The Global Diversity of Institutes for Advanced Study

Britta Padberg*

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Abstract

When the first Institute for Advanced Study was founded in Princeton in 1930, nobody anticipated that it would eventually become a model spreading across the globe. Especially within the past twenty years a significant number of new Institutes for Advanced Study (IAS) have surfaced in many regions of the world. Classified as "academic paradises," they are often regarded as isolated islands or ivory towers, but this is only one part of the story: I will show that (a) IAS are both products and driving forces of the globalization of research and are closely intertwined with different trends of global science policies, and that (b) IAS, despite their small size, have played an important role for the development of universities and the sciences and continue to do so. Finally, I would like to provide an outlook on future challenges and tasks of IAS as spaces of global production of knowledge.

Keywords: Institutes for Advanced Study; Global Production of Knowledge; Science Policy; Interdisciplinarity; Excellence Initiatives.

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^{*} Zentrum für Interdisziplinäre Foschung (ZiF), Center for Interdisciplinary Research, Universität Bielefeld (Germany);

britta.padberg@uni-bielefeld.de

1 Introduction

When the first Institute for Advanced Study was founded in Princeton in 1930, nobody anticipated that this model would spread across the globe with a time delay of a few decades. Especially within the past twenty years a significant number of new Institutes for Advanced Study (IAS) have surfaced in many regions of the world. Currently, it is estimated that there are approximately 100–150 such institutions, most of them belonging to universities.¹

But what is the reason behind this surge of foundations? Why do especially research universities invest in such centers? What do they hope for, and what is in fact achieved? And what impact do the IAS have on the development of the sciences and the universities as such?

So far, no systematic analysis of the international Institutes for Advanced Study exists. There are only few (partly unpublished) texts about the history of the American and European institutions.² In order to get a better understanding of the global development and background, I have visited more than thirty IAS in Asia, Latin America, Europe, Australia and the US in the past years and have talked to the respective directors and fellows about strategies, missions and visions.³

In the following sections, I want to provide an overview of the global development of IAS, the diverse models, and their science policy contexts. I am particularly interested in the function of these institutions within the universities but also within the national and international systems of higher education. Taking science policy contexts into account makes it possible to get a deeper understanding of the significance and capacity of the IAS and their diversity. I distinguish between four generations of IAS and will show that Institutes for Advanced Study, despite their small size, have played a remarkable role for the development of universities and the sciences and continue to do so. Finally, I would like to provide an outlook on future challenges and tasks for the IAS.

2 Methodological preface

Already in the pioneering phase of IAS, a broad diversity of institutional patterns has developed. In order to do justice to this diversity, I will proceed inductively; first, three different models of the early phase will be described in detail, which can be regarded as prototypes of the later development. From these models, general basic features of IAS will be derived. In the description of the further global development, I will show that no ideal types emerge due to the high flexibility of IAS, which distinguishes them from other kinds of institutes. A typology based on institutional patterns would therefore come to nothing and would not do justice to the adaptable nature of IAS. In order to better understand the manifestations and patterns of IAS in different historical and national contexts, I will focus on the intentions that led to the creation of the respective institutes, on the institutional self-location and the science policy

^{1.} A list of the 102 IAS that I am aware of (list in progress) can be found at: https://www.uni-bielefeld.de/(en) /ZiF/Allgemeines/partner.html

^{2.} More detailed descriptions of the history of IAS can be found in Wittrock (2002) and Goddard (2016).

^{3.} These are IAS in Israel (IIAS), China (IAS Nanjing, Fudan IAS), South Korea (KIAS), Japan (WIAS, Nagoya), Australia (UWA-IAS), Brazil (IEA-USP, IEAT-UFMG, IDEA-Unicamp), Costa Rica (UCREA), Mexico (CALAS), the US (CASBS Neubauer Collegium, Buffett Institute, Radcliffe IAS, GIAS NYU, IAS Princeton), Canada (PWIAS) and a number of European IAS. At this point I would like to express my gratitude for the enormous friendliness and openness with which I was welcomed at all IAS. It is truly remarkable how easily visitors are integrated into the learning communities at these places.

contexts of the IAS in this study. I rely on interviews with directors, fellows and staff members, as well as on publications of the institutes, which are available in printed form or on their websites.

3 The Pioneers (1930–1970)

3.1 The Founding of the Institute for Advanced Study in Princeton and the Consequences

When in 1930 the first and still today the most renowned IAS was founded in Princeton, NJ, its founder Abraham Flexner (1866–1959) had more in mind than simply creating a new institute: He wanted to establish an institution that would set new standards and thus give an impulse to renew the entire American higher education system. Flexner had shown great sympathy for the Humboldtian idea of the research-oriented university early on and was considered a harsh critic of the American system. After his two-year stay as a graduate student at Friedrich-Wilhelms-University of Berlin (1907–1908), he crafted a text about the deficits of the American colleges. To Flexner, the model of the German research university appeared to be far advanced in comparison to both the traditional British universities and their concentration on cultivating gentlemen as well as the American universities and their focus on professional training (Goddard, 2016, p. 3).

The engaged reformer of higher education caught the attention of the Carnegie Foundation, which asked him to evaluate medical schools in the US, a task that Flexner carried out with great dedication. The Flexner Report appeared in 1910 and led to the closing down of half of all medical schools and to the reform of the majority of the remaining ones. It initiated the beginning of modern biomedical research and teaching in the US and thus set a milestone in the history of medical education (cf. Goddard, 2016, pp. 2–3; Dijkgraaf, 2017, p. 12).

During a stay at All Souls College Oxford in 1928, his thoughts regarding the future of universities and research institutions became more focused. He was convinced that universities would have to orient themselves more toward basic research. Moreover, institutes needed to be established that would enable the most talented scientists to exclusively concentrate on basic research and informal teaching of a limited number of post-graduate students. Flexner derived the necessity for this new form of institution from the shortcomings of the American higher education system which provided no or insufficient space for research: "It is the multiplicity of its purposes that makes an American university such an unhappy place for a scholar" (Flexner, 1930, p. 2).

He finally got the support of the siblings Louis Bamberger and Caroline Bamberger Fuld, like Abraham Flexner descendants of German-Jewish immigrants, who provided 5 million US-dollars to realize his dream of an institute that was solely focused on research. "The Institute for Advanced Study is to be a graduate university in the highest possible sense of the term" (Flexner, 1930, p. 9). "It is therefore of the utmost importance that we set a new standard" (p. 13). By providing a small number of outstanding researchers with an institution that was devoted to academic freedom, he wanted to create an "educational Utopia" that would benefit the entire American higher education system (Flexner, 1931, p. 20).

But Flexner was not only driven by considerations regarding institutional reforms but also by fundamental ones on the progress of science. It was not merely deliberations about usefulness and application in science that led to technological innovations. Rather, these would emerge from the curiosity-driven basic research. In 1939, Flexner published *The Usefulness of Useless Knowledge*, which became the manifesto of all Institutes for Advanced Study. In this

text, he elaborates on the significance of pure research for long-term technological progress. The IAS in Princeton should become a paradise for researchers, where it was possible to solely focus on research without being distracted by other obligations or expectations. "It was the embodiment of Flexner's vision of the 'unobstructed pursuit of useless knowledge'" (Dijkgraaf, 2017, p. 5).

Flexner's scientific intentions were noted and commented on by the media: "New Institute Here Adopts Idea of German University" was the title that appeared in the *Newark Star Eagle* on June 7, 1930 (cited in Goddard, 2008, p. 22). On October 11, 1932, the *New York Times* wrote: "The institute will be unique among American institutions of higher education, designed to make it 'a scholar's paradise,' although it is hoped that eventually it will set an example that will be followed by the establishment of similar institutions" (cited in Goddard, 2016, p. 4).

When founding the IAS in Princeton in 1930, Flexner was inspired by the Humboldtian ideas of the priority of pure research, academic freedom and research-oriented teaching. He envisioned the IAS to be "a small university, in which a limited amount of teaching and a liberal amount of research are both to be found" (Flexner, 1931, p. 5), that should become a model for the further development of American universities. He was able to bring Albert Einstein to the IAS as one of the first faculty members from 1933 onward, and the institute rapidly gained international reputation. In its early years it became refuge for displaced scientists from Germany (aside from Albert Einstein, these included Hermann Weyl, Kurt Gödel, John von Neumann and Erwin Panofsky), who played an important role in bringing other European scientists to the US. "It is a sad irony that Flexner's recruiting efforts were helped by the rise of Nazism in Germany, the country from which he had drawn so much inspiration for his ideas on higher education" (IAS Princeton, 2013, p. 15). Within a short period of time, Princeton surpassed Göttingen as the world center of mathematics, and its outstanding working conditions set new standards for universities across the globe.

The Institute for Advanced Study in Princeton has to this day remained true to the visionary ideas of Flexner and provides time and space for fundamental research. Within its four schools (mathematics, natural sciences, historical studies and social sciences), approximately 200 scholars and post-graduate students from around the world conduct research on self-determined topics. Thus, the institute rather resembles a small university in which the researchers are simultaneously students as they carry out "advanced studies." The group of permanent faculty per school consists of six-eight faculty members and five-eight emeriti.⁴ Aside from the outstanding infrastructure, it is especially the renowned faculty members that attract (young) researchers from across the globe to the IAS.

The number of fellows (members) and visitors for the two schools of natural sciences and history is about sixty. The school of mathematics is particularly large with eighty-four guests. The school of social sciences, on the other hand, has only two permanent faculty and is the smallest school with thirty-five fellows and guests (as of June 2019).

The range of fields covered varies strongly between the schools. The schools of mathematics and natural sciences focus on thematic continuity: The School of Natural Sciences consists of the areas astrophysics, systems biology and theoretical physics with emphasis on focused research topics. One of the most prominent members of the School of Natural Sciences is surely the mathematician and physicist Freeman J. Dyson, who has worked at the IAS since 1950 (to this day).

^{4.} Here I refer to data from the Annual Report 2016/2017.

The School of Mathematics consists of long-term thematic groups and annual focused programs. The research groups cover a broader spectrum of mathematics but work very specialized and independent from each other. There is a close cooperation with Princeton University in the framework of common working groups, seminars and workshops. A larger part of the overall eighty-four guests come to the IAS for shorter stays. The School of Mathematics, of which three faculty members have been awarded the Fields Medal, is still today considered to be a "symbol in the field" (Dijkgraaf, 2017).

The two schools of the humanities and the social sciences are characterized by a stronger diversity and thematic openness: The School of Social Sciences each year defines a theme on which about half of the fellows work together. Thematic foci of past years were *Law and the Social Sciences* (2016/2017), *The Social Sciences in the Changing World* (2017/2018), *Crisis and Critique* (2018/2019) or *Society and Economy* (2019/2020). In this context, the invited fellows cover a broad range of social sciences and humanities. A meta-topic in this school is self-reflection and critique of the humanities.

The School of Historical Studies is also characterized by thematic and methodological pluralism: "The School of Historical Studies supports scholarship in all fields of historical research, but it is concerned principally with the following: Greek and Roman civilizations, Medieval Europe, Modern Europe, The Islamic World, Philosophy and International Relations, History of Art, East Asian Studies." These are basically the main thematic range of the faculty members.

The mission of the IAS Princeton is to bring together the most talented young researchers. In the natural sciences and mathematics this is done in the context of long-term research fields, while the historical and social sciences schools are characterized by changing thematic foci and the promotion of individual researchers. Focused and specialized work is at the core of the institute while interdisciplinary collaboration is mainly left to occur by chance ("serendipity by leisure", to cite Peter Goddard). Thus, presentations and workshops are in principle open to members of other schools, but there are no organized programs that extend across schools. Even during lunch time, the different schools remain to themselves and several attempts of the institute's administration to establish a cross-disciplinary mixture at lunch tables have so far failed.

To this day, the IAS Princeton is the flagship of all IAS and by far the most renowned across the globe. Its reputation, its brilliant facilities and its high visibility in certain fields of research continue to make it a unique institution of world class. However, even in this Olympus of the sciences, shifts within the global research landscape can be felt. "The world has become more competitive," says the director Robbert Dijkgraaf and refers to two great challenges: on the one hand, the growing number of institutions of excellence at universities as well as non-university research institutions across the world leads to an increase in competition. Thus, leading scientists especially in mathematics and physics are much sought after. On the other hand, in certain areas of basic research that is relevant for the future (e.g., computational sciences), the enormously high wages and technological infrastructure in the private sector are beyond reach. In the future, it will therefore depend on developing a good sense for new thematic orientations especially in the natural sciences.

The IAS Princeton has inspired the establishment of most IAS throughout the world, and there is hardly any Institute for Advanced Studies that does not refer to the legendary IAS Princeton. However, the Princeton model with its schools and its strong rootedness in the

^{5.} https://www.hs.ias.edu/ (06.01.19)

natural sciences and mathematics has been copied only a few times: The Dublin Institute for Advanced Studies (DIAS founded in 1940) and the Institut des Hautes Études Scientifiques in Paris (IHES, founded in 1958) were established according to the model of Princeton with a focus on mathematics and physics. The Korea Institute for Advanced Study (KIAS, founded in 1996) also belongs to this category. With regard to structure and size, however, it is not the IAS Princeton that is the original model of most IAS but rather the Center for Advanced Study in the Behavioral Sciences in Palo Alto.

3.2 The Center for Advanced Study in the Behavioral Sciences (CASBS) in Palo Alto

Twenty-four years after the founding of the IAS Princeton, another American IAS was established at the West Coast under the initiative and support of the Ford Foundation: the Center for Advanced Study in the Behavioral Sciences (CASBS) in Palo Alto began operating in 1954 in proximity to Stanford University but institutionally independent from it. In contrast to the IAS Princeton, the Center was not designed to cover the entire spectrum of the sciences but focused on social sciences and behavioral sciences in the broader sense. Its founding was based on the conviction that research on societies and individual behavior can contribute extensively to democratization (Wittrock, 2002, p. 2). The goal was to establish a national institution for the theoretical and methodological development of social science research, the still young and "most American of all branches of research" (Thackray, 1984).

