutions? Although the academic heritage of the Flemish colleges remains a great deal uncharted territory, this paper will provide some preliminary answers to these questions.

Simon Leenknecht studied art history, conservation and exhibition of contemporary art and teacher training at Ghent University. He is currently working on a project of the Interuniversity Platform for Academic Heritage, funded by the Flemish Government.

Danny M.J. Segers studied physics at Ghent University. He is senior full professor at Ghent University and since 2006 director of the Museum for the History of Sciences. He is actively involved in the foundation of one global university museum at Ghent University.

Isabel Rotthier studied history at Ghent University and also obtained a Master of Arts in Archival Science: Cultural Heritage Management and Records Management. She is the coordinator of the university archive of Ghent University.

Trudi Noordermeer studied Dutch language and literature at the Utrecht University and Library and Information Science at the University of Amsterdam. She is the Director of the University Library at the University of Antwerp.

Geert Vanpaemel studied physics at the Catholic University Leuven (KU Leuven). He is professor in history of science and science communication at KU Leuven where is also the chairman of the Commission for Academic Heritage.

Frank Scheelings studied history at the Free University Brussels (VUB). He specialized in university history. He is full professor at the VUB and chairman of the Interuniversity Master program in Archival science: Cultural Heritage and Records Management.

FROM THE CITY COLLECTIONS TO THE UNIVERSITY COLLECTIONS BRUSSELS AND THE ULB

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Keywords: ULB Museums Network, Brussels, history, collections

Abstract

In March 2014, the Museums Network of the Université libre de Bruxelles (ULB) will apply for the call for projects *Prospective Research for Brussels* (PRFB), launched by the Brussels-Capital Region. This program aims at financing projects proposed by researchers in fields considered to be essential for the Region, in order to “bring new ideas about the development of the region”. This year, one of the topics addressed by the call is “The Brussels creative and cultural industry: activities in the cultural sector (visual arts, performing arts and patrimony) [...] and the socio-economical and socio-political challenges”.

The ULB Museums Network’s project will deal with research on the history of collections. The links between the Region and the City of Brussels, on one hand, and the ULB Museums Network, on the other hand, are indeed obvious: the first collections of the University were previously owned by the City. The core of the project is to recruit two researchers who will be working for two years on these “old” collections, still present in some ULB Museums as well as in some Brussels institutions (anatomy, botany, pharmacy, etc.), in order to enlighten not only the historical links between Brussels and the ULB, but also the history of teaching and research inside the University.

Nathalie Nyst teaches the Master of Cultural Management programme at the Faculty of Philosophy and Letters, and has coordinated the ULB museums network since 2004. She is also Director for the Direction of the Cultural Heritage of the Ministry of the Wallonia-Brussels Federation.

**PUBLIC ENGAGEMENT WITH RESEARCH
AND NEW OPPORTUNITIES
FOR THE UNIVERSITY OF ABERDEEN'S MUSEUMS**

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Keywords: University of Aberdeen, public engagement with research, museum management

Abstract

Museum-based research is changing. New disciplines and inter-disciplinary studies have cut across old disciplinary boundaries to create new research areas, partnerships and collaborations, while research funding now often now expects evidence of the economic or social impact of proposed research.

In this paper I will use the University of Aberdeen as a case study to investigate the impact of these changes, giving examples of different modes of research which have involved the University's museums in recent years. In particular, I will consider how the 'third mission' of universities is having an impact on university museums, with the traditional Humboldtian model that saw research and teaching as inter-dependent now being affected by the growing importance of public engagement with research. In Aberdeen this has been seen by the establishment of a Public Engagement with Research Unit, but also in changes to the undergraduate curriculum, training for researchers and expectations on the museums. I will also discuss the importance of the right forms of governance and management of university museums as they move from seeing research as a core function of museums to one in which museums can play an important role as a core function of research institutions.

Neil Curtis's research focuses on a critical study of both museums and archaeology. This has included learning in museums, the social, political and cultural roles of museums today, including repatriation and the treatment of human remains, and historical studies of archaeology, collections and museums in Scotland.

**REINVENTING THE ACADEMIC MUSEUM –
THE BRIEF FOR A HUNTERIAN COLLECTIONS STUDY CENTRE**

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Keywords: Academic mission; collections research, teaching and training; strategic partnership

Abstract

In the last few years The Hunterian at the University of Glasgow (UoG), Scotland's oldest museum founded in 1807 and largest university collection, has been redefining its core purpose and strategic priorities in alignment with the University's mission as a leading international research intensive HE institution. Its key performance measures have been developed in support of UoG's core objectives to deliver excellent research and to enhance the student experience.

Following the success of a Heritage Lottery Fund bid, The Hunterian, in partnership with Glasgow Museums and (National Libraries of Scotland), will regenerate Kelvin Hall, a large commercial exhibition building on the edge of the UoG campus, to create a world class collections study facility that will drive new research access, innovative curriculum and public programming around museum collections. Academic utility of the Hunterian collections is currently compromised by multiple and dispersed storage facilities and lack of quality teaching space. Storage for the co-located Hunterian 1.3m study objects and specimens at Kelvin Hall will be connected to a purpose-designed Collections Study Centre comprising search rooms, research space, teaching laboratories and a dedicated conference suite, supported by enhanced digital access and learning tools. In addition to cementing enhanced academic and public engagement with collections, the new Centre will also host an Academy for the training of next generation curators and for professional development in the international museums and cultural heritage sectors. These Hunterian developments will create new benchmarks for academic engagement and knowledge exchange in university collections and will reset the balance between academic and public roles in the university museum service.

David Gaimster has been Director of The Hunterian, the University of Glasgow museum and gallery service, since 2010, following senior appointments at Society of Antiquaries of London, the Department for Culture, Media & Sport and the British Museum, London. He holds several Visiting Professorial appointments. His most recent book is *Director's Choice: The Hunterian, University of Glasgow* (SCALA Publishers, London, 2012).

REFLECTION ABOUT SCIENCE AT THE GHENT UNIVERSITY MUSEUM

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Keywords: *Science education, nature of science, scientific heritage, design based research*

Abstract

Increasingly, educating about the nature of science (NoS) is considered crucial to science education. NoS entails central features of science such as its realm and limits, its levels of uncertainty, its biases and the reasons for its reliability. As the scientific heritage in university collections testifies of the scientific practice as such, it provides a fertile soil to foster understanding of the NoS among a wide variety of museum visitors, school pupils in particular. To realise this potential, there is need for design-based research on the didactical approach to scientific heritage.

