Chinesisch-Deutsches Zentrum für Wissenschaftsförderung

中德科学中心

Reference	
Submission Date	

PROPOSAL TO THE SINO-GERMAN MOBILITY PROGRAMME

Please fill out this form in English and only in Chinese when indicated.

Project Title:	Transfer of Technical and Scientific Knowledge between Europe and China during the Early Modern Period
项目名称:	近代早期中欧技术科学知识的转移
Starting and Ending Dates:	1 Jan. 2020 to 31 Dec. 2022

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	中文	IN ENGLISH LETTERS			
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Previous funding from the SGC	Knowledge in China before 2004 (Applicants: Zhang, Re Conference "Transfer of		from from the DFG:	funding from the Finance in China, 16-19th	

1. Summary of the overall project (20 lines maximum, use Times New Roman 10-point characters, single-spacing)

This application for the Mobility Programme "Transfer of Technical and Scientific Knowledge between Europe and China during the Early Modern Period" is a direct outcome of a conference with a very similar title held in March/April 2019 at the SGCRP (ref. no. 1541). It is based on two on-going core-projects, the one being a Sino-German cooperation (Institute for the History of Natural Sciences (CAS)/Max Planck Institute for the History of Science) dealing with the introduction of Renaissance mechanics in late Ming China, the other a German project (Department of Chinese Studies, Tübingen University) investigating the transmission of Western mining and hydrological knowledge to China during the same period. Although working with different texts, both core projects share a set of common research questions, methodological approaches and theoretical considerations, such as, e.g., translational issues, source- and text-criticism, terminological problems, transmission and reception of complex technological and scientific concepts and systems, authorial intentions and readers' perceptions, political, social, economic, cultural and ideological contexts of the transmissions, and issues related to the history of early globalisation. This application envisages to create opportunities for senior and junior scholars of all ages working in these or closely related topics to exchange information about the objectives and results of their research and to engage in an international dialogue. It will be used as a platform for discussing and deciding on common scholarly interests in the future, such as the publication of a specialised book series, the organisation of an international conference in 2022, and the continuation of research collaboration beyond the programme period. This joint endeavour, for which we are applying for SGCRP funding, is of extraordinary importance not only - in general - for the history of West-East interactions and exchanges, but also - in particular - for the history of the relations between China and Germany as well as for Chinese and German cultural history, the latter especially represented by such eminent historical actors like Xu Guangqi, Wang Zheng, Li Tianjing, Georgius Agricola, Johannes Schreck, and Adam Schall von Bell.

项目摘要(最多 400 字符,采用宋体字小四号,单倍行距)

"近代早期中欧技术科学知识的转移"直接源自 2019 年三四月间在中德中心举行的相关 会议(编号 1541)。它基于两个核心项目,一是自然科学史所/马普科学史所关于晚明中 国引入文艺复兴时期力学的研究,二是图宾根大学汉学系关于同时期西方采矿和水文知 识向中国传播的课题。虽然二者研究不同的文本,但有共同的问题、方法论和理论考 察,如文本翻译、来源和批评,技术术语,复杂的技术科学概念及体系的传播与接收, 作者意图和读者评价,知识传播的政治、社会、经济、文化和意识形态背景,以及早期 全球化历史。该计划旨在为相关资深教授和新进学者创造机会,交流研究成果,形成国 际对话。它将成为讨论和塑造共同兴趣的平台,例如出版系列论著、组织 2022 年会议, 以及未来仍将继续的合作研究。该计划不仅在广义上对于东西交流史十分重要,更是因 其起代表作用的徐光启、王征、李天经、阿格里科拉、邓玉函和汤若望等关键人物而对 于中德关系史和两国文化史具有尤其突出的意义。

Keywords: mining, hydrology, mechanics, technology and science history, Sino-German relations history, intercivilisational encounters, early globalisation **关键词:** 矿业,水文学,机械学,科技史,中德关系史,文明交汇,早期全球化

2. General description of the overall project, emphasising the role and motivation of each side, their intended interaction and the anticipated added value

The impetus for applying for the Sino-German Mobility Programme offered by the SGCRP came from the results of a conference held under the title "Transfer of Scientific and Technical Knowledge between Europe and China during the Early Modern Period" at the SGCRP from March 30 to April 1, 2019, and is therefore a natural outgrowth of this very fruitful and inspiring event supported by the SGCRP (ref. no. 1541). One of the explicit aims of that meeting was stated as follows: "... The targets of this convention will be to exchange between colleagues from China, Germany and from other nations experiences obtained from relevant research and to delineate fields of future investigations. Moreover, we want to use this opportunity to explore possibilities of further co-operations, the latter in the framework of other conferences and workshops to be held in the future, invitations of individual scholars for research stays, and joint project applications" During this conference, scholars mainly from China and Germany indeed had an excellent opportunity to exchange their opinions and the results of their research on intercivilisational encounters between China and Europe in the field of science and technology during the late imperial period. Moreover, the research teams around Prof. Zhang Baichun und Prof. Hans Ulrich Vogel indeed discussed possibilities for intensifying contacts and exchanges in the future, so that the announcement of the SGCRP Sino-German Mobility Programme is a welcome opportunity for us to implement our aspirations. This not only holds true for the core research teams around Prof. Zhang and Prof. Vogel, but also received enthusiastic support by other German and Chinese scholars doing research on the topic under consideration.

The structure of the joint project we have in mind shall be established on the basis of two concrete ongoing research projects carried out in Germany and China. The core project on the German side is called "Translating Western Science, Technology and Medicine to Late Ming China: Convergences and Divergences in the Light of the Kunyu gezhi 坤輿格致 (Investigations of the Earth's Interior; 1640) and the Taixi shuifa 泰西水法 (Hydromethods of the Great West; 1612)" and is supported by the German Research Foundation for the years 2018 to 2021. It is carried out at the Department of Chinese Studies, Eberhard Karls University of Tübingen, with Prof. Vogel as the Principal Investigator. The launching of this project itself was prompted by the sensational rediscovery in 2015 of the Kunyu gezhi (Investigations of the Earth's Interior; 1640; KYGZ), the Chinese version of Georgius Agricola's (1494-1555) De re metallica (1556). The Chinese rendering of this famous mining classic initiated by the Ming official Li Tianjing 李天經 (1579-1659) and carried out by the renowned German Jesuit missionary Johann Adam Schall von Bell (Tang Ruowang 湯若望; 1592-1666), was lost for more than 350 years. Another important and largely neglected text to be investigated in this project is the Taixi shuifa (Hydromethods of the Great West; preface 1612, TXSF). This technological manual, mainly composed by the Italian Jesuit missionary Sabatino de Ursis (Xiong Sanba 熊三拨; 1575-1620) in collaboration with the famous Chinese scholar-official Xu Guangqi 徐光啓 (1562-1633), contains a systematic discourse on both the theoretical and practical aspects of water and water management, including discussions about the medical benefits of hot spring treatments and distillation methods. One of the project's aims is to analyse both these texts and to translate them into English, with the inclusion of all relevant historical records.

The core project on the Chinese side is the ongoing research carried out on Wang Zheng 王徵 (1571-1644) and Johannes Schreck-Terrentius' (Deng Yuhan 鄧玉函; 1575-1630) Qiqi tushuo 奇器圖說 (Illustrations and Descriptions of Extraordinary Devices; 1627, QQTS) and the transmission of European mechanics to seventeenthcentury China. As in the case of the KYGZ and TXSF, the Qiqi tushuo was the result of a collaborative effort between a Jesuit missionary and a Chinese scholar, and it is, moreover, richly illustrated. Taking fully into account the history of this work, the manifold origins of its textual sources, the nature of Sino-Western collaboration, and the reception, perception and discussion of this treatise by an informed and learned Chinese public provides not only interesting parallels, but also opportunities for educated guesses when confronted with missing corresponding information on the TXSF and KYGZ. Like the German core project, it will provide unique insights into the scope and limitations of the transmission of European useful and reliable knowledge to the Middle Kingdom. There can be no doubt that both the OOTS project (a collaboration between the Institute for the History of Natural Science in Beijing and the Max Planck Institute for the History of Science in Berlin) on the one hand and the KYGZ/TXSF project on the other will mutually profit from an exchange of their research results and further promotion of their collaboration. Concrete projects for the future will be a book series as well as a database on technical terms used in our texts. Moreover, we will discuss the establishment of a project in which translations and analyses of indigenous pre-modern Chinese scientific, technological and medical texts will be in the focus.

Because these three texts deal more with technology than with science and because international research so far rather has concentrated on the second than the first, in comparison to the conference we have reversed the sequence in the project title. Yet, our joint project still is in need of further inputs from other fields which explains why we have to take into account also specialists in natural philosophy, weaponry, mining, medicine, metrology, mathematics and astronomy. Similar events taking place in the 19th century likewise provides references for comparisons for our investigations.

This joint endeavour, for which we are applying for SGCRP funding, is of extraordinary importance not only – in general – for the history of West-East interactions and exchanges, but also – in particular – for the history of the relations between China and Germany as well as for Chinese and German cultural history, the latter especially represented by the eminent historical actors Xu Guangqi, Wang Zheng, Li Tianjing, Georgius Agricola, Johannes Schreck and Adam Schall von Bell. Moreover, the Mobility Programme will be carried out under the auspices of the UNESCO Subcommittee on Research and Education, Memory of the World Programme, of which the Tübingen core project is already a part.

3. Premises of the Cooperation

3.1. State of the art in the relevant subject area (with particular focus on research in Germany and China)

The history of scientific, technical and medical exchange between Europe and China during the first half of the 17th century is an important topic of research undertaken on a global level, but so far much more attention has been paid to astronomy, mathematics and cartography than to other fields of knowledge. In contrast to this, both the German and the Chinese core projects prominently concentrate on practical crafts and techniques and on "hands-on" sciences which have been much less studied. Moreover, another distinct feature of our approach is to take the Chinese texts produced in these fields more comprehensively into account as this has been done so far. Surprisingly, and perhaps due to their difficult technical language, only very few of these scientific, technical and medical treatises have been translated into English or really studied to substantial depth so that much work has still to be done in this respect. Therefore, translations of Chinese texts, especially those produced by the Jesuit missionaries during the first half of the 17th century, into English are a common target of the project, including all relevant text-critical, translational and contextual questions according to the newest global standards current in the field.

While while this kind of translation based research is rather rare, a lot of information can be found about the relevant historical actors, i.e. authors, translators, revisers and compilers of these Chinese texts produced within the environment of the Jesuit China mission, and also about the political, social, economic and cultural context within which they were produced. It would, however, go beyond the scope of this application to present in this respect a detailed account of the current state of research in intercivilisational encounters between China and Europe in the first half of the 17th century. One important centre of investigations is certainly China, but otherwise this is also internationally driven research, with Germany as one of a number of other global players. It is also not necessary to delve further into this subject here, because information about the state of the field with regard to primary sources, actors and texts as well as to contextual issues is easily available on the CCT database, which includes contributions authored in all parts of the world and thus provides easy access to bibliographical and topical information.

3.2. Preliminary work (individual and joint activities/research of cooperation partners)

As was mentioned above under item 2., both Prof. Zhang Baichun (Institute for the History of Natural Science (IHNS), Chinese Academy of Sciences) and Prof. Hans Ulrich Vogel (Department of Chinese Studies (DCS), University of Tübingen) are principal investigators of two separate, though highly similar core projects, dealing with the Qiqi tushuo on the one hand and the Kunyu gezhi and the Taixi shuifa on the other hand. A fruitful exchange between both of them started already at the beginning of this century and found, e.g., its expression already with a highly stimulating conference held in 2002 at the SGCRP on the development of mechanical knowledge in China (reference no. 097). Relationships and exchanges has been continued thereafter, both on an institutional level (especially in the framework of the Max-Planck Institute for the History of Science (MPI-HS)), but also on individual levels. With the establishment of the KYGZ/TXSF project in Tübingen and with the support of the European Centre for Chinese Studies at Peking University (ECCS) this collaboration found now a renewal and more concerted continuation in the successful conference on "Transfer of Scientific and Technical Knowledge between Europe and China during the Early Modern Period" held at the SGCRP from March 30 to April 1, 2019. Moreover, it should also be mentioned that both the IHNS and the DCS have excellent and long-standing relations with the Department of the History of Science and Scientific Archaeology (DHSSA), University of Science and Technology of China, Hefei. Given the importance of the Directorate of Astronomy (qintianjian 欽天監) of the late imperial period for the exchange of useful and reliable knowledge between Europe and China, the research project on the history of the Chongzhen lishu 崇禎曆書 (Chongzhen Treatises on Calendrical Astronomy) carried out at DHSSA has to be especially mentioned. One expression of this collaboration was, e.g. the two-year research stay of Prof. Shi Yunli from DHSSA in Tübingen during the years 2005-2007 which was supported by the Alexander von Humboldt Foundation.

Apart from these joint activities in the past, both the principal investigators as well as all the members intending to participate in the exchange programme have been doing research on the history of technology and science, most of them, as can be seen from their short CVs, in the history of technological and scientific exchange between Europe and China, and with a focus on the 17th and 18th centuries. Under 4.2. we will describe what is the specific expertise of each individual scholar and in which way we expect him or her to contribute to the overall project.

4.Scientific contribution

4.1. Description of <u>each partner's</u> work programme regarding scientific goals and research methods and involvement of early career scientists. Please note that a detailed scientific work programme is not expected, but instead a convincing plan on how the applicants intend to strengthen their collaboration and to shape a future common research project

I. RESEARCH PROGRAMME

Although this application is based on two core projects, one on the Chinese and the other on the German side, it is clear from the very nature of these projects that both sides work on closely related issues and texts. Hence, both sides will profit immensely from each other when coordinating and exchanging their approaches, experiences and results. As a matter of fact, the theoretical and methodical overlapping of the two core projects is such that it can be stated with absolute confidence that both sides address the same key problems and questions which justifies it to speak of a joint project with the same aims and objectives, though dealing with different fields of pre-modern technical and scientific knowledge.

The common questions and approaches can be enumerated in the following way:

a) Importance and evaluation of texts transmitting scientific, technical and medical knowledge

One of the aims of this joint project is to make available complete translations of the QQTS, KYGZ and TXSF (as well as other texts in the future) according to rigorous historical-philological principles and standards. To be completely familiar with the contents and the semantic and syntactic features of these texts by means of a precise translation is an indispensable basis for embarking on our *crescendo* approach starting from concrete text related problems and arriving at more abstract and comparative issues. It cannot be stressed enough that the texts under consideration here are highly complex, not only because of their difficult technical language written in Classical Chinese, but also because – in relation to their original European texts – they have passed through selective cut-and-paste procedures and processes of substantial hybridisation that need to be unveiled. Thus, only based on a critical translation and profound philological analysis it is possible to find out, how the selection process was carried out, and what was selected and what was left out. Moreover, it can also be shown that not all translations were correct, but that ambiguities and even mistakes crept in.

b) Theoretical and methodological approaches for text-critical annotated translations

The QQTS, KYGZ and TXSF constitute a specific genre of text containing mainly – though not exclusively - scientific, technological and medical information and aiming at presenting it in a logical, coherent and systematic way, as was usual for similar writings of the Jesuit China missionaries. Therefore, when translating one is confronted with challenges different from those encountered, for instance, in literature, poetry, philosophy or religion. Moreover, literature on industrial pursuits required special justification for writing, publishing and reading in late imperial China, so that conventional research results derived from Confucian, historiographical, and other text genres esteemed by the educated elites are not readily applicable to our three mainly fact-oriented texts. Among the offers made by translation theories, the historicized and contextualized approach as it is, e.g. described by Hart (2013, pp. 68-74) appears to be the most adequate method for our topic. Although we do not share Hart's fundamental scepticism about concepts of 'civilisation' and 'science,' we appreciate his placing translation into a contemporary social and micro-historical context as well as his rejection of fundamental incommensurability between Western and Eastern thought. Another useful concept is that of 'thick translation' propagated by Martha P. Y. Cheung (2007), which likewise builds clearly on historical, cultural and linguistic contextualisation and, as an epistemological and practical strategy, adopts a kind of selective 'thick' elucidation of key terms relevant for the research topic under consideration. Moreover, Cheung's research, especially her anthologies of Chinese discourse on translation, provides crucial clues for contextualising the efforts of the Jesuits and their Chinese collaborators between the other two large translation waves, i.e. the translation of Buddhist texts from the 2nd to the 12th centuries and the translations of Western texts on science, technology and medicine in the second half of the 19th century. Because of the similarity of the text genre especially the latter wave is interesting for undertaking comparisons pointing out commonalities and differences. This will be facilitated by the availability of solid and ground-breaking research that has been undertaken by Wright (1998) (2000), Lackner et al. (2001) (2004), and other scholars.

c) Comprehensive evaluation of the texts

An adequate method and orientation pattern for this purpose is provided by text linguistics which constitutes textuality by means of seven criteria, i.e. [syntactical] cohesion, [semantic] coherence, [the author's] intention, [the recipient's] acceptability, [the text's] informativity, [the hermeneutical] situationality, and intertextuality [i.e. the relation to other texts]. This systematic approach, which contains elements that are also addressed below in more detail (see especially e), f), g), h), j) and k)), will be applied to all our texts and will thus not only be instrumental for their translation, but also for our descriptive accounts dealing with text analysis in a broader sense.

d) History of editions

The fate of the various manuscript or printed versions and editions of our texts as well as their different degree reception in the Chinese scholarly world is an important theme to be investigated. With the help of printed reference literature and electronic databases we will be in a favourable position to trace the various editions and to clarify the scope as well as the differences between them. It is significant, for instance, that some of the texts were found not only within the book holdings of the Jesuits in the capital and the provinces, but also in the libraries of Chinese scholars, which informs us about the appreciation and popularity of this treatises. Also Japanese and Korean holdings have to be included in this exercise of tracing.

e) Authorship and composition

Our source-based and text-oriented project will deal with the Western and Chinese authors and compilers of the QQTS, KYGZ and TXSF (as well as of other texts), stressing thus the aspect of agency of the historical protagonists and their role as cultural brokers. Apart from providing a general biographical account of the primary and secondary actors, we will explicitly concentrate our efforts on finding information that sheds more light on the process of the composition of our texts. While we will screen all available Chinese historiographical and archival sources that might provide data in this respect, our main hopes are pinned on missionary and church archives, especially in Rome the ARSI and Propaganda fide holdings and in Lisbon the Ajuda collection, in search for more detailed information about the history and context of the composition of the works under scrutiny here.

f) Origin of information

We will elucidate which European texts Jesuits and other actors used for the composition of their Chinese treatises. Our starting points are Verhaeren's (1940) catalogue of the Jesuit Beitang holdings as well as works published recently by Golvers (especially id. (2012b) (2013) (2015a)) on the Jesuit libraries in China. We will find out which books were selected for a Chinese translation. Other questions are where, how and why contents were altered and changed, which parts were completely left out, and why certain illustrations were chosen.

g) Translation of terms

We pay special attention to the problem of the translation of Western terms and concepts that were hitherto unknown in China. According to the findings of Standaert (2000, pp. 292-293, 315-316), three different approaches are relevant here: a) translation by choosing existing Chinese expressions corresponding to the Western meaning, b) transliteration of Western expressions, and c) creation of new terms (neologisms). We may also explore Saussy's (2001) concept of "workshops of equivalences," which reflect on the inevitable mediation of discourses affecting East-West cultural interactions and exchanges, and creating objects of understanding on both sides. All of this is very much facilitated by the availability of databases of digitized Chinese texts by Chinese and German institutions.

h) Intercivilisational transmission of complex concepts and systems

We investigate whether and, if so, to what degree more complex traditional and novel Western concepts and systems were contrasted, and thus clashed, with Chinese notions or whether a kind of accommodation or hybridisation took place. The confrontation between the Aristotelian theory of the Four Elements and the Chinese Five Phases concept will be a prominent topic of research for all our texts. This will offer us invaluable insights into the Jesuits' strategies and techniques for transmitting to China useful and reliable knowledge for purposes of production. Apart from dealing with individual concepts and notions we are aware of the fact that the introduction of Western knowledge to China took place against the background of a hierarchized Renaissance classification of knowledge (cf. Standaert (2000)).

i) Targets on the European side

It is well-known that the transmission by the Jesuits of selected parts of European science, technology and medicine to China served the higher aim of securing the mission's position at the Chinese court and to convince Chinese rulers and elites – and then in a top-down mode also the population at large – of the superiority of Christian faith. We therefore pay special attention to possible messages about the Catholic creed and worldview explicitly pronounced or hidden in the QQTS, KYGZ and TXSF as well as other texts. Special attention will be paid to introductions and prefaces, because it is often the case that overarching intentions and concerns of the authors can be titrated from such paratexts. Already Ricci stressed the importance of having prefaces written by politically important and eminent personalities, and other Jesuits and their Chinese supporters used a number of rhetorical strategies for reinforcing legitimacy and usefulness of their works in the eyes of the educated and influential Chinese elite readers. Themes that were addressed by them for achieving their higher aims were historical precedents, need of integrating new knowledge, compatibility of Chinese and European knowledge, and the value attributable to useful tools and technologies. An adequate method to be adopted in this regard is deductive or inductive qualitative content analysis.

j) Reception and perception on the Chinese side

It is important to explore in a hermeneutical way how the QQTS, KYGZ, TXSF as well as other texts were actually read, received and perceived on the Chinese side. What was the state and level of useful and reliable knowledge about comparable sectors in China in comparison to the contents of our texts, and to what degree was this indigenous knowledge systematized and thus constituted a specific body of knowledge? What treatises or texts did already exist in China during that period, and did in comparison to them the QQTS, KYGZ and TXSF offer new approaches and

novel methods, for instance, with respect to concrete instructions for actions and technical procedures? It is also interesting to gauge whether our texts were really consulted, read and commented upon, and whether as a consequence had any effect on society and economy in late imperial China. A viable starting point for discussing these issues again is the article by Standaert (2000, p. 313) in which he points out the differences between Chinese and Jesuit concepts of sciences during the 17th century: 1) Chinese authors distinguished binary categories which despite the higher importance of Neo-Confucian *li* 理 ("principle") disciplines basically supplemented each other and formed a unity, while Jesuit missionaries arranged different sciences in a systematic order both in their educational system as well as in their Coimbra classification system. 2) There was relatively little "system" in the Chinese classification, whereas in the Jesuit case the order of sciences was graded and formed a unity, with theology at the summit. 3) The principal method in China was reference to the classics (*jing* 經), in the Jesuit case to logic and dialectics instead. 4) The leading question that was asked in China in accordance to the Confucian tradition is "Where is the Way?", while the Jesuit system under the presupposition of Christian faith ultimately sought an answer to the question "What is truth?"

k) European transmissions of other useful and reliable knowledge and their interpretation

We will compare systematically our research results with those obtained by other scholars in other fields of knowledge transfer from Europe to China during the early period of globalisation. These cover such sciences and technologies as astronomy, mathematics, cartography, clock and instrument making, medicine, surgery, pharmacology, and weaponry, but also architecture, painting, engraving and other forms of illustrations, whereas mechanics, mining and hydrology are underrepresented thus far.

