



The history of immunology in Switzerland, 1950 - 2018

Foreword:

In the paragraphs that follow, the defining moments in the history of Swiss immunology are outlined, along with its protagonists. It should be understood, however, that this does not claim to be a complete history, and does not contain a list of scientific prizes awarded, successful research projects or methods used by individuals. Such detail is beyond the scope of this web page, and we would recommend that you consult the existing literature for further information.

1950 The “**Swiss Society for Allergy**” is established by a group of representatives from numerous medical disciplines, including internal medicine *Wilhelm Löffler* and *Werner Hadorn*, microbiology *Arthur Grumbach*, and dermatology *Hans Stork*, *Guido Miescher* and *Werner Jadas-Sohn*.

1951 The first **International Congress for Allergology** takes place in Zurich. The Society for Allergy already has more than 150 members, although for most of these, allergology is more of a hobby than a professional calling.

1956 - 1972 The progression towards a **Swiss Society for Allergology and Immunology**.

Already during the early days of allergology, new discoveries into the functions of the immune system are being made. In the case of immunodeficiency, conditions such as immunodeficiency disorders, autoimmune diseases, serious infection and tumors arise. Organ transplants are only possible if rejection by the immune system can be prevented.

Institutions are set up in many parts of the USA and Europe that adopt these new disciplines, Switzerland included. **Switzerland makes its mark on the field.**

1956 *Walter Hitzig*, *Silvio Barandun* and *Alfred Hässig* are the first to describe the hereditary antibody deficiency syndrome, which is soon dubbed **Swiss-type Agammaglobulinemia** in their honor. *Walter Hitzig* works in the Zurich Children’s Hospital and is a joint founder of pediatric immunology. *Silvio Barandun* runs an institute specializing in immunoglobulin within the Tiefenau Hospital in Bern, and, like *Walter Hitzig*, he is considered to be an international authority on immunodeficiency. *Alfred Hässig* is the founder and Director of the Swiss Blood Donor Service and a pioneer in the fields of transfusion medicine and immunohematology.

1956 - 58 *Jean Lindenmann* and *Alick Isaacs*, in England, discover **Interferon**, the first potentially important modulator of the immune response. *Jean Lindenmann* continues to research Interferon at the Zurich Institute for Microbiology Diseases. Many regard him as the father of cytokine research and immuno-infectiology. He is a potential candidate for a Nobel Prize. In his Institute, the immunologist *Hansruedi Ramseyer* researches the connections between Interferon and the immune system.

1960 *Albert Böni* founds **Switzerland’s first rheumatism clinic** in Zürich.

He specializes in patients with complex conditions of the musculoskeletal system in which other organs are also affected. He is one of the first to hypothesize that such conditions may in fact be autoimmune diseases.

1964 *Henri Isliker* creates the “**Institut de Biochimie**” in Lausanne from the Swiss Institute for Experimental Cancer Research. **It is the first large, university-based institute for basic immunology in Switzerland**, which attracts many emerging immunologists (numbering between 10 and 15) from Switzerland and abroad, gains a far-reaching reputation, is associated with the WHO and is a **WHO reference center for immunoglobulin**.

1968 - 69 **Institutes, departments, outpatient clinics and laboratories specializing in immunology are established in every university canton of Switzerland**. They not only deal with Allergology but also Clinical Immunology, immunodeficiency diseases, autoimmune diseases, infection immunology, transplant medicine and transfusion medicine, albeit with their own particular areas of emphasis.

- **Bern** sees the opening of the Institute for Immunology and Allergology. The Institute’s first Director is *Alain de Weck* (1971-1993), succeeded by *Max Hess*, *Beda Stadler* and *Werner Pichler*.
- **In Lausanne** the “Service d’Immunologie et d’Allergologie” in the Centre Hospitalier Universitaire Vaudois (CHUV) is founded by *Philipp Frei*, and he is succeeded in 1999 by *Giuseppe Pantaleo*.
- **In Geneva** the “Service d’Immunologie et d’Allergologie” is set up under the direction of *Jean- Pierre Girard*, *Michel Jeannet*, *André Cruchaud* and later *Jean-Michel Dayer*.
- **In Basel** an *immunology group* has already been established, led by *Rudolf Schuppli* and *Ferdi Wortmann*.
- **In Zürich** an immunology laboratory is set up and directed by *Peter Grob*. At the dermatological clinic with its director *Hans Stork*, the **Allergology unit** (“Allergiestation”) is expanded, and headed up by *Brunello Wüthrich*. *Robert Keller* carries out animal tumor research in a dilapidated building at the Schönleinstrasse.

