



b
UNIVERSITÄT
BERN

HANS-SIGRIST-STIFTUNG

VOM STIFTUNGSRAT GENEHMIGT
AM 29. APRIL 2020

Tätigkeitsbericht 2019

Geschäftsstelle:
Hans-Sigrist-Stiftung
Universität Bern
Schanzeneckstrasse 1
Postfach 3444
CH-3001 Bern
Tel. +41 (0)31 631 56 50
E-Mail: office@sigrist.unibe.ch
<http://www.sigrist.unibe.ch>

Inhaltsverzeichnis

Übersicht	3
Laudatio, Hans Sigrist Preis 2019	4
Interview mit dem Preisträger 2019	5 - 9
Hans Sigrist Symposium 2019	10
Preisgebiete 2020	11
Hans Sigrist Zuschüsse	12 - 15
Hans Sigrist Preisträger/-innen	16 - 17
Hans Sigrist Stipendiaten/-innen	18 - 19
Bericht der Revisionsstelle	20
Jahresrechnung	21 - 25

Hans-Sigrist-Stiftung

Tätigkeitsbericht 2019

.....
An den beiden ordentlichen Sitzungen befasste sich der Stiftungsrat der Hans-Sigrist-Stiftung mit den folgenden Geschäften:

- Wahl der Preisträger 2019
- Genehmigung des Tätigkeitsberichtes 2018
- Genehmigung der Jahresrechnung 2018 und des Revisionsberichtes 2018
- Genehmigung des Budgets 2020

Hinzu kamen folgende Tätigkeiten:

- Vergabe von vier Hans-Sigrist-Zuschüssen

Mutationen im Stiftungsrat

Frau Prof. Dr. Gabriele Rippl (Philosophisch-historische Fakultät) hat ihren Austritt aus dem Stiftungsrat per 31. Dezember 2019 erklärt. Im Namen des Stiftungsrates danke ich Frau Gabriele Rippl für ihr langjähriges Engagement und die angenehme Zusammenarbeit. Neu in den Stiftungsrat gewählt wurde Prof. Dr. Stefan Rebenich (Philosophisch-historische Fakultät).

Den Kolleginnen und Kollegen im Stiftungsrat und im Ausschuss danke ich für ihr aktives und konstruktives Mitwirken. Unser besonderer Dank gilt Frau Dr. A. Stockfleet für ihre engagierte, verantwortungsvolle und umsichtige Leitung der Geschäftsstelle.

Bern, 29. April 2020
Der Präsident des Stiftungsrates
Prof. Dr. N. Trautmann

Stiftungsrat

- Prof. Dr. N. Trautmann, Präsident
Wirtschafts- und Sozialwissenschaftliche Fakultät
- Prof. Dr. C. Rigamonti, Vizepräsident
Rechtswissenschaftliche Fakultät
- Prof. Dr. C. Leumann, Rektor
vertreten durch Prof. Dr. D. Candinas,
Vizekanzler Forschung
- Dr. C. Häsler, Erziehungsdirektorin
vertreten durch D. Schönmann,
Amt für Hochschulen
- Prof. Dr. R. Bloch
Theologische Fakultät
- Prof. Dr. S. Brönnimann
Philosophisch-naturwissenschaftliche Fakultät
- Prof. Dr. K. Henke
Philosophisch-humanwissenschaftliche Fakultät
- Prof. Dr. A. Kunz
Wirtschafts- und Sozialwissenschaftliche Fakultät
- Prof. Dr. A. Perren
Medizinische Fakultät
- Prof. Dr. G. Rippl
Philosophisch-historische Fakultät
- Prof. Dr. S. Rottenberg
Vetsuisse Fakultät

2019 Hans Sigrist Prize Exoplanets: Worlds Beyond Our Solar System

A committee of experts, under the leadership of Professor Kevin Heng, Center for Space and Habitability, University of Bern, presented a list of three finalists to the Board for the 2019 Hans Sigrist Prize in the field of "Exoplanets: Worlds Beyond Our Solar System". On April 9, 2019, the Board selected Professor Ignas Snellen of Leiden University in the Netherlands, as the 2019 Hans Sigrist Prize Winner.



Prof. Dr. Ignas Snellen

Laudatio:

Professor Ignas Snellen is a professor of astronomy at Leiden University in the Netherlands and one of the most distinguished and innovative researchers in the area of this year's prize field "Exoplanets: Worlds Beyond Our Solar System". His pioneering work, in demonstrating the use of the template-matching technique to unambiguously identify molecules in the atmospheres of exoplanets using high-resolution, ground-based spectroscopy, paves the way for the future detection of biosignatures, as the next generation of ground-based spectrographs comes online in the coming decades.

An Interview with the 2019 Hans Sigrist Prize Winner

Hans Sigrist Foundation:

Congratulations on winning the 2019 Hans Sigrist Prize. Were you surprised to find out that you had been selected as the prize winner?

Snellen:

Absolutely, yes! It was a big shock when I got the call that I had won the prize. It is such great news and a great honor.

Hans Sigrist Foundation:

Originally, if you look back to the beginning of your academic career, what sparked your interest in this field?