On a theoretical level we will link up with explanatory models that have shaped the discussion about the nature of intercivilisational encounters between Jesuit missionaries and rulers as well as scholar-officials on the Chinese or Manchu side. In global comparative terms, note has to be taken of the concept of 'controlled intercultural relation' that characterized the relatively weak position of the Europeans in China before 1800. 'Patronage' of Western knowledge by Chinese or Manchu power holders is another topic which is frequently discussed in recent research, going hand in hand with the concept of 'appropriation' and 'monopolisation' of Western knowledge by Chinese or Manchu rulers, officials and scholars for their own purposes or concepts ("on their own terms"). A further key term is 'accommodation,' which rather stresses not the receiver, but the giver side, i.e. efforts of the latter to accommodate to a certain extent to the demands and requirements of his new cultural and civilisational environment. Another crucial question is whether the knowledge transmitted by the Jesuits to China was outdated.

l) Political, social, economic, cultural and ideological contexts

The project pays due attention to the political, social, economic, and cultural and ideological contexts in which the transmission of Western useful and reliable knowledge to China took place. This will provide us with a better understanding about the actors and institutions involved both on the European and Chinese side, the climate within which they lived and acted, and their motives and intentions. We therefore thoroughly familiarize ourselves not only with the history of the late Ming period, but also with the history of the Jesuit China Mission in general, on which a rich fundus of – partly controversial – secondary literature exists. Various authors have stressed, e.g., that favourable preconditions existed in the cultural and intellectual realm for the reception of European knowledge and teachings in late Ming China which enabled the convergence of interests between Eastern and Western actors. These were a) the syncretistic approaches by Chinese elite members towards Confucianism, Buddhism and Daoism (*san jiao he yi* 三教 合一) and b) the search for practical knowledge ("practical studies" or *shixue* 實學) held instrumental for the solution of contemporary crises in many sectors of late Ming state and society. Other relevant topics discussed by the scholarly community are the role of the missionaries in the development of sciences in general as well as the Society of Jesus' global missionary aspirations in various parts of the world during the period of early globalisation, sometimes in comparison to their activities in China.

m) Comparison with European transmissions of useful and reliable knowledge in a later period

Based on pertinent secondary literature we will carry out a comparison with the wave of translation of Western scientific, technological and medical knowledge to China during the second half of the 19th century, especially by Protestant missionaries. Although taking place under dramatically changed politico-historical circumstances, there are many aspects of this transmission that are suitable for gauging commonalities and differences with the late Ming events. A prominent topic here is the coining of new terms in this period. Other intensively debated issues are the translation practicalities as well as their quality, the use of terms and concepts for political and ideological ends, and the evaluation of the effect of this transmission process, the formation of modern scientific disciplines, and the influence of Japan, to mention only a few.

o) Cross-civilisational comparisons in the history of early globalisation

Last but not least, our investigations into the QQTS, KYGZ, TXSF and other texts serve as important case studies for discussions about early modernity and the history of early globalisation. While giving due space to convergences of interests between Eastern and Western actors (see under l), we will also link up with the debate on the problem of the Great and Little Divergences, that is, the question when, why, and how Europe and China drifted apart in their developmental paths (Great Divergence) and what was the role of intracivilisational regional disparities within one civilization and its societies for the development and spread of technology and useful knowledge (Little Divergences). The concrete global microhistories of the events related to our texts will be helpful in discussing and correcting the often very abstract conclusions of the grand narratives about the history of early globalisation, which are frequently based on

weak empirical foundations, relying too much just on secondary literature instead, and in the case of China overstressing developments in such sciences and technologies as astronomy, mathematics, spinning and weaving, as well as in agriculture, while neglecting conditions related to useful and reliable knowledge and practices in other fields, like industrial production. Therefore, one of our inquiries will be whether our texts had any impact on the Chinese production sector, especially with regard to a cognitive or theoretical turn (Davids (2006)).

In order to answer this and related comparative questions we will take recourse to a macro-sociological concept based on Árnason's (2003) "Three Ways of Worldmaking" and enlarged by the applicant and one his colleagues, George Brian Souza, into the concept of the "Four Ways of Worldmaking," that is, *wealth*, *power*, *meaning*, and *knowledge*, which through their interactions constitute reproduction and self-production of a society. This holistic approach theoretically and conceptually addresses both individual and collective actors and the continual process of their articulation towards the world. This actor-based concept will serve us as a basis for comparing similar phenomena in different civilisations in a comprehensive way. For instance, in the case of the KYGZ, it will help us to understand the substantial differences between the mining and smelting sectors in China and Europe, not only in political, economic, social, "scientific" and technical terms, but also in their cultural and ideological dimensions. For this comparative approach, we will rely on a large array of secondary literature on the history of science and technology in Europe and China in general.

In conclusion, from the point of view of methodical and theoretical approaches our research will first of all concentrate on the aspect of intercivilisational encounters, because our themes imply new qualities, intensities and dimensions of exchange between the representatives of different civilisations. It will, at the same time, not shy away from undertaking transcultural comparisons of discrete forms, patterns and structures of social, political, economic and cultural phenomena in different civilisations in order to arrive at meaningful conclusions that highlight different paths of historical development in China and Europe. Eventually, it has to be particularly stressed that in stark contrast to other comparative approaches much more often than not relying almost exclusively on secondary literature, our research – while not at all neglecting this kind of references – will be firmly based on the study of primary sources originating from both of the civilisations to be compared.

II. ORGANISATIONAL PROGRAMME

This project includes researchers from all career stages. Apart from senior full professors, these are junior full professors, associate professors, post-doctoral researchers, PhD candidates and even M.A. candidates.

Our objective is to have mainly short-term visits, which include at least one *public lecture* by the visiting scholar. He or she shall also participate in *text-reading seminars* or *discussion seminars*, the first concentrating on and translating passages from a Chinese primary source, the second on the discussion of an article or book section relevant for our project. If feasible, small productive *ad-hoc workshops* can be arranged centering on a specific theme by inviting also other scholars from China or Europe by means of other funding, and, perhaps most important, individual scholars with joint interest can *join their forces* in working on certain issues, especially such related to the translation and interpretation of Chinese texts, exchange of knowledge about secondary literature available in Europe and China, access and use of text databases, and mutual information about research aims and results.

Apart from the Institute for the History of Natural Science (IHNS) in Beijing and the Department of Chinese Studies (DCS) in Tübingen, we can also count on the support of the China Centrum Tübingen (CCT; https://uni-tuebingen.de/einrichtungen/zentrale-einrichtungen/china-centrum-tuebingen-cct/), with which we will organize the public lectures. Another Tübingen institution on which we can rely in Beijing and which will closely collaborate with the IHNS is the European Centre for Chinese Studies at Peking University (ECCS; http://eccsbeijing.org/), which already played a fundamental logistic role in the organization of our March/April 2019 conference at the SGCRP.

As to the further development of our project beyond the period of support, see below under 4.3.

4.2. Please define the specific qualification of the scientists/research teams involved in

this project (if two or more teams in each country are involved, please explain in detail

how they are coordinated and organised)

Coordination and organization will be carried out and made compatible by the core project research teams around the PIs Prof. Vogel and Prof. Zhang Baichun, supported by the IHNS, DCS, CCT and the ECCS. We will also keep close contact with Prof. Shi Yunli and his team from Department of the History of Science and Scientific Archaeology (DHSSA), University of Science and Technology of China, Hefei. This all will serve to implement the forms of collaboration as they have been described under 4.1.

The specific qualifications of the researchers involved in this project and their contributions to it can be summarized and categorized in the following way:

- Because of the importance of the KYGZ for this project, mining and metallurgy forms an important cluster in this project: Cao Jin, Chen Hailian, Huang Xing, Jost, Kim, Vogel, Yang Lijuan, Zhou Wenli.
- Mechanics, hydrology, and river engineering are a second important cluster of research: Amelung, Kink, Tian Miao, Vogel, Zhang Baichun.
- Instruments and machines as well as the organization of crafts play an important role in a number of investigations: Han Qijin, Kink, Moll-Murata, Shi Yunli, Zhang Baichun, Sheng Jia.

- Fire weapon technology was a crucial part of knowledge and practice transfer from West to East: Schmid, Julia Deng, Yin Xiaodong, Zheng Cheng.
- Astronomy and thus the Directorate of Astronomy were of great importance in the spread of useful and reliable knowledge: Han Qi, Lü Lingfeng, Zhang Baichun.
- As being applied in many fields, mathematics and measuring techniques were as relevant as astronomy in the intercivilisational encounters between East and West: Aberle, Anja Chen, Tian Miao, Wang Xiaofei.
- For our project it is highly relevant to understand the development of natural philosophies both in Europe and in China: Chen Zhihui, Shang Zhicong, Sun Chengsheng, Meynard, Strob.
- This holds also true for a proper evaluation of the general intellectual, religious and ideological climate during the late Ming period: Mittag, Sachsenmeier, Sun Chengsheng, Zimmer.
- Comparisons between different periods in the exchange of useful and reliable as well as other kinds of knowledge, such as medicine, between West and East will help to point out relevant similarities and differences: Chen Xinyu, Li Mingyang, Han Qi, Shi Yunli, Tang Kaijian, Viklenko, Vogel, Zhang Baichun, Zhao Daying.

4.3. How do you estimate the prospects of long-term cooperation between the scientists

involved? And how do you intend to establish long-term cooperation?

This joint project will serve as an important stage in further strengthening the long-term cooperation between German and Chinese institutions in the field of the history of science, technology, and medicine, especially between the IHNS and the DHSSA in China and the DCS and the MPI-HS in Germany. The March/April 2019 conference at the SGCRP was a first important step in this direction, and both the Chinese and German applicant are convinced that the establishment of the SGCRP Mobility Programme would contribute enormously to the intensification of the fruitful and exciting exchange that we experienced in Beijing as well as to the strengthening of the already existing contacts between individual junior and senior researchers. Both applicants will also undertake concrete measures to establish a more formal mode of collaboration between the IHNS and the DCP and hopefully also on the level of CAS and the University of Tübingen, presently one of the German excellency universities.

Moreover, we would like to underline that the inclusion of a great number of brilliant junior scholars is an excellent investment into the future, in the sense that this will lead to close academic relationships between the younger generations on both sides and thus to the development of joint research projects. We will especially encourage younger participants to apply also for additional funding with other German and Chinese institutions in the future, thus allowing them to continue and keep-up the exchange relations between the two countries.

During our meetings and small workshops, the participating scholars will discuss topical issues as well as translational and terminological problems of their own individual research. As another outcome of this project, it is intended to establish with renowned Brill Publishers in Leiden a special joint academic series of monographs dealing with the analysis and translation into Chinese or Manchu of Western scientific, technological and medical treatises during the late imperial period (16th to early 20th centuries). Its title will be "Translation of Western Science, Technology and Medicine to China, 16th to Early 20th Centuries." Moreover, in 2022, at the end of the Mobility Programme, we will organize an international conference to reflect on the experiences, analyse the value added by the intensified interaction and face-to-face communication, and draw conclusions for further joint activities. This conference will not only bring together Chinese and German scholars prominent in the field, but also colleagues from other parts of the world. Last but not least, we will also have the opportunity to ponder on future joint research directions. While in this Mobility Programme we concentrate on Chinese texts that have been authored by Jesuit missionaries together with their Chinese colleagues and supporters, our future joint research endeavours will go beyond this specific genre of treatises and will more focus on the analysis and translation of indigenous scientific, technological and medical texts of the Chinese imperial period, such as Fang Guancheng's 方觀承 Mianhua tu 棉花圖 (Pictures of Cotton) of 1765, the Huaiyan tushuo 淮鹽圖説 (Illustrated Explanations of Huai Salt) of ca. 1840, or Wu Qijun's 吳其濬 Yunnan kuangchang gongqi tulüe 雲南礦廠工器圖略 (An Illustrated Account of the Mines, Smelters, and Tools of Yunnan) of ca. 1845. It will have to be explored which foundation or programme is most suitable for the extension of our common research interests and the strengthening of our collaborative efforts.

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5. Overview of main participants of the Mobility Programme

5.1. Participants from China

1	Coord	inator	Mem	ber 1	Member 2		Me	ember 3
	中文	English	中文	English	中文	English	中文	English
Title/ Current occupation	研究员/教授/所长	Prof. Dr./ Professor and Director	讲师	Dr./ Lecturer	博士/ 大学教師	Dr./ Univ. Lecturer	教授	Prof. Dr./ Professor
Last name/ First name	张柏春	Zhang/ Baichun	陈欣雨	Chen/ Xinyu	陳志輝	Chen/ Zhihui	韩琦	Han/ Qi
Gender	男	male	女	female	男	male	男	male
Date of birth	1960年10月10日	10 October 1960	1986年5月17日	17 May 1986	1984年2月14日	14 February 1984	1963年12月 11日	11 December 1963
Time spent on the project (in percent of full time)	50 %	50 %	40 %	40 %	35 %	35 %	35 %	35 %
Institutional or organisational affiliation	中国科学院自然科学 史研究所	Institute for the History of Natural Sciences, CAS	北京行政学院	Beijing Administrative College	内蒙古師範大學	Inner Mongolia Normal University	中国科学院	Chinese Academy of Sciences
Department	比较中心	Center for Comparative Studies	哲学与文化教研部	Department of Philosophy and Culture	科學技術史研究院	Institute for the History of Science and Technology	自然科学史研 究所	Institute for the History of Natural Sciences
City	北京	Beijing	北京	Beijing	呼和浩特	Hohhot	北京	Beijing
Area code	100190	100190	100044	100044	010022	010022	100190	100190
Street	中关村东路 55 号	Zhongguancun East Road 55	车公庄大街6号	No. 6, Chegongzhuang Street	昭烏達路 81 號	No. 81 Zhaowuda Road	中关村东路	55 Zhongguancun East Road
Office phone	+86 10 5755 2512	+86 10 5755 2512	+86 10 68007043	+86 10 68007043	+86 1564 8109 062	+86 1564 8109 062	+86 10 5755 2548	+86 10 5755 2548
Mobile phone	+86 13511 008066	+86 12511 008066	153 1312 0517	153 1312 0517	+86 1564 8109 062	+86 1564 8109 062	+86 1860 0202 663	+86 1860 0202 663
Fax	010 5755 2567	010 5755 2567						
E-mail address	zhang- office@ihns.ac.cn	zhang- office@ihns.ac.cn	chenxinyu198651 7@126.com	chenxinyu198651 7@126.com	s_tianyi@126.com	s_tianyi@126.com	qihan63@hot mail.com	qihan63@hotmail.c om

	Merr	nber 4	Mer	nber 5	Ме	mber 6	Me	ember 7
	中文	English	中文	English	中文	English	中文	English
Title/ Current occupation	副研究员	Dr./ Associate Professor	助理研究员	Dr./ Assistant Professor	副教授	Prof. Dr./ Associate Professor	教授	Prof. Dr./ Professor
Last name/ First name	黄兴	Huang/ Xing	李明洋	Li/ Mingyang	吕凌峰	Lü/ Lingfeng	梅謙立	Meynard/ Thierry
Gender	男	male	男	male	男	male	男	male
Date of birth	1981 年 10 月 15 日	15 October 1981	1990 年10月24 日	24 October 1990	1972 年1月 20日	20 January 1972	1963 年8月 13日	13 August 1963
Time spent on the project (in percent of full time)	25 %	25 %	30 %	30 %	25 %	25 %	35 %	35 %
Institutional or organisational affiliation	中国科学院自然科 学史研究所	Institute for the History of Natural Sciences, CAS	中国科学院自然 科学史研究所	Institute for the History of Natural Sciences, CAS	中国科学技术 大学	University of Science and Technology of China	中山大学	Sun Yat-sen University
Department	中国古代科技史研 究室	Department of History of Science and Technology in Pre-Modern China	西方科技史研究 室	Department of History of Science and Technology in the West	科技史系	History of Science	哲学系	Philosophy
City	北京	Beijing	北京	Beijing	合肥	Hefei	广州	Guangzhou
Area code	100190	100190	100190	100190	230026	230026	510275	510275
Street	中关村东路 55 号,海淀区	55 Zhongguancun East Road, Haidian	中关村东路 55 号	55 Zhongguancun East Road	金寨路 96 号	Jinzhai Road 96	新港西路 135	Xingang West Road 135
Office phone	+86 10 5755 2537	+86 10 5755 2537	+86 10 5755 2300	+86 10 5755 2300				
Mobile phone	152 1060 1831	152 1060 1831	+86 1510 1156 551	+86 1510 1156 551	151 5511 9406	151 5511 9406	137 2511 6351	137 2511 6351
Fax	+86 10 5755 2567	+86 10 5755 2567						
E-mail address	huangxing@ihns.a c.cn	huangxing@ihns.ac .cn	limingyang@ihn s.ac.cn	limingyang@ihns.a c.cn	lingfeng@ustc. edu.cn	lingfeng@ustc.edu. cn	meiqianl@mail .sysu.edu.cn	meiqianl@mail.sysu. edu.cn

1	Mer	nber 8	Men	nber 9	Me	mber 10	Men	nber 11
	中文	English	中文	English	中文	English	中文	English
Title/ Current occupation	教授	Prof. Dr./ Professor	教授	Prof. Dr./ Professor	研究员/教授	Prof. Dr./ Professor	教授	Prof./ Professor
Last name/ First name	尚智丛	Shang/ Zhicong	石云里	Shi/ Yunli	孙承晟	Sun/ Chengsheng	湯開建	Tang/ Kaijian
Gender	男	male	男	male	男	male	男	Male
Date of birth	1967年5月8日	8 May 1967	1964 年 10月 25 日	25 October 1964	1977 年10月 28日	28 October 1977	1949.6.12	1949.6.12
Time spent on the project (in percent of full time)	30%	30%	30 %	30 %	40 %	40 %	25 %	25 %
Institutional or organisational affiliation	中国科学院大学	University of Chinese Academy of Sciences	中国科学技术大学	University of Science and Technology of China	中国科学院自 然科学科学史 研究所	Institute for the History of Natural Sciences, CAS	暨南大學	Ji'nan University
Department	哲学	Philosophy	科技史与科技考古 系	Department of Technology History & Technology Archaeology	西方科技史研 究室	Department of History of Science and Technology in the West	中國文化史籍研 究所	Institute of Chinese Culture and Ancient History Source
City	北京	Beijing	合肥	Hefei	北京	Beijing	廣州	Guangzhou
Area code	100049	100049	230026	230026	100190	100190	510632	510632
Street	玉泉路 19 号甲	19A, Yuquan Road	金寨路 98 号	Jinzhai Road 98	海淀区中关村 东路 55 号	55 Zhongguancun East Road, Haidian District	黄埔大道	Huangpu Street
Office phone	+86 10 8825 6005	+86 10 8825 6005			+86 10 5755 2547	+86 10 5755 2547	8522 3293	8522 3293
Mobile phone	+86 1861 1098 386	+86 1861 1098 386	+86 1307 5562 168	+86 1307 5562 168	135 2114 9497	135 2114 9497	13602718290	13602718290
Fax					+86 10 5755 2567	+86 10 5755 2567		
E-mail address	shangzc@ucas. ac.cn	shangzc@ucas.ac.c n	ylshi@ustc.edu.cn	ylshi@ustc.edu.cn	scs@ihns.ac.c n	scs@ihns.ac.cn	kjtang00853@si na.cn	kjtang00853@sina. cn

