I. HIGHLIGHTS IN 2014

Implementation of the new strategy

“We want to fund projects which have high scientific quality and an impact in science and society” – this is the core of the new strategy the board of the Velux Stiftung agreed on pursuing by the end of 2013. The foundation dedicated the year 2014 to the implementation of the new strategy and initiated fundamental changes.

The measures can be wrapped up in three packages:

- The foundation can find, assess and process impact projects – we become fit for impact (1)
- The foundation wants to receive and initiate innovative projects causing impact – we have to get involved (2)
- The foundation improves its operational excellence as an ongoing process (3)

The new funding strategy has been implemented by redefining the funding process, adopting a proactive role to find our target groups and by pursuing an ongoing optimization of operational activities.

1. The whole funding process was redefined and the foundation introduced new criteria in the application procedure as well as for the assessment by the reviewers and by the board.

2. In order to take a proactive role in getting to know the target groups in science, the foundation organized two interdisciplinary workshops for scientists and related specialists in two of the prime funding scopes. These workshops brought various disciplines engaged in the same topic together in order to identify hotspots, bottlenecks, create innovative ideas and initiate cooperation:

- Detecting Hotspots in Healthy Aging: Thirty-three scientists and physicians from seven countries, as well as the foundation representatives discussed needs and grounds to be broken in the field. The workshop took place at the University of Zurich and was organized together with the INAPIC (Internat. Normal Aging and Plasticity Centre, Zurich).
- Detecting Hotspots in Daylight Technology: Fifteen scientists from seven countries had intriguing discussions about how daylight should be used for energy, chemistry and disinfection. The workshop took place at Bois Chamblard and was organised together with the LESO-PB of the Swiss Federal Technical Institute in Lausanne (EPFL).

Both workshops were highly successful and will be followed up.
3. At the end of the year the implementation of the new strategy was evaluated for the first time. Together with Professor Georg von Schnurbein from the Centre for Philanthropy Studies (University of Basel) the secretariat analysed what lessons were learned in the first year of the implementation and discussed improvements for 2015.

Daylight Award 2014 & the future International Daylight Award

This year the ground breaking Rolex Learning Center at EPFL (Ecole polytechnique fédérale de Lausanne) won the jury over and the Japanese architects Kazuyo Sejima and Ryue Nishizawa from SANAA in Tokyo were awarded the Daylight Award 2014. The honorary award went to the Zurich architect Christian Kerez for the school building Leutschenbach in Zurich.

The award ceremony took place at the Kunsthaus Zurich on 4 March 2014 with more than three hundred participants and the awardees. The evening offered a program with the light artist Gerry Hofstetter as keynote speaker and contributions from the chairman of the jury, Marc Angélil (Professor for Architecture & Design, ETH Zurich), Colin Fournier (Juror, Professor for Architecture & Urbanism, UC London) and Beat von Wartburg (Christoph Merian Stiftung, Basel).

Since the Daylight Award was organized for the first time in 2007, the award won more and more reputation. After this year’s huge success, the board decided that the Daylight Award should be upgraded to an international level. Starting from 2016, the new international Daylight Award will be organized together with the other Velux foundations in Denmark.

II. NEWS FROM THE BOARD

Our board member Anne-Margrethe Ogstrup-Pedersen retired by the end of 2014 and had her last board meeting after more than twelve years and more than thirty meetings in Switzerland. As of 1st January 2015 the board elected Villum Ogstrup-Pedersen as a new board member and Lykke Ogstrup Lunde as vice president.
III. CONTRIBUTIONS

The new strategy was also translated into new funding criteria. As a consequence of the change in 2013 the number of applications dropped. In 2012, the last complete year with the old funding approach, the foundation received sixty-three applications and approved seventeen. With the new funding criteria operational in 2014, the foundation received forty-one applications and approved contributions to eight of them (see also table below). Scientists now need to have a closer look at the requirements to their application. This resulted in more interactions between secretariat and applicants, as more questions arose during the application procedure. Interestingly, the discussions sometimes led to new scientific goals and applicants adapted their goals to the new impact criteria. Each application is peer-reviewed by two experts of whom at least one must be from outside Switzerland. In 2014 the foundation engaged forty-three reviewers from ten countries.