Snellen:

For my Ph.D., I studied a very different field. I worked on galaxies, the very large structures within the universe. After my Ph.D., I did my post-doc in Cambridge, then I moved to Edinburgh, and I was a little bit stuck in my research, not knowing what to study next. I was not even sure whether I wanted to go on with science at that time. Then, out of the blue, I was asked to organize a workshop on this field, on extra-solar planets, and when I learned about the fantastic things that people were doing, I felt like this was what I needed to do. I left my old field behind, and I started something new. This was around 2000, so about two decades ago already.

Hans Sigrist Foundation:

So, this was when you were doing post doc research?

Snellen:

Yes, when I was a post doc lecturer in Edinburgh.

Hans Sigrist Foundation:

What got you interested in this general field as a whole when you were trying to decide what to study during your university years?

Snellen:

As a little kid, I loved this field already. I had my own telescope in my garden when I was eight. This is something I wanted to do my whole life. Of course, later, I had to figure out whether I could do it, because you have to be good in math and physics, etc.

Hans Sigrist Foundation:

Could you explain the type of work you do for people who are reading this who are not in the field?

Snellen:

Yes, the main goal is finding other Earths and seeing whether they may have life. The idea is that if you think about the universe, we have our sun, and we have the planets around our sun, and the Earth is one of the planets. Only for the last approximately 20-25 years have we known that other suns also have planets. First, we only found the big planets, the gas giants, for example, Jupiter-like planets, but now we are honing in on smaller and smaller planets and they are, in many ways, possibly like Earth. The actual research that I am involved in now is not so much finding those planets but finding out what these planets are actually like, what their atmosphere is, what kind of climate they have, and what kind of gases are present.

Hans Sigrist Foundation:

If you look forward, what do you think the greatest challenges in your research field are? In other words, what still needs to be learned?

Snellen:

What we can demonstrate so far is that we can learn about the large planets, like Jupiter. Jupiter is ten times larger than the Earth. The challenge is to take the methods that we have learned to use over the last decade to study larger planets and apply them to the smaller planets. For that, we need new instruments, and we need bigger telescopes. The challenge for the coming decade is to see whether that will really work. There are two particular telescopes that are of great interest. The James Webb Space Telescope will hopefully be launched about one and a half years from now. Particularly interesting for my area of research is the Extremely Large Telescope - that is the actual name. It is a telescope being built now in the north of Chile. It will have an enormous 39-meter mirror. That telescope will hopefully be operational in the middle of this decade. The challenge will be to optimally use these new telescopes and to use them for targeting Earth-like planets.

Hans Sigrist Foundation:

What do you think the prize funds will be able to do for you in terms of the research that you are doing? Are there things that you are already hoping to accomplish with which it will help you?

Snellen:

Yes, in my group, we are always thinking about new instruments and new ways of actually observing. I have some ideas on how to use this prize money regarding how to observe. It would be seed money to try things and to buy a few things to test to see how well such a new instrument may work. For building an instrument itself, we are talking about millions of Euros, so this expenditure will be smaller but will allow us to do early phase research. It is nice to have this kind of seed money without having to apply for grants.

Hans Sigrist Foundation:

Are there certain areas of research in your field for which it is hard to get funding?

Snellen:

Well, in the exoplanets, we are blessed, to some extent, that it is relatively easy to get funding. However, in particular, in this early phase of a project - where ideas are still not polished and you have not proven that it will work - that is the phase where it is the most difficult to get funding. It is very nice to have this prize to help with this early phase research.

Hans Sigrist Foundation:

That is our aim, to give the prize and its funds to prize winners at a time in their careers where they can still use it. So, it is not just a congratulatory award, but instead, another boost to create new work. What type of work are you and your team working on now?

Snellen:

What we have done so far is to identify gases in atmospheres, in other words, what type of molecules are present, for example, water vapor or carbon monoxide. The next step, and that is something we are trying to do now, is to identify isotopes of these molecules, that is the sort of fingerprint of those molecules. That is where you have a molecule, a group of atoms which is in one unit. These atoms have different types, depending on the number of neutrons in the nucleus, and the different types are called isotopes. The spectroscopic fingerprint for each of these isotopes is slightly different, so in principle, you can measure that, and it is interesting to look at these isotope ratios. So for a certain gas, to see what is the ratio for one type of isotope or the other. That can tell you something about the chemical processes or the evolution of the planet over time. This is something we are working on now, and hopefully, in the next few years, we will get results on that.

Hans Sigrist Foundation:

How does one actually identify the isotopes from so far away? Is it observational?

Snellen:

Yes, the information that we get from a planet is pure spectra, so we see how much light we get from the planet, which is a function of the color of the light. When you have an atom or a molecule, they absorb the light at very exact wavelengths, in other words, colors. We can identify which molecules are present that way. It is like a fingerprint.

Hans Sigrist Foundation:

So, by capturing photos of the planet, you can tell which molecules are present?

Snellen:

Yes, in principle, from the color of the light, even here in the room, you can actually identify what the gas inside the lightbulb is, for example. It tells you about the chemical

substance within the lamp. Sodium lamps, for example, glow yellow. So, if you just look at color, that is very rough, but we look at the wavelength that is very, very accurate. You can then actually identify the different molecules and even see different isotopes. The wavelength is like a bar code, if your data is good enough, the bar code for different isotopes is unique.

Hans Sigrist Foundation: So, are scientists in your field searching for a planet that looks like it could support carbon-based life?