We will unravel how a hands-on historic approach allows high school pupils to step into the shoes of historic scientists enabling them to experience key stages in scientific history, thus enhancing reflection on NoS. We will report on a case study where the topic of energy is used as an example to a didactical approach stimulating NoS-reflection among pupils visiting the Botanical Garden, the Zoology Museum and the Museum of the History of Sciences. This will allow discussing how an immersive approach can elicit reflection among visitors of university collections and how university collections can be starting points to investigate and develop innovative didactical approaches with regard to science education.

Jelle De Schrijver is a biologist and philosopher with a PhD, working as a science teacher trainer and researcher at the HUB-KAHO University College and as an educator at Ghent University. His main areas of research are reflective science education and dialogic teaching.

Dominick Verschelde is a biologist-taxonomist with an MsC and curator at the Ghent University Zoology Museum. He unlocks the collection in workshops, teaching, and as a coach to students' bachelor dissertations. He focuses on the importance of the scientific method and the power of critical reasoning.

Chantal Dugardin is horticultural engineer and hortulana of the Ghent University Botanical Garden. She specializes in collection management and the improvement of public awareness through botanical exhibitions.

Danny M.J. Segers studied physics at Ghent University. He is senior full professor at Ghent University and since 2006 director of the Museum for the History of Sciences. He is actively involved in the foundation of one global university museum at Ghent University.

THE INTERDISCIPLINARY APPEAL
OF A NATURAL HISTORY COLLECTION

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Keywords: Natural history collection, interdisciplinary exchange

Abstract

The Bishop's Seminary in Eichstätt, the historical predecessor of the Catholic University Eichstätt-Ingolstadt, houses the world's largest and scientifically most important collection of fossils of the Solnhofen Limestone. Since 1972, the collection is curated by the Bavarian Natural History Collections. The Seminary's collections are used for scientific (mainly palaeontological) research and to provide objects as well as scientific input to the Jura-Museum Eichstätt, a local natural history museum with some 50,000 visitors per year.

In recent years, additional tasks have supplemented the classic natural history exhibitions and activities of the museum educators. Among these are interdisciplinary dialogue between scientists and theologians, but also exhibitions, conferences, lectures, museum education programs and an audio drama featuring the history of science, the history of the Eichstätt collection and the current palaeontological research in Eichstätt. Thus the historical natural history collection of Eichstätt is notable for the diverse fields of expertise and interest of its visitors and users, namely geoscientists, biologists, theologians, historians of science and educationists. Even though these visitors usually attend the various events with their own specific scientific/scholarly agendas, the collection sets a common stage and thus provides great potential as a focus of interdisciplinary exchange and research.

Martina Kölbl-Ebert received her degrees in geology/paleontology from the University of Tübingen. After working at the Natural History Museum in Karlsruhe, the GEOMAR-research center in Kiel and the Bavarian Natural History Collections, she is now director of the Jura-Museum Eichstätt. Her principal research interests are in the history of geosciences.

THE MISSION SCIENTIFIC OF HERITAGE PRESERVATION BEING HIJACKED

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Keywords: Preservation criteria, scientific heritage, history of science, university heritage

Abstract

It is not unusual and for various reasons, that researchers do not know the history of their discipline. Nevertheless their interest in collecting objects and testimonies from past research is certainly aroused in two cases: either the researcher who is going to retire wishes to transmit all archives and objects meticulously accumulated during his career, or the young researcher is eager to publicize the activities of his laboratory. In both cases there is a misunderstanding of the concept of Scientific Heritage, which is neither integral conservation nor research promotion, and of its ambition to be a contribution to scientific research. Our bet is that these objects produced by rational intelligence can conceal intelligibility greater than the comprehension which has produced their devise.

We will attempt to analyze what strategies Mission Scientific Heritage Preservation pursues for carrying out its activities at the University of Limoges. Many issues arise and we take two examples: objects and testimonies linked to research on ceramic materials, the flagship research in Limoges, city of porcelain industry, and research on medical and biomedical Sciences, for which University and Hospital will inaugurate a new Research Center in 2014. We will conclude establishing some critical selection criteria.

Anne-Marie Delaune is a chief librarian. Since 2010, she is in charge of the inventory and enhancement of the scientific heritage at the University of Limoges (France). She is interested in the convergence of heritage professions (archives, library, museum).

THE MUSEUM AS A HERO, THE MUSEUM AS A TOOL ...**M. Bukowski**

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Keywords: Museum of Medical University of Gdańsk, medicine, history of medicine and science, education

Abstract

Modern medicine is based on hundreds years of experience of both, success and failures. Rapid progress of health science makes the previous periods unclear and almost incomprehensible, especially for the youngest generations of students. But also advanced and sophisticated researchers need some historical background. In each of these cases mentioned above, university museum can give important feedback. Museums can serve as source of data, objects and artefacts, and an intellectual resource of structural and methodological reflections. Museum can play a role in basic education that focuses on teaching in the scope of development and improvement of science. It seems to be a valuable tool to enhance understanding of the complicated balance between health and disease.

Museum collections can also be a part of public relations of the university. Tradition and heritage can be presented as a unique treasures. It is obvious that a Museum and its activities can play an important role in university brand-creating policy. Long-term planning of Museums should be tightly connected with strategies of university development. In this paper, some ideas, examples and proposal that were implemented in Medical University of Gdańsk will be presented.

Marek Bukowski is a pediatric surgeon and holds a PhD. He is supervisor of the Museum of the Medical University of Gdańsk, Poland. His main fields of interests are history of pediatric surgery and history of science.

SHARING HERITAGE AND KNOWLEDGE AMONG UNIVERSITY COLLECTIONS: THE CASE OF THE “IMAGES VIVES” EXHIBITION

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Keywords: *University museum, museum, academic heritage, university collections*

Abstract

The Vives Network is a non-profit-making institution that represents and coordinates the joint action in higher education, research and culture in 21 universities all within the common linguistic area of Catalan. In order to celebrate the 20th anniversary, the “Images Vives” exhibition has been organized and will open during the first months of this year in the Museum of the University of Alicante.