	Ме	mber 12	Mei	mber 13	Ме	mber 14	M	ember 15
	中文	English	中文	English	中文	English	中文	English
Title/ Current occupation	研究员/教授	Prof. Dr./ Professor	助理研究员	Dr./ Assistant Professor	助理研究员	Dr./ Assistant Professor	教授	Prof. Dr./ Professor
Last name/ First name	田淼	Tian/ Miao	王晓斐	Wang/ Xiaofei	杨丽娟	Yang/ Lijuan	尹晓冬	Yin/ Xiaodong
Gender	女	female	女	female	女	female	女	female
Date of birth	1967 年3月 17日	17 March 1967	1986年7月8日	8 July 1986	1988 年4月15 日	15 April 1988	1974年11月19 日	19 November 1974
Time spent on the project (in percent of full time)	40 %	40 %	50 %	50 %	50 %	50 %	35 %	35 %
Institutional or organisational affiliation	中国科学院 自然科学史 研究所	Institute for the History of Natural Sciences, CAS	巴黎科学、哲学 与历史研究所 (SPHERE)	Laboratoire SPHERE, CNRS, Paris	中国科学院	Chinese Academy of Sciences	首都师范大学	Capital Normal University
Department	西方科技史 研究室	Department of History of Science and Technology in the West	中国科学院自然 科学史研究所	IHNS, CAS	自然科学史研究 所	Institute for the History of Natural Sciences	物理系	Physics
City	北京	Beijing	北京	Beijing	北京	Beijing	北京	Beijing
Area code	100190	100190	100089	100089	100190	100190	100048	100048
Street	中国村东路 55 号	55 Zhongguancun East Road	中关村东路 55 号	55 Zhongguancun East Road	中关村东路 55 号	55 Zhongguancun East Road	北京海淀区西三环 北路 105 号	105 West Third Ring Road North, Haidian District
Office phone	57552550	57552550	57552577	57552577	+86 10 5755 2571	+86 10 5755 2571	+86 10 6890 2944 801	+86 10 6890 2944 801
Mobile phone	1501099738 0	15010997380	13918057443	13918057443	+86 1381 1404 351	+86 1381 1404 351	185 1698 2810	185 1698 2810
Fax			57552515	57552515				
E-mail address	miaotian17 @hotmail.co m	miaotian17@hotm ail.com	xiaofei.wang@ih ns.ac.cn	xiaofei.wang@ihns.ac .cn	yanglijuan@ihns .ac.cn; Lisaylj@163.co m	yanglijuan@ihns.ac.c n; Lisaylj@163.com	xiaodongstone@s ohu.com xiaodongstone@1 39.com	xiaodongstone@sohu.co m xiaodongstone@139.com

	Men	nber 16	Me	mber 17	Me	mber 18	Mer	nber 19
	中文	English	中文	English	中文	English	中文	English
Title/ Current occupation	副研究馆员	Dr./ Associate Research Librarian	理学博士/ 副研 究员	Dr./ Associate Professor	副研究员	Dr./ Associate Professor	特聘教授	Prof. Dr./ Professor
Last name/ First name	赵大莹	Zhao/ Daying	郑诚	Zheng/ Cheng	周文丽	Zhou/ Wenli	司马涛	Zimmer / Thomas
Gender	女	female	男	male	女	female	男	Male
Date of birth	1980 年 10月 5 日	5 October 1980	1982 年6月28 日	28 June 1982	1982 年11月 4日	4 November 1982	1959 年5月20 日	May 20th, 1959
Time spent on the project (in percent of full time)	35 %	35 %	40 %	40 %	25 %	25 %	40 %	40 %
Institutional or organisational affiliation	中国国家图书馆	National Library of China	中国科学院自然 科学史研究所	Institute for the History of Natural Sciences, CAS	中国科学院自 然科学史研究 所	Institute for the History of Natural Sciences, CAS	同济大学	Tongji University
Department	西文善本部	Section of Rare Books in Foreign Languages	西方科技史研究 室	Department of History of Science and Technology in the West	中国古代科技 史	History of Science and Technology in Pre-Modern China	中德人文交流研 究中心	Research Center for Chinese-German Social and Cultural Exchange
City	北京	Beijing	北京	Beijing	北京	Beijing	上海	Shanghai
Area code	100081	100081	100190	100190	100190	100190	200092	200092
Street	中关村南大街 33 号	Zhongguancun SouthRd 33	中关村东路 55 号	55 Zhongguancun East Road	中关村东路 55 号	Zhongguancun East Road, No. 55	四平路 1239 号	1239 Siping Rd.
Office phone			57552593	57552593	+86 10 5755 2306	+86 10 5755 2306	0086-21- 65980918	0086-21-65980918
Mobile phone	+86 138 1049 2086	+86 138 1049 2086	13651360144	13651360144	135 8180 5686	135 8180 5686	0086- 18217313480	0086-18217313480
Fax							0086-21- 65980402	0086-21-65980402
E-mail address	zdyemily@foxm ail.com	zdyemily@foxmail.c om	zhengcheng@ih ns.ac.cn	zhengcheng@ihns.ac .cn	zhouwenli@ih ns.ac.cn	zhouwenli@ihns.ac. cn	tezimmer@ hotmail.com	tezimmer@hotmail. com

5.2. Participants from Germany

	Coordinator	Member 1	Member 2	Member 3	Member 4	Member 5	Member 6
Title/ Current occupation	Prof. Dr./ University Professor (C4)	B.A./ M.A. candidate	Prof. Dr./ University Professor	Dr./ Research Assistant/Project Collaborator	B.A./ M.A. candidate	PhD/ Adjunct Lecturer	M.A./ PhD candidate
Last name/ First name	Vogel/ Hans Ulrich	Aberle/ Patrick	Amelung/ Iwo	Cao/ Jin 曹晋	Chen/ Anja	Chen/ Hailian 陈海连	Deng/ Jie 邓洁
Gender	male	male	male	female	female	female	female
Date of birth	15 June 1954	23 March 1993	9 May 1962	31 October 1982	5 September 1993	5 February 1982	15 June 1978
Time spent on the project (in percent of full time)	50 %	80 %	35 %	90 %	80 %	35 %	70 %
Institutional or organisational affiliation	University of Tübingen	University of Tübingen	Goethe-University, Frankfurt am Main	University of Tübingen	University of Tübingen	University of Trier	University of Tübingen
Department	Department of Chinese Studies	Department of Chinese Studies	Language, Cultures and Arts	Department of Chinese Studies	Department of Chinese Studies	Department of Chinese Studies	Department of Chinese Studies
City	Tübingen	Tübingen	Frankfurt am Main	Tübingen	Tübingen	Trier	Tübingen
Area code	72074	72074	60325	72074	72074	54296	72074
Street	Wilhelmstrasse 133	Wilhelmstrasse 133	Senckenberganlag e 31-33	Wilhelmstr. 133	Wilhelmstrasse 133	FB II - Sinologie, Universitätsring 15	Wilhelmstr. 133
Office phone	+49 7071 2972701	+49 7071 2972711	+ 49 69 79822897	+49 7071 2972711	+49 7071 2972711	+49 651 2013203	+ 49 7071 2972711
Mobile phone	+49 176 83389741		+49 1621841501	+86 1861 4090561 +49 1762 4867486		+49 1511 0326660	+49 176 6500 3017
Fax	+49 7071 295733	+49 7071 295733	+49 69 79822176	+49 7071 295733	+49 7071 295733	+49 651 2013944	+ 49 7071 295733
E-mail address	hans- ulrich.vogel@uni -tuebingen.de	m-strive@gmx.de	amelung@em.uni- frankfurt.de	jin.cao@uni- tuebingen.de	anya.chen@hotmail .com	chenh@uni-trier.de	juliadengj@gmail.co m

Participants from Germany (continued)

	Member 7	Member 8	Member 9	Member 10	Member 11	Member 12
Title/ Current occupation	Presently B.A. candidate (University of Macau), from October 2019 M.A. candidate at Tübingen's Department of Chinese Studies	Dr./ Senior Lecturer (Akademischer Rat)	Dr./ Research Fellow	M.A./ Research Assistant and Project Collaborator	Prof. Dr./ University Professor (W3)	Prof. Dr./ University Professor (W3)
Last name/ First name	Han/ Qijin 韓奇金	Jost/ Alexander	Kim/ Nanny	Kink/ Sabine	Mittag/ Achim	Moll-Murata/ Christine
Gender	female	male	female	female	male	female
Date of birth	16 May 1997	29 December 1983	4 October 1966	23 August 1960	22 June 1958	31 March 1960
Time spent on the project (in percent of full time)	80 %	30 %	30 %	90 %	30 %	25 %
Institutional or organisational affiliation	University of Tübingen	University of Tübingen	Heidelberg University	University of Tübingen	University of Tübingen	Ruhr-Universität Bochum, Fakultät für Ostasienwissenschaften
Department	Department of Chinese Studies	Department of Chinese Studies	Department of Chinese Studies	Department of Chinese Studies	Department of Chinese Studies	History of China
City	Tübingen	Tübingen	Heidelberg	Tübingen	Tübingen	Bochum
Area code	72074	72074	69115	72074	72074	44799
Street	Wilhelmstr. 133	Wilhelmstr. 133	Vossstraße 2	Wilhelmstrasse 133	Wilhelmstr. 133	Universitätsstr. 134
Office phone	+ 49 7071 2972711		+49 6221 5415340	+49 7071 2972711	+49 7071 2972718	+49 234 3228254
Mobile phone		+86 1860 1241464 +49 1762 0441822	+49 1765 6792247	+49 171 9405566	+49 171 1913592	+49 173 5117958
Fax	+ 49 7071 295733	+ 49 7071 295733	+49 6221 547639	+49 7071 295733	+49 7071 295733	
E-mail address	qijin.han11@gmail.com	alexander.jost@aoi.un i-tuebingen.de	Nanny.kim@zo.uni- heidelberg.de	sabine.kink@uni- tuebingen.de	achim.mittag@uni- tuebingen.de	Christine.Moll- Murata@rub.de

Participants from Germany (continued)

	Member 13	Member 14	Member 15	Member 16	Member 17
Title/ Current occupation	Prof. Dr./ University Professor (W3)	B.A./ M.A. candidate	Presently B.A. candidate (University of Macau), from October 2019 M.A. candidate at Tübingen's Department of Chinese Studies	M.A./ PhD candidate and Research Assistant	B.A./ M.A. candidate and Student Research Assistant
Last name/ First name	Sachsenmaier/ Dominic	Schmid/ Jonas	Sheng/ Jia 盛佳	Strob/ Anna	Viklenko/ Katharina
Gender	male	male	female	female	female
Date of birth	12 January 1970	5 April 1997	30 April 1998	22 September 1986	20 September 1993
Time spent on the project (in percent of full time)	25 %	80 %	80 %	60 %	70 %
Institutional or organisational affiliation	Göttingen University	University of Tübingen	University of Tübingen	University of Tübingen	University of Tübingen
Department	East Asian Studies	Department of Chinese Studies	Department of Chinese Studies	Department of Chinese Studies	Department of Chinese Studies
City	Göttingen	Tübingen	Tübingen	Tübingen	Tübingen
Area code	37073	72074	72074	72074	72074
Street	Heinrich-Düker-Weg 14	Wilhelmstr. 133	Wilhelmstr. 133	Wilhelmstr. 133	Wilhelmstr. 133
Office phone	+49 551 3924345	+49 7071 2972711	+49 7071 2972711	+49 7071 29 72703	+49 07071 2972710
Mobile phone	+49 179 1205663			+ 49 152 52659974	+49 1577 6449542
Fax	+49 551 3927048	+49 7071 295733	+49 7071 295733	+49 7071 295733	+49 7071 295733
E-mail address	dsachse@gwdg.de	jonas_schmid@t- online.de	sb52360@connect.u m.edu.mo	anna.strob@uni- tuebingen.de	katharinaviklenko@yahoo .de

7. Short CVs for all participants (One-page maximum for each participant)

Participants from China

Short CV Dr. CHEN Xinyu 陈欣雨

1. Present Occupation

Beijing Administrative College, Department of Philosophy and Culture Lecturer

Dr. 2. Educational experience

- 2012-2014 Joint-PhD., Sapienza University of Rome (Supervisor: Prof. Federico Masini).
- 2010-2014 Ph.D. Chinese Philosophy, Renmin University of China, Doctor of Philosophy (Supervisor: Prof. ZHANG Liwen).
- 2008-2010 M.A. Chinese Philosophy, Sichuan Normal University, Master of Science (Supervisor: Prof. CAI Fanglu).
- 2004-2008 Bachelor of Laws, Sichuan Normal University (Supervisor: Prof. CAI Fanglu).

3. Scientific research and academic work experience

- **2017:** Visiting Scholar, Ricci Institute for Chinese-Western Cultural History, University of San Francisco.
- 2016: Visiting Scholar, Centro Studi Li Madou, Macerata, Italy.

4. Host or participant in scientific research projects

- **2016-2019:** Beijing Social Science Fund Project "Research on the Cemetery of Matteo Ricci and Other Missionaries (16CZC016)."
- **2017-2018:** Beijing International Cultural Exchange and World Culture Research Project "Research on the Latin in the Cemetery of Matteo Ricci and Other Missionaries."
- **2015-2019:** The National Social Science Fund Project "The Missionaries' *Yijing* Studies in Qing Dynasty (15CZX027)."

- 《白晋易学思想研究:以梵蒂冈图书馆见存中文易学资料为基础》 (Joachim Bouvet's Investigations on *Yijing*: A Study of the Chinese *Yijing* Collection of the Vatican Library), Beijing: Renmin Press, 2017 (Second Prize for Achievements in Social and Scientific Research in Beijing).
- 二〇一八年北京滕公栅栏墓地新整理文物考 (Research on New Cultural Relics in Chala Cemetery in 2018), 北京行政學院學報 (Journal of Beijing Administrative College), 5 (2018): 116-128.
- 庚子拳乱前後的北京柵欄墓地考 (The Chala Cemetery Around the Year of 1900), 澳門理工大學學報 (Journal of Macao Polytechnic Institute), 3 (2018): 92-99.
- 《柵欄墓地》前史考 (Research on the Previous History of Chala Cemetery), 北京行政學院學報 (Journal of Beijing Administrative College), 1 (2018): 121-128.
- 法國索隱易學中的女性形象 (Research on the Female Image in Bouvet's *Yijing* Studies and Attempts to the Theology Localization), 西南民族大學學報 (Journal of Southwest University for Nationalities), 9 (2017): 90-94.
- 立足於文字學的馬若瑟《易經》研究——以《周易理數》與《太極略說》為例 (Research on De Prémare's Philology in *Yijing* Investigations: A Study of the Chinese Materials at the Vatican Library), 澳門理工大學學報 (Journal of Macao Polytechnic Institute), 1 (2017): 85-92.
- 論傅聖澤的《尊經重孔》思想——以《傅先生辨析儒理》一文為例 (Dissolve the Conflicts and Pursue Harmony between Confucianism and Christianity: Take a Treatise of Foucquet in the Vatican Library as an Example), 孔子研究 (Confucius Studies), 3 (2016).
- Zhang Fuyun, and Chen Xinyu, 白晉研《易》方法論析 (Bouvet's Method of Yijing Studies), 四川師範 大學學報 (Journal of Sichuan Normal University), 3 (2016): 59-65.
- 《耶道對話》的新嘗試——傅聖澤易學思想研究 (A New Attempt for a Dialogue between Christianity and Daoism: *Yijing* Investigations of Foucquet), 北京行政學院學報 (Journal of Beijing Administrative College), 4 (2015): 124-128.
- 立足於文字學的馬若瑟易學思想研究 (Research on De Prémare's Philology in *Yijing* Investigations: A Study of the Chinese Materials at the Vatican Library), 周易研究 (Studies of Zhouyi), 1 (2016).

1. Present Occupation

Inner Mongolia Normal University, Institute for the History of Science and Technology University Lecturer

Dr.

2. Educational experience

- 2013 PhD History of Physics, School of History of Science and Scientific Culture (former Department of the History & Philosophy of Science), Shanghai Jiao Tong University (Supervisor: Prof. Dr. Jiang Xiaoyuan 江曉原).
- 2009 M.S. History of Science and Technology, Department of the History & Philosophy of Science, Shanghai Jiao Tong University (Supervisor: Prof. Dr. Jiang Xiaoyuan 江曉原).

3. Scientific research and academic work experience

- **Since 2014:** Lecturer, Institute for History of Science and Technology, Inner Mongolia Normal University, China.
- Oct. 2014-Nov. 2016: Received grant from the ERC Grant Project SAW (Mathematical Sciences in the Ancient World) for postdoctoral research, Laboratoire SPHERE UMR 7219, Université Paris 7 – CNRS, France. Main focus: Mathematics in the Astral Science in Ancient China, Historiography of Mathematics in 19th-Century China.

4. Host or participant in scientific research projects

• **2015-2019:** Director of project funded by the MOE (Ministry of Education in China), Liberal Arts and Social Sciences Foundation: "The Astromathematical Speciality in Qianlong and Jiaqing Reign Periods in the Horizon of Transformation of Knowledge in Modern China."

- 偉烈亞力的中西代數學比較及其史學淵源 (Alexander Wylie's Comparisons of Algebra between China and Europe, and its Historigraphical Origins), 自然科學史研究 (Studies in the History of Natural Sciences), 36.4 (2017): 502-518.
- 乾嘉學者以古曆推算史事年代的實踐及其意義——以李銳等人對《召誥》日名問題的研究為中心 (Practices of Qianlong and Jiaqing Scholars on Chronological Calculation by Using Ancient Calendrical Systems and Its Significance: Focusing on Studies of Li Rui and Other Scholars on the Issue of the Sexagesimal Day Names in the *Announcement by the Duke of Shao*), 上海交通大學學報(哲學社會科 學版) (Journal of Shanghai Jiao Tong University (Philosophy and Social Sciences)), 25.6 (2017): 46-51.
- "Scholars' Recreation of Two Traditions of Mathematical Commentaries in Late Eighteenth-century China," *Historia Mathematica*, 44.2 (2017): 105-133.
- 從《空際格致》邵增批跋本看明譯西書對晚清士人的影響(The Impact of Western Books on Chinese Literati in the Late Qing: A Case Study of Shao Zeng's Commented Version of Alfonso Vagnone's *Kongji gezhi*), 自然科學史研究 (Studies in the History of Natural Sciences), 33.3 (2014): 272-284.
- 乾嘉天算專門之學在科舉考試中的滲透 (The Permeation of Astro-mathematical Speciality into the Civil Examinations in Qianlong and Jiaqing Reign Periods), 清史研究 (Qing History Journal), 3 (2014): 48-59.
- Chen Zhihui and Jiang Xiaoyuan, 西學的移用與致用:從道光六年彗星見事件看乾嘉學者對四行說的 態度 (The Displacement and Utilization of Western Learning: Scholars' Attitude towards Four-Elements Theory in Qianlong and Jiaqing Reign Periods as Seen from the Comet Incident in 1826), 上海交通大 學學報(哲學社會科學版) (Journal of Shanghai Jiao Tong University (Philosophy and Social Sciences)), 22.1 (2014): 58-67.

Short CV Prof. Dr. HAN Qi 韩琦

1. Present occupation

Institute for the History of Natural Sciences, Chinese Academy of Sciences Professor

Prof. Dr.

2. Educational experience

- **1991 Ph.D. History of Science**, Institute for the History of Natural Sciences, Chinese Academy of Sciences (Supervisor: Prof. Du Shiran).
- 1998 M.A. History of Science, University of Science and Technology of China.

3. Scientific research and academic work experience

• HAN Qi received a Ph.D. degree from the Institute for the History of Natural Sciences, Chinese Academy of Sciences in 1991. Since 2000, he has served as a professor at the same institute, and in 2015 he became the vice-director. His main research field is East-West cultural exchanges from the 17th to the 20th centuries, especially the transmission of Western science to China during the Kangxi and Qianlong reigns, on which he has published numerous papers. He had been vice-president of the International Society for the History of East Asian Science, Technology and Medicine and now serves as editor-in-chief of *Ziran kexueshi yanjiu* 自然科學史研究 (Studies in the History of Natural Sciences) and as member of the editorial board of *Archive for History of Exact Sciences, Annals of Science* and *Historia Scientiarum.*

4. Host or participant in scientific research projects (major projects only)

- **2016-2019:** "A New Research on the Introduction of Western Mathematics during the Kangxi Reign and its Influence on Chinese Mathematics" of NSFC.
- **2012-2015**: "The Research on the Localization of Geology in China" of Chinese Academy of Sciences.