With regard to size and structure, the CASBS — far more so than the IAS Princeton — is the prototype for the majority of subsequent Institutes for Advanced Study. It did not have a permanent staff nor separate schools and, with forty-fifty fellows that were invited to Palo Alto for the duration of an academic year, was much smaller in comparison to Princeton. Similar to Princeton, the CASBS was for many years exclusively focused on the promotion of individual research projects and provided optimal working conditions for academics as they were relieved of any obligations in teaching and administration. As the IAS Princeton Trustee Lorraine Daston noticed, the Princeton Schools of History Studies and Social Sciences eventually followed the Stanford model in shifting their focus from faculty research to fellow-centered activities. This was perhaps due to the fact that the initial IAS setting of long-term faculty doing research in seclusion is less attractive for scholars in the humanities than it is for mathematicians and theoretical physicists.

The list of outstanding fellows of CASBS is long and includes twenty-seven Nobel laureates, twenty-four Pulitzer Prize winners and twenty-six National Medal of Science winners. Approximately 2,000 books have been conceptualized, started or completed at CASBS, including such groundbreaking works as Robert Dahl's *Who governs*, E.D. Hirsch's *Cultural Literacy*, Thomas Kuhn's *The Structure of Scientific Revolutions*, John Rawls' *A Theory of Justice*, Edward Said's *Orientalism*, and Erik Erikson's *Childhood and Society*.

By concentrating on one — albeit broad — academic field, it had a strong impact on the epistemic and institutional development of the social and behavioral sciences in the second half of the twentieth century. The Swedish sociologist Björn Wittrock even described it as a "powerhouse for the transformations occurring in the social and human sciences" (Wittrock, 2002, p. 3). What the IAS Princeton was for mathematics, the CASBS was for the social sciences: It developed into a globally visible center for the social and behavioral sciences and attracted the great theoreticians of these fields. As a result, it contributed to the scientification and establishment of the comparatively new fields within the academic landscape of the US and enhanced their impact on international academic communities.

Even today, the current fellows of the CASBS cherish the opportunity to conduct their individual projects in the inspirational and supportive context of the Center without any disturbances. Due to the concentration on the social sciences in a broader sense, the composition of the group is diverse without being heterogeneous, so that communication is still possible within arm's length. Thus, attendance of colloquia or conversations with other fellows can always lead to new ideas for one's own work.

In the first fifty-four years of its existence, the CASBS was an independent institution. Only in 2008 — as a result of financial issues — it became part of Stanford University and thus one of its currently eighteen interdisciplinary research institutions. The Center benefits from the organizational support of the university, but continues to act autonomously with regard to content and finances. For the university, the CASBS is a flagship for interdisciplinary research: "Our new relationship with the center underscores the university's commitment to multidisciplinary research and studies across the spectrum of academic disciplines," said former provost John Etchemendy.⁶

Initially, the CASBS was focused on individual projects and theoretical research. With the tenure of Margaret Levi, the current director, in 2014, however, it started to also promote group-based work on significant societal problems as well as long-term collaborations. The groups meet for a period of three-five years in regular intervals at the Center and work on topics such as *The Future of Work and Workers, Understanding the iGeneration, The Ethics and Governance of AI* or *Evidence-based policy making*. Thus, the objective is also to contribute to policy advice.

Margaret Levi has also opened CASBS to the non-academic world. Among the CASBS' guests there are now also business people, politicians, journalists and artists. The CASBS no longer aims to be a secluded intellectual hideout but an inter-sectoral think tank for societal challenges. Moreover, the institutional collaboration with Stanford University is to be intensified, as is collaboration with foreign partners. In this context, the National University of Singapore and the Chinese University of Hong Kong each fund a fellowship per year in the framework of pilot projects. The purpose here is also to increase the number of non-American fellows. In recent years, the CASBS has become more open to the university and society via these new formats. While the main focus is still on basic and individual research, there is now also collaborative research on societal issues in order to have a stronger impact beyond academia.

3.3 The Center for Interdisciplinary Research (ZiF) in Bielefeld as the First University-based Institute for Advanced Study

In 1968 — fourteen years after the founding of the CASBS — a third prototype of an IAS was established in Germany: The Center for Interdisciplinary Research (ZiF) in Bielefeld shows structural similarities to its American predecessors but replaces the principle of individual stipends with a consequent promotion of group-based research. In contrast to the two IAS in Princeton and Stanford, the ZiF was conceptualized as an integral part of the newly built University of Bielefeld from the beginning.

Inspirations for its implementation were sought in the US: At the end of 1969 — sixty-two years after Flexner's stay in Germany — a delegation of the Bielefeld Center for Interdisciplinary Research traveled in the opposite direction and visited the Institute for Advanced

^{6.} See Stanford Report, Feb 13, 2008. https://news.stanford.edu/news/2008/february13/casbs-021308.html (10.08.19)

Study, Princeton, the Wesleyan Center for the Humanities, Wesleyan University, Middletown, and the Center for Advanced Study in the Behavioral Sciences, Palo Alto.

The ZiF had already started operating a year earlier 30 km from Bielefeld (Germany) at Schloss Rheda, albeit mainly conducting workshops and round table discussions. The subsequent move to the building that was solely designed for the Center near the new university, made it possible to house fellows and their families for a longer period of time and to conduct annual research groups.

Thus, the model of an Institute for Advanced Study that was originally inspired by the Humboldtian ideas of reform was practically re-imported thirty-five years later, and adapted to the changed academic conditions at German universities. The Bielefeld delegation was particularly impressed not by the IAS in Princeton but by the design and structure of the Center for Advanced Study in the Behavioral Sciences (CASBS) in Palo Alto, Stanford:

"The buildings of the Center for Advanced Study in the Behavioral Sciences in Palo Alto, Stanford are located on a hill above the valley in which Stanford University lies in beautiful landscape. The buildings are divided into common rooms and about seventy rooms/offices in which the members of the Center work," states the report on that trip in 1969. Evidently, the Center in California had made a lasting positive impression: "Overall, the Center in Palo Alto appears to be the best organized of the three institutes and seems to provide its members with the most freedom." (our translation). This also may explain the visual similarity of the ZiF's architecture and location with that of its sister institute in Stanford.⁷

In the course of the founding of the university in Bielefeld, the philosopher and sociologist Helmut Schelsky (1912–1984) had developed the idea of a center for interdisciplinary research as an integral part of the newly established research university. Schelsky clearly saw the emerging expansion of the higher education sector as potentially endangering the primacy of research, and wanted to create exclusive privileges for researchers working both at the University of Bielefeld as well as at the ZiF.

In this context, three motives played an important role:

(1) Primacy of research

Due to the increasing diversity of tasks that modern universities faced, a differentiation between the types of universities was necessary according to Schelsky. Within research universities, institutional freedom should be created to facilitate exchange between established scholars and young researchers.

(2) Interdisciplinarity

Interdisciplinary and group-based research was of increasing significance for scientific progress. Specialization and interdisciplinary cooperation were by no means contradicting each other. "Interdisciplinarity can and must increase specialization in certain research tasks to a strong degree" (Schelsky, 1967b, p. 72; our translation). In this context, Schelsky had a limited collaboration between different disciplines on specific empirical issues in mind. The concept was not to create a permanent institution with a fixed academic staff but a flexible one with temporally limited groups.

(3) Internationality

Work on an innovative research topic required bringing together experts from different disciplines that usually would not all be found at one university. Therefore, the research

^{7.} https://www.uni-bielefeld.de/(de)/ZiF/Allgemeines/Amerikareise-1969.pdf (18.09.19)

groups at the ZiF were to consist of domestic as well as foreign experts that were to collaborate for a limited period of time.

The ZiF was supposed to help in institutionalizing interdisciplinary basic research at the University of Bielefeld and, at the same time, achieve the necessary openness of such an institution for the entire academic system (Schelsky, 1967b, p. 74). The institutional affiliation to the university was to, first of all, have organizational and administrative advantages, such as access to the library, the technological infrastructure and to the central university administration. With respect to content, however, the ZiF was to act autonomously and — just like the IAS Princeton and the CASBS in Palo Alto — take on a central task for the international scientific community in general. In spite of belonging to the University of Bielefeld, the ZiF was to be accessible also to researchers from other German or foreign universities and in doing so to fulfill a cross-regional obligation for other universities of our system of higher education (Schelsky, 1967b, p. 74). Thus, the ZiF was not supposed to exclusively focus on the interests of the University of Bielefeld: "(...) the University has to constantly be aware of the Center's objectives that extend beyond its own institutional interests, a fiduciary responsibility which should counteract the particularism of the German higher education system" (Schelsky, 1967b, p. 82; our translation).

The Bielefeld Center for Interdisciplinary Research thus adopted both the idea of the IAS Princeton of providing a space where scholars found freedom for research as well as the structure of the CASBS in Palo Alto with its temporary fellowships. It added to these the concept of promoting interdisciplinary cooperation. The ZiF was to help in integrating interdisciplinary research into the university without resulting in a permanent specialization: "Interdisciplinary research of different kinds today belongs to the decisive fundamentals of scientific progress and is to be institutionally integrated into the universities. The permanent specialization in interdisciplinary institutes is a misplaced route to take which eliminates the advantages of interdisciplinary research in the long run" (Schelsky, 1967a, p. 38; translation in Weingart & Padberg (Eds.), 2014, p. 110). Schelsky thus did not aim to found a research institute, he wanted to create a new kind of institute that would not pursue a research agenda of its own but which would be open for innovative and changing themes. The ZiF was supposed to continuously provide the University and the sciences with new impulses.

It is the attempt to transfer the successful US institution of the "Center for Advanced Studies" to the German higher education and research system. We consider this institution to be the only promising attempt to realize once again the meanwhile only formally existing "unity of the sciences" under the conditions of the modern development of science; it is therefore the "conception of the Academy" of our time (Schelsky, 1967a, p. 43; our translation).

In contrast to its counterparts in Princeton and Palo Alto, the center in Bielefeld still today is entirely focused on promoting interdisciplinary research projects. As a result, the ZiF does not grant individual stipends but exclusively supports interdisciplinary research groups across the entire spectrum of sciences and the humanities. Applications for a research group are usually handed in by research teams consisting of two to three people. The convenors of the research groups are also responsible for the interdisciplinary composition of the groups. Among the approximately sixty research groups that have been realized at the ZiF since its founding, some have had enormous impact on theory formation and choice of topics within their fields.

These include the *Game Theory*, headed by Nobel laureate Reinhard Selten, the group *Perception and Action*, headed by Wolfgang Prinz, as well as the group *Percational Intelligence*, headed by Helge Ritter and Holk Cruse.

Aside from the research groups, which each work at the ZiF for one academic year, there are several short- and medium-term projects such as interdisciplinary conferences, workshops, cooperation groups and networking meetings. In the course of the past fifty years, the ZiF has proved to be a laboratory for interdisciplinary cooperation in the humanities and social sciences as well as the natural sciences. In this regard, there are only few comparable institutes throughout the world.

Institutionally and structurally, the IAS in Princeton, the CASBS in Palo Alto, and the ZiF in Bielefeld represent three prototypes of Institutes for Advanced Studies with different structural elements: the IAS Princeton institutionalized the principle of freedom in research for outstanding scholars in the framework of specialized schools; the CASBS introduced the (today widely disseminated) model of annually changing fellowships and the promotion of individual projects; and the ZiF was the first IAS that was institutionally affiliated to a university with a focus on interdisciplinary research cooperation.

In spite of this structural difference, the three institutions have the same mission: They aim to create ideal institutional conditions for research and promote exchange between scholars. To this day, this is the core objective of all Institutes for Advanced Studies. In contrast to regular research centers, they consider their function to be one of service to the fellows: not the fellows serve the institution but the institution serves the fellows and their research. Thorsten Wilhelmy (Managing Director of the Wissenschaftskolleg zu Berlin) fittingly described this characteristic as an "asymmetrical relationship between institution and fellows." The fellows can expect optimal working conditions and are not pressured by the institution to deliver any output.

All three institutions were moreover founded with the motivation to give a reform impulse for the entire academic system. The initiators and founding directors were well-known and engaged reformers of higher education who aimed at providing lasting impulses for the national and international research landscape. The institutes were to be points of reference and to have an impact on the entire system of higher education. Abraham Flexner wanted to reform the then lagging American higher education system by institutionally anchoring the primacy of research according to the model of German universities. The IAS was correspondingly founded as a small but significant institution that set standards for basic research at the highest level. The initiative of the Ford Foundation to found the CASBS was connected to the mission of opening science to society. In this context, an important role was ascribed to the social sciences with which the classic spectrum of disciplines was to be expanded and questions relevant to society were to be put on the agenda of scientific research. In reaction to the increasing specialization and fragmentation of disciplines, the ZiF was to be a new kind of place for the promotion of interdisciplinary research that should serve the overall development of the sciences. Therefore, general considerations and objectives for reform were the basis for all three initiatives. According to the intentions of their founders, the institutes were to be beacons for the entire system of higher education and lead to further efforts for reform.

^{8.} In 1969 a second university-based IAS was founded: The Institute for Advanced Studies in the Humanities (IASH) at the University of Edinburgh. For the history of IASH see Lauder (2018).



Fig. 1: The Pioneers (1930–1970)

Interactive map: https://www.uni-bielefeld.de/(en)/ZiF/Allgemeines/partner.html

3.4 Basic Features of Institutes for Advanced Study

The IAS that were established in the pioneering phase share the common goal of supporting curiosity-driven research and scientific exchange in the best possible way by providing time and space for focused academic work and deep thinking. With regard to structure, however, they are adapted to their respective contexts and differ significantly. But it is precisely this flexibility and adaptability that is so characteristic of the IAS and distinguish it from other types of institutes: Whereas research centers are usually characterized by long-term (disciplinary) thematic foci, a permanent staff of researchers, and (post-)graduate programs, the IAS have changing areas of study, constantly changing cohorts of fellows, and are focused on inter- or multidisciplinarity. IAS are completely aligned with the scientific interests of their fellows: These are invited to choose their research topics freely and are not dependent on a research agenda defined by the institution. Unlimited academic freedom is the basic requirement for an IAS.

In epistemic respects, they are thus characterized by a plurality of themes, methods, and theories, they promote interdisciplinary exchange and serve as incubators for new approaches in research. Academic freedom must therefore be accompanied by academic tolerance and openness.

Organizationally, IAS are hybrids: they combine the stability of institutions (permanent infrastructure and administrative staff) with the flexibility of project funding (temporally limited thematic foci and individual projects) and are in this context different from other types of research institutions. With respect to disciplines and research topics, they are "empty frames" (Morten Kyntrup, AIAS Aarhus) that have to constantly be (re-)filled and (re-) designed.

