

ANNUAL REPORT 2019



Foundation to support research into Alzheimer's disease and other neurodegenerative diseases

Synopsis Foundation –
Alzheimer Research Switzerland ARS
Josefstrasse 92
CH-8005 Zurich
+41 44 271 35 11
www.alzheimer-synopsis.ch
info@alzheimer-synopsis.ch

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«Our ability to explore promising new research directions in neurodegenerative diseases depends on the robust exchange of knowledge and findings between pure research and clinical practice.»

Dr Margrit Leuthold, President of the Board of Trustees

To our benefactors
To all friends of Synapsis Foundation

In 2019, several clinical studies on Alzheimer's medications were discontinued due to a lack of positive results – further proof of the ongoing challenges facing Alzheimer's research. To be sure, many significant discoveries have been made, but it remains unclear as to how the individual puzzle pieces should be joined together to prevent nerve cells from dying at an early stage of the disease – or to at least slow deterioration.

Robust communication between specialists in various fields is essential for generating findings that lead to innovative diagnostic methods and effective treatments. This is why our Foundation encouraged participating researchers at the Synapsis Forum in November of 2019 to further strengthen knowledge exchange between pure and clinical research. Clinical studies are anchored in the understanding gained through pure research, and they test methods to diagnose, treat or prevent disease in humans. It is only through intense collaboration between these two branches of research that the latest foundational findings on the pathogenesis of neurodegenerative diseases can be translated into actual therapies.

Until there are effective medicines to prevent or cure Alzheimer's, treatments to retain the cognitive abilities in affected individuals for as long as possible are of particular importance. Indeed, the earlier we can intervene in the disease, the more promising the results. By contrast, once a severe cognitive impairment is present, the brain is already irreparably damaged. Our Foundation has taken several steps to support research in this area: in 2019, we approved funding for an innovative project to develop cost-effective, widely applicable methods of early diagnosis. Starting in 2020, our Foundation will support clinical research projects that explore approaches to stabilising cognitive abilities – for instance, a combination of physical exercise and brain training.

This work is made possible by your highly valued support: it is your trust in Synapsis Foundation and your financial contributions that underpin our efforts to advance research into neurodegenerative diseases. I would like to take this opportunity to extend my heartfelt thanks to you for your generous donations in 2019.

The work of my colleagues on the honorary Board of Trustees, the invaluable support of our Scientific Advisory Board as well as the commitment of the staff at our Management Office all ensured that our Foundation could make great strides in 2019. I extend my warmest thanks to them, too, for their excellent work.

Dr Margrit Leuthold
President of the Board of Trustees



SYNOPSIS FOUNDATION SUPPORTS RESEARCH TO PREVENT FORGETTING

The mechanisms that cause Alzheimer's disease are still not fully understood. To ensure that effective therapies can be developed in the near future, it is important to invest more in researching this disease.

Synopsis Foundation – Alzheimer Research Switzerland ARS supports research into Alzheimer's and other neurodegenerative diseases.

In addition to Alzheimer's disease, Synopsis Foundation also funds research into other neurodegenerative diseases such as Parkinson's disease, Huntington's disease and amyotrophic lateral sclerosis (ALS).

By focusing on research into Alzheimer's disease, Synopsis Foundation makes optimal use of its resources and is thus able to contribute significantly to a better understanding of how neurodegenerative diseases arise. Synopsis Foundation also funds projects that **develop new diagnostic methods and suitable treatments**. Because researchers currently believe that the changes in the brain leading to Alzheimer's disease develop already 20 to 30 years before the first symptoms present, **early recognition** is of major importance. For this reason, Synopsis Foundation issues calls for projects that explore simple and cost-effective diagnostic methods.

Independent research funding at Swiss universities and higher education institutions

Synopsis Foundation provides independent funding to selected projects in order to advance comprehensive research into Alzheimer's and other neurodegenerative diseases in Switzerland. The following measures ensure independence and quality:

- **Public calls for research proposals** generate healthy competition within the research community and result in greater innovation and creativity.
- In a **multi-step procedure** that includes consultation with international experts, the Foundation's **independent Scientific Advisory Board** selects the research projects with the highest quality and greatest innovation potential.
- Synopsis Foundation **promotes talented junior researchers** with the specific aim of establishing new research groups in the area of Alzheimer's research.

To secure long-term research funding, Synopsis Foundation relies on donations from private individuals and institutional backers. It is these contributions that enable our Foundation to support outstanding researchers in Switzerland in their efforts to combat dementia.