1968 - 69 *Ernst Sorkin* opens **the Institute for Neuroendocrine-Immune Interactions** in Davos.

1967 *Felix Largiader* had already started carrying out **kidney transplants** in Zurich in 1967-68, and *Ake Senning* was preparing for the first heart transplant. In order to allow organ exchange throughout Switzerland, a consistent approach to checking tissue compatibility is required. A **Switzerland-wide HLA-typing network** is established with a central coordination laboratory in Geneva, headed up by *Michel Jeannet*.

1969 *Ake Senning* carries out the **first heart transplant in Europe**. In terms of transplant immunology, Switzerland is one of the most highly-organized countries in the world.

1969 - 70 **the Basel Institute of Immunology is founded by Hofmann La Roche**. Among the initiators are *Alfred Pletscher*, *Eduard Kellenberger*, *Georges Köhler* and *Niels K. Jerne*, the first Director, until 1980, and succeeded by *Fritz Melchers*. Alongside 4-6 “senior staff members” who include three Nobel Prize winners, *Georges Köhler*, *Niels K. Jerne* and *Susumu Tonegawa*, 40- 60 of the world’s best young immunologists carry out their research there for between three and six years, and by the year 2000, the scientists number over 500, 27 of whom receive major awards.



1970 - 1972 *Franz Wagenhäuser* becomes *Albert Böni's* successor, and further expands the Clinic for Rheumatology and Physical Therapy as a center for autoimmune and connective tissue diseases. The clinic has the first patients in Switzerland to be treated with the immune suppressant Imuran – actually a cytostatic – alongside corticosteroids.

Fast-forward in time: In 1980, a research center, the “**Centre of Experimental Rheumatology**”, is established at the rheumatology clinic under the leadership of *Steffen Gay*, and quickly becomes associated with several specialist European networks.

1968 - 1972 Representatives of basic immunology, allergology and clinical immunology are working increasingly closer together, and begin to form organizations. It soon becomes clear that a separation of these three disciplines in such a small country as Switzerland where everybody knows each other would make little sense.

1972 the Swiss Society for Allergology and Immunology (SSAI) is founded, which, in contrast to many other countries, unites members of all of the disciplines, from allergology, clinical immunology, basic research and laboratories. The unification of these areas is exemplified in the constant rotation of the SGAI Chair through the various disciplines. *Peter Grob* (1972 – 1974) - a clinical immunologist, is succeeded by *Jean-Charles Cerottini* (1974 – 1976) – a fundamental researcher.

The model remains to this day - see separate list of all the **SSAI Chairs from 1974 to 2021**.

Alain de Weck, who will lead **the Institute for Immunology and Allergology in Bern** between 1971 and 1993 and is a founding member of the SSAI, is already working closely with the WHO at this time. He was an active and, for a time, leading member of the **International Union of Immunology Societies (IUIS)** and the **International Association of Allergology and Clinical Immunology (IAACI)**. With this work, he opens up the more widely-based field of immunology to the outside world. Since then the SGAI has been cultivating links with and sending delegates to national and international organizations.

From 1972 many international congresses are organized by the SSAI and newly-emerged immunological departments in Switzerland on specific aspects of basic research, allergology, autoimmune diseases, immunodeficiencies, organ transplants and viral hepatitis. The SSAI representatives of all of these immunological disciplines also take part in international congresses.

In consequence, the **Wolfsberg Meeting** is established by *Hans Hengartner* for the promotion of the next generation of basic immunology research. In addition, the **Allergy and Immunology Update (AIU)**, an annual meeting with more of a clinical focus, is set up by *Werner Pichler*. Similarly, the **Continuing Education Meeting for Medical Laboratories in Immunology**, currently chaired by Ingmar Heijnen, Basel. These meetings continue to the present day, generating a large amount of interest and attracting large numbers of participants.