The political dimension is apparent in the tension between IAS and the university- and science policy contexts. The design of IAS conflicts with existing institutional and epistemic structures as they are supposed to constantly create new impulses for the sciences and the universities. A precondition is the unlimited freedom of research and independence of political control, institutional demands or economic constraints.

The basic patterns described above constitute the general framework of IAS in which various activities can evolve. IAS are therefore — and this is the central thesis of this article — not to be understood as a uniform model, but they unfold their peculiar impact in a range of concepts, activities, and objectives. In the following, I will demonstrate that this diversity is linked to science policy paradigms and country-specific contexts and makes IAS influential actors in the respective research landscapes.

4 The Second Generation (1970–2000): National and Independent IAS

Until 1970, only a handful of Institutes for Advanced Study existed: The IAS Princeton and the two subsequently founded institutes in Dublin (DIAS) and the IHES in Paris, the CASBS in Palo Alto, the ZiF in Bielefeld and the Institute for Advanced Studies in the Humanities at the University of Edinburgh. The only IAS outside of Europe and the US was the Indian Institute for Advanced Study (IIAS) in Shimla, which was established already in 1965 but did not have a regular fellowship program until 1973. The first director of the IIAS, Niharranjan Ray, described the Institute's vision at the occasion of its founding as follows:

This Institute is the only one of its kind in India, the first experiment, if I may be allowed to say so, in an altogether new direction in the field of higher learning and research, and if we want it to succeed, creatively speaking, we must be assured of

two things: (a) complete academic freedom; and (b) relative freedom from financial worries. Higher learning and research (...) does not want to be interfered with, and an intellectual and seeker of truth who can be made to wait on the pleasures of others, is not certainly worth his salt.⁹

The Indian Institute for Advanced Study was an early predecessor of a second wave of IAS foundations that began in Europe in the early 1970s. The Netherlands Institute for Advanced Study in the Humanities and the Social Sciences (NIAS, founded in Wassenaar, 1970, today located in Amsterdam), the Israel Institute for Advanced Studies (IIAS, 1975 in Jerusalem), the Wissenschaftskolleg zu Berlin (Wiko, 1981), the Institut für die Wissenschaft vom Menschen (IWM, 1982 in Vienna), the Swedish Collegium for Advanced Study (SCAS, 1985 in Uppsala) and the Centre for Advanced Study Oslo (CAS, 1992 in Oslo) represent national Institutes for Advanced Study in six European countries that receive significant support from governments and national funding organizations. Their generous financial endowment and attractive locations (often in the capital of the respective country) contribute to the fact that these national institutes belong to the flagships of the IAS community.

All these institutions resemble the CASBS in size and structure (with forty-fifty fellows per year) and a clear, but not exclusive focus on the humanities and social sciences. The IIAS (Jerusalem) and the CAS (Oslo) differ somewhat as they do not offer individual fellowships but, similarly to the ZiF, are focused on group formats. The IWM (Vienna), too, has a specific profile in that its original mission is to form a bridge between Eastern Europe and the West.

Like their predecessors, the national IAS were supposed to work complimentarily to the universities and provide outstanding scholars with space and time for research. There is also an additional political motive: After the Second World War, top-level research had ultimately moved from continental Europe (with respect to Germany) to the US and the UK. The mission of the Wissenschaftskolleg zu Berlin was to "promote international scholarly communication, to bring as guests to Berlin scholars from all parts of the world, in particular those who were forced to emigrate owing to National Socialism as well as their students, and to promote and expand Berlin's intellectual life through contacts between foreign guests and German scholars, in particular Berlin ones." The founding idea of the Wiko referred in particular to the special situation of the, at that time, isolated and separated Berlin and was supported generously by the Federal Government.

The driving motive for the second wave of national IAS foundations in Europe was internationalization and international networking, especially with the Anglo-American scientific elite. They can be considered a reaction to a growing scientific hegemony of the US and UK in top-level research, a development Western Europe wanted to catch up with. Correspondingly, all of these institutions introduced English as the lingua franca from the beginning and adopted Anglo-American quality standards in the selection of fellows. At a time when the humanities and social sciences were still predominantly national in focus, the IAS opened Anglo-American discourses to the European science community. It should also be mentioned that the national IAS in Europe served to internationalize American and British academia inversely. In inviting

^{9.} http://iias.ac.in/content/vision-founding-moment (15.01.19)

^{10.} Originally Hebrew Institute for Advanced Studies.

^{11.} Originally Swedish Collegium for Advanced Study in the Social Sciences.

^{12.} https://www.wiko-berlin.de/en/institute/the-kolleg/history/history-of-the-institute/history-of-the-kolleg/ (15.08.19)

outstanding scholars from Europe, the US and UK created informal and long-lasting networks and promoted mutual intercontinental discourses.

In the context of science policy, they also set a mark in academia: within mostly egalitarian higher education systems they were prestigious institutions and thus provided new opportunities for awarding academic excellence. An invitation to one of these highly reputed IAS is similar to an academic prize and therefore also strengthens the meritocratic principle within the European scientific communities. This is of significance especially for the humanities and social sciences for which there are only few markers of excellence in Europe and in which outstanding research performance is not necessarily signified by the acquisition of third-party funding.

In order to strengthen the ties between Europe and America, four of these prestigious national IAS (Wiko, NIAS, IIAS, and SCAS) formed an alliance with three American IAS (Princeton, CASBS, and the National Humanities Center). The later founded IAS Stellenbosch, Radcliffe IAS and the Institut d'études avancées de Nantes have meanwhile been added to that group.¹³ As the name of this SIAS-group (*Some Institutes for Advanced Study*) suggests, this alliance represents an exclusive circle of a small number of eminent IAS.

In the US, there is no comparable central and national science policy. The establishment of institutes therefore mainly depends on private donations and foundations. Since the 1970s, some privately funded research IAS have developed in the US which focus on specific interdisciplinary topics, have a small permanent staff and broad fellowship programs: these include e.g the National Humanities Center North Carolina (established in 1978) or the Santa Fé Institute (established in 1984), which focuses on the study of complexity of physical, biological, social, cultural, technological, and even possible astrobiological worlds.

Furthermore a number of more disciplinary centers with an extended fellowship program were founded, e.g. the Woodrow Wilson International Center of Scholars (1968), the Visiting Scholar Program of the Russell Sage Foundation (1967), The Getty Research Institute (1985), Washington National Gallery of Arts (1979). During this time hundreds of humanities centers originated at universities which also have fellowship programs and in part also contain the words Institute for Advanced Study in their titles. Since these institutions are, however, closely connected to the departments and only act autonomously to a limited degree, they shall not be looked at more closely here.

The number of foundations of the national IAS worldwide declined in the 1990s. The most recent founding of a national IAS occurred in 2017 with the Polish Institute of Advanced Studies (PIASt) in Warsaw, which is administered by the Polish Academy of Sciences. National Institutes for Advanced Study are a predominantly European phenomenon. The initiative to found such an institute usually originates in governmental institutions or national academies and they are financed to a large degree by public funds. They originate during a time when international competitiveness in research and internationalization of higher education start to play a stronger role in national science policy contexts, and they are implemented as instruments for international networking and to strengthen the respective national location. Their significance within the academic world consists of awarding and defining academic excellence especially for the realm of the humanities and social sciences. Last but not least, they remain unique in providing space for undisturbed research within a multidisciplinary community of scholars — a research environment that can be found in no other type of institution in continental Europe.

Outside Europe, and in addition to the Indian Institute for Advanced Study (IIAS) in Shimla and the National Institute of Advanced Study in Bangalore (1988), two other IAS were

^{13.} http://www.swedishcollegium.se/subfolders/International_Links/SIAS.html (15.08.19) https://en.wikipedia.org/wiki/Some_Institutes_for_Advanced_Study (15.08.19)

established during this phase which both have had a significant impact on the development of their national research landscape: in 1986, the Instituto de Estudos Avançados (IEA–USP) was founded at the Universidade de São Paulo (USP) as one of the first university-based IAS. Due to the outstanding role of USP among Brazilian and Latin American universities, the IEA naturally also plays an important role at the national level. The same holds true for the Korea Institute for Advanced Study (KIAS) in Seoul, which was founded in 1996. KIAS has loose ties to the University KAIST and is a hybrid of national and university-based IAS. Thus, with respect to their time of establishment and national significance, IEA and KIAS would fit in the group of national IAS. Regarding their ties to universities, however, both structurally and with respect to personnel, they belong to the group of university-based IAS and should therefore be described in the following section.



Fig. 2. Generation of the National and independent IAS (1970–2000) Interactive map: https://www.uni-bielefeld.de/(en)/ZiF/Allgemeines/partner.html

5 The Third Generation (2000–): University-Based IAS in Times of Global Competition

In October 2010, representatives of thirty-two Institutes for Advanced Study from all continents came to Freiburg where, two years earlier, the Freiburg Institute for Advanced Study (FRIAS) had been founded. This institute originated in the framework of the German Excellence Initiative. In the course of its establishment, its founding directors had contacted a number of international institutes and gained the impression that it was time to take a closer

look at the international landscape of the IAS, as it had changed significantly within the previous ten years. Whereas in the end of the 1990s there were not more than twenty-five IAS, of which only four were university-based, ¹⁴ the number of IAS had rapidly increased from the millennium onward, adding several new institutions outside of Europe and the US. It is noteworthy that almost all foundations since 2000 have occurred at universities. ¹⁵ The number of IAS existing today is approximately 100-150 of which 80% are university-based institutions. ¹⁶ The university-based Institutes for Advanced Study (UBIAS) have thus evolved from being the exception to being the norm.

This remarkable development that can be observed across the globe can only be understood in the context of a changed science policy framework, which has led to increasing competition between universities worldwide. In the following, I shall therefore, first, briefly elaborate on the global framework conditions for the higher education systems before describing the development in the different regions of the world in more detail. Here it will be shown that there is a close functional connection between the appearance and shape of IAS and country-specific science policies. The extent of the functional variety corresponds to a diversification of IAS that shall be demonstrated by referring to individual examples from different world regions.

The national higher education systems of our time are confronted with two developments that have been known for a long while and have, at the latest, taken up speed with the beginning of the new millennium. They represent significant challenges for higher education and science policy in the individual countries (Altbach, 2015, p. 4): on the one hand, the number of students in the industrial nations has multiplied. In the OECD member states, the percentage of academic degrees in the population is meanwhile 40%, with a tendency to increase. On the other hand, the international competition in cutting-edge research has increased significantly as well. Since the first Shanghai ranking in 2003, which was the first international ranking of universities and which was followed by a number of other rankings, there is an international race to belong to the top-level group. The American and British elite universities remain at the top, but there is an embittered fight among the group of the 50 best universities. Especially European and Asian countries face the enormous challenge of dealing with the quantitative expansion of their higher education systems, on the one hand, and the increasing competition in cutting-edge research, on the other.

In China, this is particularly difficult as the expansion of the higher education system has only begun three decades ago and is now pushed forward with breathtaking pace: here, participation in tertiary education increased from 7.6% in 2000 to 48% in 2016 (DAAD 2018, p. 3). At the same time, Tsinghua University was able to establish itself in the group of international top-level universities, rising in the THE-Ranking from rank 52 in 2013 to rank 22 in 2019. In the 2018 Shanghai Ranking, it ranks 45, above Heidelberg and TU Munich. Seven Chinese universities are listed among the worldwide best 200 universities in the current THE-Ranking.

Finding a balance between the expansion of the higher education system and strengthening of global competitiveness is, however, also challenging for the traditionally strong nations of science in Europe and Japan. Whereas science and technology have long played an important role for the flourishing of the industrial states' economies, the transition to knowledge societies has made academic education and cutting-edge research key factors for the economic development

^{14.} These were as far as I can tell: the ZiF/Bielefeld (1968), the IASH/Edinburgh (1970), the IEA/São Paulo (1986) and the Peter Wall IAS/Vancouver (1991).

^{15.} With the exception of the IAS Nantes (2004) and the Polish Institute for Advanced Studies (PIASt, 2017).

^{16.} The total number is highly dependent on the definition. The list of the IAS I am aware of can be found at https://www.uni-bielefeld.de/(en)/ZiF/Allgemeines/partner.html

of a nation. The advent of international rankings after the millennium is one symptom for this fundamental change that industrial nations currently experience in this transition. If and how well this transition succeeds mainly depends on the competitiveness in top-level research. In this context, it is about recruiting or keeping the most talented people and to provide them with excellent conditions for their research. Correspondingly, performances in cutting-edge research and the education of young researchers have become economically relevant factors and indicators of the future development of the economies and are closely followed by investors: "In the twenty-first century, the capacity to compete globally is determined by the calibre of the higher education system, its graduates and its contribution to 'world science'; talent and knowledge creation are the new oil." (Hazelkorn, 2013, p. 88)

In order to promote cutting-edge research in times of massification of higher education, a number of countries have taken great effort to implement programs of excellence that brought large sums of additional funding for the best research projects and universities. These Research Excellence Initiatives represent a mixture of institutional and project-related funding schemes based on competitiveness and performance (performance-based funding scheme). More than two-thirds of the OECD states have introduced such Excellence Initiatives, most of them after the millennium (OECD 2014, p. 15).

In the course of this development, the principle of international competition between top-level universities was applied to national higher education systems in many places. In the egalitarian higher education system of Germany, for example, only some universities were at best perceived as top-level institutions before the German Excellence Initiative was launched. Internationally respected research, however, could and still can be found at nearly all German universities. As a result of the German Excellence Initiative, which was first carried out in 2005/2006, a group of top-level universities has meanwhile established itself in Germany, of which some have also been able to improve their international rank significantly.

In the course of international rankings, the role of the universities in national higher education systems has also shifted: while they used to be institutions whose purpose it was to provide research and teaching, they have now become actors in a global competition.

The wave of university-based IAS foundations also falls into this period of fundamental change. As we will see, motives and design of the IAS reflect this changing role of universities in the global competition. The sheer number of new university-based IAS has to be seen in the context of the global competition for the best talents and ideas and can only be understood against this background.

In the following, I shall outline the development of the IAS landscape in the past two decades in different regions of the world and in the context of the respective national science policies. It will be shown that university-based IAS serve as an instrument for strengthening competitiveness of the respective universities as well as of the national higher education systems.

To illustrate the broad diversity of IAS in different countries but also within countries, the institutional setting of a number of selected IAS in Asia (South Korea, China, Japan), Europe, Latin America (Brazil, Costa Rica), North America and Australia is briefly described below. Especially the presentation of selected cases benefits from my interviews and experiences on site. Their emergence is set into the context of the science policy development of the respective countries. Summary and analysis of the global development can be found in paragraph 5.4.