Snellen: This is a more difficult question - how would you see that there is life on a planet? Again, we can only measure gases. What we see from Earth is that life on Earth here changes substances that we have in our own atmosphere. So, molecular oxygen is only here because of the plant life, so if there were no life on Earth, there would be no oxygen. So, we hope when we would study planets like the Earth, and we would identify oxygen on such a planet, that would mean that there is actually life that is making this oxygen. Otherwise, one would not expect oxygen there. This is one example, because there are different ways of making oxygen. So, we have to learn a lot more about the planets, to measure other gases, and to understand the history of the planets, to really answer the question of whether oxygen on one planet is probably because of life, while oxygen on another planet may be there due to another chemical process. That will be difficult, but the first goal is to be able to measure oxygen, because at least then, we can start asking the question of whether the oxygen is due to life or not.

Hans Sigrist Foundation: Has oxygen been found?

Snellen: No. Earth-like planets are still difficult to observe, so we have not been able to do that with the current instrumentation. We have to wait for the Extremely Large Telescope (ELT), so that will be another seven years or so from now. However, in principle, with such a telescope, we will be able to see it, on some of the easiest stars to observe. The other question is how common is life? If it is very rare, then maybe oxygen will only be present on a very distant star somewhere, and then it will be very difficult to find.

Hans Sigrist Foundation: It seems like an exciting time, when you know that these new tools are going to be available.

Snellen: Yes, it is very exciting. A lot of what is happening in our field is because the instruments are really getting better and driving the field. It takes a long time for these instruments to be built, and therefore, we can already know what we will be able to do a decade from now when those instruments are ready.

Hans Sigrist Foundation: Are you collaborating on any project at the moment with the Center for Space and Habitability (CSH) here at the University of Bern?

Snellen: Not directly. There has been exchange in the sense that people who have worked here sometimes come to Leiden, or the other way around.

Hans Sigrist Foundation: Having spent a few days here now, can I ask you what your impressions are of the University of Bern and the CSH?

Snellen: Well, I am very jealous of the CSH, because it has scientists from different disciplines working in this field together. In science, it is difficult, because at many universities, all the science is done in little boxes, and there is not much interaction between the boxes. At those schools, there is, for example, an astronomy box, a physics box, a biology box, a chemistry box, but for this quest that we have, searching for life, you need to bring all these disciplines into one room, because they all have input. We all need that to be able to go forward and to be able to identify these bio-marker gases that may identify life. So, you need to have these centers where you bring all the different disciplines under one roof, and that is what is happening at the University of Bern's CSH. We are trying to set this up in Holland as well. It is difficult - we have a virtual institute now, but this will still be a long road. At Uni Bern's CSH, it is already happening and shows how effective that approach can be.

Hans Sigrist Foundation: Do you have advice for young people who are interested in this field, both at the secondary school and at the early university level, if they want to work in your field?

Snellen: I often give advice at open-house days for students who are choosing their university major, and I say that you should follow your heart. Follow the course that you think is most interesting. Do not let yourself be too influenced by those around you who are worried about what kind of job you may get later. In the sciences, even if you do not become an academic scientist, you will still find a job. For example, at Leiden, we have 100 Master's students in Astrophysics alone, and they get jobs everywhere in the industry. There is no reason not to choose a field like this.



2019 Hans Sigrist Prize Winner
Prof. Dr. Ignas Snellen

(Photo © Universität Bern, Bild: Manu Friederich)

HANS SIGRIST SYMPOSIUM 2019

Prof. Dr. Kevin Heng, Center for Space and Habitability, University of Bern, organized the 2019 Hans Sigrist Symposium, entitled, "Exoplanets: Worlds Beyond Our Solar System". The symposium featured a series of interdisciplinary talks with Q&A on the past, present, and future of exoplanet science. It took place on December 6, 2019, with lectures by the Hans Sigrist Prize Winner and other experts, including:

- Prof. Dr. Kevin Heng, Center for Space and Habitability, Bern
- Prof. Dr. Ignas Snellen, Leiden University, The Netherlands
- Prof. Dr. Susanne Wampfler, CSH, Bern
- Prof. Dr. Adam Burgasser, University of California, San Diego
- Prof. Dr. Douglas Lin, University of California, Santa Cruz
- Prof. Dr. Brice-Olivier Demory, CSH, Bern
- Prof. Dr. Matthias Erb, Institute of Plant Sciences, Bern
- Prof. Dr. Raphael Sznitman, ARTORG, Bern



Hans Sigrist Symposium Speakers, from left to right: Prof. Doug Lin, Prof. Susanne Wampfler, Prof. Raphael Sznitman, Prof. Ignas Snellen, Prof. Kevin Heng, Prof. Norbert Trautmann, Prof. Adam Burgasser, Prof. Matthias Erb, and Prof. Brice Olivier Demory.

RESEARCH FIELD FOR THE 2020 HANS SIGRIST PRIZE

On October 30, 2018, after the presentation of an engaging proposal by Prof. Dr. Christiane Albrecht, the Hans Sigrist Foundation Board chose the field of "Maternal-fetal Communication during Pregnancy" as the 2020 prize field. This prize field was nominated by the Medical Faculty at the University of Bern. Prof. Dr. Albrecht has put together a prize committee to nominate and evaluate leading candidates, and the selection of the prize winner will be made at the April 2020 board meeting.