UNITED FOR A WORLD WITHOUT ALZHEIMER'S

The various offices of our Foundation work together to ensure that researchers in funded projects have the support they need to advance research into Alzheimer's and other neurodegenerative diseases.

Our honorary **Board of Trustees** is responsible for strategic decisions, which are implemented by the staff in our **Management Office**. The Board of Trustees and the management staff are supported by a first-rate Scientific Advisory Board. The **Scientific Advisory Board**

has the lead in selecting which research projects to fund, and it advises the Board of Trustees and the management staff on medical and scientific matters. The **researchers** in the supported projects carry out their important work, which is monitored by the Management Office and the Scientific Advisory Board.

It is our generous **benefactors** who make research to prevent forgetting possible.



8 HIGHLIGHTS OF 2019

Our commitment

Over 700 hours of volunteer work

The dedicated professionals serving on the Board of Trustees and the Scientific Advisory Board offer their expertise free of charge. In 2019, they provided 715 hours of honorary services – over 100 hours more than in 2018.

Partnerships to support people living with dementia

In 2019, Synapsis Foundation further expanded its collaboration with Alzheimer Schweiz, Switzerland's organisation for persons affected by Alzheimer's. We also began an exchange with the Swiss Memory Clinics SMC in order to develop common strategies to support clinical research. By building networks with organisations in related areas, Synapsis Foundation benefits from synergies and makes an essential contribution to improving the quality of life in individuals living with dementia.

Research funding

Sharing expert knowledge

The 2019 Synapsis Forum, a knowledge exchange and networking event for researchers in our funded projects, was held in Gerzensee, Bern, on 25 and 26 November. Fascinating talks and presentations of research projects set the stage for animated discussions among the over 50 scientists attending.



2.6 million Swiss francs for research

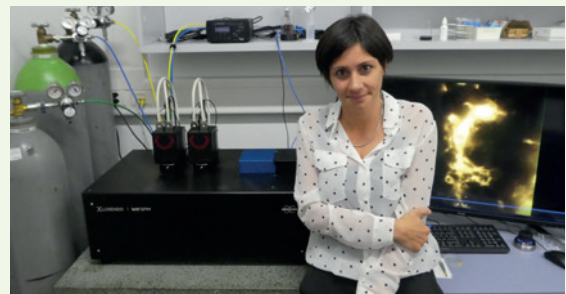
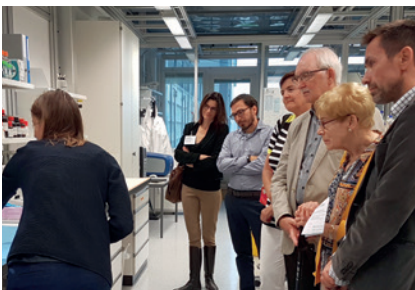
At the end of November 2019, the Board of Trustees approved ten new research projects that Synapsis Foundation will support over the next two to three years. Thanks to generous donations, funding allocated to research in 2019 was roughly 600,000 Swiss francs higher than in 2018.

Support in establishing a new research group

For the first time, Synapsis Foundation helped to finance a new research group as part of its strategy to promote junior researchers. Professor Rosa Chiara Paolicelli, who previously received support from Synapsis Foundation in her role as a postdoc, was appointed assistant professor at the University of Lausanne. Synapsis Foundation funded a special light sheet microscope to help Professor Paolicelli set up her research lab.

«Meet the Researchers»: benefactors visit researchers

On World Alzheimer's Day in September 2019, Synapsis Foundation invited benefactors to experience the world of research first-hand. At the various «Meet the Researchers» events in Zurich, Basel, Lausanne and Lugano, researchers in funded projects introduced their projects and presented the latest findings in Alzheimer's research. Benefactors also had the opportunity to tour the labs and see how their donations are being put to work.



«The support I received from Synapsis Foundation to set up my own research group created a unique opportunity to make rapid progress in my research: I was able to equip the lab with a state-of-the-art light sheet microscope, which allows my team to study microglia dynamics in the brain in real time.»

Rosa Chiara Paolicelli, PhD, University of Lausanne

Outreach and awareness campaigns

In conversation with the community

In 2019, Synapsis Foundation was present with a stand at a variety of events. Whether at «Demenz Meet» in Zurich, the Lucerne fair on ageing in the future, or the brain-week events in Bern, Lausanne and Aarau: our staff were happy to answer the numerous questions the visitors had on current research into Alzheimer's disease. The various talks on topics such as prevention also generated great interest. By supporting and attending these events on ageing and dementia, our Foundation helps to increase awareness and educate the general public about issues surrounding dementia.