- "Rethinking the Ancient Mathematical Text: Ming-Qing Scholars' Critical Reflections on The Gnomon of Zhou [Dynasty]," in A. Keller and K. Chemla (eds.), *Shaping the Sciences of the Ancient World: Text Criticism, Critical Editions and Translations of Ancient and Medieval Scholarly Texts (18th-20th Centuries)*, Dordrecht: Springer, forthcoming.
- 《通天之学:耶稣会士和天文学在中国的传播》(Penetrating to the Heaven: The Society of Jesus and the Spread of Western Astronomy in China), Beijing: Sanlian shudian, 2018.
- "Between Science and Religion: Antoine Thomas and the Transmission of Copernican System during the Kangxi Reign," in Alexander Chen Tsung-ming (ed.), *Catholicism's Encounters with China, 17th to 20th Century*, Leuven: Ferdinand Verbiest Institute, 2018, pp. 65-75.
- "Chinese Literati's Attitudes toward Western Science: Transition from the Late Kangxi Period to the Mid-Qianlong Period," *Historia Scientiarum*, 24.2 (2015): 76-87.
- "The Legitimization of the Transmission of Western Science: Xu Guangqi's Proposal for the Calendar Reform," in Luisa M Paternicò (ed.), *The Generation of Giants 2: Other Champions of the Cultural Dialogue between Europe and China*, Trento: Centro Studi Martino Martini, 2015, pp. 19-25.
- "Cartography during the Times of the Kangxi Emperor: The Age and the Background," in Roberto M. Ribeiro and John W. O'Malley, S.J. (eds.), *Jesuit Mapmaking in China: D'Anville's 'Nouvelle Atlas de la Chine' (1737)*, Philadelphia: Saint Joseph's University Press (Early Modern Catholicism and the Visual Arts Series; 11), 2014, pp.51-62.
- "Knowledge and Power: A Social History of the Transmission of Mathematics between China and Europe during the Kangxi Reign (1662-1722)," International Congress of Mathematicians. Seoul, August 2014.
- "The Jesuits and their Study of Chinese Astronomy and Chronology in the Seventeenth and Eighteenth Centuries," in Luís Manuel Roberto Saraiva (ed.), *Europe and China: Science and Arts in the 17th and 18th Centuries*, Singapore: World Scientific Publishing, 2012, pp. 71-79.
- "From Adam Schall von Bell to Jan Mikołaj Smogulecki: The Introduction of European Astrology in Late Ming and Early Qing China," *Monumenta Serica*, 59.1 (2011): 485-490.
- 《中国科学技术的西传及其影响》(Chinese Science and Technology and its Transmission to the West), Shijiazhuang: Hebei renmin chubanshe, 1999.

1. Present Occupation

Chinese Academy of Sciences, Institute for the History of Natural Sciences, Department of History of Science and Technology in Pre-Modern China Associate Professor, Dr.

2. Educational experience

- **2009-2014 Ph.D., History of Science and Technology**, Institute of Historical Metallurgy and Materials, University of Science & Technology Beijing.
- 2006-2009 Master, History of Science and Technology, Institute for the History of Science and Technology, Inner Mongolia Normal University.
- 2002-2006 Bachelor, Physics, Department of Physics, Tangshan Normal University.

3. Scientific research and academic work experience

- **2014-2016:** Post-doctoral Research, Chinese Academy of Sciences, Institute for the History of Natural Sciences.
- **2016:** VisitingPost-doctoral Research, Institute for the History of Science and Technology, Max Planck Institute, Germany.
- 2013: Visiting Research Scholar, Needham Research Institute, Cambridge, UK.

4. Host or participant in scientific research projects

- **Since 2017:** Director of Major Breakthrough Project of Chinese Academy of Sciences: "The Production and Dissemination of Scientific Knowledge." Subsidiary Subject: Research on Steel Forging Technology in Han Dynasty.
- **2015-2017:** Director of Beijing Social Science Fund Youth Project: Research and Exhibition of Blast Furnaces in Yanqing, Beijing, Liao Dynasty.
- **2014-2016:** Director of Special Funding of the Chinese Postdoctoral Science Foundation, Empirical Study on the Compass in Ancient China.
- 2018: Participant of major project of Chinese National Social Science Fund: History of China Metallurgy.
- **2014:** Participant of Chinese National Natural Science Foundation of China: Research on the Recovery and Evolution of the Blast Furnace Profile in Ancient China.

5. Representative publications (up to 10), research results and academic awards

Monographs:

- 《古代指南针实证研究》(The Empirical Research on the Compass in Ancient China), Ji'nan: Shandong Education Press, 2018.
- Qian Wei, and Huang Xing, 《炼铁记》 (A "Record on Smelting"), Beijing: Beijing Metallurgical Industry Press, 2016.

Papers:

- Huang Xing, and Li Lingfeng, "Application and Influence of Flap Valve Mechanism on Ancient Bellows," in Zhang Baichun and Marco Ceccarelli (eds.), *History of Mechanism and Machine Science—Proceedings of the 2018 HMM IFToMM Symposium on History of Machines and Mechanisms*, Cham: Springer (History of Mechanism and Machine Science; 37), 2019, pp. 199-212.
- "A Comparison between Ancient Chinese and European Winnowers: Further Research on the Ancients' Recognition and Application of the Centrifugal Principle," in Marco Ceccarelli, Michela Cigola and Giuseppe Recinto (eds.), *New Activities for Cultural Heritage: Proceedings of the International Conference Heritagebot 2017*, Cham: Springer, 2017, pp. 33-42.
- Wang Jin, and Huang Xing, "A Survey Study of the Blast Furnace at Kuangshan Village Using 3DLaser," *The Minerals, Metals & Materials Society*, 69.1 (2017): 64-70.
- Huang Xing, Qian Wei, Wei Wei, Guo Jingning, and Liu Naitao, "3D Numerical Simulation on the Flow Field of Single Tuyere Blast Furnaces: A Case Study of the Shuiquangou Iron Smelting Site in 9th to 13th Century China," *Journal of Archaeological Science*, 63 (2015): 44-58.
- Huang Xing, and Qian Wei, 世界古代鼓风器比较研究 (A Comparative Global Study on Bellows before the Industrial Revolution), 自然科学史研究 (Studies in the History of Natural Science), 32.1 (2013): 84-111.

Short CV Dr. LI Mingyang 李明洋

1. Present occupation

Institute for the History of Natural Sciences, Chinese Academy of Sciences. Assistant Professor

Dr.

2. Educational experience

- 2018 Ph.D. History of Technology, Institute for the History of Natural Sciences, Chinese Academy of Sciences: "造舰与育才: 福州船政及其法国技术来源 (1866-1895)" [Constructing Warships and Training Engineers in the Foochow Navy Yard: The Technology Transfer from France to China (1866-1895)] (Supervisor: Prof. ZHANG Baichun).
- 2015 Master of Science History of Science and Technology, Institute of Science, Technology & Society, Tsinghua University: "晚清冶金学译著《宝藏兴焉》研究" [A Research on *Baozang xing yan*: A Translated Treatise about Metallurgy in Late Qing China] (Supervisor: Prof. BAO Ou).
- 2012 Bachelor of Engineering Materials Science & Engineering, Department of Materials Science & Engineering, Tsinghua University.

3. Scientific research and academic work experience

- Since 2018: Research Assistant Professor at the Institute for the History of Natural Sciences, Chinese Academy of Sciences.
 Research Interests: History of naval architecture and marine engineering, history of technical education, technology transfer and science communication between China and Europe, history of materials science and engineering.
- 2013-2015: Teaching Assistant at the Institute of Science, Technology & Society, Tsinghua University, responsible for organizing and grading of Lecture Series on History of Science and Technology for undergraduate students in 4 semesters.

4. Host or participant in scientific research projects

- **2016-2019:** Participant in research project "China's Industrial Heritages in the Perspective of History of Technology," directed by Prof. FANG Yibing, responsible for the case of the Foochow Navy Yard.
- 2013-2014: Participant in the project (Oral History Studies on Celebrated Chinese Scientists Conducted by China Association for Science and Technology) of Professor LI Zhijian, a microelectronic scientist. Director of this project: Prof. YANG Jian.

- 福州船政前学堂技术教育之再探讨 (Further Research on the Technical Education of the French Schools in the Foochow Navy Yard), 自然辩证法通讯 (Journal of the Dialectics of Nature), forthcoming.
- Translation (English to Chinese) of Seymour Mauskopf and Alex Roland, "The Historiography of Science and Technology," in Axel Schneider and Daniel Woolf (eds.), *The Oxford History of Historical Writing, Volume 5: Historical Writing Since 1945* [牛津历史著作史•第五卷], Shanghai: Shanghai Sanlian shudian, in press.
- 中西知识交汇下的'矿学' ('Mining Studies' and the Meeting of Chinese and Western Knowledge), 工 程研究-跨学科视野中的工程 (Journal of Engineering Studies), 9.6 (2017): 638-643.
- Joseph Needham (author); Li Mingyang (transl. and rev.), 中国古代科学 (Science in Traditional China: A Comparative Perspective), Beijing: Zhonghua shuju, 2017.

1. Present occupation

Department of History of Science, University of Science and Technology of China Associate Professor

Prof. Dr.

2. Educational experience

- 2002 Ph.D. History of Science, University of Science and Technology of China: "Eclipse Records in Qing China."
- 2001-2002 Exchange Student, Chair of Chinese Studies, University Erlangen-Nuremberg.
- 1996 B.A. History, Anhui University, Hefei, China.

3. Scientific research and academic work experience

- **Since 2007:** Associate Professor in the Department of History of Science, University of Science and Technology of China, Hefei.
- **2004-2006:** Alexander von Humboldt Research Fellow, Chair of Chinese Studies, University Erlangen-Nuremberg.
- **2002-2004:** Assistant Professor in the Department of History of Science, University of Science and Technology of China, Hefei.

4. Host in scientific research projects (major projects only)

- **2004-2007:** Astronomical Observations by European Missionaries in Qing China, sponsored by Chinese Academy of Sciences.
- **2008-2013:** The Social Role of Astronomical Knowledge in Late Qing China, sponsored by National Social Science Foundation of China.
- **2014-2017:** Mechanics Knowledge in 20th Century China, sponsored by China Association for Science and Technology.

- Li Liang, Lü Lingfeng and Shi Yunli, 被《遗漏》的交食: 传教士对崇祯改历时期交食记录的选择性删除 (Eclipses Left Out: The Intentional Purging of Some Important Records of Eclipses during the Period when the Jesuits Revised the *Chongzhen lishu*), 中国科技史杂志 (Chinese Journal for the History of Science and Technology), 35.3 (2014): 303-315.
- "Chinese Records of the 1874 Transit of Venus," *Journal of Astronomical History and Heritage*, 1 (2013): 45-54.
- Li Liang, Lü Lingfeng, and Shi Yunli, "The Eclipse Calculation Accuracy of the Huihui Calendar," *Studies in History of Natural Sciences*, 30.3 (2011): 306-317.
- Li Liang, Lü Lingfeng, and Shi Yunli, "On the Compilation and Application of the *Datong Li* as Seen from its Eclipse Calculation Methods," *The Chinese Journal for the History of Science and Technology*, 4 (2010): 414-431.
- Shi Yunli, and Lü Lingfeng (eds.), contributing to punctuation and collation (300,000 characters) of 《海 外珍稀中国科学技术典籍集成: 天文卷》(Rare Chinese Classical Books of Science and Technology Collected Overseas (Astronomy)), Hefei: University of Science and Technology of China Press, 2010, 719 pp.
- "Eclipses and the Victory of European Astronomy in China," *East Asian Science, Technology and Medicine*, 27 (2007): 127-145.
- Shi Yunli and Lü Lingfeng,从《荀求其故》到《但求无弊》: 17-18 世纪中国天文学发展的一条轨迹 (One Stream in the Development of Astronomical Thought in China in the 17th and 18th Centuries),科 学技术与辩证法 (Science, Technology and Dialectics), 1 (2005): 36-40.
- Shi Yunli and Lü Lingfeng, 清代日食预报记录的精度分析 (Accuracy of Solar Eclipse Predictions Made in the Qing Dynasty), 中国科技史料 (Chinese Historical Materials of Science and Technology), 4 (2003): 283-290.
- Lü Lingfeng and Shi Yunli, 礼制、传教与交食测验: 清钦天监档案中的交食记录透视 (Rituals, Missionaries, and Eclipse Computations: An Insight into Astronomical Observations in the Archives of the Astronomical Bureau of the Qing Dynasty), 自然辩证法通讯 (Journal of Dialectics of Nature), 6 (2002): 44-50.

Short CV Prof. Dr. Thierry Meynard 梅謙立 **1. Present Occupation** Sun Yat-sen University (Guangzhou, China), Philosophy Department University Professor, PhD Director Prof. Dr. 2. Educational experience 2003 Ph.D. Chinese Philosophy. Philosophy Department, Peking University (Supervisor: Prof. Lou • Yu Lie). 1998 B.A. in Philosophy; B.A. in Theology, Centre Sèvres, Facultés jésuites, Paris. • 1988 Master in Management, ESCP, Paris. 3. Scientific research and academic work experience Since 2010: Full Professor, Philosophy Department, Sun Yat-sen University. • 2006-2010: Associate Professor, Philosophy Department, Sun Yat-sen University. • 2003-2006: Lecturer, Fordham University, New York. • 2001-2003: Lecturer, The Beijing Center for Language and Culture, Beijing. • 4. Host or participant in scientific research projects 2018-2021: Acting Director of the center of research on Guangzhou and international cultural exchanges. Since 2006: Vice-director of the Archive on the Introduction of Western Learning into China . 2016-2020: Director of the research program on the Jesuit translations of the Four Books; Ministry of • education of China. 2016-2019: Member of the research on Buddhism in Ming and Qing dynasties; Foguang University, . Taiwan. 5. Representative publications (up to 10), research results and academic awards Thierry Meynard and Roberto Villasante (eds.), La filosofía moral de Confucio por Michele Ruggieri SJ: La primera traducción de las obras de Confucio al español en 1590, Madrid: Mensajero, 2018. "Francois Noël's Contribution to the Western Understanding of Chinese Thought." DAO: A Journal of Comparative Philosophy, 17.2 (2018): 1-12. "Could Chinese Vegetarians Be Baptized? The Canton Conference and Adrien Grelon's Report of . 1688," Archivum Historicum Societatis Iesu (AHSI), 87 (2018): 75-145. "Joining the Spiritual World of Confucianism: The Jesuit Translation of the Zhongyong," Fanyi xuebao . 翻譯學報 (Journal of Translation Studies), 1 (2017): 7-57. "Leibniz as Proponent of Neo-Confucianism in Europe." in Li Wenchao (ed.), Leibniz and the European Encounter: 300 Years of 'Discours sur la théologie naturelle des Chinois,' Stuttgart: Franz Steiner (Studia Leibnitiana; 52), 2017, pp. 179-195. "Beyond Religious Exclusivism: The Jesuit Attacks against Buddhism and Xu Dashou's Refutation of . 1623," Journal of Jesuit Studies, 4 (2017): 415-430. "Aristotelian Works in Seventeenth Century China: An Updated Survey and New Analysis," . Monumenta Serica, 65.1 (2017): 61-85. Confucius ou la science des princes, translated by Bernier (1687); introduction by Sylvie Taussig, sinological notes by Thierry Meynard, Paris: Éditions Félin, 2015, 396 pp. The Jesuit Reading of Confucius: The First Complete Translation of the Lunvu (1687) Published in the West, Leiden, Boston: Brill, 2015, VIII + 675pp. Matteo Ricci: Le sens réel de «Seigneur du Ciel», Texte établi, traduit et annoté par Thierry Meynard, . S. J., Paris: Belles Lettres (Bibliothèque Chinoise; 12), 2013, LXXIX + 650 pp.

1. Present Occupation

University of Chinese Academy of Sciences, School of Humanities University Professor Prof. Dr.

2. Educational experience

- **2002 Ph.D. Philosophy of Science**, Center for Social Studies of Sciences, Peking University (Supervisor: Prof. Gong Yuzhi).
- **1993 M.S. History of Science**, Institute for History of Science, Inner Mongolia Normal University (Supervisor: Prof. Li Di).
- **1988 B.A. Philosophy of Science**, Department of Philosophy, Jilin University (Supervisor: Prof. Shu Weiguang).

3. Scientific research and academic work experience

- **Since 2002-present:** Professor for History and Philosophy of Science, School of Humanities, University of Chinese Academy of Sciences.
- **2007-2008:** Visiting Scholar in Department of History of Science, Harvard University and City University of New York, with Prof. Dr. Peter Galison and Prof. Dr. Joseph Dauben.
- **1988-1999:** Assistant Professor, Department of Philosophy, Inner Mongolia University.

4. Host or participant in scientific research projects

- **2015-2019:** Director of the NFSSC (National Foundation for Social Science of China) research project "A Study on the Scientific Knowledge Democracy."
- 2007-2010: Director of the NFSSC research project "Basic Science and National Interest: A Case Study on the Beijing Electron Positron Collider."
- **2001-2003:** Director of the Sino-Portugal research project "Macao and the Scientific Communication between China and the West at Late Ming and Early Qing."

- Shang Zhicong and Wang Huibin, "*Li*, *fa* and *ji* (理, 法, 机): Three Earliest Images of the Novum Organum in China", *Journal of Dialectics of Nature*, 12 (2018): 13-19.
- Shang Zhicong and Yang Aidong, "The Translation and Dissemination of Aristotle's Epistemology by *Qionglixue* (穷理学) in the 17th Century," *Studies in Philosophy of Science and Technology*, 3 (2018): 70-76.
- "A Critique on the Epistemology of the *Zhice tongji* (质测通几) of the Fang Yizhi School," *Studies in Dialectics of Nature*, 8 (2016): 3-8.
- "The Opening of Confucianism and the Introduction of Deduction," *Studies in Dialectics of Nature*, 6 (2015): 9-13.
- Shang Zhicong and Wang Huibin, "History of the Concepts of *bianxue* (辨学) and *bianxue* (辩学) during the Development of Western Logic in China," *The Qing History Journal*, 3 (2015): 30-38.
- The Gewu qiongli zhixue (格物穷理之学) in Late Ming and Early Qing Dynasties: The Premodern Phase of Chinese Science, Chengdu: Sichuan Education Press, 2003.
- "The Basic Contents and Framework of Ferdinand Verbiest's Thorough Inquiry into Physics (Qiongli xue 穷理学)," The Qing History Journal, 3 (2003):73-84.
- "The Impact of Modern Science on Late Qing Intellectuals from 1886 to1894: A Case Study on the Natural Science Section of the Essay Contests of Shanghai Polytechnic Institute," *The Qing History Journal*, 3 (2001): 72-82.
- Since 2015: Member of China National Committee for Terms on Science and Technology.
- 2016: National excellent scientific and technological worker, awarded by China Association for Science and Technology.
- 2012: Zhuli yuehua Award for Excellent Teachers, awarded by Chinese Academy of Sciences.

1. Present occupation
University of Science and Technology of China (USTC), School of Humanities and Social Sciences, Department of History of Science University Professor Prof. Dr.
2. Educational experience
 1998 Ph.D. History of Science, Division of History of Science, USTC (Supervisors: Prof. Dr. CH'IEN Linchao & Prof. BO Shuren). 1988 M.A. History of Science, Division of History of Science, USTC (Supervisors: Prof. BO Shuren &
Prof. LI Zhichao).
3. Scientific research and academic work experience
 Since 2007: Professor, Department of the History of Science, USTC; Chairman since 2009. 2005-2007: Alexander von Humboldt Fellow, Institute for Chinese and Korean Studies, University of Tübingen, Germany. 2005-2007: Andrew Mellon Fellow, Needham Research Institute, England.
2003-2005: Professor, Department of History of Science, USTC.
• 2001-2003: Postdoctoral Fellow, Dibner Institute of History of Science and Technology, MIT.
1999-2001: Associate Professor, Department of History of Science, USTC.
 1998-1999: Postdoctoral Fellow, Department of History of Science, Harvard University. 1991-1994: Lecturer, Research Division of History of Natural Science, USTC.
 1988-1991: Assistant, Research Division of History of Natural Science, USTC.
4. Host or participant in scientific research projects (major projects only)
• 2017-2021: National Foundation of Social Sciences (China) Key Project Grant: "A Study of Ancient
Astronomical Images in China, Japan and Korea."
2012-2015: National Foundation of Natural Sciences (China) Grant: "A Study of the Planetary Theories and Alassidance in the True Driverial of the Design of the Leavense."
 and Algorithms in the <i>True Principles of the Pacing of the Heavens.</i>" 2002-2004: National Foundation of Natural Sciences (China) Grant: "Computer-aided Analysis of
Ancient Chinese Systems of Calendrical Astronomy."
5. Representative publications (up to 10), research results and academic awards
 Shi Yunli and Chu Longfei,《崇祯历书合校》 (A Collective Collation of the Chongzheng Reign Treatises in Calendrical Astronomy), Hefei: University of Science and Technology of China Press, 2017, 1831 pp.
 Su Mengyun and Shi Yunli, 龙尾车提水效能研究: 兼论明清时期欧洲龙尾车缘何未能取代中国龙骨车 (A Research on the Water-lifting Efficiency of the Archimedean Screw: Why it Failed to Take the Place of the Traditional Chinese Water-lifting Device in the Ming-Qing Era), 中国农史 (Agricultural History of China), 2 (2017): 125-134.
 "The New Thermometer and a Slice of Experimental Philosophy in the Early Qing Court," in Luís Saraiva (ed.), Europe and China: Science and Arts in the 17th and 18th Centuries, Singapore, World Scientific Publishing, 2012, pp. 203-224.
 "Reforming Astronomy and Compiling Imperial Science: The Social Dimension of the Yuzhi lixiang kaocheng houbian," East Asian Science, Technology and Medicine, 28 (2008): 47-73.
• "The Yuzhi lixiang kaocheng houbian in Korea," in Luís Saraiva and Catherine Jami (eds.), The Jesuits,
 the Padroado and East Asian Science (1552-1773), Singapore: World Scientific, 2008, pp. 205-229. "Nikolaus Smogulecki and Xue Fengzuo's <i>Tianbu zhenyuan</i>: Its Production, Publication, and Reception," East Asian Science, Technology and Medicine, 27 (2007): 62-124.
• Shi Yunli and Xing Gang, "The First Chinese Version of the Newtonian Tables of the Sun and Moon," in Kwan-yu Chen et al. (eds.), <i>Proceedings of the Fifth International Conference on Oriental Astronomy</i> , Chiang Mai: University of Chiang Mai Press, 2006, pp. 91-96.
 "Aristotle's <i>De Caelo</i> in China: A Brief Review of the Classic <i>Huan you quan</i>," in Kwan-yu Chen and Sun Xiaochun (eds.), <i>Frontiers of Oriental Astronomy</i>, Beijing: China Science and Technology Press, 2006, pp. 154-159.
 "The Eclipse Observations Made by Jesuit Astronomers in Beijing: A Reconsideration," <i>Journal of the History of Astronomy</i>, 31 (2000): 136-147.