NOMINATION AND SELECTION OF PRIZE WINNERS

The Hans Sigrist Prize field changes annually, based upon proposals from the faculties of the University of Bern. Each spring, the Hans Sigrist Foundation board members (who represent all faculties at the university) put out a call to their respective faculties asking for prize field proposals to be submitted in late summer. In the fall board meeting, the board votes on the proposals and determines the prize field and selects the prize search committee chair.

Once the prize search committee chair is selected, additional experts are appointed by the chair to create the prize search committee. The committee members nominate a group of candidates and then ask independent outside experts for further opinions. The prize winner is selected at the spring foundation board meeting and receives the prize at the Dies academicus (annual formal awards ceremony of the University of Bern) in December.

The goal of the foundation in awarding the prize is to select a researcher/academic at mid-career level who still has plenty of time to make additional contributions to his or her field. It is not meant to be a lifetime achievement award, but instead a prize to spur further research.

We encourage faculty members at the University of Bern who are interested in proposing a prize field to get in touch with our foundation manager via e-mail at office@sigrist.unibe.ch.

APPLYING FOR A SUPPLEMENTARY GRANT (ZUSCHUSS)

Hans Sigrist Supplementary Grants are meant to supplement, but not fully fund, the cost of a research visit to the University of Bern. Given the high cost of living in Bern, the Foundation offers up to 1,000 CHF per month, pro-rated weekly, to assist professors from other universities with their living costs while conducting a project in cooperation with a University of Bern faculty member. The foundation accepts applications for supplementary grants (Zuschüsse) on a rolling basis. Applications must be submitted at least six weeks before the proposed research visit, in order to allow time for consideration. However, because the foundation has a fixed annual budget for these grants, earlier applications are encouraged. The request/application for a Supplementary Grant must be made by the University of Bern host professor. Full details on the application process (in English) are available on our website at www.sigrist.unibe.ch.

2019 HANS SIGRIST SUPPLEMENTARY GRANTS (ZUSCHÜSSE)

In 2019, the Foundation approved four Hans Sigrist Supplementary Grant applications for a total amount of 17,000 CHF.

Prof. Adam Burgasser, University of California San Diego

Prof. Kevin Heng of the Center for Space and Habitability at the University of Bern, requested 5,000 CHF for a five-month grant for Prof. Adam Burgasser from the Department of Physics at the University of California San Diego. During his research stay, Prof. Burgasser collaborated on theoretical investigations of the spectra of cool brown dwarfs and extrasolar planets. Prof. Burgasser shared both his expertise and observational spectral database to test and calibrate supervised machine learning and retrieval methods developed by Prof. Heng's group to model the atmospheres of these sources. They were able to demonstrate that both methods provide physically consistent temperatures and surface gravities, but potentially biased radii and masses. Prof. Burgasser also worked with Prof. Heng's team to make predictive forecasts for acquiring and analyzing the spectra of warm Neptune-mass exoplanets that will be obtained with the James Webb Space Telescope when it is launched in 2021. This work provides recommendations for which instrumental designs will yield the most diagnostic information for studying the atmospheric chemistry of these distant worlds.



2019 HANS SIGRIST SUPPLEMENTARY GRANTS (ZUSCHÜSSE)

Prof. Mehdi Rasekh, University of Zabol, Iran

Prof. Dr. Adrian Steiner, director of the Clinic for Farm Animals, Vetsuisse-Faculty, University of Bern, Switzerland, requested 2,000 CHF for Prof. Mehdi Rasekh from the Clinical Science Department of the Faculty of Veterinary Medicine, University of Zabol, Republic of Iran, for a two-month visit as a supplementary grant. During his stay, Prof. Rasekh joined the research team of Prof. Steiner that has performed research projects in the field of lameness in dairy cows. The main goals of Prof. Rasekh's visit were (i) to introduce him to the novel tools of automated lameness detection in cattle and to training with the practical use of these devices, (ii) to introduce him to sonographic evaluation of the female reproductive tract of dairy cows, and (iii) to develop a joint research project on digital dermatitis in dairy cows, to be performed by the research team of Prof. Rasekh in the Republic of Iran in collaboration with the Swiss team. Besides epidemiological data, clinical samples will be collected from these cows, for PCR analysis at the University of Zabol and further PCR-analyses, culturing and isolation at the University of Bern. All of the mentioned goals were successfully reached during the visit of Prof. Rasekh, and the joint research project on digital dermatitis was established. Prof. Rasekh plans to join the Clinic for Farm Animals, Vetsuisse-Faculty of the University of Bern for a 6-month sabbatical in 2020 or 2021.



Prof. Mehdi Rasekh (University of Zabol, Iran) and Prof. Adrian Steiner (University of Bern)

2019 HANS SIGRIST SUPPLEMENTARY GRANTS (ZUSCHÜSSE)

Professor Dr. Danika Bannasch, University of California Davis

Prof. Dr. Tosso Leeb requested 6,000 CHF for a six-month grant for Prof. Dr. Danika Bannasch from the University of California Davis. Her research focused on FGF4 retrogenes, which occur in dog breeds with disproportionate dwarfism. During her time in Bern, Professor Bannasch gave three lectures, two to colleagues at the Vetsuisse Faculty and a guest lecture in an undergraduate course. In addition to her project on short legs in dogs, Professor Bannasch has also spearheaded the efforts to determine the changes in DNA sequence that control diverse yellow and black pigment patterns across dog breeds.