Raising awareness for Alzheimer's disease

In 2019, Synapsis Foundation published interesting articles on dementia and the latest findings from Alzheimer's research in the five issues of its house journal «Info Alzheimer» (in German, French, Italian). With these various outreach efforts, our Foundation addressed the taboos surrounding dementia and raised awareness for Alzheimer's disease.



Lecture series on dementia

In November and December 2019, the people's university of Basel together with Synapsis Foundation held a lecture series entitled «Dementia can happen to anyone». On four evenings, specialists presented information on the current situation in Alzheimer's research, but also discussed the related legal and ethical aspects as well as the best way to respect the needs of people affected by dementia.

New social media presence

The latest news about Synapsis Foundation and Alzheimer's research is regularly published on our social media channels, which we launched in March 2019.



Donation campaigns

Charity event for Alzheimer's research

The Basel School of Business organised «A Dance to Remember» to raise funds for Synapsis Foundation. Professional dancers performed for the audience and offered guests a Lindy Hop lesson - the evening was a grand success, and a total of 7,500 Swiss francs were donated to Alzheimer's research. Synapsis Foundation would like to thank all guests for their support and the event organisers and dancers for their outstanding efforts on our behalf.



Dr Manfred Schulz, Dr Margrit Leuthold, Piergiorgio Regazzo

10,000 new benefactors on World Alzheimer's Day

With our campaign on World Alzheimer's Day (21 September 2019), Synapsis Foundation raised awareness for Alzheimer's research and gained the support of 10,000 new benefactors.



In 2019, Synapsis Foundation invested about 2.3 million Swiss francs in neurodegenerative disease research.

During the reporting period, Synapsis Foundation financed 34 projects in Basel, Bern, Geneva, Lausanne, Lugano and Zurich. Of the supported scientists, 20 researchers received payments in 2019 of nearly 2.1 million Swiss francs; over 800,000 francs of this amount were directed to the promotion of junior researchers.

Investments in research in 2019

| | Amount (CHF) | Percentage |
|---|---------------------|----------------|
| Projects of established research groups | 1,254,800.00 | 54.6% |
| Projects of junior researchers | 839,364.00 | 36.6% |
| Subtotal of direct project funding | 2,094,164.00 | 91.2% |
| Scientific events, fees, administrative costs | 201,357.30 | 8.8% |
| Total research investments | 2,295,521.30 | 100.00% |

Thanks to the generous support of the Stavros Niarchos Foundation, the research conducted by Dr Katrin Frauenknecht MD (November 2015 to October 2019) at the University of Zurich's Faculty of Medicine was also funded in the form of a Career Development Award.

Selected research findings from funded projects

Sleep quality and dementia

Dr Daniela Noain, University Hospital Zurich

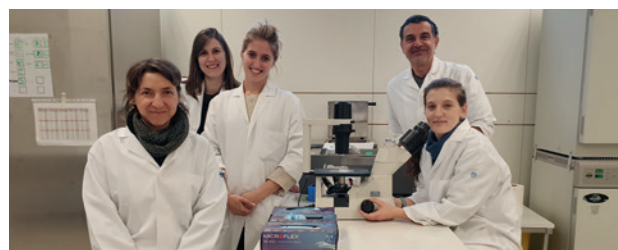
Recent studies suggest that poor sleep quality increases the risk of developing Alzheimer's disease and that lasting improvement in the deep-sleep phase may have the opposite effect. It is, however, not fully known whether sleep improves cognitive abilities in Alzheimer's patients. This study aims to fill a gap in the current knowledge about sleep-induced changes in Alzheimer's disease. The results of this study may lead to a non-invasive and cost-effective treatment to slow the progression of the disease.



Tau protein in ageing and neurodegeneration

Dr Paolo Paganetti, Institute of Clinical Neurosciences of Southern Switzerland NSI/EOC

As we age, DNA damage - damage to our genome - becomes more common. As a rule, the damage is either repaired, or the damaged cell is eliminated in order to prevent abnormal cell activity. We investigated the role Tau proteins play in a cell's reaction to DNA damage. Tau proteins are important in maintaining the stability of cells; in Alzheimer's patients, however, there is an abnormal aggregation or clumping of Tau proteins - called Tau fibrils - in the brain. Our research indicates that natural Tau promotes controlled cell death in faulty DNA, thus allowing damaged cells to be eliminated. When, however, the functioning of Tau proteins is faulty - as may occur due to Tau fibrils - the cell ages. Damaged cells subsequently fall into a type of sleeping state and are not eliminated. These findings are also significant for cancer research.