The first author of our presentation was elected curator of the exhibition and her task has been to select a sample of the most exceptional pieces that constitute the cultural, documentary and scientific heritage of all the universities that make up the network. The exhibition achieves the aim that each university should be represented through objects that visualize part of their heritage and at the same time show a quite different, specific character in relation to other universities. Diversity is another of the important factors of the exhibition. This aspect gives an unusual interest: one can admire fragments of the past and a surprising number of advanced technological works. To sum up, the exhibition gathers together a huge enrichment of cultural and scientific knowledge and allows a re-evaluation of widespread collections.

Lourdes Cirlot is Professor in History of Art and Vice-Rector for Institutional Relations and Culture at the University of Barcelona. She is the main Researcher of the investigation group of Art, Architecture and Digital Society (<http://www.ub.edu/artyarq>).

Santiago Vallmitjana Rico is Professor at the Applied Physics and Optics Department of the Faculty of Physics of the University of Barcelona. He is the author/co-author of more than one hundred scientific papers related to optics and photonics and member of several scientific societies. He is responsible for the collection of instruments of the Faculty of Physics since 2004.

Isabel Garcia Malet is a graduate of Philosophy and Arts from the University of Barcelona and has worked at this university in the field of culture for more than 20 years. She is now coordinator of the University of Barcelona Museum Project.

Pilar Mateo Bretos is a graduate of Geography and History from the University of Barcelona. She has a Master in Museology and Cultural and Ethnological Heritage and a Certificate in Didactic Museography, both from the University of Barcelona. She is working to the Vice-Rector Department for Institutional Relations and Culture at the University of Barcelona as coordinator of exhibitions.

**EXHIBITION CENTER SOIHTU –
HOW TO SQUEEZE 150 YEARS OF UNIVERSITY’S HISTORY INTO 188 M²?****J. Vilkuna^{a, b}, P. Vuorinen^b, T. Koskela^b**^a *Department of Art and Culture Studies,
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Why do we need exhibitions? To whom we build them? What sort of exhibitions people find interesting? These are just some of the questions raised during the planning of the new exhibition center of the Jyväskylä University Museum in 2010–2014. The aim was to produce a permanent exhibition that displays the history of the university’s research and teaching, and supplements our university’s Academic Life and Student Life-concepts. The project reached its pinnacle in 2013 when the university celebrated its 150-year jubilee. During the jubilee year, the university’s heritage was widely recognized as a resource that strengthens its identity, but how do we present our roots to our own university community and also to the general public? Which are the essential documents that tell about our phases, how do we choose them from the multitude and diversity of material, and how do we exhibit them with a limited amount of space? Material for the exhibition was acquired from the University Museum collections as well as university departments. First, the material was thoroughly inventoried and documented by museum staff, emeritus researchers and alumni. By new technological solutions we were able to circumvent problems with the limited space. Finally, Soihtu was born.

Janne Vilkuna is the Director of Jyväskylä University Museum and Professor of Museology

Pirjo Vuorinen is the Chief curator of the Cultural History Section of the Jyväskylä University Museum

Tanja Koskela is the Chief curator of the Natural History Section of the Jyväskylä University Museum.

**THE NEW PERMANENT EXHIBITION
OF THE UNIVERSITY OF TARTU NATURAL HISTORY MUSEUM:
EDUCATION BASED ON SCIENCE OF THE PAST AND PRESENT**

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Keywords: Natural history museums, permanent exhibitions

Abstract

The Natural History Museum of the University of Tartu is setting up a new permanent exhibition, *Earth Life Story*, which will open in November 2014. The goal of the new exhibition is to create a museum environment where pupils, families and all other groups of visitors can study nature, get informed about the development and the main processes of Earth and life, and become interested in biodiversity and natural sciences in general. The exhibition will focus on the scientific collections of zoology, geology and botany, both the historical collections that formed during more than 200 years of scientific work and those directly coming from the tables of today's scientists. The paper will explain how the use of collections will be integrated with cutting-edge scientific information, thus making science of the past and present available for educational use. It will also speak about the process through which the exhibition is prepared by a team of specialists from different fields. The project of this new permanent exhibition in Tartu is co-financed by the European Regional Fund for developing infrastructure for environmental education.

Reet Mägi is Head of the Department of Exhibitions and Education in the University of Tartu Natural History Museum and Botanical Garden. Before that she was Director of the University of Tartu History Museum. Her research interests include history of educational, scientific and cultural roles of university museums.

**EXHIBITION “IN THE FOOTSTEPS OF SCIENCE”:
AN EXAMPLE OF INTERACTION BETWEEN RESEARCH AND HERITAGE**

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Keywords: Students, exhibit, history and philosophy of science, interdisciplinarity

Abstract

In September 2014, second-year bachelor students at the University Pierre et Marie Curie (UPMC – ex Univ Paris 6) will have the opportunity to enroll in a new minor specialty, in the field of the history and philosophy of science and technology. In order to promote this course, the organization of an exhibit on the university’s scientific heritage was entrusted to two members of the university community: a scientist in charge of curating a scientific collection (in zoology) and a professional in charge of the promotion and exploitation of this heritage.

For the first time in the history of our university, the organization of an exhibit on its scientific heritage was entrusted to a (small) team able to represent the three competencies of the university in research, teaching, and administration. Various people of the university (researchers, curators, and librarians) were solicited in order to foster a true synergy around this project. The goal of the exhibit, which will take place in April 2014, is not only to show to the university community the richness and diversity of the scientific heritage of 8 institutions of higher education, but also and above all to let students and future researchers discover the interest of scientific collections for future research. Beyond the benefits collections will receive from this exhibit in terms of increasing their visibility and knowledge about them, this project has also allowed people usually not working together to engage in new collaborations and increase the interaction between scientific heritage and research.

Frédérique Andry-Cazin is project manager of scientific and medical heritage at University Pierre and Marie Curie (UPMC) in Paris- France since 2008. She works in particular at the promotion of this heritage by designing regular cultural mediation’s actions (guided tours, exhibitions, photographic competitions, etc.)

Santiago Aragon has a PhD in Biology from the University of Seville, Spain (1993). since 1999, lecturer animal biology at the University Pierre et Marie Curie (UPMC) in Paris, specialist of the institutionalization of Zoology in the nineteenth century. He is also in charge of curating the collection of zoology of UPMC.