5.1 Institutes for Advanced Studies in Asia and Europe

5.1.1 KIAS: The South Korean Princeton

Following the Indian Institute for Advanced Studies in Shimla and the National Institute of Advanced Studies in Bangalore, the third IAS in Asia was established in 1996 in Seoul: The Korea Institute for Advanced Study (KIAS) was founded by then minister for higher education and physicist Geun-mo Jung according to the model of the IAS Princeton. As a former fellow at the IAS Princeton, Geun-mo Jung had experienced firsthand how successful and influential a small institute can be in bringing together outstanding researchers from across the globe. Moreover, as a physicist he was well aware of the significance of fundamental research for technological and economic development.

The Korea Institute for Advanced Study (KIAS) was founded in 1996 and affiliated to the University KAIST on its former campus in Seoul. Geun-mo Jung, in his first term as minister of higher education, had also been involved in the 1971 founding of KAIST, which, according to the model of Stanford University, brings together science, technology and enterprises. KAIST quickly became an internationally well-reputed research center and today belongs to the top Korean universities.

As a national institution, KIAS operates autonomously, but there are cooperations with KAIST. Following the model of the IAS Princeton, the School of Mathematics and the School of Physics were established first. Four years later, a third School of Computational Science was created, which, however, was much smaller than the first two schools. At the time, KIAS was the first research institution in Korea that was exclusively focused on theoretical basic research. Similar to the IAS Princeton, the institute has twenty-seven permanent faculty. In addition, there are eighty-nine postdoctoral fellows that are employed at the institute for a period of up to five years (as of November 2017). The Fellowship Program includes thirty-two international KIAS scholars who work at the institute for a few months per year over a longer period of time as well as a number of visiting professors who spend part of their sabbatical at KIAS. The objective is to build an international network of renowned researchers primarily from Europe and the US. Furthermore, a number of South Korean scientists are affiliated to KIAS. The institute basically follows the idea of IAS Princeton to provide outstanding scholars with optimal working conditions without any teaching obligations. Due to its large number of postdocs and foreign fellows, KIAS shows similarities to a non-university research center for basic research in mathematics and physics. It is thus a hybrid form of a Max-Planck-Institute¹⁷ with a distinct fellowship program providing scholars with freedom in research, as is typical for an IAS.

The encompassing conference program helped in establishing KIAS as an international hub for theoretical sciences. In the framework of a transdisciplinary program, there is to some extent exchange between the schools, but — like in Princeton — the thematic focus is on specialized basic research. Since 2014, the *Center for Advanced Computation*, the *Center for Mathematical Challenges* and the *Quantum Universe Center* have been defined as priority programs in which project-based interdisciplinary collaborations are to be conducted.

In the mid-1990s when the institute was founded, South Korea experienced a phase of stabilization and economic upswing. In the wake of the Korean War and within a few decades, South Korea's (higher) education system developed rapidly after introducing compulsory schooling. The number of higher education institutions has tripled between 1965 and 2015.

^{17.} Max Planck Institutes are German non-university research institutes that are built to pursue long-term research projects in order to connect German research to international, especially US, science often centered around leading researchers in the field.

Today there are 226 universities of which 80% are privately funded. The percentage of academic degrees in the population has risen meanwhile to 70%. This massive expansion, however, has also led to quality problems in research and teaching. Due to recurring political tensions in this region, it is also a challenge to bring international researchers to South Korea or to have the best of them stay.

As a center of excellence, the KIAS acted as a pioneer in developing an internationally competitive research landscape in South Korea. It was indeed successful in bringing back several distinguished Korean scientists, especially from the US. Due to the flexible system of KIAS Scholars, there is moreover close exchange with the international scientific community, and renowned researchers such as Nobel laureate John M. Kosterlitz could be won as distinguished professor. About two thirds of the postdocs remain in the country after leaving KIAS and work permanently at a domestic university or research institution, so that KIAS has a strong impact on young academics in the fields of mathematics and physics. In the future, KIAS plans to implement a Junior Fellow Program and, in collaboration with KAIST, a graduate Center for Theoretical Sciences in order to further promote young researchers and to strengthen its ties to the university.

In the first fifteen years of its existence, KIAS as a research institution for basic research was unique in a nation that has traditionally been strongly oriented toward applied sciences. With the founding of the *Institutes for Basic Science* (IBS), whose headquarters are located in Daejeon, thirty additional research institutions have been created in different cities according to the model of the German Max-Planck-Institutes and the Japanese RIKEN Institutes since 2011. Some of these are university-based.

"We have so far copied and pursued advanced technologies," said South Korean President Lee Myung-bak in a speech at the opening of an IBS. "However, in order to make a leap into the ranks of advanced, first-class nations, we must develop a history of creation based on basic science and fundamental technologies" (cited after Park, 2012).

In its Excellence Initiative, South Korea invests heavily in basic research and non-university research institutes. The KIAS can be considered as an institutional predecessor of this model of promoting excellence. It remains to be seen whether the new institutes are able to attract a sufficient number of renowned scholars as well as young and talented researchers. Young talents from the KIAS, however, currently have excellent career opportunities at the new IBS.

5.1.2 Institutes for Advanced Study in China

Similar to the KIAS in South Korea, Chinese IAS are part of governmental programs to promote top-level research. The IAS in China are, however, predominantly based in the social sciences and humanities: Since 2005, fifteen university-based Institutes for Advanced Studies with thematic focus in the social sciences and humanities have been established. In the natural sciences, the number of IAS such as e.g., at Wuhan University (2014) and Tsinghua University (IASTU) in Beijing (1997)¹⁸ is much smaller.

The first Chinese Institute for Advanced Study was created at Nanjing University in 2005. It focuses mainly on social sciences and the humanities and is open to newly appointed professors of the university. The IAS in Nanjing is an example of an institution in which external fellowships are not the central element, but which is predominantly concerned with shaping

^{18.} Since the name Institute or Center for Advanced Studies in China is also used for regular research centers, it is difficult to give a more exact number of IAS. A list of members of the CN-IAS can be found at:. https://www.uni-bielefeld.de/(en)/ZiF/Allgemeines/partner.html

the future generation of researchers: Each year, five to eight faculty members from different departments of the university are invited to work at the Institute and to discuss their projects in regular meetings. Within and between the fellow cohorts, which involve a small number of selected undergraduate students as junior fellows, cross-disciplinary collaborations should be inspired and promoted. Common projects that have emerged from this rather informal exchange are, for example, research groups and third-party-funded projects on Environment and Society, Gender Studies, Studies in Chinese Classics outside China, Public Memory Studies or Digital Humanities. Moreover, the IAS supports international exchange via shorter fellowships for distinguished foreign scholars and the conduction of workshops and lecture series. In addition to the promotion of interdisciplinary collaboration and international networking, the third main objective of the IAS is to support young researchers. In this context, the goal is to prepare particularly talented students and graduates in small interdisciplinary courses (Liberal Arts Reading Schemes, Elite French and German Classes) for stays abroad and to help them in learning to think across disciplines. The main focus of the program is, however, oriented at promoting the next generation of academic teachers as well as a more flexible university administration. The IAS Nanjing considers itself as providing a space for interdisciplinary and intellectual exchange as well as for networking of young researchers who will shape the future of the university and of society.

The head of the IAS and dean of the humanities, Zhou Xian, aims at opening up Chinese humanities and making the field internationally more competitive. The traditionally very strict disciplinary organization within the university as well as a lack of opportunities for international exchange are obstacles that need to be overcome. The IAS, however, provides a unique and unrestricted space within the university and sets new standards in cross-disciplinary exchange especially through institutional and administrative flexibility. Shaping the next generation of academics and forming a network among young professors is the most important objective of the IAS. Former as well as current fellows have confirmed that they would benefit from open and free exchange among each other. In this context, the charismatic guidance by Zhou Xian and his encouragement to think independently are of great importance.

The IAS at Nanjing University was founded in the context of governmental efforts to improve the international competitiveness of Chinese universities. Since the mid-1990s, the Chinese government has invested heavily in the expansion and improvement of universities. In order to make the nation's best universities internationally more visible and competitive, the Ministry of Education (MoE) introduced the so-called 985 project in 1998, which is the Chinese Program of Excellence for the development of top-level universities (DAAD, 2018, p. 5). In the framework of this program, overall thirty-nine universities, including Nanjing (one of the leading Chinese universities), were supported with a significant amount of money. The establishment of an Institute for Advanced Study in 2005 was to serve as an instrument to realize the goals of the 985 project in the social sciences and humanities by promoting internationalization, scientific exchange with foreign partners as well as collaborative and interdisciplinary research.

The Chinese Excellence Initiative was revived in 2017 with the implementation of the "New Chinese Double First Class University Plan." This Initiative strengthens previous efforts of increasing the level of scientific research at Chinese universities. The document "Implementation measures to coordinate development of world-class universities and first-class disciplines construction," published by the Ministry of Education in January 2017, declares the establishment of international top-level universities and areas of research until the year 2050 as the ob-

jective and includes a list of thirty-six first class universities in category A. 19

Among the strongest Chinese universities in this list is also Fudan University in Shanghai, which has already been considered one of the nation's best universities for a long time. In 2008, the Fudan Institute for Advanced Study in Social Sciences was founded at this university in the context of the 985 project in order to promote international and interdisciplinary exchange. More strongly than at IAS Nanjing, the mission of this institute is guided by strategic research goals: "In particular, the IAS aims to support the advancement of the Fudan University's mission: 'Double First-Rate Plan'." As an international and interdisciplinary institute, it is supposed to provide impulses for the disciplines, inspire joint academic programs and promote excellent research and publications. The research activities of the institute should also have a societal impact and contribute to the national development as well as provide the government with advice on strategic issues.

The Fudan IAS is directed by Guo Sujian who is also a professor of Political Science at San Francisco State University, and consists of eight permanent research fellows, sixteen university affiliated fellows, twenty-two adjunct research fellows, six to ten resident research fellows (faculty members of Fudan University) and three to six distinguished visiting scholars. In addition to the small fellowship program, the institute conducts interdisciplinary research groups. Currently, there are two groups on the themes "Value" and "Institution" which are supposed to include normative as well as empirical research approaches. Advanced Summer Programs are offered for young researchers and it is possible to participate in the annual projects as a "young resident fellow."

The IAS also produces the *Fudan Journal of the Humanities and Social Sciences*, a peer-reviewed academic quarterly journal published by Springer. It appears in English and covers a broad spectrum of research in the social sciences and humanities. Distinguished visiting scholars as well as contributors to the international conferences at Fudan IAS are invited to publish in this journal. In doing so, the IAS ensures that the research activities at the institute as well as in the departments are disseminated widely and the international impact increases. "Fudan IAS (...) strive to explore new academic mechanisms both aligned with international standards, and promote the exchange of China's social science research with the world academic community."²¹

A "classic" IAS model can be found at Zhejiang University (also one of the top-level universities in China) in Hangzhou: the Institute for Advanced Study in Humanities and Social Sciences was founded in 2014 and basically designed according to its model CASBS in Palo Alto. It has a fellowship program with approximately twenty domestic and foreign researchers and focuses on the promotion of basic research in the social sciences and humanities as well as cross-disciplinary research. The institute's internationality, however, is limited due to the precondition that Mandarin is the working language. In the framework of a visiting scholar program, purely English-speaking guests are also invited for short stays and have the opportunity to conduct workshops and conferences in cooperation with Chinese colleagues. The founder and current director is Zhao Dingxin who, aside from his work at Zhejiang University also holds a professorship of sociology at the University of Chicago, has established the Institute as a bridge for scientific exchange between China and other countries.

The concepts of the three IAS at Fudan University, Nanjing University and Zhejiang Uni-

^{19.} https://cwauthors.com/article/double-first-class-list (15.01.19)

^{20.} Presentation of the Fudan IAS by Guo Sujian, Dean of Fudan IAS, November 2017 in Nagoya.

^{21.} ibidem

versity differ strongly, but they pursue a common goal, namely, to strengthen the internationalization of research at the respective universities and to make administrative and institutional structures more flexible by promoting interdisciplinary research projects.

Almost all of the existing Institutes for Advanced Study in the humanities and social sciences are based in universities of class A: Of the thirty-six Chinese universities listed in the Double First Rate, about a third (eleven) has established such an IAS. Following an initiative of the IAS Nanjing, these institutions have formed a network of Chinese IAS (CN-IAS) in 2015, the goal being to establish cross-university and interdisciplinary research groups and to conduct common lecture series. The collaboration between the IAS should also strengthen national efforts of reform with regard to optimal support for excellent research at Chinese universities. Thus, the Charter for China Network of Institutes for Advanced Studies (version 2018) states:

China is currently in a critical period of deepening the drive for reform and innovation. Institutes for Advanced Studies (or Research) (...) constitute an important starting point for the reform of scientific research at higher education institutions.²²

At a meeting in 2016, the member institutions agreed on the following goals:²³

- Deepening reform and improving quality within Chinese institutions of higher education
- Reform in managing and coordinating research work
- Construct first-rate academic atmosphere
- Building interdisciplinary institutes and platforms
- Serve the needs of the nation in revitalizing existing strengths, encouraging crossborder synergetic cooperation, designing guidelines for future research, fostering interdisciplinarity and excellence

It would take an individual and detailed study in order to gain a complete picture of the development of the IAS in China also in the natural sciences, but it is truly remarkable that within a short period of ten years fifteen Institutes for Advanced Studies have been established in the social sciences and humanities at top-level Chinese universities. It would surely be an exaggeration to say that the Chinese government has invested massively in the humanities. Just like in many other countries, in China, too, the natural and engineering sciences receive far more financial support. It should also be noted that not all of the fifteen IAS have a sufficient budget to conduct fellowship programs or individual research activities. Some are limited to organizational tasks such as holding public talks or inviting guest lecturers (according to information by the Dean of Fudan IAS, Guo Sujian). In spite of this, the growing number of these IAS can be considered as an indication of intensifying efforts among the Chinese government and universities regarding the international significance and visibility of the humanities (Yang & Yeung,

^{22.} Translation by Cong Cong, Deputy Director of IAS Nanjing, https://www.uni-bielefeld.de/(en)/ZiF/Allgemeines/partner.html

^{23.} http://ias.nju.edu.cn/fc/19/c13157a261145/page.htm 19.01.19

2002). Other activities, such as the founding of 100 social science research institutes at Chinese universities in the past twenty years as well as numerous invitations of Western scholars for shorter or longer guest visits or measures for winning back social scientists who moved abroad illustrate the political will of making the humanities internationally more competitive. It is also noteworthy that Western publishing consortia have discovered China as a market for research literature in the humanities and social sciences. While there are still tremendous problems of academic quality, and in recent years a campaign at the top-level universities against "Western thinking" has obstructed international exchange, it is clear that the internationalization of research and science (including the humanities) is continuously promoted. This engagement is prompted also in view of the value of the social sciences and humanities in the modernization process of the country as well as the significance of a more active participation of Chinese social scientists in the international discourse.