The most severely affected breeds, like the Dachshund and the Corgi, have six copies of FGF4, however their extreme phenotype may be due to other unidentified mutations that affect long bone length. In order to systematically evaluate the effects of the two major FGF4 retrogenes on canine morphology, breeds that segregate these retrogenes, such that all possible genotype classes exist, must be studied. A population of dogs in Switzerland segregate both retrogenes. During the grant period Dr. Bannasch obtained quantitative measurements from 40 Schweizerische Niederlaufhunde. These quantitative phenotypic measurements have been used to demonstrate which FGF4 retrogene is the major cause of leg shortening and crooked legs. This is also the copy that does not cause medical problems for the dogs. The second copy of this gene causes a disease called chondrodystrophy which predisposes dogs to intervertebral disc disease.

Dogs with overexpressing FGF4 retrogenes are animal models for disturbances in long bone growth in people. Human achondroplasia, the most common type of human dwarfism, is caused by dominant gain of function mutations in the FGFR3 gene. FGF4 is one of the ligands for this receptor. Constitutive activation of a receptor causes similar effects to overexpression of its ligand. Through the study of the effects of FGF4 overexpression on canine morphologies, the utility of the dog as a model for the human disease will be enhanced.



Professor Bannasch pictured with Professor Leeb, presented her work at the first Science@lunch talk for the Vetsuisse faculty.

2019 HANS SIGRIST SUPPLEMENTARY GRANTS (ZUSCHÜSSE)

Prof. Dr. William Cheung, Institute for the Oceans and Fisheries, the University of British Columbia, Vancouver, Canada

Prof. Dr. Thomas Frölicher, SNSF Assistant Professor in the Climate and Environmental Physics Division of the University of Bern, requested 4,000 CHF for a four-month grant for Prof. Dr. William Cheung from the University of British Columbia, Canada. During his research stay, Prof. Cheung and Prof. Frölicher's research group on ocean modelling jointly investigated the impact of marine heatwaves – prolonged periods of extreme warm sea surface temperatures – on fish stocks. Prof. Cheung combined output from large ensemble simulations of an Earth system model, that was conducted in Prof. Frölicher's group, with a fish impact model that was originally developed by Prof. Cheung. Through this new modeling framework, Prof. Cheung was able to simulate the response of major northeast Pacific fish stocks to marine heatwaves. The results showed that marine heatwaves cause biomass decrease and shifts in distribution of fish stocks that are at least four times faster and bigger in magnitude than the effects of decadal-scale mean changes throughout the 21st century. Including marine heatwaves in the analysis, the model projects a doubling of impact levels by 2050 amongst the most important fisheries species over previous assessments that focus only on long-term climate change. The new study underscores the additional challenges from MHWs for fisheries and their management under climate change. The results of this study have been accepted for publication in Scientific Reports and will be featured by the Swiss National Science Foundation. In the next step, Prof. Cheung will add an economic impact model to assess the impacts of marine heatwaves on the world's fish stocks, fisheries, and consequences for dependent human communities. During his visit, Prof. Cheung gave numerous talks at the University of Bern including an extraordinary seminar together with Prof. Frölicher presenting the key findings from the Special Report on the Ocean and Cryosphere in a Changing Climate.



Prof. William Cheung presenting a talk at the Plenary Meeting of the Oeschger Centre for Climate Change Research.

FORSCHUNGS-AUSZEICHNUNG UND -FÖRDERUNG DURCH DIE HANS-SIGRIST-STIFTUNG

Die Hans-Sigrist-Stiftung hat seit ihrer Gründung zahlreiche Persönlichkeiten aus Bern, aus der Schweiz sowie aus dem Ausland auszeichnen und unterstützen können. Nachstehend werden alle Preis- und Stipendiumsempfänger und -empfängerinnen aufgeführt. Zu erwähnen ist, dass zahlreiche dieser Persönlichkeiten nach der Auszeichnung durch die Hans-Sigrist-Stiftung ihre wissenschaftliche Laufbahn mit grösstem Erfolg fortgesetzt haben, was u.a. auch auf den innovativen Charakter der Hans Sigrist Unterstützung schliessen lässt. So erhielt Robert Horvitz, unser erster Preisträger 1994, acht Jahre später den Nobelpreis, und 2009 wurde der frühere Hans Sigrist Preisträger (Preis 1997), Prof. Jack W. Szostack, zusammen mit Elisabeth Blackburn und Carol Greider mit dem Nobelpreis für Medizin ausgezeichnet.

BISHERIGE TRÄGERINNEN UND TRÄGER DES HANS SIGRIST PREISES

- 1994 Prof. H. Robert Horvitz, Massachusetts Institute of Technology, USA
Apoptosis – Der programmierte Zelltod
- 1995 Prof. Joseph P. Newhouse, Harvard University, USA
Gesundheitsökonomie
- 1996 Prof. Frantisek Smahel, Karls-Universität Prag, Tschechien
Geschichtliche Erforschung von Ostmitteleuropa
- 1997 Prof. Gerald F. Joyce, Scripps Research Institut, USA, und
Prof. Jack W. Szostak, Harvard Medical School, USA
RNA – Schlüsselmolekül zur Entstehung von Leben
- 1998 Dr. Michel Orrit, Centre de Physique Moléculaire Optique et
Hertzienne, Université de Bordeaux, Frankreich
Chemische Grundlagen neuartiger Materialien
- 1999 Prof. Joan W. Scott
Institute for Advanced Study, Princeton, USA
Neue Erkenntnisse in der Geschlechterforschung
- 2000 Prof. Elsa Tamez, Universidad Biblica Latinoamericana, Costa Rica
Kontextuelle Bibelhermeneutik
- 2001 Prof. Jan Johansson, Karolinska Institutet, Schweden
Biologische Grenzflächen: Die innere Lungenoberfläche
- 2002 Dr. Jorge Galàn, Yale University, USA
Pathogen-Wirt-Interaktion