THE CURIONI COLLECTION: EDUCATIONAL MODELS BETWEEN “BUILDING SCIENCE AND ART”

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Keywords: *Giovanni Curioni, scientific collections, educational models, structural engineering, Italian technical schools*

Abstract

“*L’arte di fabbricare*”, written by the engineer Giovanni Curioni, is halfway between the former structure of architectural treatise and the new practical and operational approach of manuals. It represents a significant image of the new conception that implies a systematic dissemination of scientific and constructional knowledge from the mid-19th century. More specifically, the six volumes and five appendices published during two decades (1864-1884) show a revealing cross-section of the technological and theoretical changes of this period, poised between innovation and tradition, which aim to provide specific knowledge supporting profession and teaching, as well as to meet the requirements of modern society.

Although he carried out several activities and contributed to technical progress as an experimenter, designer and researcher, his being a professor played a key role in Curioni’s career: he was one of the first professors of the Scuola d’applicazione per gl’ingegneri di Torino, where he entered before he turned thirty years old. His piece of work, which was the first architectural treatise written after the unification of Italy, represents the most well-known construction text in the academic field of the latter half of the 19th century. It represents, in particular, a revealing cross-section of the modern principles and the educational and experimental instruments that led, exactly during these years, to a crucial disciplinary change in *Scienza delle Costruzioni*. Curioni himself designed during his career between 1865 and 1887 a collection composed of about 150 wooden models, including various types of constructions, structural elements and site equipment, built for teaching purposes.

Margherita Bongiovanni is an architect and has been at the Museum and Historical Documentation Centre of Turin Polytechnic since 1998. Since 2013, she is responsible for the Museum. Her activities range from the projects for preservation and conservation of the Polytechnic historical heritage to the programs for the diffusion of scientific culture.

Federica Stella does research in the history of architecture and techniques at construction sites in the modern and contemporary age. She pays special attention to the didactics of the first Italian technical schools and the development of construction sites in the early 1900s.

WIKIPEDIA & UNIVERSITY COLLECTIONS: GETTING THE STUDENTS INVOLVED

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Keywords: *Students, GLAM, Wikipedia, collections*

Abstract

January this year, the Dutch Foundation for Academic Heritage appointed a so-called *Wikipedian in Residence*. Her main goals are to connect the online crowd with the university collections, to make these collections available on Wikipedia, and to encourage the community to write encyclopedic Wikipedia articles on them. This project is part of Wikipedia's GLAM-strategy: working together with Galleries-Libraries- Archives and Museums. The fact that the Dutch universities get involved with Wikipedia is relatively new, and fit into the Wikimedia foundations new education program.

But what is in it for us? One of the main goals of all keepers of academic collections is to get students and researchers involved with their collections. Our collaboration with Wikipedia creates an opportunity to achieve this. Students can participate in the writing and editing (by becoming part of the crowd) and lecturers can implement questions around this project in one of their courses (as part of the curriculum).

We will talk about the way we involve students in this project and share some of the first results. Does the academic world conflict with the self-regulation propagated by Wikipedia? We will discuss both the risks and the opportunities of working together with Wikipedia, a platform that potentially opens up our collections to millions of people.

Frank Meijer is a historian, specialized in digital public history projects. Before his current job at the University of Amsterdam he worked for several cultural organisations, most recently as Head of Museum Digitization at the Tropenmuseum (Amsterdam).

Esther Boeles is a historian and works as the coordinator of the Dutch Foundation for Academic Heritage, Before her current job, she worked for several cultural organisations as a public historian and as a staff member. Besides her work for the Foundation she is one of the curators working with collections concerning the history of the University of Amsterdam.

FROM SHOWCASE TO VIRTUAL STUDY PIECE

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Keywords: Integrating and promoting heritage in teaching, teaching mechanics, documentation, modelling

Abstract

In this paper I present how to bring new life into the oldest teaching collection of Aalto University. The collection of mechanical models was made in 1850-51 at the Technical School of Helsinki as final works of the first graduating students. The first phase was to document and add the models to a database before putting them into a showcase. The second phase is to measure and create 3D virtual models (in this case parametric modelling) with the Creo-program as a student exercise in a regular teaching course. The virtual models achieve visual resemblance with the originals but also show the mechanical idea of the working model, which is not possible to demonstrate with actual historical models due to their fragility.

Virtual models are going to be used as a part of teaching in future, just as the original models were used from 1850 to the 1920's. But they are also going to be seen on the CAD-course presentation and the website of History of Industrialisation as a means of promoting university heritage. By doing so, the project is a part of mapping the extent of remaining teaching and research collections of Helsinki University of Technology and promotes this work in practise.

Anne Vähätalo's interests include the history of architecture, specialized on restoration and re-use of modern architecture and interiors (Alvar Aalto, Heikki and Kaija Siren), history of building technology; museology, exhibition architecture and integrating heritage in teaching.

INTO THE 21ST CENTURY: CURATING DIGITAL COLLECTIONS**S.C. Scholten**

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Keywords: Digital heritage, e-humanities, digital collections

Abstract

Traditionally, university collections are meant for research and education. But in the 21st century, that is no longer a given in many disciplines. The trend in our community is to label obsolete collections - obsolete in academic terms – as “heritage”. But maybe we should think about redefining the task of the managers of academic collections as *(re)shaping collections for current and future research and education*. This can be done by finding new and relevant uses for existing collections. It can also mean acquiring or creating new collections or “moulding” existing collections by acquisition and deaccession policies in such a way that they become relevant again. And thirdly, it can be useful to become active in the digital domain. It seems that in the 21st century, what cannot be found and/or used digitally, doesn’t exist anymore as source material for research. Even in the humanities we see the advent of “digital humanities” as a new trend in research. This results in both threats and opportunities. But one thing is certain: we need to develop knowledge and skills about curating digital collections. These can be digital derivatives of our heritage collections, but also born-digital data collections as well as every conceivable hybrid of these.

Steph Scholten holds an MA in Art History and works as director of Heritage Collections at the University of Amsterdam since 2009. His main research interests are theoretical concepts of cultural heritage and museum ethics.

**THREE THINGS IN ONE GO – HERITAGE, RESEARCH AND
DISSEMINATION AT THE TECHNICAL UNIVERSITY OF DENMARK**

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Keywords: Research, heritage, dissemination, technoscience

Abstract

The historical collection at the Technical University of Denmark speaks volumes about the university. When working with recent material, staff at the History of Technology Division takes our cue from artefacts in the collection. Through these we explore how university staff work and form connections. We see networks of people, knowledge and materials forming and reaching well beyond the university walls. For all the interesting stories to unfold, we need informants – people, who can tell us the tales relating to the artefacts. This in-depth exploration requires a range of different individuals, who may be too busy or just lack the motivation to find time for the museum people. Our solution is to register artefacts, do research and work on communication projects all in one go. In this paper I will give examples of this work and discuss the outcomes and implications. Our theory is that the dissemination efforts appeal to informants and makes them more efficient and vigilant. But at the same time some ask for editorial control while others may withhold information or provide tendentious stories. We have to strike a balance.