<table>
<thead>
<tr>
<th>Research field</th>
<th>2014</th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daylight research</td>
<td>1'096'500</td>
<td>0</td>
<td>1'036'500</td>
</tr>
<tr>
<td>Medicine/Biology</td>
<td>400'000</td>
<td>277'000</td>
<td>642'800</td>
</tr>
<tr>
<td>Gerontology/Geriatrics</td>
<td>794'000</td>
<td>776'000</td>
<td>718'450</td>
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<tr>
<td>Ophthalmology</td>
<td>0</td>
<td>1'530'550</td>
<td>643'000</td>
</tr>
<tr>
<td>Ecology</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL CONTRIBUTIONS</strong></td>
<td><strong>2'290'500</strong></td>
<td><strong>2'583'550</strong></td>
<td><strong>3'040'750</strong></td>
</tr>
<tr>
<td>in Switzerland</td>
<td>1'930'500</td>
<td>2'378'550</td>
<td>2'410'750</td>
</tr>
<tr>
<td>to foreign countries</td>
<td>360'000</td>
<td>205'000</td>
<td>630'000</td>
</tr>
</tbody>
</table>

The contributions to the different fields vary with the subjects of the incoming applications. Therefore it is possible that a funding area was not supported in one year and had a high support in the next year. As a consequence of the new funding strategy the field of ecology has been integrated in the funding area of Daylight research. The foundation accepted no applications in the second half of 2013 while it was defining the new strategy. Therefore the contributions decreased during the years 2013 and 2014.

**The board approved the following projects in 2014:**

1. Diagnostic and therapeutic potential of microRNAs for prevention of bladder outlet obstruction-induced irreversible changes in bladder function in elderly men
Prof. Dr. Katia Monastyrskaya-Stäuber, Urology Research Laboratory, University of Bern
CHF 397’000

The incidence of bladder outlet obstruction-induced lower urinary tract dysfunction is steadily growing concomitant with aging of the population. An early identification of bladder changes by non-invasive methods can suggest therapeutic choices to prevent organ damage. Small regulatory microRNAs molecules, including circulating miRNAs detected in the urine are potential therapeutic agents and disease biomarkers. The project will undertake the urinary miRNA profiling of different stages of bladder obstruction to identify easily accessible biomarkers for bladder function and develop novel miRNA-based diagnostic and therapeutic tools to combat bladder failure.

2. Clocks, Sleep and the Ageing Brain
Prof. Dr. Steven Brown, Institute of Pharmacology and Toxicology, University of Zurich
CHF 397’000

A “circadian” biological clock regulates nearly all aspects of human physiology according to time of day. Nevertheless, whether we like it or not, artificial light has changed our lives: we stay up later and sleep less. This study aims to expose laboratory mice to different light regimes mimicking the reduced temporal cues of light in modern society for a year (or about half the lifespan of a mouse), and measure the long-term consequences of this exposure upon different aspects of brain ageing. The results will help not only to evaluate the subjective risks of “modern” lifestyle, but also provide molecular targets for eventual therapeutic intervention to ameliorate brain function later in life.

Prof. Daniela Mondini, Istituto di storia e teoria dell’arte e dell’architettura, Università della Svizzera italiana, Mendrisio
CHF 26’500

The conference “’Le jeu savant’ – Light and Darkness in 20th Century Architecture” was organized as the concluding symposium of the research project “From Ravenna to Vals. Light and Darkness in Architecture from the Middle Ages to the Present” (Pl Prof. Dr. Daniela Mondini, Mendrisio, SNSF 2010–2014). Specialists of international reputation and promising young scholars from the fields of architectural history, architecture, film and art history, having applied to a call for contributions in spring 2013, were invited to present their papers.
in one of the following four groups: 1. Representing light and its effects within architectural space; 2. Exposing and orientating the building; 3. Devices for the manipulation of natural light; 4. Artificial light.

4. Measuring the Perceptual Dynamics of Daylight in Architecture
Prof. Dr. Marilyne Andersen, Laboratory of Performance-Integrated Design (LIPID), Ecole Polytechnique Fédérale de Lausanne EPFL CHF 305’000

Daylight is essential to our visual interpretation of architecture. While existing illumination metrics are surface-driven and do not account for the visual field-of-view, existing luminance-based metrics that assess daylight from a human point-of-view were typically developed to predict human (dis)comfort or the risk for ‘glare.’ To measure the positive effects of contrast and lighting composition on our perception of architecture, this research proposes a new set of metrics that evaluate performance across a range of instances to assess the strength and dynamics of daylit-driven visual effects.