1. Present Occupation

Institute for the History of Natural Sciences, Chinese Academy of Sciences Professor Prof. Dr.

2. Educational experience

- **2005 Ph. D. History of Science**, Institute for the History of Natural Sciences, CAS (Supervisors: Prof. Han Qi and Prof. Liu Dun).
- 2002 M.A. History and Philosophy of Science, Peking University (Supervisor: Prof. Yuan Jiangyang).
- 1997 B.S. Geography, Lanzhou University.

3. Scientific research and academic work experience

- Since 2018: Professor, Institute for the History of Natural Sciences, CAS.
- **2010-2018:** Associate Professor, Institute for the History of Natural Sciences, CAS.
- Since 2016: Associate Editor in Chief, *Ziran kexueshi yanjiu* 自然科学史研究 (Studies in the History of Natural Sciences).
- 2005-2009: Assistant Professor, Institute for the History of Natural Sciences, CAS.

4. Host or participant in scientific research projects

- **2012-2015:** Director of the Research Project "The Transmission and Transformation of Western Natural Philosophy in Late Ming and Early Qing China" (IHNS, CAS).
- 2012-2015: Director of the Research Project "Western Scientific Instrument in China (1600-1800)" (IHNS, CAS).
- **2005-2012:** Research Assistant of National Project for the Recompilation of Qing Dynasty History, History of Science and Technology.

- 《观念的交织:明清之际西方自然哲学在中国的传播》 (The Intercultural Weaving of Ideas: The Transmission and Transformation of Western Natural Philosophy in Late Ming and Early Qing China), Guangzhou: Guangdong renmin chubanshe, 2018.
- 清宫西洋仪器的收藏、分等与新知传播:以《仪器总说》为中心 (The Collection, Classification of Western Scientific Instruments in the Qing Court and the Dissemination of New Knowledge in China: *Yiqi zongshuo* as a Case Study), 科学文化评论 (Science & Culture Review), 14.6 (2017): 55-67.
- "The Dissemination and Influence of the Three-Region Theory in Seventeenth- and Eighteenth-Century China," *Chinese Annals of History of Science and Technology*, 1.2 (2017): 71-93.
- 明末传华的水晶球宇宙体系及其影响 (The Transmission of Crystalline Spheres Theory to Late Ming China and Its Influence), 自然科学史研究 (Studies in the History of Natural Sciences), 30.2 (2011): 170-187.
- 明清之际西方光学知识在中国的传播及其影响: 孙云球《镜史》研究 (The Diffusion and Impact of Western Optical Knowledge in Late Ming and Early Qing: A Study of Sun Yunqiu's *Jingshi*), 自然科学 史研究 (Studies in the History of Natural Sciences), 26.3 (2007): 363-376.
- **Zhu Kezhen Junior Award**, International Society for the History of East Asian Science, Technology, and Medicine (ISHEASTM), 2011.

Short CV Prof. TANG Kaijian 湯開建

1. Present Occupation

Ji'nan University, Institute of Chinese Culture and Ancient History Source, Guangdong Professor (retired)

2. Educational experience

• M.A. History, Lanzhou University, Lanzhou

3. Scientific research and academic work experience

- Since 2019: Professor (retired), Ji'nan University, Guangdong.
- 2008-2019: Professor, University of Macau.
- 1986-2008: Professor, Ji'nan University, Guangdong.
- **1982-1985:** Northwest Minzu University, Lanzhou.

4. Host or participant in scientific research projects

- 2017-2019: Research on Macao History in Qing Dynasty (1658-1846), MYRG project of University of Macau.
- 2012-2014: "The Global Documentation Studies for The Macaology," MYRG project of University of Macau.
- 2011-2013: "Western Culture in Macau, 16th-19th Century: Diffusion and Influence", MYRG project of University of Macau.
- 2010-2012: Research on Macau Modern City Development and Evolution, MYRG project of University of Macau.
- 2003-2005: "Scheut Missions in the Northwest of China in Late Qing Dynasty," project of Ferdinand Verbiest Institute.

- 《利瑪竇明清中文文獻資料匯釋》(Compilation and Interpretation of Chinese Literature on Matteo Ricci in Ming and Qing Dynasties), Shanghai: Shanghai Ancient Books Publishing House, 2017.
- 《天朝異化之角: 16-19 世紀西方文明在澳門》(A Touch of Alienation in the Celestial Empire: Western Civilization in Macau, 16-19 Centuries), Ji'nan: Ji'nan University Press, 2016.
- Setting Off from Macau: Essays on Jesuit History during the Ming and Qing Dynasties, Leiden, Boston: Brill, 2015.
- 《被遺忘的"工業起飛":澳門工業發展史(1557-1941)》 (The Forgotten Industrial Take-off: Industrial History of Macau (1557-1941), Aomen: Institudo Cultural do Governo da Macau, 2014.
- 《明清天主教史論稿二編——聖教在中土》 (Essays on Catholic History during the Ming and Qing Dynasties: Catholic in China), second volume, Aomen: University of Macau Publications Center, 2014.
- 《党項西夏史探微》 (Exploration of History of Xixia in Dangxiang), Beijing: The Commercial Press, 2013.
- 《唐宋元間西北史地叢稿》 (Essays on the History and Geography of Northwest in Tang, Song and Yuan Dynasties), Beijing: The Commercial Press, 2013.
- 《明清天主教史論稿初编——从澳门出发》 (Essays on History of Catholicism in Ming and Qing Dynasties), first series, Aomen: University of Macau Press Center, 2012.
- 《明代澳門史論稿》 (Essays on History of Macau in Ming Dynasty), Harbin: Heilongjiang Education Press, 2012.
- 《宋金時期安多吐蕃部落史研究》 (Researches on the History of Tubo Tribe in Amdo in Song and Jin Periods), Shanghai: Shanghai Classics Publishing House, 2006.

Short CV Prof. Dr. TIAN Miao 田淼

1. Present Occupation

Researcher, CAS Institute for the History of Natural Sciences Professor

Prof. Dr.

2. Educational experience

- **1994-1997 Ph.D. History of Science**, Institute for the History of Natural Sciences, CAS (Supervisor: Guo Shuchun).
- **1989-1992 Graduate Student, History of Mathematics,** Department of Mathematics, Tianjin Normal University (Supervisor: Li Zhaohua).
- 1983-1987 Under-graduate Student, Department of Mathematics, Tianjin Normal University.

3. Scientific research and academic work experience

- 2010-present: Researcher, Institute for the History of Natural Sciences, CAS.
- 2004-2005: Andrew W. Mellon Foundation Fellow, Needham Research Institute.
- April 2003-July 2003: Guest Professor, Erlangen University.
- 2001-2002: Post-Doc, Paris 7th University, collaboration with Prof. Karine Chemla.
- 2000-2010: Associate Researcher, Institute for the History of Natural Sciences, CAS.
- 2000-2001: Post-Doc, Technology University Berlin, collaboration with Prof. E. Knobloch.
- 1997-1999: Assistant Researcher, Institute for the History of Natural Sciences, CAS.

4. Host or participant in scientific research projects

- 2015-present: Chinese and Jesuits Savants: Between the Old and the New Science.
- 2010-2015: Scientific and Technological Revolution and National Modernization, CAS project.
- Febr. 2009-Aug. 2009: Senior Fellow, TOPOI, 0264, Max Planck Institute for the History of Science.
- **2002-2008**: Mechanical Knowledge in China and its Interaction with other Traditions. Partner group project of Max-Planck Institute for History of Science in CAS.

5. Representative publications (up to 10), research results and academic awards

Book in Chinese:

- Zhang Baichun, Tian Miao, Matthias Schemmel, Juergen Renn, and Peter Damerow,《传播与会通— 《奇器图说》研究与校注》 (Transmission and Integration: *Qiqi tushuo* (Illustrations and Descriptions of Extraordinary of Devices): New Research and Annotated Edition),Nanjing: Jiangsu kexue jishu chubanshe, 2008.
- 《中国数学的西化历程》 (The Westernization of Mathematics in China), Ji'nan: Shandong Jiaoyu Press, 2005.

Papers (in English):

- "The Early Stage of the Professionalization and Institutionalization of Mathematics in Late 19th Century China," *Chinese Annals of History of Science and Technology*, 2.1(2018): 1-33.
- "A Formal System of *Gougu* Method: A Study on Li Rui's *Detailed Outline of Mathematical Procedures* for the Right-angled Triangle," in Karine Chemla (ed.), *The History of Mathematical Proof in Ancient Traditions*, Cambridge: Cambridge University Press, 2012, pp. 552-573.
- Zhang Baichun and Tian Miao, "Archimedean Mechanical Knowledge in 17th Century China," in Stephanos A. Paipetis, Marco Ceccarelli (eds.), *The Genius of Archimedes–23 Centuries of Influence on Mathematics, Science and Engineering*, Dordrecht: Springer, 2010, pp.189-205.
- Tian Miao, and Zhang Baichun, "The Development of Knowledge Concerning Lever in China," in Hong-Sen Yan and Marco Ceccarelli (eds.), *International Symposium on History of Machines and Mechanisms, Proceedings of HMM2008*, Dordrecht: Springer, 2009, pp. 251-268.
- "Mechanical Knowledge in Ancient Chinese Cosmology," in Zhang Baichun and Jürgen Renn (eds.), *Transformation and Transmission: Chinese Mechanical Knowledge and the Jesuit Intervention*, Berlin: Max Planck Institute for the History of Science (Preprint; 313), 2006, pp. 37-48.
- "The Transmission of European Mathematics in the Kangxi Reign (1662-1722)—Looking at the International Role China Could Play from an Historical Perspective," in Heinz-Dieter Assmann and Karin Moser von Filseck (eds.), *China's New Role in the International Community: Challenges and Expectations for the 21st Century*, Frankfurt am Main, New York: Peter Lang, 2005, pp. 217-234.

1. Present occupation

Research Fellow, Axe for History of Western Sciences and Technology, Institute of History for Natural Sciences, Chinese Academy of Sciences Assistant Professor

Dr.

2. Educational experience

- **2017 Ph.D. Epistemology**, History of Sciences, University of Paris 7 (Supervisor: Prof. Dr. Karine Chemla).
- **2011 M.A. History of Sciences**, Department of Mathematics, Northwest University in Xi'an (Supervisor: Prof. Dr. Qu Anjing).

3. Scientific research and academic work experience

• Since 2018: Research Fellow in IHNS-CAS.

4. Host or participant in scientific research projects

• **Since 2018:** Participation in the research programme "The Jesuits' Scientific Practices in Europe and in China."

5. Representative publications (up to 10), research results and academic awards

My studies have been focusing on the development of mathematical analysis at the *Ecole Polytechnique* since its establishment. In my work, I examine the courses on mathematical analysis that were taught there during its first years from historical and historiographical perspectives. Due to the use of the different ways to deal with the texts as well as with manuscripts, my research achieved some new results in the study of the history of mathematical analysis.

Presently preparing articles for publication based on the studies which I had undertaken for my doctoral thesis, titled "The Teaching of Mathematical Analysis at the Ecole Polytechnique 1795-1809."

Short CV Dr. YANG Lijuan 杨丽娟

1. Present occupation

Institute for the History of Natural Sciences, CAS Assistant Professor Dr.

2. Educational experience

- **2014-2017: Ph.D. History of Sciences**, Institute for the History of Natural Sciences, CAS (Supervisor: Prof. Dr. Han Qi).
- **2011-2014: M. A. History of Sciences**, Institute for the History of Natural Sciences, CAS (Supervisor: Prof. Dr. Han Qi).
- 2007-2011: B.E. Biology Science and Technology, Jilin University.

3. Scientific research and academic work experience

• Since 2017: Assistant Research Fellow at the Institute for the History of Natural Sciences, CAS.

4. Host or participant in scientific research projects

- 2017-2020: "Research on the History of Geology of Modern China."
- 2012-2015: "Research on the Localization of Geology in China" of Chinese Academy of Sciences.

- "The Study of the Chinese Translation of 'Fossil'", Geological Review, 65.1 (2019): 25-28.
- "The Introduction of Geology into Late Qing China: A Case Study of the Geological Textbooks Translated from Japanese," *Studies in the History of Natural Sciences*, 35.3 (2016): 311-319.
- "William Muirhead's *Dili quanzhi* and the Early Transmission of Western Geology in China," *Studies in the History of Natural Sciences*, 35.1 (2016): 48-60.
- Yang Lijuan and Han Qi, "A New Study of the Earliest Chinese Translation of 'Ordovician'," *Fossils*, 4 (2016): 34-35.
- Yang Lijuan and Han Qi, "The Introduction of English Geology Textbooks into Late Qing China——A Case Study of the Commercial Press New Text Book Series of Geology," *The Chinese Journal for the History of Science and Technology*, 35.3 (2014): 316-331.

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1. Present Occupation Capital Normal University, Department of Physics University Professor Prof. Dr. 2. Educational experience 2007 Ph.D. History of Science and Technology, Institute for the History of Natural Science, Chinese Academy of Sciences, "Firearm-making Technology and Knowledge about Trajectory Introduced into China from the West in the 16-17th Centuries" (Supervisor: Prof. Dr. Zhang Baichun). 1999 M.A. History of Science, Capital Normal University (Supervisor: Prof. Shen Xianjia). 1996 B.Sc. Dept. of Physics, Inner Mongolia University for Nationalities (Supervisor: Prof. Dr. Yu Shaoying). 3. Scientific research and academic work experience Since 2016: Chair Professor for History and Science and Technology, Department of Physics, Capital Normal University. 2015, 2018: Senior Visiting Scholar, Max–Planck Institute for the History of Science, Berlin, Germany. 2010: Senior Visiting Scholar, Andrew Mellon Foundation at the Needham Research Institute, Cambridge, UK. 2007-2008: Post-doctoral studies at Max-Planck Institute for the History of Science, Berlin, Germany (Supervisor: Prof. Dr. Jürgen Renn), worked on "The History and Foundation of Quantum Theory." 4. Host or participant in scientific research projects 2017-2020: Leader of the Max Planck Partner Group at CNU (Capital Normal University), "Transmission and Interactions in Chinese Modern Physics." 2012-2015: Director of the NSFC research group "The Transmission and Development of Quantum Mechanics in China (1900-1950)." 2010-2013: Director of the NSFC research group "The Academic Activities of Chinese Physicists

- Educated in Europe in First Half of 20th Century."
- 2002-2007: Member of Max Planck Institute for the History of Science, at the Institute for the History of • Natural Sciences, in the project "Mechanical Knowledge in China."

- "The European Source of Firearm Knowledge in Binglu (Records of Military Art 兵录)," Chinese Annals of History of Science and Technology, 2 (2017):1-17.
- Yin Xiaodong and Zhou Jinrui. 七位早期女物理学家留学活动分析 (Analysis of Seven Female • Physicists Studying Abroad), 大学物理 (University Physics), 36.9 (2017): 49-56.
- Yin Xiaodong, Fu Sen and Li Yanping, 《躬行出真知——王守觉传》(A Biography of Wang Shoujue), Beijing: Zhongguo kexue jishu chubanshe, 2016.
- Yin Xiaodong and Wang Fuhe, 《物理学与世界进步》 (Physics and World Progress), Hefei: Anhui jiaoyu chubanshe, 2015.
- Yin Xiaodong and Zhu Zhongyuan, "Chang's Contribution to the Quantization of Constrained • Hamiltonian System," Traditional and Transformations in the History of Quantum Physics, (2013): 249-268.
- 17 世纪中国的瞄准技术与弹道学知识 (China's Aiming Technology and Ballistics Knowledge in the • 17th Century), 力学与实践 (Mechanics in Engineering), 31.5 (2009): 96-99.
- "Western Cannons in China in the 16th-17th Centuries," Journal of the International Committee for the • History of Technology, 14 (2008): 41-61.
- "Influences of Western Military Technology and Mechanics on Chinese Ballistics," Preprint of Max-Planck-Institut für Wissenschaftsgeschichte, 8 (2006):127-138.
- "Chinese Physicists Educated in the Great Britain during the First Half of the 20th Century," March • Meeting 2014, American Physical Society, March 062014, Denver, U.S.A; awarded the Beller Lectureship of American Physical Society (APS Beller Lectureship).
- "A Case Study on Transmission to China of Western Technology of Firearms in 17th Century." The 6th International Conference of ESHS, Sep. 06, 2014, Lisbon, Portugal.

1. Present occupation

Institute for the History of Natural Sciences (IHNS), Chinese Academy of Sciences(CAS) Professor and Director

Prof. Dr.

2. Educational experience

- **1999 Ph.D. History of Science and Technology**, Institute for the History of Natural Sciences, CAS (Technische Universität Berlin, April 1996-March 1998) (Supervisors: Professor Xi Zezong, Professor Chen Jiujin, Professor Eberhard Knobloch).
- **1990 M.S. History of Science and Technology**, IHNS (Supervisors: Professor Hua Jueming, Professor Lu Jingyan, Professor Zhou Shide).
- **1983 B.E. Mechanical Engineering**, Inner Mongolia Engineering College (Supervisor: Prof. Jiang Zifan).

3. Scientific research and academic work experience

- Since 1990: Director (since 2009); Deputy Director (2005-2009), Professor (since 2000), Associate Professor (1994-1999), Institute for the History of Natural Sciences, CAS.
- 2000-2001: Visiting Scholar in History of Science, Max-Planck-Institut für Wissenschaftsgeschichte.
- **1983-1987:** Assistant Engineer and Works Superintendent, Beijing Huadu Corporation.

4. Host or participant in research projects (only most recent and relevant ones)

- **Since 2017:** Editor-in-chief of the journal *Chinese Annals of History of Science and Technology*, supported by CAS (Second editor-in-chief: Jürgen Renn).
- **Since 2016:** Editor-in-chief of the History of Science and Technology Volume of the third edition of *Encyclopedia of China* as a national program.
- **2011-2015:** Leader of the CAS research project "Scientific Revolutions, Technological Revolutions and the Modernization of Nations."
- 2011-2014: Main Collaborator of the DFG research project "Making Technology Appropriate Technology Transfer from Germany to China: The Case of Steam and Ordnance Technologies, 1860-1980."
- **2006-2010:** Leader of the CAS research project "Comparative Studies of the Development of Science and Technology between China and the West."
- **2001-2006:** Head of the Partner Group of Max Planck Institute for the History of Science at the IHNS: "The Chinese Tradition of Mechanical Knowledge and Its Interaction with Other Cultures (Ancient Time and Early Modern Time)."
- **1999-2004:** Leader of the Machinery Volume of the CAS research project "Traditional Chinese Arts and Crafts."

- Zhang Baichun, and Marco Ceccarelli (eds.), *Explorations in the History and Heritage of Machines and Mechanism*, Cham: Springer, 2019.
- Zhang Baichun (ed.), 《技术转移与技术创新历史丛书》 (Book Series on the History of Technology Transfer and Innovation in Modern China), 8 volumes, Ji'nan: Shandong Education Press, 2012-2014.
- Zhang Baichun, Tian Miao, Matthias Schemmel, Jürgen Renn, and Peter Damerow, 《传播与会通----《奇器图说》研究与校注》 (Transmission and Integration: *Qiqi Tushuo* (Illustrations and Descriptions of Extraordinary Devices): New Research and Annotated Edition), Nanjing: Jiangsu Science and Technology Press, 2008.
- Zhang Baichun, Zhang Zhizhong, Feng Lisheng, Qian Xiaokang, Li Xiuhui, and Jürgen Renn, 《中国 传统工艺全集·传统机械调查研究》 (Complete Collection of Traditional Arts and Crafts: Investigations of Traditional Chinese Machines), Zhengzhou: Daxiang Press, 2006.
- Zhang Baichun, and Jürgen Renn (eds.), *Transformation and Transmission: Chinese Mechanical Knowledge and the Jesuit Intervention*, Berlin: Max-Planck-Inst. für Wissenschaftsgeschichte, 2006.
- 《明清测天仪器之欧化》 (The Europeanization of Astronomical Instruments during the Ming and Qing China), Shenyang: Liaoning Education Press, 2000.
- 《中国近代机械简史》 (A Brief History of Modern Machinery in China,1840-1949), Beijing: Beijing Institute of Technology Press, 1992.