Laila Zwisler is the head of the History of Technology Division at the Technical University of Denmark (DTU). Her main research interests are university history with main focus on DTU, history of technology, communities of practice, heritage and oral history, and microhistory.

THE SCIENTIFIC COLLECTIONS OF THE ATHENS UNIVERSITY MUSEUM: A CRITICAL VIEW

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Keywords: *Athens University Museum, Greece, scientific collections, 19th century*

Abstract

Athens University Museum was founded in 1987. It is a small museum situated beneath Acropolis in the old city center. The Museum is housed in a historical building which certainly dates from much earlier than the 18th century and had a number of uses throughout its history. Today the museum collections consist of old books, newspapers, journals, speeches, illuminated manuscripts, letters, a photographic archive, scientific instruments, memorabilia collection, portraits, etc.

Scientific instruments collections play a key role in the organization of the Museum and they are treated as part of the University's heritage preserved in the Museum. These collections are of major interest because they are the only ones available to the public in Greece as another Museum, the Museum of Physical Sciences remains still after about two decades without a proper place for the display of the instruments and most probably it will be closed permanently due to the recent financial crisis.

In the present study we aim to present these collections and to discuss the problems the Museum has faced for their preservation, study, conservation and presentation. Furthermore we would like to show some interactive activities with the use of these instruments arguing that under certain circumstances they can become a vehicle to connect the past with the present and to make sciences much more popular to students and the wider public.

George N. Vlahakis is assistant professor at the Hellenic Open University. He is historian of science with his main research interest in history of Science in Greece, history of scientific instruments and popularization of science.

Fay Tsitou is curator at the Athens University Museum and responsible for the scientific collections. She works towards the popularization of science to students and the wider public.

Flora Paparou is historian of science and teacher of Chemistry in secondary education. Her research interests include history of scientific instruments and their use in physical sciences education.

Panagiotis Lazos is historian of science and teacher of physics in secondary education. His research interests include history of scientific instruments and their use in physical sciences education.

Abstracts for Posters –
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DIGITIZATION OF THE THIN SECTION COLLECTION OF ROCKS AT THE TU BERGAKADEMIE FREIBERG

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Keywords: *Digitization, thin section of rocks*

Abstract

The thin section collection of rocks belongs to the Geoscientific Collections of the TU Bergakademie Freiberg and includes roughly 45.000 samples and was developed by generations of scientists. Within the project “Development and digitization of object-oriented scientific collections”, funded by the German Research Foundation (DFG), a certain part of the thin section collection will be digitized and developed. This collection is a cultural heritage and we want to publish the metadata and digitized data via the internet. All data have to be digitized, structured and saved in web based databases, so everybody will have the possibility to access the data for further investigations, and research projects can be supported.

The thin sections (20–50 μ m of thickness) will be visualized as micro panorama photos. A polarizing microscope takes several pictures in two different modes. With a scanner, each thin section and each file card will be scanned additionally to enable a visible impression and to show historic labels or remarks on it. The existing data of the thin sections have to be checked, harmonized and then stored in a database together with the images. For the user a proper interface has to guarantee access to the data.

Susanne Eberspächer, Dipl.-Min.: research associate in the Geoscientific Collections at the TU Bergakademie Freiberg, currently engaged in the thin section collection of rocks.

Christin Kehr, Dipl.-Geol.: research associate in the Geoscientific Collections at the TU Bergakademie Freiberg; curator of the “Ore Deposit and Petrological Collection”. Currently engaged in a PhD thesis on the Kupferschiefer (Lusatia) at the chair of Economic Geology.

Gerhard Heide, Prof. Dr.: crystallograph, Professor of General and Applied Mineralogy and Director of the Geoscientific Collections at TU Bergakademie Freiberg.

**COAL, PETROLEUM AND LEAVES – THE FOSSIL FUEL GEOLOGY
COLLECTION AT THE TU BERGAKADEMIE FREIBERG****B. Gaitzsch^a, I. Kogan^a, N. Volkmann^b**^a *Technische Universität Bergakademie Freiberg, Geowissenschaftliche Sammlungen,
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Keywords: Geoscientific collection, fuel geology collection, Otto Stutzer**Abstract**

The University of Freiberg possesses a worldwide singular collection of fossil fuel, containing raw material samples of peat, coal and black shales, as well as oil samples from all over the globe, predominantly European macro- and microfossils of plants, historical herbaria, and botanical preparations. Today this collection comprises more than 430,000 objects, most of which are unique because they come from occurrences that do not exist anymore, or that are inaccessible.

Although the Freiberg Mining Academy initially focused on exploration and exploitation of ore deposits, the search for coal deposits became increasingly important in Saxony since the Industrial Revolution. With the foundation of the Institute of fossil fuel geology in 1927 under the leadership of Otto Stutzer, the stock was systematized and completed to become an essential resource for teaching and research. Besides examination of published analysis results, the samples served for comparative studies of raw material. For the reconstruction of coal formation conditions, palaeobotanical methods have been developed and applied in Freiberg, making the Mining Academy a center of coal research in the GDR. Despite the decline of coal mining, the fuel collection is still expanding and forms the base, e.g., for microstructural analyses exploring possibilities of future use of brown coal.

Birgit Gaitzsch has a Phd in geology and is curator of the Palaeontological and Stratigraphical Collection of the TU Bergakademie Freiberg. Her fields of research include sedimentology, palaeoenvironment reconstruction, and history of science.

Ilja Kogan is a palaeontologist who is currently engaged in a PhD thesis on Triassic bony fishes. He is a research associate in the Coal Collection of the TU Bergakademie Freiberg and interested in vertebrate palaeontology, evolution, and history of science.

Norbert Volkmann is a geologist and professor for fossil fuel geology at the TU Bergakademie Freiberg. His main expertise is in coal formation, applied coal petrology and petroleum geology.