- 2003 Prof. Dr. Emilio Gentile, Università «La Sapienza», Rom, Italien
Politische Religionen als Merkmal des 20. Jahrhunderts
- 2004 Prof. Dr. Christopher Pollitt, Erasmus University, Rotterdam, Niederlande
Public Governance
- 2005 Prof. Dr. Stephen Elledge, Harvard Medical School, Boston, USA
Qualitätskontrolle in lebenden Zellen
- 2006 Prof. Dr. David M. Richardson, Stellenbosch University, Südafrika
Biological Invasions
- 2008 Prof. Dr. Andreas Feldtkeller, Humboldt-Universität, Berlin, Deutschland
Religionen – Wahrheitsansprüche – Konflikte – Theologien:
Theoretische Perspektiven
- 2009 Prof. Dr. Patrik Vuilleumier, Universität Genf, Schweiz
Kognitive Neurowissenschaft
- 2011 Prof. Dr. Nicola Lacey, University of Oxford, United Kingdom
Rechtsstaat und Spätmoderne
- 2012 Prof. Dr. Stephen A. Boppart, University of Illinois, USA
Diagnostische Lasermedizin
- 2013 Prof. Dr. Yoshiki Sasai, RIKEN Center for Developmental Biology, Kobe, Japan
Stem Cells in Regenerative Medicine
- 2014 Prof. Dr. Jennifer Klein, Yale University, New Haven, CT, USA
Women and Precarity: Historical Perspectives
- 2015 Prof. Dr. Luciano Marraffini, The Rockefeller University, New York, NY, USA
Combatting Antibiotic Resistance: Novel Antibacterial Strategies
- 2016 Prof. Dr. Gabriele Hegerl, University of Edinburgh, Scotland
The Human Fingerprint on the Earth System
- 2017 Prof. Dr. Heleen Muree-van den Berg, Radboud University, The Netherlands,
Historical Research in Eastern Christianity
- 2018 Prof. Dr. Marina von Keyserlingk, The University of British Columbia, Canada,
Sustainably Produced Food of Animal Origin
- 2019 Prof. Dr. Ignas Snellen, Leiden University, The Netherlands
Exoplanets: Worlds Beyond Our Solar System

BISHERIGE EMPFÄNGERINNEN UND EMPFÄNGER VON HANS SIGRIST STIPENDIEN

- 1994 Dr. Michael Gerfin
Rechts- und Wirtschaftswissenschaften
- 1996 Dr. Petra S. Hüppi
Klinische Forschung
- 1997 Dr. Alberto Achermann und Dr. Andreas Lienhard
Rechtswissenschaft
- 1998 Dr. Eliane Marti
Forschung mit dem Tier – Forschung für das Tier
- 1999 Dr. Werner Eugster
Einfluss der Juragewässerkorrekturen auf das lokale und regionale Klima
- 2000 Dr. Lorenz E. Baumer
Kultureller Austausch - Classical Archaeology
- 2001 Dr. Ohad S. Parnes
Geschichte der Naturwissenschaften, Mathematik oder
Logik des 19. und 20. Jahrhunderts
- 2002 Dr. Erik Vassella
Erreger-Wirt-Wechselwirkung auf molekularer Ebene
- 2003 Dr. Claudia Spadavecchia
Schmerzerkennung und Behandlung beim Tier
- 2004 Dr. Sacha Zala
Historische Politologie: politische Geschichte im Spannungsfeld von Anthropologie, «politischer Theologie», Sozial- und Politikwissenschaften (18.–20. Jahrhundert)
- 2005 Dr. Georg Lutz
Entwicklung politischer Institutionen zur Förderung guter Regierungsführung
- 2007 Dr. Friederike Zeeh
Studien im Rahmen der «Veterinary Public Health»: Neue Nachweismethoden für aktuelle Erkrankungen des Verdauungs- und des Atmungsapparates und Untersuchungen zur Entstehung von Lahmheiten bei Schweinen

- 2008 Dr. Oliver Bossdorf
Evolutionary Ecology of Plant Invasion
- 2009 Dr. Johannes Klein
Schwurverhalten im Alten Testament
- 2010 Dr. David Weibel
Die Rolle von Avataren bei der Identitätskonstruktion in virtuellen Welten
- Dr. Bartholomäus Wissmath
Immersion in Virtual Realities
- 2011 Dr. Anna Coninx
Risikoprävention und Gefahrenabwehr im Strafrecht und Polizeirecht
- 2012 Kai Gerrit Held
Biomedical Photonics, Optoacoustic Imaging
- 2013 William Hariton
Cell-Cell Adhesion-mediated Signaling in Epidermal Stem Cells
- 2014 Matthieu Lavoyer (2014 - 2015); Lisia Buergi (2017 - 2019)
Women and Precarity: Historical Perspectives
- 2015 Odette Bernasconi
Combatting Antibiotic Resistance: Novel Antibacterial Strategies
- 2016 Stamatina Makri
The Human Fingerprint on the Earth System
- 2017 Rahel Schär
Historical Research in Eastern Christianity
- 2018 Janine Braun
Sustainably Produced Food of Animal Origin
- 2019 Kathryn Jones
Exoplanets: Worlds Beyond Our Solar System



An den Stiftungsrat der
Hans-Sigrist-Stiftung, Bern

GFELLER + PARTNER AG

Bericht der Revisionsstelle zur eingeschränkten Revision

Als Revisionsstelle haben wir die Jahresrechnung (Bilanz, Erfolgsrechnung und Anhang) der Hans-Sigrist-Stiftung für das am 31. Dezember 2019 abgeschlossene Geschäftsjahr geprüft.