Dr Stéphanie Papin, Alice Colavolpe, Martina Sola, Dr Paolo Paganetti, Claudia Magrin

Call for proposals in 2019: ten new projects approved

In 2019, Synapsis Foundation issued its ninth call for research proposals. As in previous years, researchers working at a university or other academic research institution in Switzerland were eligible.

Of the 40 projects submitted, 10 were selected by the Scientific Advisory Board in a multi-step evaluation procedure that included consultation with international experts. The main selection criteria were academic quality, project feasibility and the innovative potential of the anticipated findings. For a two-to-three-year period starting in 2020, the selected projects will be funded with an amount of over 2.6 million Swiss francs. In addition to supporting projects investigating the pathogenesis of neurodegenerative diseases or developing methods to research these mechanisms, the Foundation funds research projects that focus on treatments to retain cognitive abilities in dementia patients.

Selected projects starting in 2020

Improving patient care to prevent dementia after a stroke

Dr Roza Umarova, Inselspital Bern

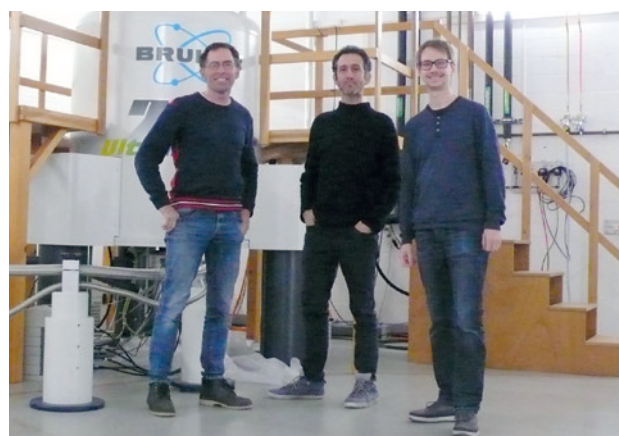
In addition to motor impairments, strokes can also cause cognitive deficits and dementia, resulting in disability and dependency. Deterioration in cognitive abilities can occur immediately after a stroke or arise after a period of several months with no obvious cause. How can we prevent this delayed cognitive decline? How can we predict the effects of a stroke in ageing patients or those with multiple morbidities? This project endeavours to answer these questions in order to improve patient care after a stroke.



New methods to analyse Tau proteins

Professor Roland Riek, ETH Zurich

Protein misfolding and aggregation are the hallmarks of age-related neurodegenerative diseases such as Alzheimer's or Parkinson's. The triggers and molecular mechanisms in these processes are, however, not yet clear. This is mainly due to the lack of methodologies for an in-depth analysis of the complex relationship between structure, dynamics and function of proteins in their natural environment. Recently, our group developed a method called in-cell NMR, which enables atomic-scale structural analyses of proteins inside living mammalian cells. Using this methodology, we study neuronal cells and the disease-relevant structural transitions of Tau, a protein that is involved in Alzheimer's disease. The aim is to develop therapeutic molecules that inhibit Tau aggregation in a living organism.



Professor Roland Riek, Jason Greenwald,
Yanick Fleischmann



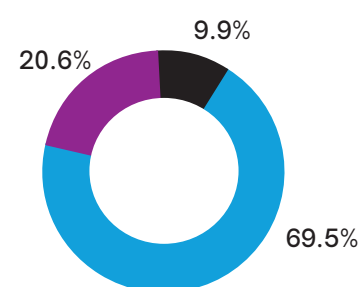
BALANCE SHEET 2019

As a non-profit organisation, the Synapsis Foundation – Alzheimer Research Switzerland ARS is tax exempt. It pursues neither gainful nor self-advancement purposes and is regulated by the Federal Supervisory Board for Foundations of the Federal Department of Home Affairs, Bern. Synapsis Foundation's investment strategy is monitored by an investment committee. Accounts, balance

sheet and valuations are performed in accordance with the provisions of the Swiss Code of Obligations and Swiss GAAP FER 21. BDO AG, Grenchen, is an independent auditing agency hired to audit the accounting records and annual financial statements of Synapsis Foundation.