1. Present occupation

National Library of China (Beijing), Branch Library (Department of Rare Books and Special Collections), Section of Rare Books in Foreign Languages Section Chief, Associate Research Librarian Dr.

2. Educational experience

- **2015 Ph.D. History of Sino-Western Relationship in Pre-modern China**, Department of History, Peking University (Supervisor: Prof. Rong Xinjiang).
- 2006 M.A. Chinese History, Institute of Chinese History, Chinese Academy of Social Science (Supervisor: Prof. Wu Liyu).
- **2003 B.A. History**, Department of History, Northeast Normal University (Supervisor: Prof. Ren Shuang).

3. Scientific research and academic work experience

- Since 2018: Chief of the Section of Rare Books in Foreign Languages, Branch Library, National Library of China.
- 2011-2017: Chief of the Section of Promotion on Chinese Classics, Branch Library, National Library of China.
- **2008-2012:** Project Leader of "Selection of Rare Books in Foreign Languages" in the National Library of China.

4. Host or participant in scientific research projects

- Since 2017: Collation and research of the Dunhuang manuscripts on Funeral Orations (*jiwen* 祭文), funded by the National Social Science Fund of China. It focuses on the cultural interaction between Chang'an and Dunhuang in the 8th-12th centuries, via the materials of funeral orations kept in the Dunhuang manuscripts and other historical documents.
- **2014-2016:** Research Project on Christian Books in Chinese in Pre-modern China kept in the National Library of China, funded by the National Library of China.

- 不曾忘却:北堂图书馆旧藏汉文古籍 (Treasures Never Forgotten: The Chinese Pre-modern Books in the Beitang Library),中国典籍与文化 (Chinese Classic and Culture), 2 (2019): forthcoming.
- 入华耶稣会士与南堂书 (The Jesuits who Came to China in the Late Ming Dynasty and the Formation of Nantang Library), 明史研究 (Studies on the History of Ming Dynasty), 15 (2017): 249-281.
- 方寸存真——北堂书的藏书票与藏书签 (Tracing Back the History of Beitang Library by Seals and Labels), 文献 (Documentation), 5 (2016): 3-49.
- 北堂图书馆藏书的分流——1958 年以后 (The Diversion of Beitang Library since 1958), 国际汉学研究 通讯 (Newsletter of International Chinese Studies), 12 (2016): 203-228.
- 精致的馈赠——从装帧看明清北京基督教团西文藏书的来源及其保护修复 (Delicate Presents: The Origin and Repair of Western Books in the Jesuit Library in the Ming and Qing Dynasty by the Book Bindings), 中国典籍与文化 (Chinese Classic and Culture), 4 (2016): 89-101.

Short CV Dr. ZHENG Cheng 郑诚

1. Present Occupation

Chinese Academy of Sciences (CAS), Institute for the History of Natural Sciences (IHNS) Associate Professor

Dr.

2. Educational experience

- **2012 Ph.D. History of Science**, Institute for the History of Natural Sciences, CAS (Supervisor: Prof. Dr. HAN Qi).
- **2007 M.S. History of Science and Technology**, Department for the History and Philosophy of Science, Shanghai Jiao Tong University (Supervisor: Prof. Dr. JIANG Xiaoyuan).
- 2004 B.S. Environmental Science, Beijing Forestry University.

3. Scientific research and academic work experience

- Since 2015: Associate Professor, Institute for the History of Natural Sciences, CAS.
- 2012-2015: Assistant Professor, Institute for the History of Natural Sciences, CAS.

4. Host or participant in scientific research projects

- **2019-2020**: Director of the IHNS research project "Survey and Research: The pre-1800 Chinese Firearms Collections."
- **2015-2018**: Director of the Youth Innovation Promotion AssociationCAS research project "War, Technology, and Society."
- 2013-2020: Member of the IHNS research project "Selection of Classical Works on Chinese Science and Technology."

- 《明清稀见兵书四种》 (A Critical Edition of Four Rare Military Books during the Ming-Qing Period),2 vols., edited by Zheng Cheng, Changsha: Hunan Science and Technology Press (Selection of Classical Works on Chinese Science and Technology; 3), 2018, 816 pp.
- 《李之藻集》 (Anthology of Li Zhizao), compiled by Zheng Cheng, Beijing: Zhonghua Book Co., 2018, 228 pp.
- "The Introduction of European Fortification in the Late Ming Period," *Chinese Annals of History of Science and Technology*, 1.2 (2017): 18-70.
- 《武经总要前集》 (A Critical Edition of *Wujing zongyao qianji* [Complete Essentials of the Military Classics: Part One]), 3 vols., edited by Zheng Cheng, Changsha: Hunan Science and Technology Press (Selection of Classical Works on Chinese Science and Technology; 2), 2017, 1325 pp.
- 《澹生堂读书记澹生堂藏书目》 (The Selected Essays, Letters, and Diaries of the 17th Century Bibliophile Qi Chenghan and the Catalogue of his Library), 2 vols., compiled by Zheng Cheng, Shanghai: Shanghai Guji Press, 2015,744 pp.
- 《发熕考——16世纪传华的欧式前装火炮及其演变》 (The Introduction and Development of European Cannon [Fagong] in the 16-17th Century China), 自然科学史研究 (Studies in the History of Natural Sciences), 32.4 (2013): 504-522.
- 《祝融佐理》考——明末西法炮学著作之源流 (A Study of '*Zhu Rongzuoli*': Artillery Handbook in Late Ming), 自然科学史研究 (Studies in the History of Natural Sciences), 31.4 (2012): 457-483.

Short CV Dr. ZHOU Wenli 周文丽

1. Present occupation

Chinese Academy of Sciences, Institute for the History of Science and Technology, Department of History of Science and Technology in Pre-Modern China Associate Prof.

Dr.

2. Educational experience

- **2012 Ph.D. Archaeometallurgy**, Institute of Archaeology, University College London (Supervisors: Prof. Dr. Marcos Martinon-Torres, Thilo Rehren, Paul Craddock and Prof. Dr. Chen Jianli).
- **2008 M.A. Archaeometallurgry**, School of Archaeology and Museology, Peking University (Supervisor: Prof. Dr. Chen Jianli).
- **2005 Bachelor Conservation**, School of Archaeology and Museology, Peking University (Supervisor: Prof. Dr. Zhang Xiaomei).

3. Scientific research and academic work experience

- Since 2014: Associate Professor, Chinese Academy of Sciences, Institute for the History of Science and Technology.
- **2013-2014:** Assistant Professor, Chinese Academy of Sciences, Institute for the History of Science and Technology.

4. Host or participant in scientific research projects

- **2016-2020:** Director of the Major Breakthrough Project at Institute for the History of Science and Technology "Study of Crucible Smelting Technology in Ancient China."
- **2015-2017:** Director of National Natural Science Foundation Youth Project "Preliminary Study of Crucible Lead Smelting Technology in Ancient China."

- 《湖南桂阳冶金史资料汇编》 (Compilation of References of History of Metallurgy in Guiyang, Hunan), Changsha: Hunan renmin chubanshe, 2019.
- The Technology of Large-Scale Zinc Production in Chongqing in Ming and Qing China, Oxford: BAR publishing, 2016.
- 中国古代冶金用坩埚的发现与研究 (Discovery and Study of Metallurgical Crucibles in Ancient China), 自然科学史研究 (Studies in the History of Natural Sciences), 3 (2016): 358-370.
- 中国传统坩埚炼铅技术初探 (A Preliminary Study of Traditional Chinese Crucible Lead Smelting Technology), 自然科学史研究 (Studies in the History of Natural Sciences), 2 (2014): 201-215.
- "Not so Efficient, but Still Distilled: The Technology of Qing Dynasty Zinc Production at Dafengmen, Chongqing, Southwest China," *Journal of Archaeological Science*, 3 (2014): 278-288.
- "Distilling Zinc for the Ming Dynasty: The Technology of Largescale Zinc Production in Fengdu, Southwest China," *Journal of Archaeological Science*, 4 (2012): 908-921.
- "Three Western Zhou Bronze Foundry Sites in the Zhouyuan Area, Shaanxi Province, China," in Jianjun Mei and Thilo Rehren (eds.), *Metallurgy and Civilisation: Eurasia and Beyond*, London: Archetype, 2009, pp. 62-72.

Center for Chinese-German Social-Cultural Exchange of Tongji University Shanghai Distinguished Professor, Researcher

Prof. Dr.

2. Educational experience

- **1999 Habilitation Sinology**, Faculty of Philosophy, University of Bonn (Supervisors: Prof. Dr. Wolfgang Kubin, Prof. Dr. Rolf Trauzettel et al.).
- **1993 Ph.D. Sinology**, Faculty of Philosophy, University of Bonn (Supervisors: Prof. Dr. Wolfgang Kubin, Prof. Dr. Rolf Trauzettel).
- **1989 Master (Diploma) in Translation (Chinese/Indonesian)**, Seminar for East Asian Languages, University of Bonn (Supervisor: Prof. Dr. Wolfgang Kubin)

3. Scientific research and academic work experience

- Since 2018: Professor at Tongji University in Shanghai.
- 2012-2018: Professor at University of Shanghai for Science and Technology (USST).
- 2009-2012: Interim Professor for "Chinese Culture," University of Cologne.
- **2003-2009**: Vice Director Chinese German School for Postgraduate Studies, Tongji University, Shanghai.
- 1995-2003: Research Assistant at the Department of Chinese Studies, University of Bonn.
- 1994-1995: Work on the classical Chinese novel as part of a DFG-funded research project.
- 1989-1994: Assistant at the Seminar for East Asian Languages, University of Bonn.

4. Host or participant in scientific research projects

• Febr. 1994-Febr. 1995: Work on the classical Chinese novel as part of a DFG-funded research project.

- Erwachen aus dem Koma? Eine literarische Betrachtung des heutigen Chinas [Awaking From Coma? A Literary Contemplation of Today's China], Baden-Baden: Tectum Verlag, 2017, 510 pp.
- "Early Translations of Chinese Literature into German: The Example of Wilhelm Grube (1855-1908) and his Translation of *Investiture of the Gods*," in Lawrence Wang-chi Wong and Bernhard Fuehrer (eds.), *Sinologists as Translators in the Seventeenth to the Nineteenth Centuries*, Hong Kong: The Chinese University Press, 2015, pp. 355-384.
- "Frühe chinesische Moderne-Erfahrungen beider Begegnung mit dem Westen [China's Early Experience of Modernity in Contacts with the West],"in Walter Pape, Susanne Preuschoff, Wei Yuqing and Zhao Jin (eds.), *China und Europa* [China and Europe], Berlin/Boston: De Gruyter (Chinese-Western Discourse; 2), 2014, pp. 117-132.
- "Geographical Concepts of Space in China and the Influence of *Xiyang ji*," in Shi Ping and Roderich Ptak (eds.), *Studies of the Novel* Sanbao taijian Xiyang ji tongsu yanyi, Wiesbaden: Harrassowitz (Maritime Asia; 23), 2011, pp. 39-54.
- Der chinesische Roman der ausgehenden Kaiserzeit [The Full-Length Novel in Late Imperial China], Vol. 2, edited by Wolfgang Kubin, München: K.G. Saur (History of Chinese Literature; 2), 2002, 976 pp. Chinese version 《皇朝末期的长篇小说》, Shanghai: Huadong shifan daxue, 2012.
- Baihua Zum Problem der Verschriftung gesprochener Sprache im Chinesischen [Baihua How Chinese Tradition Puts Spoken Language Into Writing: Illustrated Through the Example of Morphological Characteristics of the Bianwen from Dunhuang], St. Augustin: Monumenta Serica, 1999, 287 pp.

Participants from Germany

Short CV Patrick Aberle, B.A., M.A. candidate 李理克

1. Present Occupation

University of Tübingen, Institute of Asian and Oriental Studies, Department of Chinese Studies B.A., M.A. candidate

Ambulance Health Innovation Agency GmbH Full-Stack Android Developer

2. Educational experience

- Since 2017 M.A. candidate in Sinology/Chinese Studies at the Department of Chinese Studies, University of Tübingen. "State of the Art Measuring Techniques in late Ming China: The *Celiang fayi* 測量法義 (Methods and Meanings of Measurement, 1608)" (Supervisor: Prof. Dr. Hans Ulrich Vogel) (in progress).
- Since 2017 B.A. student in Informatics, University of Tübingen.
- 2017 B.A. Sinology/Chinese Studies and Business Administration, University of Tübingen: "Eine Analyse der Dichotomie zwischen den Interpretationen der daoistischen *bigu* 避谷 Technik als Getreideabstinenz und als Lichtnahrung" [Analyzing the Dichotomy of Interpreting the Taoist *bigu* 避谷 Technique as Grain Abstinence and Breatharianism] (Supervisor: Yasmin Koppen M.A., Junior Lecturer).

- Since 2018: Associated Member of the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China: Convergences and Divergences in the Light of the *Kunyu gezhi* 坤輿格致 (Investigations of the Earth's Interior; 1640) and the *Taixi shuifa* 泰西水法 (Hydromethods of the Great West; 1612)," directed by Prof. Dr. Hans Ulrich Vogel.
- **Since 2017: Student Assistant** at the Department of Chinese Studies of Tübingen University: Translation assistance (Chair of Jun. Prof. Fei Huang).

1. Present occupation
Goethe-University, Frankfurt am Main
Professor for Chinese Studies Prof. Dr.
2. Educational experience
2005 Habilitation Sinology, Department of Chinese Studies, University of Erlangen-Nuremberg
(Supervisor: Prof. Dr. Michael Lackner).
• 1999 Ph.D. Sinology , Faculty of Philosophy, Free University Berlin (Supervisor: Prof. Dr. Erling von
 Mende). 1992 M.A. Sinology, University Bonn (Supervisor: Prof.Dr. Rolf Trauzettel).
 1992 M.A. Sinology, University Bonn (Supervisor: Prof.Dr. Rolf Trauzettel). 3. Scientific research and academic work experience
 2012-2014: Dean Faculty of Languages, Cultures and Arts, Goethe-University.
 2012-2014. Dean Faculty of Languages, Cultures and Arts, Goethe-Oniversity. 2011: Visiting Professor for Senior International Scientists, Chinese Academy of Science, Peking.
• Since 2007: Professor for Chinese Studies Goethe-University, Frankfurt am Main.
• 2003-2007: Managing Director, European Centre for Chinese Studies at Peking University.
 2004-2005: Substituting as Professor for Chinese Studies, University of Tübingen. 2000-2003: Non-tenured Research Associate and Research Assistant at Institute of Chinese Studies,
University of Erlangen-Nuremberg.
• 1996-2000: Non-tenured Research Associate, Technical University Berlin (Project: Chinese as a
Scientific Language).
 1995-1996: Non-tenured Research Associate, University of Göttingen. 4. Host or participant in scientific research projects (major projects only)
 2014-2019: DFG-CRC SFB 1095: Schwächediskurse und Ressourcenregime, Speaker since 2017. 2014-2019: DFG Research Training Group 1576 "Value and Equivalence," member.
 2014-2018: Volkswagen Foundation "Protecting the Weak in East Asia," applicant and PI.
5. Representative publications (up to 10), research results and academic awards
● Ameilong 阿梅龍 (Iwo Amelung); Sun Qing 孙青 (transl.), 《真实与建构〕中国近代史及科技史新探》
(Construction of Authentic Language: A New Probe into Chinese Modern History and History of
Science and Technology), Beijing: Shehui kexue wenxian chubanshe, 2019.
• Amelung, Iwo, together with Moritz Bälz, Heike Holbig, Matthias Schumann, and Cornelia Storz (eds.), Protecting the Weak in East Asia: Framing, Mobilisation and Institutionalisation, London: Routledge,
2018.
"Historiography of Science and Technology in China: The First Phase," in Jing Tsu and Benjamin Else and Carley Designed and Technology in China: 10002, 10
Elman (eds.), <i>Science and Technology in Modern China, 1880s-1940s</i> , Leiden, Boston: Brill, 2014, pp. 39-65.
• "La ricezione in Cina del telescopio e dell'ottica occidentale" (The Reception of the Telescope and
Western Optics in China), in A. Peruzzi (ed.), <i>Planeta Galileo 2009</i> , Firenze: Consiglio regionale della
 Toscana, 2010, pp. 383-398. "New Maps for the Modernizing State: Western Cartographic Knowledge and its Application in 19th
and 20th Century China," in Francesca Bray, Vera Lichtman and Georges Metailie (eds.), Graphics
and Text in the Production of Technical Knowledge in China: The Warp and the Weft, Leiden: Brill
 (Sinica Leidensia; 79), 2007, pp. 685-726. "Preliminary Observations on 'Regulations and Precedents Related to River Hydraulics' (<i>Hegong zeli</i>)
during the Qing Dynasty," in Hans Ulrich Vogel, Christine Moll-Murata and Song Jianze (eds.),
Chinese Handicraft Regulations of the Qing Dynasty: Theory and Application, München: Iudicium,
 2005, pp. 285-305. "Naming Physics: The Strife to Delineate a Field of Modern Science in Late Imperial China," in Michael
Lackner and Natascha Vittinghoff (eds.), <i>Mapping Meanings: Translating Western Knowledge into</i>
Late Imperial China, Leiden: Brill, 2004, pp. 381-422.
"Weights and Forces: The Introduction of Western Mechanics into Late Qing China," in Michael Lackner, Iwo Amelung and Joachim Kurtz (eds.), New Terms for New Ideas: Western Knowledge and
Lexical Change in Late Imperial China, Leiden: Brill, 2001, pp. 197-234,
• Der Gelbe Fluß in Shandong: Überschwemmungskatastrophen und ihre Bewältigung im China der
späten Qing-Zeit, Wiesbaden: Harrassowitz (Opera Sinologica; 9), 2000.

University of Tübingen, Institute of Asian and Oriental Studies, Department of Chinese Studies Research Assistant and Project Collaborator Dr.

2. Educational experience

- **2012 Ph.D. Sinology/Chinese Studies**, Faculty of Humanities, University of Tübingen (*summa cum laude*) (Supervisor: Prof. Dr. Hans Ulrich Vogel).
- 2007 M.A. Ancient Chinese History, Department of History, Peking University (Supervisor: Prof. Dr. Guo Runtao).
- **2004 B.A. History and Economics**, Department of History and China Center for Economic Research, Peking University (Supervisor: Prof. Dr. Guo Runtao).

3. Scientific research and academic work experience

- **Since 2018:** Participation in the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China" directed by Prof. Dr. Hans Ulrich Vogel.
- **2018:** Guest scholar at the Ricci Institute for Chinese-Western Cultural History at the University of San Francisco.
- 2016: Visiting Fellow at the Institute for Humanities and Social Sciences (IHSS) at Peking University.
- 2014-2018: Academic Director at the European Centre for Chinese Studies (ECCS) at Peking University, PR China.
- Since 2012: Habilitation project "State, Market, and Cosmos: Metrology and Metrosophy in China during the Song Period (960-1279)."
- 2012-2014: Research Assistant at the Department of Chinese Studies, Tübingen University.
- **Since 2007:** Together with Prof. Hans Ulrich Vogel and Sabine Kink preparation of a textbook on official documents of the Qing period related to the largest counterfeiting case of that time.

4. Host or participant in scientific research projects

- **2018-2021:** with Sabine Kink main collaborator in the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China" directed by Prof. Dr. Hans Ulrich Vogel.
- **2015-2016:** Participant in the ANR research program DAMIN (Dépréciation de l'argent monétaire et les relations internationales Silver Monetary Depreciation and International Relations).
- **2006-2011:** Associated researcher in the DFG research group "Monies, Markets and Finance in China and East Asia, 1600-1900: Local, Regional, National and International Dimensions."

- Die Falschmünzerbande vom Alten Rabenhorst im Distrikt Tongzi, Guizhou (1794): Ein Lehrbuch zur chinesischen Dokumentensprache der Qing-Zeit (1644-1911) [The Counterfeiter Gang of the Old Crow's Nest in Guizhou (1794) in Texts and Contexts: An Introduction to Documents of the Qing Period], together with Prof. Dr. Hans Ulrich Vogel und Sabine Kink, 2 vols., 700 pp., forthcoming.
- "The Last Copper Century: Southwest China and the Coin Economy (1705–1808)", Asian Review of World Histories, 7 (2019): 126-146.
- "Routine Memorials and the Realities of Mining and Minting in Sichuan (1736-1882)", in Georges Depeyrot and Dennis Flynn (eds.), *From Underground to End-Users: Global Monetary History in Scientific Context*, Wetteren: Moneta, 2017, pp. 45-60.
- 《"累黍"與"指律": 中國古代度量衡思想述略》 (Of Millet Grains and Fingers: An Introduction to Ancient Chinese Metrosophy), 中國文化 (Chinese Culture), 46 (2017): 96-115.
- "The Chinese Way of Minting: Comparative Perspectives on Coin Production before Mechanization", in Ulrich Theobald and Cao Jin (eds.), *Southwest China in a Regional and Global Perspective (c. 1600 1911): Minerals, Metals, Transport, Trade and Money*, Leiden: Brill, 2017, pp. 184-223.
- Cao Jin, and Hans Ulrich Vogel, "Smoke on the Mountain: The Infamous Counterfeiting Case of Tongzi District, Guizhou Province, 1794", in Jane Kate Leonard and Ulrich Theobald (eds.), *Money in Asia (1200-1900): Small Currencies in Social and Political Contexts*, Leiden: Brill, 2015, pp. 188-219.
- Award for the best doctoral dissertation in the Department of Cultural Studies at Tübingen University, 2013.