Für die Jahresrechnung ist der Stiftungsrat verantwortlich, während unsere Aufgabe darin besteht, die Jahresrechnung zu prüfen. Wir bestätigen, dass wir die gesetzlichen Anforderungen hinsichtlich Zulassung und Unabhängigkeit erfüllen.

Unsere Revision erfolgte nach dem Schweizer Standard zur Eingeschränkten Revision. Danach ist diese Revision so zu planen und durchzuführen, dass wesentliche Fehlaussagen in der Jahresrechnung erkannt werden. Eine Eingeschränkte Revision umfasst hauptsächlich Befragungen und analytische Prüfungshandlungen sowie den Umständen angemessene Detailprüfungen der beim geprüften Unternehmen vorhandenen Unterlagen. Dagegen sind Prüfungen der betrieblichen Abläufe und des internen Kontrollsystems sowie Befragungen und weitere Prüfungshandlungen zur Aufdeckung deliktischer Handlungen oder anderer Gesetzesverstösse nicht Bestandteil dieser Revision.

Bei unserer Revision sind wir nicht auf Sachverhalte gestossen, aus denen wir schliessen müssten, dass die Jahresrechnung nicht Gesetz und Stiftungsurkunde entspricht.

Bern, 7. April 2020
CZ/digital signiert

GFELLER + PARTNER AG

Christian Zwahlen
Dipl. Wirtschaftsprüfer
Zugelassener Revisionsexperte
(Leitender Revisor)

Salvatore Fasciana
Dipl. Treuhandexperte
Zugelassener Revisionsexperte

Beilagen:

- Jahresrechnung (Bilanz, Erfolgsrechnung und Anhang)

Hans - Sigrist - Stiftung, Bern

Beilage 1

Seite 1

Bilanz

	31.12.2019	31.12.2018	Abweichung
	CHF	CHF	CHF
AKTIVEN			
Umlaufvermögen			
Flüssige Mittel	498'591.47	536'790.56	-38'199.09
Übrige kurzfristige Forderungen	30'370.80	70'726.05	-40'355.25
Verrechnungssteuer	30'370.80	70'726.05	
Aktive Rechnungsabgrenzungen	0.00	0.45	-0.45
Anlagevermögen			
Finanzanlagen	4'698'194.34	4'439'712.94	258'481.40
Total AKTIVEN	5'227'156.61	5'047'230.00	179'926.61
PASSIVEN			
Kurzfristiges Fremdkapital			
Passive Rechnungsabgrenzungen	5'214.50	8'811.45	-3'596.95
Dritte	3'060.50	6'657.45	
Organe	2'154.00	2'154.00	
Eigenkapital			
Stiftungskapital	7'431'908.10	7'431'908.10	0.00
Verlustvortrag	-2'393'489.55	-1'899'763.46	-493'726.09
Jahresergebnis	183'523.56	-493'726.09	677'249.65
Total	5'221'942.11	5'038'418.55	183'523.56
Total PASSIVEN	5'227'156.61	5'047'230.00	179'926.61

Hans - Sigrist - Stiftung, Bern**Erfolgsrechnung**

	2019	2018	Abweichung
	CHF	CHF	CHF
Wertschriftenertrag			
Dividenden-und Zinsertrag Finanzanlagen	87'109.70	102'937.10	-15'827.40
Fremdwährungsgewinne	4'194.37	3'807.97	386.40
Realisierte Kursgewinne Finanzanlagen	74'391.36	1'492.49	72'898.87
Nicht realisierte Kursgewinne Finanzanlagen	366'476.58	5'464.64	361'011.94
Total Nettoerlös aus Leistungen	532'172.01	113'702.20	418'469.81
Wertschriftenaufwand			
Bankspesen	160.00	140.00	20.00
Spesen Finanzanlagen	460.35	264.50	195.85
Fremdwährungsverluste	1'085.70	3'656.47	-2'570.77
Realisierte Kursverluste Finanzanlagen	80.90	16'656.73	-16'575.83
Nicht realisierte Kursverluste Finanzanlagen	8'054.14	203'660.33	-195'606.19
Wertschriftenverwaltung	17'353.65	17'652.15	-298.50
Total Aufwand	27'194.74	242'030.18	-214'835.44
Bruttoergebnis	504'977.27	-128'327.98	633'305.25
Personalaufwand			
Saläre	46'261.20	45'724.80	536.40
Sozialleistungen	9'385.80	9'382.20	3.60
Total	55'647.00	55'107.00	540.00
Übriger betrieblicher Aufwand			
Verwaltungsaufwand	3'555.47	4'536.86	-981.39
Buchführung	969.30	969.30	0.00
Revision	2'154.00	2'154.00	0.00
Aufwand Stiftungsrat	473.30	322.10	151.20
Total	7'152.07	7'982.26	-830.19
Ergebnis vor Verwendungen gemäss Stiftungszweck	442'178.20	-191'417.24	633'595.44