**249 COLOURED PLATES OF MEISSEN PORCELAIN:
A PART OF THE MINERAL COLLECTIONS OF ABRAHAM GOTTLÖB
WERNER**

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Keywords: *Meissen porcelain, coloured plates, Abraham Gottlob Werner, mineral collection*

Abstract

Abraham Gottlob Werner (1749–1817), who is said to be the founder of scientific mineralogy, has assembled three mineral collections at the Bergakademie Freiberg: the *Systematische Oryktognostische Sammlung* (systematically mineral collection), the *Edelsteinsammlung* (gemstone collection) and the *‘Äußere-Kennzeichen-Sammlung* (mineralogical characters collection). The latter is based on his book *Von den ‘Äußerlichen Kennzeichen der Fossilien* (*On the external characters of minerals*, Leipzig, 1774), which was the first modern manual to determine minerals with external characteristics. Apart from about 650 minerals and hundreds of crystal models there are also 249 coloured plates of Meissen porcelain in this collection.

Colours are the first and most important external characteristics in Werner’s book, but it is uncertain for what Werner used the coloured plates. In this poster we will introduce these plates and the digitalization procedure in our project *Aufbau eines webbasierten Systems zur Erschließung, Digitalisierung und Visualisierung des Bestandes der historischen mineralogischen Kennzeichen-Sammlung von Abraham Gottlob Werner an der TU Bergakademie Freiberg* (Establishment of a web-based system for development, digitization and visualization of the historic mineralogical characters collection of Abraham Gottlob Werner at the TU Bergakademie Freiberg) as part of the program ‘Indexing and Digitising Objects in Scientific Collections’, funded by the German Research Foundation (DFG).

Beata Heide ist Diplom-Kristallographin und Mitarbeiterin der Mineralogischen Sammlungen an der TU Bergakademie Freiberg. Sie bearbeitet das DFG-Projekt *“Aufbau eines webbasierten Systems zur Erschließung, Digitalisierung und Visualisierung des Bestandes der historischen mineralogischen Kennzeichen-Sammlung von Abraham Gottlob Werner an der TU Bergakademie Freiberg”*.

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THE COLLECTION OF HEVELIUS' ACADEMIC HERITAGE IN GDAŃSK AND ITS BENEFITS FOR THE STUDY OF SCIENTIFIC INSTRUMENTS

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Keywords: *Hevelius, Gdańsk, academic heritage, astronomical instruments*

Abstract

The 17th century astronomer Johannes Hevelius (1611–1687) maintained an active correspondence with many scientists throughout Europe. After his death the letters found their way to the *Bibliothèque de l' Observatoire de Paris*. I don't want to discuss the collection in Paris, but focus on the scientific heritage of Hevelius in his hometown Gdańsk. The treasury of the *Gdańsk Library of the Polish Academy of Sciences* contains the mentioned correspondence on microfilm, some objects like a portrait or a medal and a complete set of his publications of which two works were coloured by Hevelius' own hand. One of them is the *Machina Coelestis pars prior* (1673), that includes many engravings of his astronomical devices, and represents a valuable source for my study of Hevelius' scientific instruments. The colouring allows some additional conclusions about materials and details. For instance one can see that the tube of one telescope was made of marbled paper instead of wood, what hardens the assumption that it was purchased in Augsburg.

Only two coloured copies of the first part of the *Machina Coelestis* exist, and the Gdańsk library has one of it. Another quite rare book in its collection is the second part of the *Machina Coelestis* (1679) (because most of them perished in the flames that destroyed Hevelius' observatory). It gathers over 20.000 observations that I evaluated with regard to the usage of his instruments. In addition the correspondence with Henry Oldenburg (c. 1618–1677), Christiaan Huygens (1629–1695), John Flamsteed (1646–1719) and Edmund Halley (1656–1742) was used to receive further information especially about the origins of his telescopes.

Irena Kampa started a doctoral study in history of science at the University of Hamburg after her degree in physics at the University of Kiel. Her research field is the astronomer Johannes Hevelius and seventeenth century astronomical instruments.

THE TEN YEARS OF “PATSTEC” IN FRANCE (2003–2013)**L. Maison**

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Keywords: Scientific instrument, academic heritage, recent scientific heritage

Abstract

The poster focuses on the “PATSTEC” National Mission in France (Mission nationale de sauvegarde du patrimoine scientifique et technique), and on what has been achieved since 2003. Ten years ago, the Research Government Office put the Musée des Arts et Métiers in charge of leading a National Mission to preserve and promote the scientific and technical heritage from the 1960s to today. This Mission focused on the tangible and the intangible heritage of researchers and teachers who worked in public and private French laboratories during the second half of the twentieth century.

Today, sixteen regional partners in France contribute to a national database where objects are described, photographed and documented. Available from the website of the Mission, this database offers now a large amount of information for the general public, as well as for historians and curators.

Laetitia Maison is curator and in charge of the “PATSTEC” Mission in Aquitaine. She has a PhD in history of science.

PHOTOGRAPHIC ARCHIVES FOR STUDENT RESEARCH

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Keywords: Archives, research, students, heritage

Abstract

Cultural heritage is a great source of information and documentation for students' academic papers and for research. We have some compulsory subjects in Documentation in several degree programmes in the Faculty of Communication Studies at San Jorge University, Spain. This means that our future journalists, publicists and audiovisual communication experts learn not only about how to do research but also about how to manage the sources. During the 2013-2014 academic year, a working group of students from the subject of Documentation and Information, which is part of the double degree in Journalism and Audiovisual Communication, studied the changes of the city of Zaragoza throughout the twentieth century and how urban planning has changed with the new tramway. The students were able to explore and comprehend these changes thanks to the historical and graphic information they found in the Jalón Ángel Archive. Finally, the group used four photographs, which prove how our city has evolved in the twenty-first century. This is an example of how students were not only able to use the cultural heritage of the university in order to do research, but it also gave them the opportunity to know more about this historical archive and the cultural photographic heritage we have at our University.

Pilar Irala Hortal has a PhD in History of Art & Musicology and an MA in Cultural Management. She is Lecturer and manager of the Jalón Ángel Archive. Her main research interests are cultural heritage management and communication; photography archives, new technologies and heritage, history of photography and photographic rhetoric. She is a proud member of the International and the Spanish Association of Art Critics.