University of Tübingen, Institute of Asian and Oriental Studies, Department of Chinese Studies B.A., M.A. candidate

2. Educational experience

- Since 2017 M.A. candidate in Sinology/Chinese Studies at the Department of Chinese Studies, University of Tübingen. "Western Trigonometry in Late Ming China: Johann Schreck's (1576-1630) *Dace* 大測" (Supervisors: Prof.Dr. Hans Ulrich Vogel) (in progress).
- 2017 B.A. Sinology/Chinese Studies and Korean Studies, University of Tübingen: "Die Vorstellung des Fuchsgeistes in der spätkaiserlichen Zeit: Eine Analyse der westlichen und chinesischen Forschung über das Meisterwerk *Liaozhai zhiyi* von Pu Songling (1640-1715)" [The Imagination of Fox Spirits in Late Imperial Time: An Analysis of Western and Chinese Research on the Masterpiece *Liaozhai zhiyi* of Pu Songling (1640-1715)] (Supervisor: Yasmin Koppen M.A., Junior Lecturer).

3. Scientific research and academic work experience

• Since 2018: Associated Member of the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China: Convergences and Divergences in the Light of the *Kunyu gezhi* 坤輿格致 (Investigations of the Earth's Interior; 1640) and the *Taixi shuifa* 泰西水法 (Hydromethods of the Great West; 1612)" directed by Prof. Dr. Hans Ulrich Vogel.

Short CV Dr. CHEN Hailian 陈海连

1. Present Occupation University of Trier, Department of Chinese Studies Adjunct Lecturer Dr.

2. Educational experience

- **2018 Ph.D.** (*summa cum laude*) **Sinology**, Department of Chinese Studies, University of Tübingen (Supervisors: Prof. Dr. Hans Ulrich Vogel; Prof. Dr. George Bryan Souza).
- **2008 M.A. History**, Institute for History of Science and Technology & Ancient Texts, Tsinghua University, Beijing (Supervisor: Prof. Dr. GAO Xuan).
- **2005 B.E. Engineering**, Department of Civil Engineering, Tsinghua University, Beijing (Supervisor: Prof. Dr. CHEN Hong).

3. Scientific research and academic work experience

- Since 2013: University Lecturer (replacement and/or adjunct), Department of Chinese Studies, University of Trier.
- 2017-2018: Research Fellow associated with Gutenberg Museum in Mainz.
- **2011-2012:** Chiang Ching-kuo Fellowships for Ph.D. Dissertations and Postdoctoral Grants, sponsored by the Chiang Ching-kuo Foundation for International Scholarly Exchange.
- **2008-2011:** Research Fellow in the DFG-Research group (FOR 596) "Monies, Markets and Finance in China and East Asia, 1600-1900: Local, Regional, National and International Dimensions," and coordinator and organizer of the "Mint Metal Transportation Database," both at University of Tübingen.
- **2005–2008:** Research Assistant in the Institute for History of Science and Technology & Ancient Texts, at Tsinghua University, Beijing.
- **2005**: Internship (for Bachelor Thesis) at the Architectural Design & Research Institute of Tsinghua University, Beijing.

4. Host or participant in scientific research projects

- **2017-2018:** Research Fellow associated with Gutenberg Museum in Mainz for the exhibition project "Ohne Zweifel Gutenberg? Die Erfindung des Buchdrucks in Europa und Asien," with contributions to book culture and printing technology in Chinese as well as East Asian history.
- **2008-2012:** Research Fellow in the Research group (FOR 596) "Monies, Markets and Finance in China and East Asia, 1600-1900," directed by Prof. Dr. Hans Ulrich Vogel and funded by the German Research Foundation, at University of Tübingen.
- **2005-2008:** Research Assistant in the project "Research on Mint Copper Transportation in Southwest China of Qing Dynasty," supported by Tsinghua University Initiative Scientific Research Program.
- **2003-2004:** Student Research Assistant in the Student Research Training Project "Study on Anti-bend Capability of Fiber-reinforced Polymer (FRP)" at Tsinghua University.

5. Representative publications (up to 10), research results and academic awards

Monograph:

• Zinc for Coin and Brass: Bureaucrats, Merchants, Artisans, and Mining Laborers in Qing China, ca. 1680s–1830s, Leiden: Brill, 2019, 788 pp.

Selected Peer-Reviewed Journal Articles:

- Chen Hailian, and George Bryan Souza, "China's Emerging Demand and Development of a Key Base Metal: Zinc in the Ming and Early Qing, c.1400–1680s," *Journal of Material Culture*, 22.2 (2017): 173-193.
- "Fueling the Boom: Coal as the Primary Source of Energy for Processing Zinc in China and Comparison with Europe, ca. 1720–1820," *Journal of the Economic and Social History of the* Orient, 57.1 (2014): 76-111.
- "Zinc Transfer from China to Europe via Trade, ca. 1600–1800: A Transnational Perspective," *Technikgeschichte*, 80.1 (2013): 71-94.

Participation in other book projects:

- Translation of *China at Work* in Dai Wusan, et al. (trans.), 手艺中国: 中国手工业调查图录 (Handicraft China: An Illustrated Record of Research into Chinese Handicrafts), Beijing: Ligong daxue chubanshe, 2012.
- Writing various sections of 影响世界的发明专利 (Inventions and Patents that Influenced the World), by Dai Wusan et al., Beijing: Tsinghua Univ. Press, 2010.

University of Tübingen, Institute of Asian and Oriental Studies, Department of Chinese Studies M.A., PhD candidate

2. Educational experience

- Since 2016 PhD candidate in Sinology/Chinese Studies at the Department of Chinese Studies, University of Tübingen. Main focus: *Xifa shenji* 西法神機 and firearms in the late Ming dynasty (Supervisors: Prof. Hans Ulrich Vogel, Prof. Achim Mittag).
- 2003 M.A. Ancient Chinese Literature, Southwest Minzu University (Supervisors: Prof. Qi Hehui and Prof. Xu Xiping).
- **2000 B.A. Chinese Language and Literature Studies**, Southwest Minzu University (Supervisor: Prof. Xu Xiping).

- Since 2018: Associated Member of the DFG research project "Convergences and Divergences in the Light of the *Kunyu gezhi* 坤輿格致 (Investigations of the Earth's Interior; 1640) and the *Taixi shuifa* 素 西水法 (Hydromethods of the Great West; 1612)," directed by Prof. Dr. Hans Ulrich Vogel.
- 2018-2019: Student Research Assistant at the Department of Chinese Studies of Tübingen University: Information gathering and translating "Collected Studies on the Historical Geography of Yunnan based on 'Marco Polo's Travels'."
- **2000-2003: Research** on Luo Yin, a poet in the late Tang dynasty.

Presently B.A. candidate at the University of Macau From October 2019 onwards M.A. candidate at the Department of Chinese Studies, Tübingen University

2. Educational experience

- From October 2019: M.A. candidate at the Department of Chinese Studies, University of Tübingen.
- 2015-2019: Bachelor of Arts studies Department of History, University of Macau: "Making up the Tactile Sense by the Visual:' Introduction of the Thermometer during the Kangxi Reign (1662-1722)" (Supervisor: Prof. Beatriz Puente-Ballesteros, in progress).

3. Scientific research and academic work experience

- From autumn 2019 onwards: Associated Member of the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China: Convergences and Divergences in the Light of the *Kunyu gezhi* 坤輿格致 (Investigations of the Earth's Interior; 1640) and the *Taixi shuifa* 泰西水法 (Hydromethods of the Great West; 1612)" directed by Prof. Dr. Hans Ulrich Vogel.
- Since 2018: Research assistant of Prof. Beatriz Puente-Ballesteros (Principal Investigator) in the three-year project "Translating Western Anatomy to Late Ming China: Convergences and Divergences in the Light of the *Taixi renshen shuogai* 泰西人身說概 (An Outline of the Human Body from the Occident; 1643)" funded by Multi-Year Research Grant (MYRG) Level 2, RDAO (Research & Development Administration Office), University of Macau, Macau SAR, China.
- 2017-2018: Student assistant of Prof. Beatriz Puente-Ballesteros at the Department of History of the University of Macau. Assisting her three-year project "Global-Micro Histories in East-West Medical Interactions and Exchanges during Late Imperial China" funded by Start-up Research Grant, RDAO (Research & Development Administration Office), University of Macau, Macau SAR, China.

5. Representative publications (up to 10), research results and academic awards

"An Duo zai Qingting zhi huanji yu bingshi: Dui yiwei Bilishi Yesuhuishi shengming zhongtu de duoshijiao fenxi" 安多在清廷之患疾與病逝:對一位比利時耶穌會士生命終途的多視角分析, Aomen lishi yanjiu 澳門歷史研究 (Macau Studies Journal) 16, (2017): 317-335. Revised translation of Beatriz Puente-Ballesteros, "Variations in Perceptions of the Last Days of a Belgium Jesuit at the Kangxi Court: The Illness and Death of Antoine Thomas (1644-1709) in Beijing," in *The Itinerary of Antoine Thomas S.J. (1644-1709), Scientist and Missionary from Namur in China*, edited by Michel Hermans and Isabelle Parmentier, Leuven: Ferdinand Verbiest Institute, 2017, pp. 270-301.

University of Tübingen, Institute of Asian and Oriental Studies, Department of Chinese Studies. Senior Lecturer (Akademischer Rat), Managing Director of the European Centre for Chinese Studies at Peking University (until Sept. 2019) Dr

2. Educational experience

- 2011-2014 PhD Sinology/Chinese Studies, Tübingen University. Thesis: "From Secret Knowledge to Mass Production: The Wet Copper Industry of Song China (960-1276)" (Advisor: Prof. Hans Ulrich Vogel).
- 2008-2011 M.A. Sinology/Chinese Studies, Tübingen University. Thesis: "Hong Zikui's 'Rhapsody of the Great Smelting': An Annotated Translation" (Advisors: Prof. Dr. Hans Ulrich Vogel, Prof. Dr. Achim Mittag).
- 2003-2007 M.A. (Magister) Islamic Studies and Rhetoric, Tübingen University. Thesis: "The Voyages of the Ming Fleet to the Arab World (1413-1433)" (Advisors: Prof. Dr. Heinz Gaube, Prof. Dr. Hans Ulrich Vogel).

3. Scientific research and academic work experience

- Trained in Islamic as well as Chinese Studies, Dr. Jost specializes on topics related to the China and the Islamic world, such as the role of Muslims in Chinese society and the history of communication between China and the Middle East. Another research field is the history of Chinese science and technology, in particular aspects of invention, innovation and knowledge transfer.
- **2014-2019: Senior Lecturer** (Akademischer Rat), Tübingen University, Department of Chinese Studies, and Managing Director of the European Centre for Chinese Studies at Peking University.
- 2011-2014: Assistant researcher (Wissenschaftlicher Angestellter), Tübingen University, Department of Chinese and Korean Studies.
- **2007-2008: Scientific assistant** (Wissenschaftliche Hilfskraft) at the Oriental Department of the Stuttgart Ethnological Museum (Lindenmuseum).

4. Host or participant in scientific research projects

- **2018-2021:** Associated Researcher in the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China" directed by Prof. Dr. Hans Ulrich Vogel.
- **2008-2011:** Associated Researcher in the DFG research group "Monies, Markets, and Finance in China and East Asia, 1600-1900: Local, Regional, National and International Dimensions" directed by Prof. Dr. Hans Ulrich Vogel.

- Jost, Alexander, and Yang Daye, "Muslim Identity and Examination Success: Tracing Hui Jinshi in Late Imperial China," *Monumenta Serica*, 2019, forthcoming.
- "The Secret Method and the State: Official Attitudes Towards Wet Copper Production in Song China," *Journal of Song-Yuan Studies*, 48 (2019): forthcoming.
- "'He Did not Kiss the Earth between his Hands' Arabic Sources on the Arrivals of the Zheng He Fleet in Aden and Mecca (1419-1432)," in Angela Schottenhammer (ed.), *Early Global Interconnectivity* across the Indian Ocean World, Vol. I, Basingstoke: Palgrave Macmillan, 2018, pp. 79-95.
- "From Secret Knowledge to Mass Production: The Wet Copper Industry of Song China (960-1276)," PhD Diss., Tübingen, 2014.
- "Die 'Rhapsodie vom Großen Schmelzen' Ein Gedicht über Bergbau, Münzguss und Zementkupfer im China des 13. Jahrhunderts," *Der Anschnitt – Zeitschrift für Kunst und Kultur im Bergbau*, 66.1 (2014): 2-24.

Short CV Dr. Nanny Kim

1. Present Occupation

University of Heidelberg, Centre of East Asian Studies, Institute of Chinese Studies Research Fellow, Principal investigator

Dr.

2. Educational experience

- 2000 Ph.D. History, SOAS, University of London (Supervisor: Prof. Dr. Martina Deuchler).
- **1994 M.A. Sinology**, University of Heidelberg, Institute of Chinese Studies (Supervisor: Prof. Dr. Rudolf Wagner).

3. Scientific research and academic work experience

- **2019-2021:** Principal Investigator: Institute of Chinese Studies, Heidelberg University; DFG research project KI 621/4-1: "Mining and Metallurgy in Southwest China, 14th to 19th Century."
- **2015-2018:** Principal Investigator: Institute of Chinese Studies, Heidelberg University; DFG research project KI 621/3-1: "Environments, People and Mining in the Far Southwest of China since 1500."
- **2013-2014:** Research Fellow: Cluster of Excellence Asia and Europe, Heidelberg University, Project director Roland Wenzelhuemer; own project: "The World through a Boat Window."
- **2006-2011:** Research Fellow: Institute of Chinese Studies, Heidelberg University; in the DFG research group "Money and Finance in China and East Asia, 1600-1900," directed by Prof. Dr. Hans Ulrich Vogel; own project: "Transport Systems in Qing China."

4. Host or participant in scientific research projects

- **2019-2021:** Principal Investigator: IDFG research project KI 621/4-1: "Mining and Metallurgy in Southwest China, 14th to 19th Century."
- **2015-2018:** Principal Investigator: DFG research project KI 621/3-1: "Environments, People and Mining in the Far Southwest of China since 1500."
- **2013-2014:** Participant: Cluster of Excellence Asia and Europe, Heidelberg University, Project director Roland Wenzelhuemer; own project: "The World through a Boat Window."
- **2012-2013:** Participant in research project "Kaeseong Double Entry Bookkeeping in a Global Perspective," directed by Jun Seong-ho, Academy of Korean Studies.
- **2006-2011:** Participant in DFG research group "Money and Finance in China and East Asia, 1600-1900," directed by Hans Ulrich Vogel; own project: "Transport Systems in Qing China."
- **2003-2004:** Participant in research group "Everyday Technologies in China," directed by Mareile Flitsch; Technological University, Berlin; own project: "The Wheelbarrow in Late Imperial China."
- **2002-2003:** Participant in research group "Europe's Special Course," directed by Rolf Peter Sieferle; Breuninger Foundation, Stuttgart; own project: "Transport in Late Imperial China."

- Yang Yuda, and Nanny Kim, "Texts and Technologies in Chinese Silver Metallurgy, Twelfth to Nineteenth Centuries," *East Asian Science, Technology and Medicine*, 49 (2019): in press.
- Nanny Kim, and Yang Yuda, "The Evolution of Reverberatory Cupellation Furnaces in the Southwest of Late Imperial China," *Historical Metallurgy*, 2019, forthcoming.
- Mountain Rivers, Mountain Roads: Transport in the Southwest of Qing China, 1700-1850, Leiden: Brill, 2019.
- Nanny Kim, and Yang Yuda, "The Jinniu Mines and the Confusions of Qing Sources on Silver Mining," *Artefact: Techniques, histoire et sciences humaines*, 8 (2018): 111-139.
- "The Boats of the Sichuan River: Technological Change in Qing Period Shipping," and "Fuel for the Smelters: Copper Mining and Deforestation in Northeastern Yunnan during the Qing Period," in Ulrich Theobald and Cao Jin (eds.), *Southwest China in a Trans-Regional Perspective, 1600 1900: Minerals, Metals, Transport, Trade and Money*, Leiden: Brill, 2017, pp.
- "The Houseboat in China: A Long-durational Perspective on Technology and Culture in Mobility History," *Journal of Transport History*, 37.1 (2016): 5-16.
- "The Tangdan Copper Mines and the 1733 Earthquake: A Mining Community before the Boom in the Far Southwest of Qing China," *Cross-Currents: East Asian History and Culture Review*, 13 (2015): 51-74.
- "River Control, Merchant Philanthropy and Environmental Change in Nineteenth-Century China, 1805-1840," *Journal of the Economic and Social History of the Orient*, 52.4-5 (2009): 660-694.

University of Tübingen, Department of Chinese Studies Research Assistant and Project Collaborator M.A., PhD candidate

2. Educational experience

- Since 2014 PhD candidate in Sinology/Chinese Studies at the Department of Chinese Studies, University of Tübingen (see below).
- 2013 M.A. Sinology/Chinese Studies, Faculty of Humanities, University of Tübingen: "Fang Guancheng: Bilder von der Baumwolle. Eine annotierte Übersetzung" ["Fang Guancheng: Pictures of Cotton. An Annotated Translation"] (Supervisors: Prof. Dr. Hans Ulrich Vogel, Prof. Dr. Achim Mittag).
- 2008 B.A. Sinology/Chinese Studies and Economics, University of Tübingen: "Die wirtschaftsadministrativen Dezentralisierungsbestrebungen der VR China in den Jahren 1956/57 und ihre Bedeutung für den daran anschließenden Großen Sprung" (Supervisor: Peter M. Kuhfus M.A., Senior Lecturer).

3. Scientific research and academic work experience

• Since 2018 work on PhD thesis: Translation and in-depth analysis of the *Taixi shuifa* within the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China: Convergences and Divergences in the Light of the *Kunyu gezhi* 坤輿格致 (Investigations of the Earth's Interior; 1640) and the *Taixi shuifa* 泰西水法 (Hydromethods of the Great West; 1612)" (Supervisors: Prof. Dr. Hans Ulrich Vogel, Prof. Dr. Achim Mittag).

Main focuses: Critical and comparative reading of Western and Chinese primary sources related to the intercivilizational knowledge transfer in the fields of science and technology. Examination of the limits of communication between the Jesuits and their Chinese interlocutors within a complex historical context.

• 2013-2017: Research assistant at the Department of Chinese Studies of Tübingen University: Together with Prof. Hans Ulrich Vogel and Dr. Cao Jin preparation of a textbook on official documents of the Qing period related to the largest counterfeiting case of that time; project related database administration; active participation in the Manchu translation project "The 'Old Cathayan': A Critical and Annotated Translation of the Manchu Version of the *Nogeoldae* (*Lao qida* 老乞大; 18th Century).

4. Host or participant in scientific research projects

• **2018-2021:** Together with Dr. Cao Jin principal collaborator in the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China" directed by Prof. Dr. Hans Ulrich Vogel.

- "'At Full Moon Clams Are Stout': Tidal Phenomena in Sabatino de Ursis' *Taixi shuifa* 泰西水法 (Hydromethods of the Great West; 1612)," article (forthcoming).
- Die Falschmünzerbande vom Alten Rabenhorst im Distrikt Tongzi, Guizhou (1794): Ein Lehrbuch zur chinesischen Dokumentensprache der Qing-Zeit (1644-1911) [The Counterfeiter Gang of the Old Crow's Nest in Guizhou (1794) in Texts and Contexts: An Introduction to Documents of the Qing Period], together with Prof. Dr. Hans Ulrich Vogel und Dr. Cao Jin, 2 vols., 700 pp., forthcoming.
- "Review: Glass Exchange between Europe and China, 1550-1800: Diplomatic, Mercantile and Technological Interactions," by Emily Byrne Curtis, *East Asian Science, Technology, and Medicine*, 44 (2016), 188-196.
- "Fang Guancheng: Bilder von der Baumwolle. Annotierte Übersetzung eines Qing-zeitlichen Handbuchs zur Förderung der Landwirtschaft," revised master thesis, in preparation for publication.

University of Tübingen, Institute of Asian and Oriental Studies, Department of Chinese Studies. University Professor

Prof. Dr.

2. Educational experience

- **1989 Ph.D.** Sinology, Faculty of Humanities, University of Munich (Supervisor: Prof. Dr. Helwig Schmidt-Glintzer).
- 1979 M.A. Sinology, University of Munich (Supervisor: Prof. Dr. Helwig Schmidt-Glintzer).

3. Scientific research and academic work experience

- Since 2005: Full Professor for Chinese Language, Literature and Philosophy, Department of Chinese Studies, University of Tübingen.
- **1994-2005:** Research Fellow Visiting Scholar Visiting Professor (Bielefeld; Leiden; Marburg; New York; Essen).
- **1986-1994:** Non-tenured Research Assistant of Prof. Dr. Helwig Schmidt-Glintzer, Institute of Far Eastern Studies, University of Munich.