1974 the Swiss National Science Foundation, a major institution for the promotion of basic research, has for some years been organizing postgraduate courses in many well-established scientific areas in the Swiss university towns, in order to support the upcoming generation of scientists. The significant potential of immunology is also recognized, and so in 1974, a **Postgraduate Course in Immunology** is set up, which is delivered in Zurich with highly qualified contributors from all over Switzerland.

1983 Under the patronage of SSAI, the **Swiss working group for aerobiology** is founded in Zurich on the initiative of *Ferdi Wortmann*. Already in 1962 first analyses of «Pollen» have been performed but only years later systematically by *Ruth M. Leuschner* and later continued in this way. In 1972, the pollen analyses regarding financing and logistics of SMA - MeteoSwiss are transmitted (National Pollinate Net NAPOL). In 1993, the **Swiss Society of Aerobiology (SGA)** was founded to optimize the relationship between biometeorology and medicine. National epidemiological studies (SAPALDIA, SCARPOL) investigate the effects of biological and anthropogenic air pollution on human health and the environment in an interdisciplinary manner, especially with regard to allergic diseases. The collected data enable individual as well as general measures, prophylaxis and therapies. Under the promoters, founders and presidents of the Swiss Society of Aerobiology (SGA) *Markus Gassner* has to be mentioned, who first described the protective effect for allergies by early contact of children by contacts with cows.

1983 *Marco Baggiolini* introduces experimental immunology in the Theodor Kocher Institute as its Director (1983-2001) thus giving further weight to the discipline.

1984 - 85 The HIV/Aids epidemic reaches Switzerland. Efforts to tackle it are coordinated across Switzerland. There is a national network of diagnostic laboratories (3-tier principle) and hospital departments for infectious diseases. The **Swiss Commission for Aids Questions (EKAF) (clinic and laboratory)**, the **Swiss HIV Cohort**, one of the first in the world, and a little later, the **Swiss Commission for the Coordination of Aids Research (KKAF)** are established. These are initially run under the auspices of the FOPH, and later the Swiss National Science Foundation. Many SGAI members also take an active part.

1988 The **Swiss Institute for Allergy and Asthma Research (SIAF)** is founded in Davos. The main instigators are *Walter Siegenthaler*, one of the Directors from the Department of Internal Medicine at the University Hospital Zurich, and above all, the Davos local authority, which wants to retain and even enhance the region's reputation as a "health location". At the same time, the SIAF inherits *Ernst Sorkin's* legacy of the Institute for Neuroendocrine Immune Interactions. The first SIAF Director is *Kurt Blaser*, followed by *Cezmi Akdis*. The SIAF organizes large annual international congresses in Davos. The Institute later becomes associated with the University of Zurich, with a professorship in immunology.

1992 *Rolf Zinkernagel* and *Hans Hengartner* found the **Institute for Experimental Immunology** in Zurich out of the Institute for Experimental Pathology, which was founded in 1980 and was already conducting immunology research. The Institute for Experimental Immunology gains an international reputation, with over 12-15 Postdocs working there. From 2008 under the leadership of *Burkhard Becher* and *Christian Münz*.

1996 *Rolf Zinkernagel* and Australian *Peter C. Doherty* receive the Nobel Prize, which is also an honour for immunology, and focuses attention on Switzerland.

From 1995 Basic immunology becomes an increasingly integral part of all university biology faculties, among them also the University of Zurich and ETH Zurich.

Hans Hengartner promotes the field of immunology and establishes it in these two Institutions. The discipline of experimental immunology continues to grow at ETH Zurich, and becomes formalized as the **Institute for Microbiology** in 2002, under the leadership of *Annette Oxenius*.

2000 the Basel Institute of Immunology *Hoffmann-La-Roche* is closed. It is replaced by a Centre for Medical Genomics, and the immunology departments is moved to a Roche Institute in California.

Under the leadership of *Antonio Lanzavecchia*, one of the former “Senior staff members” of the Basel Institute of Immunology, **the Institute for biomedical research” (IRB)** is founded in Bellinzona. Its primary focus is immunopathogenic processes.

Frederica Sallusto is the Head of Cellular Immunology and later becomes the SGAI Chair.

From 2000 onwards, and in some cases earlier and later, the original clinics and experimental institutions are reorganized as well as expanded.

- **In Geneva** within the University Hospital there is still a “Service d'Allergologie et Immunologie”, currently under the leadership of *Jörg Seebach*. In addition, there is an Institute for Pathology and Immunology, directed by *Walter Reith*.