| | 31.12.19 | 31.12.18 |
|---|---------------------|---------------------|
| | CHF | CHF |
| Assets | | |
| Cash and cash equivalents | 5,337,939.00 | 5,947,399.55 |
| Securities | 218.85 | 218.85 |
| Receivables | 11,682.50 | 114,740.55 |
| Accrued income | 11,102.85 | 5,769.90 |
| Total current assets | 5,360,943.20 | 6,068,128.85 |
| Financial assets | 2,762,780.00 | 1,632,222.00 |
| Non-property fixed assets | 55,791.85 | 55,791.85 |
| Value adjustment for non-property fixed assets | -32,291.85 | -21,491.85 |
| Intangible assets (CRM solution) | 101,837.40 | 0.00 |
| Total fixed assets | 2,888,117.40 | 1,666,522.00 |
| Total assets | 8,249,060.60 | 7,734,650.85 |
| Liabilities | | |
| Short-term liabilities | 218,029.65 | 180,468.75 |
| Deferred income | 34,450.00 | 15,400.00 |
| Total short-term liabilities | 252,479.65 | 195,868.75 |
| Research promotion fund | 7,300,000.00 | 7,200,000.00 |
| Total fund capital (restricted) | 7,300,000.00 | 7,200,000.00 |
| Total liabilities (incl. restricted funds) | 7,552,479.65 | 7,395,868.75 |
| Foundation capital | 100,000.00 | 100,000.00 |
| Value fluctuation reserves | 233,160.05 | 0.00 |
| Acquired free capital | 363,420.90 | 238,782.10 |
| Organisational capital | 696,580.95 | 338,782.10 |
| Total liabilities | 8,249,060.60 | 7,734,650.85 |

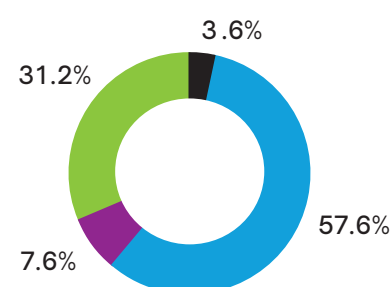
| | 2019 CHF | 2018 CHF |
|--|---------------------|---------------------|
| Donations | 4,067,178.95 | 3,790,203.40 |
| Proceeds from donations | 4,067,178.95 | 3,790,203.40 |
| Total operating income | 4,067,178.95 | 3,790,203.40 |
| Promotion of research | | |
| Personnel and administrative expenses, fees | 174,190.90 | 140,959.30 |
| Research projects | 2,094,164.00 | 2,306,071.70 |
| Research promoting events | 27,166.40 | 26,058.60 |
| Total cost of research promotion | 2,295,521.30 | 2,473,089.60 |
| Information & awareness raising | | |
| Personnel and administrative expenses, fees | 41,200.25 | 0.00 |
| Information and awareness-raising projects | 260,835.75 | 0.00 |
| Total cost of information & awareness raising | 302,036.00 | 0.00 |
| Total project costs | 2,597,557.30 | 2,473,089.60 |
| Administrative costs | | |
| Cost of personnel | 129,818.40 | 123,672.40 |
| Operating costs and IT | 85,291.15 | 70,685.90 |
| Depreciation of non-property fixed assets | 10,800.00 | 10,700.00 |
| Cost allocation for administration | -79,199.20 | -65,108.70 |
| Total cost of management & administration | 146,710.35 | 139,949.60 |
| Fundraising & outreach | | |
| Personnel and administrative costs | 319,175.50 | 339,694.85 |
| Material costs | 922,622.80 | 1,323,445.65 |
| Total costs for fundraising & outreach | 1,241,798.30 | 1,663,140.50 |
| Total operating costs | 3,986,065.95 | 4,276,179.70 |
| Extraordinary revenue | 60,843.55 | 0.00 |
| Operating result | 141,956.55 | -485,976.30 |
| Financial income | 377,362.10 | 2,088.30 |
| Financial expenses (incl. fees/currency losses) | 61,519.85 | 133,663.05 |
| Financial result | 315,842.25 | -131,574.75 |
| Result before change in fund capital | 457,798.80 | -617,551.05 |
| Dissolution of fund for SNF professorship | 0.00 | 2,400,000.00 |
| Allocation of research promotion fund | -100,000.00 | -1,700,000.00 |
| Change in restricted funds | -100,000.00 | 700,000.00 |
| Allocation of fluctuation reserves | 233,160.00 | 0.00 |
| Allocation to annual result | 124,638.80 | 82,448.90 |
| Change in organisational capital | 357,798.80 | 82,448.90 |
| Annual result | 0.00 | 0.00 |



Source of funds

The work of Synapsis Foundation is primarily supported by private individuals who have a deep interest in research to prevent forgetting.