**THE VIRTUAL MUSEUM OF THE FACULTY OF FINE ARTS,
UNIVERSITY OF LISBON**

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Keywords: Artistic heritage, fine arts, University of Lisbon, virtual museum

Abstract

The Virtual Museum of the Faculty of Fine Arts of the University of Lisbon is a research platform for the artistic collections of this institution. Presently the Virtual Museum has the inventory of the collection of Old drawings of the Faculty of Fine Arts of Lisbon available *on-line* for public access. The inventory brings together over a thousand drawings, restricted mainly to classroom exercises, dated between 1830 and 1935 of some of the most important Portuguese artists of the 19th century and early 20th century.

Still in progress, the Virtual Museum aims in the nearest future to disclose other collections of the artistic heritage of the Faculty of Fine Arts of Lisbon, namely of sculpture, painting, contemporary drawing, art and multimedia, design and the legacy of the Portuguese sculptor Lagoa Henriques; and create a digital entry dedicated to conservation of the collections and a virtual visit to the collection of painting.

The Virtual Museum of the Faculty of Fine Arts of Lisbon is an important effort to ensure the visibility and diffusion of the artistic heritage of the Faculty and enforce its identity in the global network of university museums.

Alberto Faria is a researcher at the Faculty of Fine Arts of the University of Lisbon with a Master degree in Museology and Museography. His research interests cover university art museums, drawing collections and collections management and exhibitions.

**SCIENTIFIC AND CULTURAL HERITAGE
AT THE BRAZILIAN UNIVERSITY**

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Keywords: Scientific instruments, public policies on S&T, scientific heritage, S&T collections

Abstract

Brazilian public policy clearly needs to establish a new perspective towards its cultural heritage of science and technology (S&T). The historical, cultural, scientific, and technological values of this heritage need to be recognized urgently in order to guarantee its proper preservation. The situation of the vulnerable heritage from S&T education and research at Brazilian universities is even more dramatic. Those scientific instruments constitute a significant part of the cultural heritage of science and technology in Brazil. This paper presents a synthesis of recent studies on the heritage of S&T in Brazilian universities, as well the important work of preservation and dissemination of Brazilian scientific and technological heritage undertaken by the Museum of Astronomy and Related Sciences (MAST). MAST, created in 1985 under the federal government, is a museum of science and technology that plays an important institutional role in taking action towards preserving the cultural heritage of Brazilian science and technology.

Ethel Handfas is an economist who graduated from the Universidade Federal do Rio de Janeiro in 1976. She has a master degree in Museology and Heritage (UNIRIO/MAST, 2013) and is at present a doctoral student in the same program. Her areas of interest include cultural heritage of S&T, public policy on S &T, scientific instruments, and history of science and technology.

EXPLORATIVE TEACHING – WHAT CAN OBJECTS TELL?**J. Blume^a, V. Hierholzer^a, L. Regazzoni^b**^a *Goethe-Universität Frankfurt am Main, Projekt Jubiläumsausstellung,
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How to get students in touch with objects? How to develop research methods in the field of material culture? How to support research with and about collections at the university, how to fight the precarious status of many collections? The working group “*Sammeln, Ordnen, Darstellen*” (collect, arrange, present) at the University of Frankfurt/Main faces questions like this. The working group consisting of students, lecturers and curators from different disciplines and tries to establish a new form of explorative teaching with objects and scientific collections.

The main project is to build a new online platform, which covers the various collections for the first time. This will form the basis for upcoming interdisciplinary research projects. A variable search function seeks to connect different kinds of objects in a transdisciplinary way. Thus, the platform provokes new and irritating combinations. At the same time the platform enacts an explanatory approach towards the material culture of the university. So-called *object narrations* written by students present the different collections using exemplary objects. They make the objects talk by describing and analysing them, and by contextualizing their scientific use and their challenging history. All this is done in a creative textual format. As an ongoing and open-ended project, the working group and the online platform envision combined research and teaching projects which transgress disciplines, status groups and categories of objects.

For further information please go to: http://www.fzhg.org/front_content.php?idart=125

Judith Blume studied history, cultural studies and literature at the universities of Tübingen, Hamburg and Aix-en-Provence and is a PhD candidate in history of science in Frankfurt. Currently she works as curator of the anniversary exposition at Frankfurt University. Her academic interests include material culture, collections, history of knowledge, colonial and decolonial representations, and experimental teaching formats.

Vera Hierholzer studied history and law at the University of Münster and completed her PhD at the Max Planck Institute for European Legal History in Frankfurt. She was then a trainee and curator at several museums, and research fellow at Frankfurt University. She is currently curator of the anniversary exposition at Frankfurt University. Her academic interests include material culture, collections, museum studies, and history of consumption.

Lisa Regazzoni studied philosophy and history at the university of Bologna and Heidelberg. She obtained a doctorate in philosophy from the university of Potsdam, before taking up a position as scientific coordinator of Frankfurt university's international postgraduate programme "Politische Kommunikation von der Antike bis ins 20. Jahrhundert". She is now preparing a habilitation in modern history with a project focussing on antiquarian investigations of Gallic monuments and their role in the construction of national history and identity in France. More generally, her work is concerned with material culture and its meanings in different historical contexts.