5. Exploiting the attraction of disease-transmitting blood-feeding insects to reflected polarized light in novel inset traps and targets
Prof. Dr. Patrick Guerin, Institute of Biology, University of Neuchatel CHF 300’000

While humans see only light colour and intensity, insect eyes can perceive light polarization. It is well known that polarized light can serve to guide insects such as bees and ants, yet the phenomenon has not been studied in insect vectors of disease that affect man and animal. This project’s goal is to study how mosquitoes and tsetse flies respond to linearly polarized light using a combination of neuroanatomical, neurophysiological and behavioural techniques. It is hoped this basic research on vision in these critically important insect groups will lead to new ways to use daylight in visual devices that are used for the control of disease-transmitting insects.

6. Influence of daylight on the fate of engineered metal and metal oxide nanoparticles in natural aquatic environments
Prof. Dr. Laura Sigg, Environmental Toxicology, EAWAG Swiss Federal Institute of Aquatic Science and Technology CHF 105’000

In this project the role of daylight (UV and visible) on the fate of engineered silver and zinc oxide nanoparticles will be investigated in
different types of natural waters. For this purpose, selected nanoparticles will be exposed to several natural waters, which differ in their chemical characteristics, such as rain water, river water (Rhein) and lake waters (Greifen, Lucerne, Cristallina, Gruyère) under various light conditions (no light, UV and visible light). This project will contribute to a more environmentally friendly use of nanoparticles.

7. **SOSn: Reducing thresholds for scientific publishing**  
Prof. Dr. Lawrence Rajendran, Systems and Cell Biology of Neurodegeneration, University of Zurich  
CHF 400’000 as a convertible loan as seed and first phase-money to start up the SOSn-platform

SOSn stands for Single Observations in Science Network; an online publishing portal publishes peer-reviewed single observations and encourages authors to return to publish a continuation in real-time, which is also peer-reviewed. SOSn aims to substantially reduce the time and cost thresholds for scientific publishing by enabling open-access publishing of robust observations in real time, in order to better serve science and the scientific community. This combines the power of open access, social media features, pre- and post-publication peer review, community review and the collaborative nature of scientists.

8. **International Daylight Award**  
VELUX Foundations Denmark and Switzerland  
EUR 300’000

The international Daylight Award aims to unify scientists and architects, disseminate knowledge about the effects of daylight by two awards (one for science, one for application of daylight), the annual ceremony and a web platform. The Daylight Award will show what daylight is able to affect by awarding outstanding and innovative science and application in the context of daylight.
IV. FINANCIALS

The new strategy of improving the beneficial impact on society was also reflected in a change of the foundation’s investment policy. In 2014 the board decided to set up a new guideline for the asset managers in order for all investments to be compliant with the UN Global Compact. This includes ten principles in the areas of human rights, labor, the environment and anti-corruption. The new guideline means that no manager is allowed to invest in a company breaching this international standard. If such an investment is detected, it will be sold. After intensive discussions with the thirteen investment managers finally only two were not willing or able to comply. Both will be replaced in 2015. The commodity mandate was closed by end of the year.

By the end of 2014 the asset management of the Velux Stiftung was divided into twelve asset managers and six private equity partnerships. The investment strategy has been approved by the board and its implementation is conducted by an investment committee of five members: two board members, the director and two investment professionals.

In 2014 the development of the financial markets led to a beneficial return on our total financial assets of 8.9% with a total equity value of MCHF 205. The assets were distributed as follows:
V. THE FOUNDATION

The Velux Stiftung is an independent charitable foundation supporting research projects in the areas of daylight, healthy aging and ophthalmology. The foundation is active worldwide, and supports innovative projects which generate lasting progress for the benefit of mankind.

The Velux Stiftung was founded 1980 by Villum Kann Rasmussen, a Danish engineer. He developed a novel window construction that could be installed in sloping roofs, which he named “Velux” (“Ve” for ventilation, and “Lux” for light). In 1941 he started his own company, the V. KANN RASMUSSEN & CO. Its purpose is the development and manufacturing of efficient constructions for the exploitation of daylight in buildings.

Foundation Board 2014:
Mr Kurt Stutz, President
Ms Lene Kann-Rasmussen
Ms Anne-Margrete Ogstrup-Pedersen
Ms Lykke Ogstrup Lunde
Mr René Schürmann
Mr Leif Jensen
Mr Villum Ogstrup-Pedersen, Observer

Secretariat 2014:
Lukas von Orelli, Director
Helene Guillong, Scientific Officer
Beatrice Merkli, Back Office