- Private individuals
- Institutions
- Legacies



Use of funds

Over 90% of the Foundation's expenditures were dedicated to achieving the purpose of the Foundation. Of this amount, 70% was invested in research and awareness-raising projects.

- Research funding
- Information and awareness campaigns
- Fundraising
- Administration





Tel. +41 32 654 96 96
Fax +41 32 654 96 10
www.bdo.ch

BDO AG
Dammstrasse 14
2540 Grenchen

Bericht der Revisionsstelle zur eingeschränkten Revision
an den Stiftungsrat der

Stiftung Synapsis - Alzheimer Forschung Schweiz AFS, Zürich

Als Revisionsstelle haben wir die Jahresrechnung (Bilanz, Betriebsrechnung, Geldflussrechnung, Rechnung über die Veränderung des Kapitals und Anhang) der Stiftung Synapsis - Alzheimer Forschung Schweiz AFS für das am 31. Dezember 2019 abgeschlossene Geschäftsjahr geprüft. In Übereinstimmung mit Swiss GAAP FER 21 unterliegen die Angaben im Leistungsbericht keiner Prüfungspflicht der Revisionsstelle.

Für die Aufstellung der Jahresrechnung in Übereinstimmung mit Swiss GAAP FER, den gesetzlichen Vorschriften und der Stiftungsurkunde 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 bei der geprüften Einheit 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 kein den tatsächlichen Verhältnissen entsprechendes Bild der Vermögens-, Finanz-, und Ertragslage in Übereinstimmung mit Swiss GAAP FER vermittelt und nicht Gesetz und Stiftungsurkunde entspricht.

Grenchen, 2. April 2020

BDO AG

Reto Bur

Zugelassener Revisionsexperte

ppa. Dominic Müller

Leitender Revisor
Zugelassener Revisionsexperte

Beilage
Jahresrechnung

Synapsis Foundation thanks Professor Peter Scheiffele

At the end of the year, Professor Peter Scheiffele stepped down from his position on the Scientific Advisory Board of Synapsis Foundation. After becoming chairman of the Board in 2016, Professor Scheiffele introduced significant innovations to supporting research at the Foundation. His work included designing new funding instruments to promote junior researchers, and he played a key role in selecting and monitoring funded research projects.

We extend our sincere thanks to Professor Peter Scheiffele for his work on behalf of Synapsis Foundation and wish him all the best in his future endeavours.

Generous support for our activities

The following organisations have supported Synapsis Foundation – Alzheimer Research Switzerland ARS with generous donations in recent years:

- Armin & Jeannine Kurz Stiftung, Zurich
- Barbara Keller-Stiftung, Zug
- Bürgerstock Foundation, Vaduz, Liechtenstein
- Edwin und Lina Gossweiler Stiftung, Dübendorf
- Fondation Saint Charles, Vaduz, Liechtenstein
- Fondazione HED Albireo, Lugano
- Heidi Seiler-Stiftung, Bern
- Jetpharma SA, Balerna
- Jules und Irène Ederer-Uehlinger-Stiftung, Bern
- Marinitri AG, Baar
- Max und Else Noldin Stiftung, Zug
- Pestalozzi Heritage Foundation, Zurich
- Peter Bockhoff Stiftung, Zurich
- Rütli-Stiftung, Lucerne
- Stavros Niarchos Foundation, Monte Carlo, Monaco
- Stiftung Morgental, Zurich
- Truus und Gerrit van Riemsdijk Stiftung, Vaduz, Liechtenstein
- Uniscientia Stiftung, Vaduz, Liechtenstein
- Uranus Stiftung, Muri b. Bern
- VSM-Stiftung, Glarus
- Watch Center SA, Lugano

Synapsis Foundation also received major contributions from organisations that wish to remain anonymous as well as numerous donations from private individuals, including legacy donations and a growing number of donations in memory of loved ones.

We extend our heartfelt thanks to all our benefactors for their invaluable support.



Synopsis Foundation –
Alzheimer Research Switzerland ARS
Josefstrasse 92
CH-8005 Zurich
+41 44 271 35 11
info@alzheimer-synopsis.ch