The Chinese IAS differ strongly with respect to size, structure and financial means. In spite of their small size, they could play a relevant role in the international opening of the humanities and social sciences, the reformation of university structures, and the establishment of interdisciplinary research cultures. In a science policy context, they are an indicator of Chinese ambitions to play a more active role internationally also in the humanities and social sciences.

5.1.3 Institutes for Advanced Study in Japan

In Japan, there are currently eight institutions that call themselves Institutes for Advanced Study. However, only the Institute for Advanced Research of Nagoya University (founded in 2002), the Waseda Institute for Advanced Study in Tokyo (founded in 2006), and the Hakubi Center for Advanced Research of Kyoto University (2009) are institutionally autonomous. The other IAS²⁴ focus mainly on bundling university-internal research activities or function as umbrella institutions for research centers. The International Institute for Advanced Studies of Kansai Science City near Kyoto, which was originally founded in 1984 according to the model of the ZiF (Bielefeld/ Germany), meanwhile has turned to the promotion of practice-oriented projects on sustainability involving government representatives and politicians. Since the institute is strongly oriented toward policy advice and cooperation between research and the economy, it is rather a think tank and will thus not be considered in more detail here.

The Institute for Advanced Research of Nagoya University (IAR Nagoya), the Waseda IAS (WIAS) and the Hakubi Center for Advanced Research (Hakubi CAR) of Kyoto University focus in their fellowship programs on the promotion of postdocs who are employed at the institutes for a period of 3-5 years. During this time the fellows can pursue their individual research projects freely and without any additional obligations. The interdisciplinary groups of fellows at both institutes consist of thirty-fifty postdocs each. The IAR in Nagoya has a thematic focus in natural sciences and engineering. The fellows meet regularly and discuss their projects with each other, and interdisciplinary cooperation is supported. Aside from promoting young researchers, excellent research and interdisciplinary collaboration, all three institutes have played an important role in the introduction of a university-wide tenure track program.

The institutional preconditions and rootedness of these institutes within their respective universities are surely very different: Within the research-intensive Nagoya University, the IAR forms an elitist special space where young and talented researchers as well as renowned scientists of the university are brought together. The "IAR Academy" consists of sixteen well-reputed

^{24.} UTIAS/Tokyo University (2011), HIAS/Hitotsubashi University (2014), Kyushu University IAS (2009), Yokohama National University IAS (2014), Kyoto University IAS (2016).

professors of the university, of which six are Nobel laureates. They advise the IAR and the university leadership on issues related to strategic planning and conduct seminars for the younger researchers. Moreover, the IAR supports excellent research projects and promotes international networking. In the Excellence Strategy of the University, the IAR plays a central role: "(...) the IAR envisions leading the way in innovative and wide-ranging projects, and strives to attain our goal of making Nagoya University a world-leading research university" (Message from the Director Yoshiyuki Suto).²⁵

Waseda University is one of the research-intensive private universities in Japan with a focus on applied sciences. The establishment of WIAS in 2006 was connected to the "Program to Promote Environmental Improvement for Independence of Young Researchers," which was conducted by the Ministry of Science with the objective of introducing a tenure track system at Japanese universities. Since the program's end, the legitimation of the WIAS within the university is increasingly questioned. As a result, there are efforts for involving the departments in the selection of fellows, to cooperate with the departments in research projects and to initiate research across departments ("special research zone"). Furthermore, a fellowship program for the promotion of collaborations between visiting scholars and department members has been newly implemented. Moreover, several young fellows voluntarily participate in teaching and cooperate with scientists from the university.

The Hakubi CAR of Kyoto University is dedicated to a close coordination of the recruitment process with the departments and the universities' research institutions. In addition to the Global Type Grants, a second line of funding was implemented in 2016 with the Tenure Track Type.²⁶

In their respective universities, all three institutes are platforms for interdisciplinary cooperation, conferences and symposia. However, it is the institutional promotion of young researchers that makes them unique institutions at Japanese universities and with which they contribute to the reform of Japanese higher education institutions. In the hierarchical Japanese higher education system, young researchers hardly have the freedom to unfold their own academic interests. The supervisors usually determine the theme of research and burden the young researchers with occasionally extreme demands regarding their work. Thus, *academic harassment*²⁷ is a huge and meanwhile openly discussed problem at Japanese universities. The strong dependence on academic supervisors and the traditionally hierarchical relationship between teachers and students result in the fact that intellectual freedom begins only with a *tenured position* and even then remains subject to the principle of seniority. The IAR in Nagoya, the WIAS in Tokyo and the Hakubi CAR in Kyoto counter this structural weakness of the Japanese higher education system and provide young researchers with spaces of academic freedom.

In this context, they also play an active role in the reform of career pathways and promote the introduction of a tenure track system in order to make Japanese universities more competitive in the recruitment of young researchers. In view of the demographic development, this aspect will be of great relevance in the coming decades for the future of Japanese higher education.

As we have seen, the establishment of university-based IAS in Asia is directly linked to national initiatives to improve the competitiveness of their top-level universities. The respective

^{25.} http://www.iar.nagoya-u.ac.jp/greeting.php (08.05.2019)

^{26.} https://www.kyoto-u.ac.jp/en/research/fields/centers/hakubi.html

^{27.} Academic harassment: Non-sexual harassment in a university setting is termed "academic harassment" in Japan (Takeuchi et al., 2018, p. 38). See also Fuyuno (2017).

institutional features depend on the country-specific context and also shaped by the particular emphasis of the directors. In China, the IAS serve to internationalize the humanities and social sciences, in South Korea, the KIAS serves as an instrument to recruit international scientists, and in Japan, the IAS offer freedom for research, especially for young scholars.

5.1.4 Institutes for Advanced Study in Europe

Similar to the development in China and Japan, new university-based IAS (UBIAS) have been established in Europe since the millennium, albeit in a larger number. Excluding the Humanities Center in Great Britain and the Käte Hamburger Kollegs in Germany, there are currently forty-three European UBIAS (as of June 2019; ten in Germany, eleven in Great Britain, nine in France, three in Finland, two in Italy, one each in the Netherlands, Ireland, Switzerland, Denmark, Sweden, Croatia, Hungary, and Spain).²⁸

In times of tighter and decreasing public funding, necessary preconditions for the founding and establishment of university-based IAS are external donations and third-party financial support. In Germany, half of the currently existing UBIAS (five of ten) were founded with funds from the Excellence Initiative.²⁹ Due to their strong institutional flexibility, the IAS are particularly well suited as an instrument for strengthening the further development of the university as an institution. Depending on the profile and mission of the university, a correspondingly broad spectrum of university-based institutes has emerged which differ with respect to size, structure and shape. Aside from promoting outstanding internal and external scholars and research initiatives, the TUM-IAS in Munich has also created a space where researchers from the university can meet with counterparts from industry. The University of Konstanz has introduced the Zukunftskolleg — which is comparable to the Japanese IAS — a structured promotion of postdocs that is supposed to attract promising young researchers to Konstanz. The CAS/LMU Munich focuses on the systematic establishment of international cooperations, the development of innovative research projects and residencies for scholars from the LMU. The Lichtenberg Kolleg in Göttingen shows similarities but is exclusively focused on the humanities and social sciences and primarily supports young researchers. Although different in shape, all of these IAS offer space and time for research without any teaching or administrative duties. Considering the heavy teaching burden of German scholars compared to their international counterparts at leading universities in the US and UK, it meant to be the right way to foster the research capacity at German universities.

A particularly ambitious experiment was launched in 2008 at the University of Freiburg which placed Freiburg Institute for Advanced Studies (FRIAS) at the heart of its "institutional strategy." FRIAS resembles the IAS Princeton in that it has four specialized schools with twenty internal and external fellows each. The schools were established in the research-intensive areas of the University³⁰ and provided the opportunity to develop and expand far-reaching international research cooperations as well as sabbaticals for department members. However, the strength of this ambitious concept in the end turned out to be its weakness: While it was possible to attract a number of renowned researchers to Freiburg and

^{28.} An entire list of IAS can be found at: https://www.uni-bielefeld.de/(en)/ZiF/Allgemeines/partner.html

^{29.} FRIAS/Freiburg, CAS/LMU München, TUM-IAS/TU München, Lichtenberg Kolleg/Göttingen, Zukunftskolleg/Konstanz. In addition, the Marsilius Kolleg at Heidelberg University and the Gutenberg Kolleg at the University of Mainz were founded. Both are, however, platforms for internal sabbaticals and project funding and do not house external fellows. They are therefore not included here.

^{30.} FRIAS Schools 2008–2013: History, Language and Literature, Life Sciences, Soft Matter Research.

increase international visibility in these fields, the proposal for continued funding was rejected in the third round of the Excellence Initiative.³¹ FRIAS was subsequently strongly reduced in size, the four schools were abolished, and an open application process for individual and group formats in all disciplines was introduced. The new concept was successful in acquiring EU funds (EURIAS and Marie-Curie-Cofund Fellowships) with which a large amount of individual stipends are co-financed. Furthermore, cooperations with strategic partners such as Nagoya University are anchored in FRIAS. FRIAS has thus evolved from a mainly autonomous research institute with four specialized schools to an instrument for promoting research within the university, which also serves the generation of third-party funds and the establishment of strategic partnerships. The example of FRIAS illustrates a general challenge for the university-based IAS: On the one hand, they are supposed to provide maximum freedom of research and for researchers and, on the other hand, they have to serve their universities. It is a challenge for them to find a good balance between these two institutional goals in order to achieve both scientific recognition and acceptance and support by their university in the long run.

A similar development as in Germany can be observed in the UK: In the past twenty years, ten IAS have been established at British universities and additional ones are planned. The framework conditions are, however, different: the incentive to found IAS was driven by the fact that universities here experienced increasing pressure due to the introduction of a regularly conducted governmental assessment procedure. The Research Assessment Exercise (RAE), launched in 1986, and its successor program, the Research Excellence Framework (REF, since 2008), aim at efficient and effective allocation of funds along with a need to inform the public about the legitimacy regarding the use of taxpayer money for society and the economy.³² In addition to quality of research, also measures for knowledge transfer, impact beyond academia, and university-internal structures for the promotion of research are the focus of the assessment procedure. In this context, interdisciplinary research is considered to play a significant role in dealing with complex problems with respect to the global grand challenges.

The wave of university-based IAS foundations in the UK since the 2000s has been significantly influenced by these new framework conditions for higher education funding. IAS are well-suited as strategic instruments for promoting cross-disciplinary research activities and for generating third-party funds. Moreover, they can play a role in transferring knowledge to society. The promotion of interdisciplinary research plays an important role in all British IAS, also with regard to the preparation of larger third-party funded projects. Thus, the website of the 2013 founded Institute of Advanced Studies at the University of Birmingham reads:

The IAS grew from an idea that in order to fully explore our own intellectual capital there was a need for more effective collaboration across the institution. (...) Such research is important because many of our major human societal concerns require interdisciplinary inputs, and the major funding agencies are increasingly putting forward thematic areas which require such inputs to be successful.³³

^{31.} According to the reviewers, the schools had led to the formation of university-internal research centers that had too little connection to the rest of the university and did not contribute to teaching. As a result of the critical reviewer report, the University of Freiburg thus lost the additional funds of the third line of funding as well as the precondition for continuing the Princeton model.

^{32.} See Martin, 2011.

^{33.} https://www.birmingham.ac.uk/research/activity/ias/about/index.aspx (30.08.19)

The IAS are, however, not solely focused on strategic promotion of research. They usually also conduct fellowship programs, organize symposia and workshops, support the exchange between art and science, and host public presentations and discussions. Some IAS also explicitly consider themselves as spaces for intellectual debates and critical thinking for instance the 2015 founded Institute of Advanced Studies at University College London.³⁴

Since the British system of higher education is more strongly economized than the German one, the pressure for the British IAS to achieve direct benefits for their university is also stronger. Accordingly, a higher dynamic in the establishment and closure of IAS in the UK can be observed. If they can't prove to be beneficial for their university in acquiring external funding or prestige they could be closed again before long.

In France, the foundation of university-based IAS began a bit later: After the establishment of the Institut des Hautes Études Scientifiques (IHES) in 1958 as the first IAS in France, it would take about another forty years before a second special type of institution was created in Orléans in 1996, the Le Studium — Loire Valley Institute for Advanced Study. Le Studium is oriented toward the development of human capital for the region and invites scientists to stays at public and private research institutions and laboratories. The main focus is on creating a network between different actors in the region and the promotion of transdisciplinary and inter-sectoral exchange. The actual surge of foundations in France began in 2006, when four new French IAS³⁵ with a focus on the humanities and social sciences were established in rapid succession in Lyon, Marseille, Nantes, and Paris. Similar to the German situation, these IAS resulted from national efforts to increase the competitiveness of French universities. In contrast to its German counterpart, the French Excellence Initiative is not so much focused on the competition between universities but rather on developing networks of excellence and is subject to a stronger central administration. Thus, since 2007, the research activities of these four IAS are coordinated and co-financed by the national RFIEA Foundation (Réseau français des instituts d'études avancées) according to the principles of diversity and complementarity. RFIEA also handles the organization of application and selection procedures as well as public relations. In addition to the Foundation's funding of 14.1 million €, another 8.5 million € were acquired in 2012 in the Excellence Laboratory of the French Excellence Initiative, so that the annual budget of the individual IAS was increased significantly. Three of the four IAS are university-based, but do not limit their activities to the respective university. Instead, they are oriented toward local networking with neighboring universities, non-university research institutions and the private sector. Due to the central coordination, the four IAS have developed different profiles that can be understood as strategic embedding of the IAS in France's research landscape.