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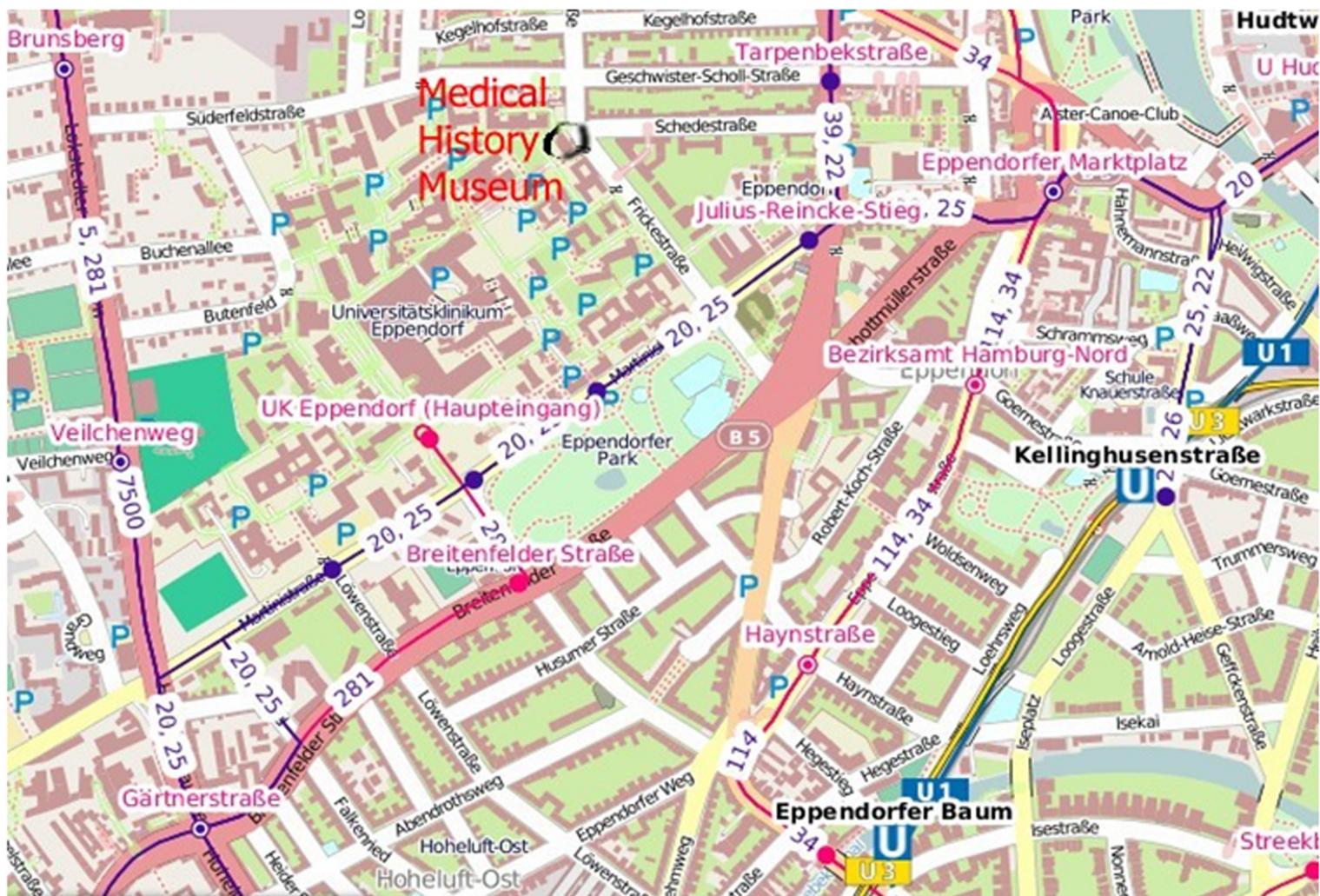
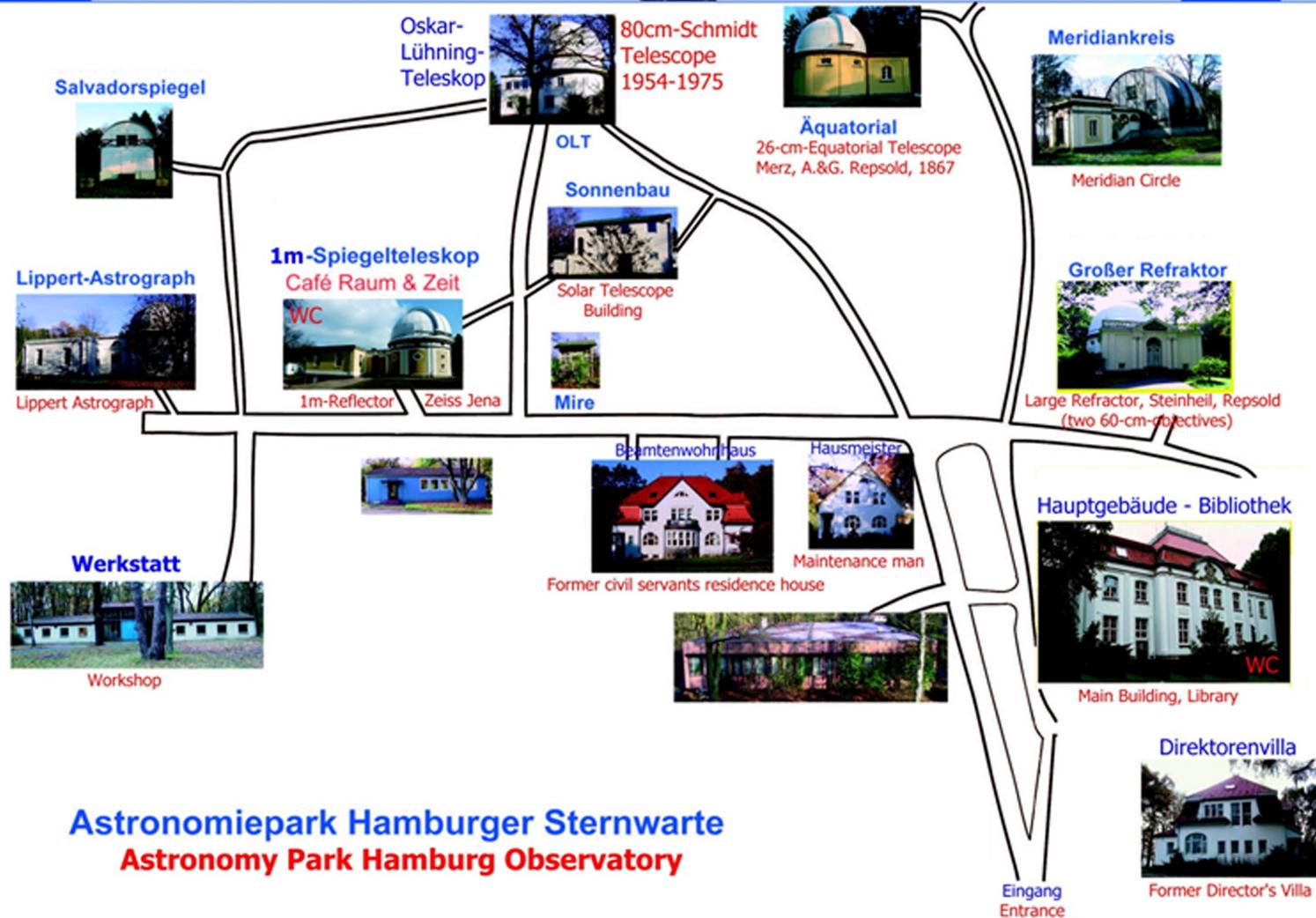
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Norden

North

Süden

South





Large Refractor,
Hamburg
Observatory

[http://www.hs.uni-hamburg.de/DE/GNT/
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