Hans - Sigrist - Stiftung, Bern

Beilage 2

Seite 2

Erfolgsrechnung

	2019	2018	Abweichung
	CHF	CHF	CHF
Ergebnis vor Verwendung gemäss Stiftungszweck	442'178.20	-191'417.24	633'595.44
Verwendung gemäss Stiftungszweck			
Hans Sigrist-Stiftung Preis	-100'000.00	-100'000.00	0.00
Spesen i.S. Hans Sigrist-Stiftung Preis	-6'188.14	-14'051.20	7'863.06
Stipendien	-135'466.50	-178'507.65	43'041.15
Wissenschaftliche Massnahmen	-17'000.00	-9'750.00	-7'250.00
Total	-258'654.64	-302'308.85	43'654.21
Jahresergebnis	183'523.56	-493'726.09	677'249.65

Hans - Sigrist - Stiftung, Bern

Anhang

A. Bewertungsgrundsätze

Die vorliegende Jahresrechnung wurde gemäss den Vorschriften des Schweizer Gesetzes, insbesondere der Artikel über die kaufmännische Buchführung und Rechnungslegung des Obligationenrechts (Art. 957 bis 962 OR) erstellt. Die wesentlichen Abschlusspositionen sind wie nachstehend bilanziert:

Finanzanlagen

Die Wertschriften des Anlagevermögens werden zum Stichtagskurs am Bilanzstichtag, also zum Marktwert bewertet.

B. Erläuterungen zur Jahresrechnung

	31.12.2019	31.12.2018
	CHF	CHF
Finanzanlagen		
Aktien Schweiz	805'371.45	641'703.45
Immobilien-Fonds	809'585.85	755'900.65
Obligationen Schweiz CHF	2'049'282.90	1'918'218.00
Obligationen Ausland FW	505'542.40	695'112.00
Aktien Welt	528'411.74	428'778.84
Total	4'698'194.34	4'439'712.94

C. Übrige im Gesetz vorgesehene Angaben

1.1 Rechtsform, Zweck

Die Hans Sigrist-Stiftung ist eine gemäss öffentlicher Urkunde vom 12. August 1993 (Urschrift 1755) errichtete Stiftung im Sinne der Art. 80ff ZGB mit Sitz in Bern. Domizil der Stiftung ist Schanzenekstrasse 1, 3012 Bern.

Gemäss den Statuten vom 21. Januar 1997 hat die Stiftung zum Zweck: die Förderung der wissenschaftlichen Forschung und Honorierung hervorragender wissenschaftlicher Leistungen, gleichgültig in welchem Fachgebiet gemäss Reglement vom 29. Oktober 1996, Datum des Erlasses vom 27. Januar 2014.

1.2 Personelle Zusammensetzung des Stiftungsrates

Trautmann Norbert, Prof. Dr., Bern	Präsident
Rigamonti Cyrill, Prof. Dr., Bern	Vizepräsident
Brönnimann Stefan, Prof. Dr., Zollikofen	Mitglied
Henke Katharina, Prof. Dr., Mont-Vully (FR)	Mitglied
Kunz Alexis, Prof. Dr., Riaz	Mitglied
Leumann Christian, Prof. Dr., Bern	Mitglied
Häsler Christine, Burglauenen	Mitglied
Bloch René Sigmund, Prof. Dr., Bern	Mitglied
Perren Aurel, Prof. Dr., Bern	Mitglied
Rippl Gabriele, Prof. Dr., Biel/Bienne	Mitglied
Rottenberg Sven, Prof. Dr., Bern	Mitglied

1.3 Entschädigungen an die Stiftungsräte werden keine ausgerichtet.

1.4 Zeichnungsberechtigung

Der Präsident und der Vizepräsident des Stiftungsrates führen Kollektivunterschrift zu zweien.

1.5 Revisionsstelle

Gfeller + Partner AG
Amthausgasse 6
3000 Bern 7

1.6 Erklärung, ob Anzahl Vollzeitstellen im Jahresdurchschnitt nicht über 10, 50 oder 250 liegt

Die Anzahl Vollzeitstellen liegt im Jahresdurchschnitt nicht über 10 Mitarbeitenden.

1.7 Wesentliche Ereignisse nach dem Bilanzstichtag

Der Notfall-Ausschuss der Weltgesundheitsorganisation (WHO) hatte wegen des Coronavirus am 30. Januar 2020 eine «gesundheitliche Notlage von internationaler Tragweite» ausgerufen. Der Bundesrat hatte die Situation in der Schweiz am 16. März 2020 als ausserordentliche Lage gemäss Epidemiegesetz eingestuft. Eine genaue Schätzung der finanziellen Auswirkungen auf das Geschäftsjahr 2020 ist zum jetzigen Zeitpunkt nicht möglich. Wir gehen davon aus, dass die Auswirkungen keinen Einfluss auf unsere Fähigkeit der Fortführung der Unternehmenstätigkeit haben.

Hans-Sigrist-Stiftung
Schanzeneckstrasse 1
Postfach 3444
CH-3001 Bern
www.sigrist.unibe.ch
office@sigrist.unibe.ch