Four additional IAS³⁶ have been established at universities in Toulouse (2011), Strasbourg (2012), Cergy Pontoise (2016) and Montpellier (2019), three of which were funded by the French programs of excellence IdEX and LABEX. Another one is planned at Université de Bordeaux. These institutes are also oriented toward regional networking between university-based and non-university research with a strong outreach on society and economy.

In the past ten years, new university-based IAS have also been established in many of the smaller European states. At the IAS of the University of Amsterdam, for example, Dutch and

^{34.} https://www.ucl.ac.uk/institute-of-advanced-studies/about-us (30.08.19)

^{35.} IMéRA Marseille, Collegium de Lyon, Nantes IEA, IEA Paris.

^{36.} L'Institut d'études avancées de l'université de Strasbourg (USIAS), L'Institut d'Études Avancées de l'université de Cergy-Pontoise (IEA), The Institute for Advanced Study in Toulouse (IAST), Le Montpellier Advanced Knowledge Institute on Transitions (MAK'IT).

international visiting scientists have worked together in the field of complexity research since 2016. And since 2013, approximately thirty outstanding international postdocs and senior fellows are invited annually to the Aarhus Institute of Advanced Study (AIAS) in Denmark for a period of up to three years for the purpose of collaborative research with scholars from the University of Aarhus. In the six years since its founding, AIAS has developed into a driving force for the internationalization of the University and each year receives applications from around the world. The so far only IAS in the Iberian Peninsula, the Madrid Institute for Advanced Study (MIAS), was established in 2016 as part of the UAM-CEI International Campus of Excellence and in cooperation with the Casa Velázquez. In Italy, aside from the Instituto di Studi Superiori at Bologna University, a second IAS has recently been founded with the Studi Avanzati dell'Universitá di Torino Scienza Nuova. Additional ones are planned.

The existence of many of these newly founded IAS depends on the successful acquisition of external third-party funds such as, for example, the EU's Marie Curie COFUND program. In addition, until 2021 the EURIAS Fellowships program, a European funding program, is available for members of the netIAS, which is a consortium of twenty-four European IAS. However, the program was not extended beyond 2021.³⁷

As we have seen, the wave of foundations of university-based IAS in Europe and Asia occurred within the context of the increasing global competition in higher education. In some countries, universities use funds from national Excellence Initiatives in order to finance the IAS, which are seen as levers to remedy structural weaknesses of the respective university system. In other nations, the IAS are used to prepare interdisciplinary joint proposals and thus acquire additional third-party funds. In all cases, the IAS add a new structural element to the university that promotes exchange between disciplines as well as international collaborations. An additional increasingly important function of an IAS is also to mediate between the university and the public. In the emerging higher education systems of Latin America, this element is in fact a central task of the IAS — albeit for different reasons.

5.2 Institutes for Advanced Study in Latin America

The leading research universities in Latin America are not exclusively places of teaching and research but also play an important role for the political and social development of their countries. In the economically and politically less stable countries of Latin America, they have a special responsibility for the development of democracy and mediation between science and society. This special responsibility as "state-building universities" (Altbach, 2007, p. 8) thus characterizes the structure and mission of the Latin American IAS. In fact, the IAS seem to be particularly well suited to promote an active exchange between academic elite and societal actors.

The largest and oldest IAS in Latin America was founded in 1986 at the Universidade de São Paulo (USP). After the end of the military dictatorship in Brazil in 1985, universities were seeking a new beginning and strove to develop international relations in academia. The Instituto de Estudos Avançados (IEA–USP) was designed for precisely this purpose:

(...) In summary, with the creation of the IEA, the president's office of the University of São Paulo seeks to fulfill a long-standing aspiration of our faculty and

^{37.} This was especially due to political demands of the ERC to prioritize employment over stipends. As a result, the EURIAS program became less attractive for a number of IAS.

provide another instrument for the university to redeem its own history, stimulating an endogenous, yet internationalist process of critical reflection.³⁸

From its beginning the IEA aimed to be an intellectual center and place of academic freedom within the University: "The institute is defined by its commitment (...): not only a commitment to knowledge and to the University, but also to social issues, the responsibility to take part" declared then-Director César Ades at the 25th anniversary of the institute and emphasized the political dimension of the IEA (Ades, 2011, p. 159). Still today, IEA-USP promotes interdisciplinary research groups on boundary-crossing themes such as Recent Therapeutic Biotechnology and Traditional Medicine or Amazon Transformation and supports subbatical years for renowned scientists of the University. Moreover, the institute includes a Chair of Art, Culture and Science to award outstanding personalities from public life, such as the political activist Eliana Sousa Silva, as well as a Visiting Professors Program. In order to initiate discussions and critical reflections within the University, the IEA each year conducts a number of conferences and workshops on current issues as well as events with fellows working at the Institute. The IEA aims to be a space for critical reflection on university and society and considers itself as an interface between science, society, and culture. The contributions and debates are published in the IEA's wide spread journal Estudos Avançados, which focuses on the intersection between cutting-edge knowledge and the fundamental problems of Brazilian society. Indexed at SciElo — a highly frequented online platform in Latin America — it is among the most read journals and has a strong impact on academic and public discussions. Furthermore, the IEA aims to increase societal involvement via online streaming and by cooperating with media.

By stressing also the political dimension of an IAS and promoting academic reflection applied to societal problems, a new key element of IAS emerged at the IEA-USP that was not part of the already existing IAS in the US and Europe at that time. The first two generations of IAS may have had political agendas regarding science policy but did not explicitly target societal issues. On the contrary, they considered themselves more as ivory towers for pure research. Accordingly, the political activities of Albert Einstein during his time in Princeton were not wholly appreciated by Abraham Flexner. However, in the particular political and societal environment of Brazil and other Latin American countries, academia finds itself directly responsible for the future development and stabilization of democracy. By making sure that the IEA is a non-instrumentalized territory, it is until now an open forum for interdisciplinary and intellectual debates.

Overall, there are seven institutions in Brazil that bear the words "advanced study" in their official name. Compared to IEA-USP, most of them are smaller and less autonomous. However, interdisciplinary projects on issues relevant to society as well as reflections on academic framework conditions and the future of the university are also core activities of, for example, the Instituto de Estudos Avançados Transdisciplinares da Universidade Federal de Minas Gerais (IEAT-UFMG) and the Instituto de Estudos Avançados der Unicamp (IDEA-Unicamp) in Campinas.

The Instituto de Estudios Avanzados del Litoral (IEA Litoral) in Santa Fé (Argentina), which was founded in November 2018 on the occasion of the 100th Anniversary of Universidad Nacional del Litoral, also places the significance of science for society at the core of its institutional strategy. In cooperation with the municipal government and the involvement of representatives from industry and society, each year themes are selected that are of particular

^{38.} http://www.iea.usp.br/en/iea (09.05.19)

importance for the development of the city and the region. In this context, internal and external fellows are invited to conduct collaborative research. The institute is thus supposed to promote the international visibility and networking of the university as well as the effectiveness of research for society.

The first IAS in Central America was established in 2014 with the Espacio Universitario de Estudios Avanzados at the Universidad de Costa Rica (UCREA). Since 2016, there are annual internal calls at the university for interdisciplinary research groups, of which so far eight projects from the natural and social sciences have been funded in the first two years. The selection criteria are interdisciplinarity and scientific excellence. Furthermore, UCREA aims to focus on issues relevant to society, particularly in international cooperation.

The core idea of the UCREA, however, goes beyond the current funding of projects: The establishment of the UCREA is supposed to initiate a process that makes the universities' funding of research more flexible across disciplinary boundaries. In the long run, fellowship programs for talented young researchers are supposed to be established in a second step. This should help in the internationalization of the university as well as in creating new spaces of freedom in research. Thus, in the so far mainly egalitarian and young higher education system of Costa Rica, which is also characterized by non-academic recruitment criteria, UCREA is to serve as a tool for initiating cultural change within the university toward a performance-oriented funding of research and a more flexible administration. In this sense, UCREA could become a cornerstone for the future development of the university.

In Costa Rica's higher education system, in which governmental funds directly go to the universities, the principle of performance-oriented and externally evaluated allocation of funds is still largely uncommon. University leaderships usually distribute funds proportionally to the departments. As the largest and strongest university in research, Universidad de Costa Rica plays a systemically relevant role for science. The introduction of a merit-driven system within the University should serve as a first step in modernizing Costa Rica's higher education system and, in the long run, promote its competitiveness and internationalization.

5.3 University-Based Institutes for Advanced Study in North America and Australia

Also in the US, several university-based IAS have been founded since the millennium, albeit not in large numbers. In 1999, Harvard University transformed the traditional Radcliffe College, which originally was a college for women, into the Radcliffe Institute for Advanced Study. Together with the Schlesinger Library, which has the largest collection of documents of the women's movement in the world, a fellowship and workshop program, Radcliffe IAS attracts numerous researchers each year. A fellow cohort of fifty scholars and artists, who are selected in a very competitive procedure with an admission rate of only 4%, is formed every year. Radcliffe IAS follows the tradition of the former college and places special emphasis on the promotion of outstanding women. The majority of the fellows come from other American universities, but many have an international background. Within the University, the IAS aims to be an intellectual center for the university ("one Harvard") that works and impacts across disciplines. The mission statement of a more integrated university was created during President Drew Gilpin Faust's time in office, who had previously been dean at the IAS and who had experienced the work with the multidisciplinary fellow groups as very rewarding. Radcliffe IAS is an experiment to interlink the de-centrally organized university more strongly with autonomous departments and schools and to promote common research ideas.

In the framework of recruitment procedures, sometimes additional sabbaticals are offered

at Radcliffe IAS as incentives ("to sweeten it"). In a strategic sense, Radcliffe IAS is thus an instrument for optimization in an already widely optimized university context. The proportion of internal fellows will most likely increase in the future in order to strengthen the institute's ties within the University. In the program "Adventures," department members can apply for workshops and conferences on cross-disciplinary and innovative issues. Radcliffe IAS thus also considers itself as an incubator for new and interdisciplinary ideas. In cooperation with partners from outside academia, the IAS moreover conducts several research projects on *Urbanism in the 2 1st century, Native and Indigenous People* and *Boston Area Studies*, which have a local orientation and which also serve the visibility of Radcliffe IAS at its location. In the framework of a fundraising campaign, the enormous amount of overall 85 million USD has been acquired during the past seven years, so that the Institute is financially autonomous and can be considered a flagship for the University.

The founding of the Neubauer Collegium for Culture and Society at the University of Chicago in 2013 was made possible by a large private donation. The basic idea of this institution is to promote collaborative research in the humanities and to strengthen their societal relevance. In this context, cultural sciences and humanities are considered to be fundamentals of humanistic research in general. The Neubauer Collegium especially supports research projects with strong societal relevance and is dedicated to strengthening the visibility of the humanities beyond academia by integrating humanistic research approaches into the natural and engineering sciences as well. Therefore, the Collegium not only involves scientists in its research activities but also people from public life such as journalists, politicians, representatives of minorities, authors and curators. Art exhibitions are an integral part of research at the Institute. Research topics and projects are proposed at the Collegium by scholars from the University of Chicago and conducted in collaboration with external fellows. In the future, the Collegium aims to become more active on the global level and to also integrate fellows from the global South. With its idealistic approach and the objective to put the grand societal challenges facing mankind more prominently on the agenda of scientific work and academic debates, the Collegium clearly distinguishes itself from purely academic institutes.

The Buffett Institute for Global Affairs of Northwestern University, founded in 2016, also focuses on this idea and promotes projects on global problems and challenges. In doing so, interdisciplinary work and societal engagement is supposed to be strengthened within the University. The programs of the Buffett Institute also aim to involve students who can apply for fellowships and grants for projects, foreign studies and social projects. The current director Annelise Riles considers a stronger involvement of expertise and experience from non-Western countries in universities and scientific work as a great desideratum. The Buffett Institute should therefore contribute to creating a truly global university and to create stronger ties between society and academia. In fact, the group of visiting scholars is oriented more globally than in other American IAS and also includes scholars from Southeast Asia and Africa.

The profiles of the three American university-based IAS presented above differ significantly from the founding Charta of the IAS Princeton and the CASBS Stanford. The new institutions no longer focus on the promotion of basic research in isolation, but instead aim to bring the university into the world. Becoming more open to societal and political issues as well as involving non-academic actors has meanwhile also become an important and new part of the CASBS' mission after its affiliation to Stanford University.

The reasons for the orientation of the university-based IAS in the US are diverse and surely also have to do with a certain isolation of the academic world within American society. The university-based Institutes for Advanced Studies in the US are thus also marketing instruments

of their universities through which societal relevance and usefulness of research can be demonstrated to donors. In this context, interdisciplinary research is considered as the key to solving "real world problems." The IAS thus generate public reputation for their universities and increase the attractiveness of the institutions for donors.

In addition to the classic form of the IAS as a physical space, a virtual form of IAS has developed at NYU and in Canada, which should be briefly discussed here as it contains elements whose adaptation could be interesting for the classic IAS in the future. In 2015, New York University (NYU) established a Global Institute for Advanced Studies (GIAS). It also has the objective of promoting interdisciplinary and international collaborations, but focuses on creating networks, which basically take place in the virtual space. In this context, NYU aims at a stronger network with its international branches especially in Shanghai and Abu Dhabi. Scientists of NYU can apply for working groups on innovative and usually interdisciplinary topics involving fifteen-twenty international fellows who meet annually for two-three workshops in New York or an international branch. Individual groups have developed policy-relevant recommendations such as the comment on the declaration of human rights, which was presented to the Secretary General of the United Nations. Others laid the foundation for new study programs or the establishment of a new technical infrastructure in order to better analyze the influence of social media. The GIAS extends the opportunities for researchers at NYU to collaborate with international colleagues in innovative fields and moreover contributes to expanding NYU's international network.

The Canadian Institute for Advanced Research (CIFAR) in Toronto also aims at forming specialized and interdisciplinary networks. It is a non-profit organization which was established in 1982 with governmental as well as private funds. Its objective is to strengthen scientific global networks with Canada in societal and economically relevant basic research and currently supports twelve global research programs with overall 400 fellows from twenty countries. With the CIFAR Azieli Global Scholars Program it also operates a funding line for young researchers and promotes networking between international scientists and experts from the private sector in the framework of the Pan-Canadian Artificial Intelligence Strategy. Networking in the individual projects is achieved through the organization of regular meetings at different places in the world — mainly, however, in Canada — over a longer period of time in order to ensure a close collaboration. The CIFAR's activities focus on providing the Canadian scientific community with access to relevant and innovative research.