- **In Lausanne** *Henri Isliker's* Biochemical Institute has been steadily growing. In addition, a branch of the “Ludwig Institute for Cancer Research (LICR) is also integrated. In the nineties, the Swiss Institute for Experimental Cancer Research (ISREC) is founded, headed up by Michel Aguet. During these years, the Lausanne branch of the LICR is also established. This is led by Jean- Charles Cerottini and then Hugh Robson MacDonald. From 1997 onwards, clinical T-cell- based cancer therapies are developed under the direction of Daniel Speiser. In 2011, the LICR branch in Lausanne is closed, and part of it is integrated into the University of Lausanne. Today, the Lausanne branch of the Ludwig Institute is re-establishing itself. The clinical allergological service, founded and initially led by *Philippe Frei*, is taken over in 1999 by *Giuseppe Pantaleo*, with *François Spertini* as a member of the management.

- **In Bern** the central clinical institution is the University Hospital of Bern, or “Inselspital”. The specialist fields of allergology, under the leadership of *Arthur Helbling*, and immunology, under the leadership of *Martin Bachmann*, are incorporated in the Polyclinic for Rheumatology, Immunology and Allergology (RIA). The Theodor Kocher Institute joins it, under the leadership of *Britta Engelhardt*, and is organised into individual research groups that work closely together. In 2014, the Institute for Virology and Immunology (IVI) is combined with the former Institute for Veterinary Virology (IVV), Vetsuisse. The new institute provides top quality research, teaching and services in virology and immunology in cooperation with the Bern Vetsuisse Faculty. (The IVI, located in Mittelhäusern, is moreover the Swiss reference laboratory for diagnosis, monitoring and control of highly infectious animal epidemics such as bird flu, foot and mouth disease and classic swine flu.)

- **In Basel** there is a Department for Medical Immunology within the University Hospital, headed up by *Ingmar Heijnen*, and an allergological polyclinic under the leadership of *Andreas Bircher*.

- **In Zurich** the former Institute for Microbiology under the leadership of *Prof Lindemann* expands under the new Director *Eric Böttger*. The Institute for Medical Virology, founded by *Alexander von Gräfenitz* and *Fritz Kaiser*, is managed by *Karin Mölling* from 1993 to 2008, and then by *Alexandra Trkola*. The Allergology unit (“Allergiestation”) of the Dermatological Clinic, originally expanded by *Brunello Wüthrich*, remains in place and is later led by *Peter Schmid-Grendelmeier*. The Clinical Immunology (“immunologisches Labor”, then “Abteilung klinische Immunologie”) within the Department of Medicine, formerly led by *Peter Grob* (1968- 2002), becomes a new Clinic of Immunology, led from 2002 to 2012 by *Adriano Fontana* and from 2014 by *Onur Boyman*.



The Institute for Experimental Immunology, formerly under the leadership of *Rolf Zinkernagel* and *Hans Hengartner*, continues to operate, now under *Burkhard Becher* and *Christian Münz*, as does the Department of Pediatric Immunology at the Children's Hospital, led after *Walter Hitzig* by *Reinhard Seger* and then by *Jana Pachnopik Schmid* and *Janine Reichenbach*.

In 2002 the Allergy Foundation called **aha!** is founded („**Schweizerisches Zentrum für Allergie, Haut und Asthma**“). This foundation is tightly collaborating with the SSAI. aha! promotes research and information on allergies which become increasingly frequent in the population. aha! is successful, thanks to substantial fund raising also from industry.

2018 Current “State of the art” of SSAI

The Swiss Society for Allergology and Immunology (SSAI) continues to unite basic researchers, specialists in laboratory diagnostics, and clinical doctors, thus playing a pioneering role in the progress of multidisciplinary biomedicine. It also continues to support the active involvement of its members in national and international organizations. It has thus remained true to its founding principles, whilst having undergone significant growth.

The SSAI now has between 600 to 700 members, 13 board members, seven permanent committees and sub-committees, and 14 delegations in various Swiss specialist disciplines and delegates to five international organizations for immunology and allergology, with a General Secretary and a staffed administrative office. The SGAI also awards several prizes and lends significant support to continuing professional development in immunology – a very positive balance that is very worthy of maintaining.

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