4. Host or participant in scientific research projects (major projects only)

- **Since 2014:** Member of the international research group "Core Concepts of Historical Thinking: An Intercultural Approach to Conceptual History."
- Since 2014: Co-editorship of the Journal of Asian History (Harrassowitz, Wiesbaden).
- **2005-2012:** Project leader of a research project within the DFG research group "Monies, Markets and Finance in China and East Asia, 1600-1900: Local, Regional, National and International Dimensions."
- **2004-2006:** Main collaborator of the Volkswagen Stiftung research project "'Empire' and 'World'. Constructions of the 'Self' and the 'Other' in the Historical Discourse of Ancient Empires Rome and China as Examples."
- 2000-2002: Co-project leader of the Volkswagen Stiftung research project "Unity of Mankind Across Cultural Differences."

- "Cultural Differences as an Inspirational Source of Historical Knowledge Random Notes on Three Approaches to Chinese Comparative Historiography," in Chun-chieh Huang and Jörn Rüsen (eds.), *Chinese Historical Thinking: An Intercultural Discussion*, Göttingen: V&R unipress; Taipei: National Taiwan University Press, 2015, pp. 89-102.
- "Chinese Official Historiography under the Ming and Qing,"in José Rabasa, Masayuki Sato, Edoardo Tortarolo and Daniel Woolf (eds.), *The Oxford History of Historical Writing, Part Three: New Worlds and New Histories: Asia, Africa, the Americas,* Oxford: Oxford University Press, 2012, pp. 24-42.
- Mutschler, Fritz-Heiner, and Achim Mittag (eds.), *Conceiving the "Empire": China and Rome Compared*, Oxford: Oxford University Press, 2008.
- Schmidt-Glintzer, Helwig, Jörn Rüsen, and Achim Mittag (eds.), *Historical Truth, Historical Criticism, and Ideology: Chinese Historiography and Historical Culture from a New Comparative Perspective*, Leiden, Boston: Brill, 2005.
- "'Offensive Expansion' und 'innere Kolonisation' das Fallbeispiel China: Zu den Voraussetzungen der Expansion des chinesischen Großreichs (17.-19. Jh.) im historischen Denken und geographischethnographischen Wissen der mittleren und späten Ming-Zeit (16.-17. Jh.)," in Renate Dürr, Gisela Engel and Johannes Süßmann (eds.), *Expansionen in der Frühen Neuzeit*, Berlin: Duncker & Humblot, 2004, pp. 69-95.
- 28 entries in *Enzyklopädie der Neuzeit*, 16 vols., edited by Friedrich Jaeger, Stuttgart, Weimar: Metzler, 2004-2012.
- "Scribe in the Wilderness: The Manchu Conquest and the Loyal-Hearted Historiographer's (*xinshi*) Mission," *Oriens Extremus*, 44.4 (2003): 27-42.
- Since 2018 Honorary Professor of Yuelu Academy, Changsha, China.
- 2004 Straniak Philosophy Award (together with Thomas Göller).

Ruhr University Bochum, Faculty of East Asian Studies, Department for History of China University Professor

Prof. Dr.

2. Educational experience

- **2009 Habilitation Sinology**, Institute of Asian and Oriental Studies, Department of Chinese Studies, University of Tübingen (Supervisors: Prof. Dr. Hans Ulrich Vogel, Prof. Dr. Achim Mittag et al.).
- **1998 Ph.D. Sinology**, Faculty of East Asian Studies (Department for History of China), Ruhr University Bochum (Supervisors: Prof. Dr. Bodo Wiethoff, Prof. Dr. Hans Ulrich Vogel).
- **1986 M.A. Sinology**, Faculty of Philosophy, University of Heidelberg (Supervisor: Prof. Dr. Günther Debon).

3. Scientific research and academic work experience

- Since 2018: Chair Professor for History of China, Faculty of East Asian Studies, Ruhr University Bochum.
- 2018-2021: Board member of AREA (Alliance for Research on East Asia), Duisburg-Bochum.
- Since 2016: General editor of the series Publications of the Institute of East Asian Studies, Ruhr University Bochum.
- 2011-2016: Co-editor of journal East Asian Science, Technology and Medicine.
- **Since 2010:** Honorary Research Fellow, International Institute of Social History, Royal Dutch Academy of Sciences, Amsterdam.
- 2009-2018: Tenured Academic Reader, Faculty of East Asian Studies, Ruhr University Bochum.
- **2008-2009:** Project Coordinator of "Global Collaboratory for the History of Labour Relations," International Institute of Social History, Amsterdam.
- **2005-2007:** Post-Doc Researcher at University of Utrecht, Department of History, Research Group for Economic and Social History.
- Since 2006: Board member and editor of academic journals *Ming Qing yanjiu* (since 2006), International Review of Social History (since 2009), Bochum Yearbook of East Asian Studies (since 2010), Journal of the Economic and Social History of the Orient (since 2012).
- **1995-1999:** Non-tenured Assistant Professor at Chair of Prof. Dr. Wiethoff, Faculty of East Asian Studies, Ruhr University Bochum.

4. Host or participant in scientific research projects

- **2017-2022:** Member of the Mercator Foundation Graduate School "Transnational Institution Building and Transnational Identities in East Asia."
- **2006-2011:** Associate Researcher in DFG research project "Monies, Markets and Finance in China and East Asia, 1600-1900."
- 2000-2003: Project Coordinator of the DFG research project "State and Handicrafts in Beijing, 1700– 1900."

5. Representative publications

- State and Crafts in the Qing Dynasty, Amsterdam: Amsterdam University Press, 2018. Open Access: http://www.oapen.org/search?keyword=moll-murata.
- "Tributary Labour Relations in China during the Ming-Qing Transition (Seventeenth to Eighteenth Centuries)," *International Review of Social History*, 61 (Special Issue; 24) (2016): 27-48.
- "Legal Conflicts Concerning Wage Payment in Eighteenth and Nineteenth Century China: The Baxian Cases," in Jane Kate Leonard and Ulrich Theobald (eds.), *Metals, Monies, and Markets in Early Modern Societies: East Asian and Global Perspectives*, Leiden: Brill, 2015, pp. 265-306.
- "Guilds and Apprenticeship in China and Europe: The Case of the Jingdezhen and European Ceramics Industries," in Maarten Prak and Jan Luiten van Zanden (eds.), *Technology, Skills and the Pre-modern Economy in the East and the West: Essays Dedicated to the Memory of S.R. Epstein*, Leiden: Brill, 2013, pp. 227-257.
- Moll-Murata, Christine, Gao Xuan, and Hans Ulrich Vogel (eds.), *Studies on Ancient Chinese Scientific and Technical Texts: Proceedings of the Third ISACBRST*, Zhengzhou: Daxiang chubanshe, 2006.
- Moll-Murata, Christine, Vogel, Hans Ulrich, and Song Jianze (eds.), *Chinese Handicraft Regulations* of the Qing Dynasty: Theory and Application, Munich: Iudicium, 2005.

Göttingen University, Department of East Asian Studies, Chair Professor (W3) of Modern China with special emphasis on Global Historical Perspectives University Professor Prof. Dr.

2. Educational experience

• 1999 Ph.D. History, Minors: Philosophy & Sinology, Freiburg University.

3. Scientific research and academic work experience

- 2012-2015: Full Professor of Modern Asian History, Jacobs University.
- 2006-2011: Assistant Professor, Transcultural and Chinese History, Duke University.
- 2003-2006: Assistant Professor, Global History, University of California, Santa Barbara.
- 2001-2003: Research Fellow (Emmy Noether-Program), Harvard Yenching-Institute.

4. Host or participant in scientific research projects (major projects only)

- **2018-2023:** "The New Silk Road: Implications for Higher Education and Research Cooperation between China and Europe," Volkswagen Foundation, Funds for Göttingen Part of International Research Network (Main partners: Harvard, Utrecht, Oxford).
- **2018-2022:** Nominator and Main Project Partner of research project "Modern Chinese & Global History," co-directed by Wang Hui (Anneliese Maier Award), sponsored by Alexander v. Humboldt Foundation, sponsored for collaboration with Prof. Wang Hui (Tsinghua University).
- **2011-2016:** Co-PI of five-year collaboration "Korea and East Asia in Global History," Main Director: Sebastian Conrad (Free University Berlin), Co-PIs: You Jae Lee (Tübingen), Michael Kim (Yonsei/Seoul), sponsored by Korean Studies Promotion Service/Korea.
- **2011:** DFG sponsored conference "Global History in a Worldwide Dialogue," awarded to Andreas Eckert (Humboldt University), Sven Beckert (Harvard) and Dominic Sachsenmaier.

5. Representative publications (up to 10), research results and academic awards

Monographs:

- Global Entanglements of a Man who Never Traveled: A Seventeenth-century Chinese Christian and his Conflicted Worlds, New York: Columbia University Press, 2018.
- Becjert, Sven, and Dominic Sachsenmaier (eds.), *Global History, Globally*, London: Bloomsbury, 2018.
- Global Perspectives on Global History: Theories and Approaches in a Connected World, Cambridge: Cambridge University Press, 2011.

Peer-Reviewed Articles:

- "The Evolution of World History," in David Christian and Marnie Hughes-Warrington (eds.), *Introducing World History*, Cambridge: Cambridge University Press (Cambridge History of the World; 1), 2016, pp. 56-83.
- Duominike Saisenmai'er 多米尼克 塞森麦尔 (Dominic Sachsenmaier); Li Junshu and Wang Jiujiu (transl.), 全球史及其多元潜力 (Global History and Its Pluralistic Potentials), 历史研究 (Historical Research), 1 (2013): 31-37.
- "Recent Trends in European History: The World Beyond Europe and Alternative Historical Spaces," *Journal of Modern European History*, 7.1 (2009): 5-25.
- "Debates on World History and Global History: The Neglected Parameters of Chinese Approaches," *Traverse: Zeitschrift für Geschichte Revue d'histoire*, 40.3 (2007): 67-84.
- "World History as Ecumenical History?" *Journal of World History*, 18.4 (2007): 465- 490.
- "China and Globalization," in V. Subbulaskshimi (ed.), *China's Globalization: An Introduction*, Hyderabad: ICFAI University Press, 2005, pp. 1-23.
- Duominike Saisenmai'er 多米尼克 塞森麦尔 (Dominic Sachsenmaier); Guo Yanqiu and Wang Bing (transl.), 全球史——挑战与束缚 (Global History: Challenges and Constraints), 山东社会科学 (Shandong Social Sciences), 6 (2004): 15-17.
- "The Cultural Transmission from China to Europe," in Nicolas Standaert (ed.), *Handbook of Oriental Studies*, Leiden: Brill, 2001, pp. 879-905.

Short CV Jonas Schmid, B.Ed., M.A. candidate 史爱友

1. Present occupation

University of Tübingen, Institute of Asian and Oriental Studies, Department of Chinese Studies B.Ed., M.A. candidate

2. Educational experience

- 2019 B.Ed. Sinology/Chinese Studies and History, University of Tübingen.
- 2018-2019 General Visiting Student at Peking University.

3. Scientific research and academic work experience

- Since 2019: Master research project: Translation and in-depth analysis of the *Huogong qieyao* 火攻 挈要 (Essentials of Gunpowder Warfare) in connection with the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China," directed by Prof. Dr. Hans Ulrich Vogel. Main focuses: Translation of the *Huogong qieyao* into English, situating the *Huogong qieyao* in the context of other 17th-century Chinese works on gunpowder weaponry, identifying Western sources of the *Huogong qieyao*.
- **2018-2019: Bachelor research project** "Analysing Chinese Historical Culture: The Case of the War of Resistance against Japan (1937-1945)."
- **2019:** Teaching Assistant for a course on Classical Chinese.

4. Host or participant in scientific research projects

• Since 2018: Associated Member of the DFG research project "Convergences and Divergences in the Light of the *Kunyu gezhi* 坤輿格致 (Investigations of the Earth's Interior; 1640) and the *Taixi shuifa* 泰 西水法 (Hydromethods of the Great West; 1612)," directed by Prof. Dr. Hans Ulrich Vogel.

Presently B.A. candidate at the Department of History, University of Macau From October 2019 onwards M.A. candidate at the Department of Chinese Studies, Tübingen University

2. Educational experience

- From October 2019: Master of Arts studies in Sinology/Chinese Studies at Department of Chinese Studies at Tübingen University: Expanding the B.A. thesis into an M.A. thesis.
- **2015-2019: Bachelor of Arts studies in History**, Department of History, University of Macau: "The Glasses Looking into A Thousand Mile: Translating the Telescope to Late Imperial China" (Supervisor: Prof. Beatriz Puente-Ballesteros).

- From autumn of 2019 onwards: Associated Member of the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China: Convergences and Divergences in the Light of the *Kunyu gezhi* 坤輿格致 (Investigations of the Earth's Interior; 1640) and the *Taixi shuifa* 泰西水法 (Hydromethods of the Great West; 1612)," directed by Prof. Dr. Hans Ulrich Vogel.
- 2017-2019: Research assistant at Department of History, University of Macau: Information gathering, interpreting and translation for research project "Translating Western Anatomy to Late Ming China: Convergences and Divergences in the Light of the *Taixi renshen shuogai* 泰西人身說 概 (An Outline of the Human Body from the Occident; 1643)" (Supervisor: Prof. Beatriz Puente-Ballesteros).

University of Tübingen, Department of Chinese Studies Research Assistant M.A., PhD candidate

2. Educational experience

- Since 2016 PhD candidate in Sinology/Chinese Studies at the Department of Chinese Studies, University of Tübingen (see below).
- 2016 M.A. Sinology/Chinese Studies, Faculty of Humanities, University of Tübingen (see below).
- 2011 B.A. Sinology/Chinese Studies, Free University of Berlin: "Interkulturalität im Chinesisch als Fremdsprachenunterricht" (Supervisor: Prof. Dr. Andreas Guder).

- Since 2018 Associated Member of the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China: Convergences and Divergences in the Light of the *Kunyu gezhi* 坤輿格致 (Investigations of the Earth's Interior; 1640) and the *Taixi shuifa* 泰西水法 (Hydromethods of the Great West; 1612)" directed by Prof. Dr. Hans Ulrich Vogel.
- June to August 2018: Doctoral Research Fellow at the Ricci Institute for Chinese-Western Cultural History of the University of San Francisco, California: Research on PhD thesis "Translating Renaissance Science to Late Ming China. Alfonso Vagnone's *Kongji gezhi* 空際格致 (Investigation into Celestial Phenomena, c. 1633)" (Supervisors: Prof. Dr. Hans Ulrich Vogel, Prof. Dr. Achim Mittag). Main research: The main body of the thesis consists of an annotated translation of the first chapter (*juan* 卷) of the *Kongji gezhi* with a focus on linguistic features applied by the author to systematically introduce the Aristotelian theory on the four elements to the Chinese cultured elite.
- March to July 2016: Junior Research Fellow at the Needham Research Institute, Cambridge, UK: Research on M.A. thesis "Aristotle's Four Elements versus the Chinese Five Phases – Alfonso Vagnone's *Kongji gezhi* 空際格致 (Investigation into the Phenomena in the Atmosphere, c. 1633). An Introduction of Aristotelian Natural Philosophy to Late Ming China" (Supervisors: Prof. Dr. Hans Ulrich Vogel, Prof. Dr. Achim Mittag).

University of Tübingen, Institute of Asian and Oriental Studies, Department of Chinese Studies Student Research Assistant B.A., M.A. candidate

2. Educational experience

- Since 2017 M.A. candidate in Sinology/Chinese Studies at the Department of Chinese Studies, University of Tübingen. "Espionage or Missionary Work?' Archimandrite Palladius (1817-1878) and the Russian Ecclesiastical Mission in Qing China" (Supervisors: Prof. Dr. Hans Ulrich Vogel, Dr. Ulrich Theobald MBA) (in progress).
- 2017 B.A. Sinology/Chinese Studies and Korean Studies, University of Tübingen: "Nationalistische Proteste als soziale Bewegung? Eine Fallbeispielanalyse der Anti-Japanischen Proteste 2012 als soziale Bewegung anhand eines marxistischen Theorieansatzes nach Nilsen/Cox" [Nationalist Protests as a Social Movement? A Case Study Analysis of the 2012 Anti-Japanese Protests as a Social Movement based on Nilsen/Cox' Marxist Theoretical Approach] (Supervisor: Franziska Plümmer M.A., Junior Lecturer).

- Since 2018: Associated Member of the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China: Convergences and Divergences in the Light of the *Kunyu gezhi* 坤輿格致 (Investigations of the Earth's Interior; 1640) and the *Taixi shuifa* 泰西水法 (Hydromethods of the Great West; 1612)" directed by Prof. Dr. Hans Ulrich Vogel.
- Since 2018: Student Research Assistant at the Department of Chinese Studies of Tübingen University: Information gathering, bibliographical work, work as part of the DFG research project "Translating Western Science, Technology and Medicine to Late Ming China" directed by Prof. Vogel.
- 2017-2018: Student Assistant at the Department of Chinese Studies of Tübingen University: Information gathering, bibliographical work (Chair of Prof. Vogel).

1. Present occupation University of Tübingen, Institute of Asian and Oriental Studies, Department of Chinese Studies University Professor Prof. Dr. 2. Educational experience **1989 Habilitation Sinology**, Faculty of East Asian Studies (Department of Chinese History), University of Bochum (Supervisors: Prof. Dr. Bodo Wiethoff, Prof. Dr. Helmut Martin et al.). 1983 Ph.D. Sinology, Faculty of Philosophy, University of Zürich (Supervisor: Prof. Dr. Robert P. • Kramers). 1979 M.A. Sinology, Free University of Berlin (Supervisor: Prof. Dr. Yu Chenglie). 3. Scientific research and academic work experience 1983-1987: Received several grants for postdoctoral research, especially from the Swiss Science Foundation. 1987-1990: Non-tenured research assistant of Prof. Dr. Rudolf Wagner, Institute of Chinese Studies, University of Heidelberg. **1990-1994:** Non-tenured associate professor. Institute of Chinese Studies, University of Heidelberg. Specialisation: "Sinology, with a focus on the economic and social history of China." Since 1994: Chair professor for History and Society of China. Department of Chinese Studies, University of Tübingen. 4. Host or participant in scientific research projects (major projects only) 2018-2021: Director of the DFG research project "Translating Western Science, Technology and • Medicine to Late Ming China: Convergences and Divergences in the Light of the Kunyu gezhi 坤輿格 致 (Investigations of the Earth's Interior; 1640) and the *Taixi shuifa* 泰西水法 (Hydromethods of the Great West; 1612)," with Dr. Cao Jin and Sabine Kink as main collaborators. 2005-2012: Director of the DFG research group "Monies, Markets and Finance in China and East Asia, 1600-1900: Local, Regional, National and International Dimensions." 2000-2003: Director of the DFG research project "State and Handicrafts in Beijing, 1700–1900." 2002-2008: Member and chairman (2003-2004) of the DFG post-graduate research-programme "Global Challenges – Transcultural and Transnational Approaches." 1999-2016: Editorship of the journal East Asian Science, Technology and Medicine, supported by the DFG and the International Society for the History of East Asian Science, Technology and Medicine (Paris). 5. Representative publications (up to 10), research results and academic awards The Salt Industry, Part 37 of Joseph Needham's Science and Civilisation in China, Cambridge: Cambridge University Press, ca. 800 pp., in preparation. Die Falschmünzerbande vom Alten Rabenhorst im Distrikt Tongzi, Guizhou (1794): Ein Lehrbuch zur . chinesischen Dokumentensprache der Qing-Zeit (1644-1911) [The Counterfeiter Gang of the Old Crow's Nest in Guizhou (1794) in Texts and Contexts: An Introduction to Documents of the Qing Period], together with Dr. Cao Jin and Sabine Kink, 2 vols., 900 pp., forthcoming. Fu Hansi 傅汉思 (Hans Ulrich Vogel); Cao Jin 曹晋 (transl.), "Kunyu gezhi jingxian yushi: Agelikela De re metallica (Kuangye quanshu) 1640 nianzhong yiben" 《坤舆格致》惊现于世: 阿格里科拉《De re metallica》(《矿冶全书》)1640 年中译本 (The Sensational Re-appearance of the Kunyu gezhi [Investigations of the Earth's Interior]: The 1640 Translation Manuscript of Agricola's De re metallica), Aomen lishi yanjiu 澳門歷史研究 (Macau Historical Studies) 14 (2016): 73-87. "Marco Polo Was in China: New Evidence from Currencies, Salts and Revenues, Leiden: Brill • (Monies, Markets and Finance in East Asia, 1600-1900; 2), 2013, 643 pp. Longlisted among the first ten best books published in 2013 and 2014 for ICAS Book Price 2015; received 2015 ICAS accolade for the best specialist publication in social sciences of the years 2013 and 2014. Hans Ulrich Vogel and Günter Dux (eds.), with an overview and introduction by Mark Elvin, Concepts • of Nature: A Chinese-European Cross-Cultural Perspective. Leiden, Boston: Brill (Conceptual History and Chinese Linguistics; 1), 2010, 566 pp. Hans Ulrich Vogel, Christine Moll-Murata and Song Jianze (eds.), Chinese Handicraft Regulations of the Qing Dynasty: Theory and Application, München: Iudicium, 2005

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