Aside from CIFAR, there is only one classic IAS in Canada: the Peter-Wall-Institute for Advanced Studies (PWIAS) was founded in 1991 at the University of British Columbia Vancouver with the support of a large private donation and began operating in 1994 as one of the early university-based IAS. The donor Peter Wall "made clear from the outset that the money had to be used to generate new ideas and initiatives that wouldn't happen otherwise." For about twenty-five years, the Peter-Wall-Institute ran a visiting-scholars-program, promoted internal Sabbaticals and organized scientific conferences and roundtables. Moreover, projects involving the local community were carried out and knowledge transfer to society was supported by the funding line "Wall Solution." Recently, however, the Board of Trustees' plans for restructuring have led to discord: The incumbent director Philippe Tortell resigned in protest against the planned financial cuts and close alignment of the institute's activities to university-based Clusters of Excellence. According to him, the plans would endanger scientific independence and autonomy of PWIAS. The Board of Trustees regretted his resignation and assured that

^{39.} https://pwias.ubc.ca/wall-papers/institute-timeline (05.03.19)

the unique role of PWIAS would be supported and promoted in the future as well.⁴⁰ Further negotiations with the departments about the future design of PWIAS are ongoing and will be followed by an external evaluation.

The different positions regarding PWIAS' future orientation represent a genuine conflict that all university-based IAS are facing: while university leadership is also guided by economic strategies, IAS are solely oriented towards the academic interests of their fellows. Their uniqueness lies in providing a space of freedom within the university where researchers are not burdened by utilitarian considerations or external guidelines. At the same time, they depend on the acceptance by the departments with which they share a common budget. The interests of the departments therefore in a sense have to be reflected in the IAS as well. Thus, the existence of a university-based IAS always depends on achieving a balance between autonomy of science and the interests of the university.

The only IAS in Australia is located at the University of Western Australia (UWA) in Perth and has existed since 2000. Structure and operation of this institute are characterized by Australia's special situation of belonging to the leading nations of science but being geographically distant from European and American research centers. A particular challenge for Australian universities lies in ensuring and promoting academic exchange and scientific networking. Here, the Institute for Advanced Studies of the UWA fulfills a central task by bringing together guest researchers with department members and students through the organization of workshops, master classes and public talks, thus actively promoting scientific exchange. Research stays of leading scientists at other Australian universities are also used to invite them to Perth. Thus, the IAS contributes to providing UWA with a stronger international network and, as an intellectual center, helps to stimulate the academic discourse.

5.4 Institutional and Epistemic Functions of UBIAS worldwide

In summary, it can be said that the establishment of university-based IAS that has occurred across the globe since the millennium is directly connected to the national Excellence Initiatives in many countries. These react to increasing globalization in the higher education sector and aim at improving the competitiveness of their universities and speed of knowledge transfer. In this context, the focus is not only on top-level research but also on interdisciplinary and cross-sectoral cooperations, the promotion of young researchers as well as on the reform of university structures. Due to their institutional flexibility, university-based IAS are particularly well suited as an instrument for reform and, as incubators for new ideas and forms of cooperation, they can contribute to changing university structures. In the past two decades, IAS have been founded especially by research-intensive universities in a broad diversity of models that are adapted to the respective national and local contexts and aim at the reform of institutional structures. "UBIAS are an institutional type flexible enough to adapt to very different local conditions, yet at the same time consisting of a recognizable set of relatively stable features and characteristics" (Frick, Dose, & Ertel, 2011, p. 16).

Science policy arenas differ depending on national circumstances: In Asia, IAS are used for the reform of university structures and the strengthening of their universities' competitiveness. In doing so, Japanese IAS provide young researchers with freedom in research and contribute to keeping the best in the country and attracting promising talents to Japan. In China, the IAS serve the internationalization of especially the humanities and social sciences, and in South Korea, the KIAS was established as one of the first centers of excellence in the country. In Latin

^{40.} https://pwias.ubc.ca/announcements/statement-behalf-santa-ono-chair-pwias-board-trustees (05.03.19)



America, the IAS serve the long-term development of competitive higher education systems, but also effectively contribute to public policies in a constructive relationship with society. In this context, the meritocratic principle is combined with the obligation to carry out socially relevant research. IAS should not only be influential within universities but should also actively participate in and shape the public discourse. In the US, IAS play a role in the competition between universities. They are features of their university's reputation and are especially attractive for private donors due to their strong orientation toward society. Financed by national Excellence Initiatives or European funds, a number of research-intensive universities in Europe has established IAS in order to strengthen their university's international network and to support the development of cooperative research projects. The IAS also mark the university's reputation and serve as "badges of institutional aspiration and claimed status" (Goddard, 2016, p. 10). In Germany, the IAS seem to play the most contradictory role. On the one hand, they consider themselves in the Humboldtian sense as refuges for free basic research and provide researchers with time and confidence in a period of increasing obligations and indicator-based governance. On the other hand, they are instruments for increasing competitiveness, for generating thirdparty funds, and for shaping their university's profile. They are thus the driving force of higher education governance as well as its antidote:

As systems of evaluation increase, institutes for advanced study provide places of refuge for academics to pursue curiosity-driven research away from these pressures, bringing together researchers from all over the scholarly world. And perhaps ironically, the institutes themselves are viewed as markers of institutional distinction in the systems of evaluation from which they provide respite (Goddard, 2016, p. 11).

Institutionally, the surge of university-based IAS seems to entail a shift in the "asymmetrical relationship between IAS and fellows" (Wilhelmy, 2017): Whereas the first two generations of IAS saw themselves as an excellent infrastructure for excellent scientists, the new IAS are supposed to serve their universities as facilitators of excellence. This expectation does not reduce the freedom of research that comes with a fellowship, but the reputation of the fellows and their expertise should also contribute to the improvement of the quality of research at the university and, in the long run, to the university's position in international rankings.

In an epistemic sense, the IAS internationally aim to compensate the pitfalls of the increasing specialization of science: A core element of all IAS is the multidisciplinary composition of the fellow cohorts. In this regard, they differ substantially from other types of research centers. Conceptually, they vary between focusing on disciplinary individual research with the possibility of interdisciplinary encounters up to an interdisciplinary group format. As interdisciplinary bodies, they are institutionally unique in the research landscape.⁴¹

Furthermore, they have the potential to form intellectual centers within their universities and to support exchange across departments as well as reflection on the university and the framework conditions of research. They can also open up new forms of exchange between academia and society. In this context, they could reinvent the idea of the university in the sense of *universitas*: as a meeting place for scientists from all disciplines, and with their interdisciplinary formats they can counter the centrifugal forces resulting from size and specialization within the university. In doing so, they can also contribute to greater unity and mark a signal of the scientific ambitions of their university to the outside world.

^{41.} On the IAS as interdisciplinary laboratories, see Padberg (2014).

6 Fourth Generation: IAS in the Context of International Collaboration

Regarding their intentions and orientations, the three generations of IAS described above refer to the respective national contexts and are adapted to them. They create infrastructures for the promotion of science and interdisciplinary research and contribute to the internationalization of the respective higher education system. As we have seen, they furthermore act as an instrument for structural change of the national systems of science, with respect to the institutional development of the university by compensating structural gaps within the universities.

For some time now, there have been indications for a fourth wave regarding foundations of IAS, which no longer takes place in the national context but concerns the establishment of IAS abroad. Early predecessors of such initiatives could be observed in the 1990s after the fall of the Iron Curtain. Following the initiative and support of the Wissenschaftskolleg zu Berlin, several IAS were created in central and eastern Europe: the Collegium Budapest (1992), the New Europe College in Bucharest (1994), and the Center for Advanced Studies in Sofia (2000). These institutions were driven by the objective to promote democratization of the former Socialist societies by creating academic networks and developing institutions of scientific excellence, a Marshall plan in the academic context so to say. Independent of university structures and cadres — the IAS were supposed to provide spaces for free thinking and research and contribute as incubators to the establishment of top-level research institutions. In this context, they were also supposed to counteract the exodus of the best scientists and characterize the new generation of researchers.

The history of the Collegium Budapest is perhaps well suited to illustrate the great opportunities and challenges that came with these foundations from the outside in times of political change. I shall therefore briefly describe it: It goes back to a friendship that was formed in IAS Princeton (cf. Klaniczay, 2016, pp. 88ff.). The Hungarian economist János Kornai and German sociologist Wolf Lepenies met each other in the fellow cohort of 1983-1984. Wolf Lepenies became the Rector of the Wissenschaftskolleg zu Berlin in 1986 and, together with then Secretary of the Wissenschaftskolleg, Joachim Nettelbeck, played an important role in the initiation of the Eastern Europe institutions. Lepenies and Kornai conceptualized the Collegium Budapest, which began operating in 1992 thanks to the generous support of six European nations as well as several foundations. The funding from the outside was considered a start-up financing that should provide the infrastructure (including a guesthouse), but the expectation was that the Hungarian government would take financial responsibility of the institution in the long run. This, however, did not happen. It turned out that, in spite of proven outstanding work, the engagement of governmental actors was insufficient and that, with the new FIDESZ government, there was no longer a political will for the internationalization of the higher education sector. Instead, foreign activities were met with hostility. In 2011, the Collegium Budapest was closed down and the guesthouse was given to the Central European University (CEU), which then founded the much smaller IAS-CEU that was focused on the humanities and social sciences. Recent political developments have led to the situation that the internationally renowned CEU can no longer operate in Hungary and plans to move to Vienna. The IAS-CEU will remain active in Budapest for the time being, albeit under extremely difficult framework conditions.

The two other Eastern European IAS in Sofia and Bucharest also face the risk of being sucked into governmental corruption and clientelism. In order for the CAS in Sofia and the NEC in Bucharest to remain in operation, and to ensure scientifically-based recruitment procedures, external funding (e.g., by European third-party funds) and independence of govern-

mental influence are essential.

The founding of the Stellenbosch Institute for Advanced Study (STIAS) in South Africa in 2005 would also not have been possible without the support of the Mandela Foundation and support from abroad by Swedish foundations. The original initiative came from the University of Stellenbosch, which had already created a fellowship program in 1999, but the funds to establish such an institute were lacking. Through external financing and moving into a building of its own outside the campus, STIAS became autonomous. It does, however, continue to cooperate with the University of Stellenbosch.

The early establishments of IAS abroad were in large part financed by private foundations. Since five years, however, a development can be observed which is also initiated and pushed forward by actors from other states. One example of a strategic partnership is the Johannesburg Institute for Advanced Study (JIAS) which was founded at the University of Johannesburg (UJ) in 2015 with support from Nanyang Technical University (NTU), Singapore. This venture goes back to the common initiative of the former Vice Chancellor of UJ Ihron Rendsburg and former president of NTU Bertill Andersson who wanted to build a bridge between the two universities. JIAS should support the development of both institutions as global research universities and help intensify networking between two regions of importance in science policy.

Another program has been implemented by the German Ministry of Education, which since 2015 advertises the establishment of research colleges in Asia, Latin America, Africa and Arabia. The website of the Federal Ministry of Education and Research (BMBF) reads: "With the international research colleges 'Maria Sybilla Merian Centers for Advanced Studies,' the Federal Ministry of Education and Research aims to promote the internationalization of the humanities and the social sciences in Germany and the world." These IAS should be located in "scientifically and science policy relevant regions" at a scientific institution of the hosting nation and, in partnership with it, established and operated by German research institutions. "The colleges form the basis for a long-term collaboration in the humanities with the respective regions. They should help in understanding societal developments and global changes in the environment and to analyze them from different perspectives. In this context, humanities and the social sciences are more important than ever before — and partnerships that enable international and interdisciplinary research" (our translation).

The first Merian Center has been operating in Delhi since 2016 in cooperation with the German universities of Erfurt and Göttingen, the Max-Weber Stiftung, the University of New Delhi and the Centre for the Study of Developing Societies Foundation, its theme being *Metamorphoses of the Political*.

A second Institute for Advanced Study is being established at the Universidade del Guadalajara since 2017. The Maria Sybilla Merian Center for Advanced Latin American Studies in the Humanities and Social Sciences (CALAS) is a university-based Center for Advanced Studies that was founded by a consortium of Latin American and German universities. "The University of Guadalajara, Mexico, houses the head office of CALAS while three regional offices are located at the Facultad Latinoamericana de Ciencias Sociales (FLACSO) in Quito, Ecuador; the Universidad de Costa Rica in San José, Costa Rica; and the Universidad Nacional San Martín in Buenos Aires, Argentina. The German Universities Bielefeld, Kassel, Hanover and Jena are responsible for the project management. In addition, numerous other universities and research facilities from all over Latin America are associated with

^{42.} According to the current JIAS director Bongani Ngqulunga.

^{43.} https://www.bmbf.de/de/maria-sibylla-merian-centres-5181.html, 05.08.19 our translation.

CALAS."44 For the time being, the research college has begun its work on *Coping with Crises:* Transdisciplinary Perspectives from Latin America in interim locations. It will soon move into a new building that is currently being built on the campus of the Universidade del Guadalajara according to the model of the ZiF. From the Mexican perspective, the BMBF project is seen as an opportunity to establish an IAS in which collaborative research is possible in equal terms and which will increase the international resonance for the work of Latin American scholars enormously. Sarah Corona Berkin, one of four CALAS directors, complains that research projects on Latin America currently only receive attention if they are published in English in an American journal. In her opinion CALAS could contribute to breaking up this western hegemony and to promoting internationally visible publications and cooperations of its own. According to the rector of the humanities and social sciences at UdG, Héctor Raúl Solís Gadea, the flexible form of organization of an IAS is particularly well suited to advance the international network of his university. He hopes that the interdisciplinary collaboration at CALAS will provide important impulses for overcoming pressing issues in Mexico as well as contributions to the democratic development of his country. For the German side, CALAS provides the opportunity to create more ties and to conduct research in an international perspective.

Additional Merian Centers are established in São Paulo (Brazil) and Accra (Ghana) There is currently a call for a fifth center for the regions of Maghreb, Jordan, or Lebanon. As this program has been launched only recently, it is much too early to give an assessment. There are, however, indications that Institutes for Advanced Study are now also being used as strategic instruments for "science diplomacy." Due to their flexibility, internationality, and interdisciplinarity, they are particularly well suited to bring researchers together on pressing societal issues, to initiate collaborations and to promote the exchange between science, society and politics at the global level. To what extent the instrument is also used to expand its own sphere of interest remains to be seen and surely depends on how well the balance between "science" and "diplomacy" is achieved.

7 Conclusion and Outlook

IAS are meanwhile integral parts of the international higher education landscapes. They may be paradises for scholars, but they by no means exist outside of that world and are strongly involved in science policy contexts. Due to their considerable flexibility they have turned out to be excellent instruments to react to epistemic developments in the sciences — increasing specialization and fragmentation of the scientific communities — as well as changing framework conditions for universities — massification, economization, and global competition. In the epistemic sense, they are places of the Humboldtian idea of the (partial) unity of the sciences and curiosity-driven research. In the institutional sense, they have proven to be effective tools for reforming universities and higher education systems. As a research-oriented model institution, the IAS Princeton has contributed in a way to the reformation of the American higher education system. In Europe, the national IAS play an important role for the internationalization of especially the humanities and social sciences. University-based IAS have become a new structural component of the modern research university that serves the internal promotion of research and contributes to strengthening the competitiveness of their universities.

^{44.} http://www.calas.lat/en/about-calas (15.08.19)



Fig. 4. Generation of the IAS founded in the context of international collaboration Interactive map: https://www.uni-bielefeld.de/(en)/ZiF/Allgemeines/partner.html

The success story of the IAS should not, however, obscure the fact that the institutions, in spite of their high reputation, are currently facing considerable structural challenges: Increasing wages and a growing competition in recruiting the most talented people worldwide are even challenging for the IAS flagship in Princeton. In this context, it has to stand up against a rising number of institutions of excellence at universities, as well as non-university and private research institutions.

Especially the national IAS are increasingly criticized as reproducing the Anglo-American hegemony in the sciences and humanities: They act as gatekeepers for top reputation in the sciences and humanities, but their own reputation depends on successful recruitment of renowned scholars. In many of these institutions, this leads to a higher share of Anglo-American fellows and contributes to overlooking academic excellence of researchers from non-English speaking countries and the global South.

In contrast to the independent IAS, which focus on highly qualified fellows, the university-based IAS are more oriented towards ideas and themes. Their risk lies in the often uncertain financial support of the universities. They are frequently established in the context of limited projects of excellence and depend on the acquisition of third-party funding. The lack of a long-term perspective, however, makes the development of an appropriate infrastructure extremely difficult. In times of decreasing university funding, they are constantly in danger of being rejected by the departments as "superfluous luxury institutions" or of being degraded to simple service units by the university administration.

The challenge for IAS that have been established with foreign support is to protect themselves against political steering on the part of the funder or on the part of the host country. These IAS can be abused as instruments of a new colonialism or threatened by restrictive interventions of illiberal governments. Their existence and reputation is to a large extent dependent on whether academic freedom can be guaranteed without political influence.

The high risk for these institutions, however, also entails a great opportunity: they could — provided a cooperative design of the institutions — contribute to initiating a long overdue discourse about hegemonic structures in the academic world on a broader scale. The potential of this youngest generation of IAS could lie in breaking free from the Anglo-American orientation toward excellence and to establish collaborations with countries from the global South on equal terms. In the framework of the UBIAS network, this discussion was especially initiated by the IEA of the Universidade de São Paulo, which has established the political dimension within an IAS and which has made the critical reflection of knowledge production one of its core duties from the beginning.

Not only the establishment of IAS abroad initiated by Germany, but also internal debates within reputed IAS indicate that many of these institutions have begun to critically reflect upon their role in the globalized academic world. Thus, the IAS Princeton since 2018 conducts a twoyear summer program in the social sciences in cooperation with partners from South Africa and Colombia, which involves twenty young researchers from Africa, the Middle East and Latin America: "It is crucial for the development of the social sciences and humanities to include perspectives from the global South, which are often under-represented in academic syllabi as well as in research initiatives," said Didier Fassin, Permanent Faculty of the School of Social Science and initiator of this program. "Our Summer Program is a modest contribution to correcting this bias."45 A number of IAS have begun to implement special fellowships in order to increase the proportion of scholars from the global South.⁴⁶ The IAS in Nantes, founded in 2004, aimed at a large cultural diversity among its fellows from the beginning and is therefore perhaps the first of a new type of IAS that place the global exchange at the core of their institutional strategy: "(...) the goal of IAS-Nantes is to gather every year at the institute a small academic community composed of scholars with widely differing intellectual and cultural baggage but who share the same type of perplexity and whose projects have enough elements in common to trigger mutually beneficial dialogues."47 In order to not stumble across the pitfalls of evaluation criteria based on Western standards, the IAS Nantes has designed a selection procedure that is culturally sensitive and predominantly evaluates the content of publications, not so much where they were published.

In this context, the increasing number of common activities among the global network of university-based IAS (UBIAS) is also worth pointing out. Since the inaugural meeting in Freiburg 2010, Director's Conferences were held bi-annually in Jerusalem, Taipei, Birmingham and São Paulo, and two smaller scientific conferences took place in Vancouver and Nagoya. A common event format was created with the *Intercontinental Academia*, which is organized by two institutes each and is supposed to bring together postdocs on an interdisciplinary topic. The specialty of this new type of event is that it comprises interdisciplinary and international members and takes place at two or even three different locations. The participants are thus subject to multiple changes in perspective, which is precisely what the learning effect is supposed to be: the leading scientists of tomorrow should be trained in a new form of academic thinking that is no longer limited by national, cultural or disciplinary boundaries.

The first Intercontinental Academia (ICA) was on the topic *Time* and was conducted by

^{45.} https://www.ias.edu/news/press-releases/2018/fassin-spss

^{46.} E.g., the Zukunftskolleg in Kostanz and the ZiF in Bielefeld.

^{47.} https://www.iea-nantes.fr/en/the-institute/mission/

the IAR Nagoya and the IEA São Paulo (2015/16). Another ICA on *Human Dignity* took place in Jerusalem and Bielefeld (2016) and was continued in Johannesburg in South Africa in 2019. The IAS at University of Birmingham and Nanyang Technological University (Singapore) together conducted the third ICA on *Laws: Rigidity and Dynamics* (2018/2019).⁴⁸ Also the UBIAS initiative *Topic of the year*, which target to bundle discussions on hot-topics, kicked off new international cooperation e.g. the joint workshop on *Aging* conducted by the WIAS (Tokyo), the IAR (Nagoya) and the Nanjing IAS in 2018.⁴⁹

The regular network meetings and common collaborations of the international IAS enable a new perspective on the development of the global research landscape in general and of the IAS in particular. They form the basis for closer cooperations and the common development of research questions and thus also have an impact on the self-understanding and work of the individual institutes. IAS have the flexibility and openness to experiment with new formats of knowledge production and to contribute to a reciprocal and respectful exchange across and beyond cultural, national, and disciplinary boundaries. In this respect, the IAS could also be pioneers for the universities and provide an impulse to creating a non-hegemonic "global knowledge system."

References

- Ades, C. (2011). Institute of Advanced Studies at the University of São Paulo (IEA): Commitments. *Estudos Avançados*, 25(73), 159–174. http://www.iea.usp.br/en/journal/19ades
- Altbach, P.G. (2007). Empires of Knowledge and Development. In P.G. Altbach, & J. Balán (Eds.), World Class Worldwide, Transforming Research Universities in Asia and Latin America (pp. 1–30). Baltimore: Johns Hopkins Univ. Pr.
- Altbach, P.G. (2015). Massification and the Global Knowledge Economy: The Continuing Contradiction. *International Higher Education*, 80, 4. https://doi.org/10.6017/ihe.2015.80.6129
- DAAD (Deutscher Akademischer Austauschdienst) (2018). *China. Kurze Einführung in das Hochschulsystem und die DAAD-Aktivitäten*. https://www2.daad.de/medien/der-daad/analysen-studien/laendersachstand/china_daad_sachstand.pdf
- Dijkgraaf, R. (2017). The World of Tomorrow. In A. Flexner, *The Usefulness of Useless Knowledge* (pp. 1–47). Princeton, New Jersey: Princeton University Press. (Original work published 1939).
- Flexner, A. (1930). Remarks of the Director at the Organization Meeting, October 10. In Institute for Advanced Study, Establishing the Institute for Advanced Study (pp. 9–19). Princeton, New Jersey: Princeton University Press. https://www.ias.edu/files/pdfs/publications/establishing-the-ias.pdf
- Flexner, A. (1931). Confidential Memorandum to the Trustees of the Institute for Advanced Study, September 26.In Institute for Advanced Study, Establishing the Institute

^{48.} http://www.ubias.net/intercontinental-academia

^{49.} https://www.waseda.jp/inst/wias/assets/uploads/2019/03/UBIAS-Workshop-at-Nagoya-University.pdf (19.02.20)

- for Advanced Study (pp. 21–44). Princeton, New Jersey: Princeton University Press. https://www.ias.edu/files/pdfs/publications/establishing-the-ias.pdf
- Frick, W., Dose, C., & Ertel, A. (2011). Introductory Statement "Mapping the World of UBIAS." In Freiburg Institute for Advanced Study (Ed.), *University-based Institutes for Advanced Study in a Global Perspective: Promises, Challenges, New Frontiers* (pp. 10–19). Conference Proceedings, June. http://www.ubias.net/downloads/mapping-the-world-of-ubias
- Fuyuno, I. (2017). What Price Will Science Pay for Austerity?. *Nature*, 543, S10–S15. https://doi.org/10.1038/543S10a
- Goddard, P. (2008). There are no Excuses in Paradise. The Institute for Advanced Study. Past, Present and Future. Keynote speech at the inauguration of the FRIAS, May 5, 2008. Unpublished manuscript.
- Goddard, P. (2016). *The Development of Institutes for Advanced Study and their Role in the Contemporary University*. Presentation at Nagoya University, March 3, 2016. Unpublished manuscript.
- Hazelkorn, E. (2013). World Class Universities or World Class Systems? Rankings and Higher Education Policy Choices. In E. Hazelkorn, P. Wells, & M. Marope (Eds.), *Rankings and Accountability in Higher Education: Uses and Misuses* (pp. 71–94). Paris: UNESCO.
- Institute for Advanced Study Princeton (Ed.). (2013). *Institute for Advanced Study: An Introduction* (p. 15). Princeton, New Jersey: Princeton University Press.
- International Higher Education, *Special 20th Anniversary Feature: Higher Education's Future*, 80, Spring 2015.
- Klaniczay, G. (2016). A Type of Academic Institution: The Institutes for Advanced Study. In H. Balázs, & M. Rosta, *Constraints and Driving Forces in Economic Systems* (pp. 87–108). Newcastle upon Tyne: Cambridge Scholars Publishing. https://www.cambridgescholars.com/download/sample/62969
- Lauder, C. (2018). Constructing Hidden Narratives. The History of the Institute for Advanced Studies in the Humanities (IASH), at the University of Edinburgh, 1969–2013. In *History of Universities*, Vol. XXXI/2. Oxford Scholarship Online, January 2019.
- Martin, B.R. (2011). The Research Excellence Framework and the "Impact Agenda": Are We Creating a Frankenstein Monster?. *Research Evaluation*, 20(3), 247–254. https://doi.org/10.3152/095820211X13118583635693
- OECD. (2014). Promoting Research Excellence, New Approaches to Funding. https://dx.doi. org/10.1787/9789264207462-en
- Padberg, B. (2014). The Center for Interdisciplinary Research (ZiF). Epistemic and Institutional Considerations. In P. Weingart, & B. Padberg (Eds.), *University Experiments in Interdisciplinarity. Obstacles and Opportunities* (pp. 95–113). Bielefeld: Transcript Verlag.
- Park, S.B. (2012). South Korean Research Centre Seeks Place at the Top. *Nature News*, May 17.

- Schelsky, H. (1967a). Grundzüge einer neuen Universität. Eine Denkschrift. In P. Mikat, & H. Schelsky (Eds.), *Grundzüge einer neuen Universität. Zur Planung einer Hochschule in Ostwestfalen* (S. 35–70). Gütersloh: C. Bertelsmann Verlag. https://www.uni-bielefeld.de/(de)/ZiF/Allgemeines/Schelsky 2.pdf
- Schelsky, H. (1967b). Das Zentrum für interdisziplinäre Forschung. Eine Denkschrift. In P. Mikat, & H. Schelsky (Eds.), *Grundzüge einer neuen Universität. Zur Planung einer Hochschule in Ostwestfalen* (S. 71–88). Gütersloh: C. Bertelsmann Verlag. https://www.uni-bielefeld.de/(de)/ZiF/Allgemeines/Schelsky.pdf
- Takeuchi, M., Nomura, K., Horie, S., Okinaga, H., Perumalswami, C.R., & Jagsi, R. (2018). Direct and Indirect Harassment Experiences and Burnout among Academic Faculty in Japan. *The Tohoku Journal of Experimental Medicine*, 245(1), 37–44. https://doi.org/10.1620/tjem.245.37
- Thackray, A. (1984). *Notes Towards a History*. [Based on a talk given to the Board of Trustees on April 27, 1984]. https://casbs.stanford.edu/casbs-origins
- Wilhelmy, T. (2017). Möglichkeitssinn: Institutes for Advanced Study als Gehäuse der Interdisziplinarität. In G.M. Hoff & N. Korber (Eds.), *Interdisziplinäre Forschung? Annäherung* an einen strapazierten Begriff (pp. 223–240). Freiburg: Verlag Karl Alber.
- Wittrock, B. (2002). *Institutes for Advanced Study: Ideas, Histories, Rationales, Keynote Speech on the Occasion of the Inauguration of the Helsinki Collegium for Advanced Studies*. University of Helsinki, December 2, 2002. (Unpublished).
- Yang, R., & Yeung, K.H.A. (2002). China's Plan to Promote Research in the Humanities and Social Sciences. *International Higher Education*, 27, 20–22. https://doi.org/10.6017/ihe. 2002.27.6971

Britta Padberg: Zentrum für Interdisziplinäre Foschung (ZiF), Center for Interdisciplinary Research, Universität Bielefeld (Germany)

■ britta.padberg@uni-bielefeld.de; https://www.uni-bielefeld.de/(en)/ZiF/ZiF-Team/Geschaeftsfuehrung/bpadberg.html

Britta Padberg is the Managing Director of the Center for interdisciplinary Research (ZiF) since 2008. She is a biological anthropologist and historian by education and received her PhD at Göttingen University. In a former position she was concerned with organizing the German Excellence Initiative for the German Council of Science and Humanities. Her academic interests focus on university development, science management and interdisciplinarity.