

# CURRICULUM VITAE



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**STATUS** Swiss; born in Zürich, Switzerland, September 19, 1945; 4 children

## CURRENT POSITION & PROFILE

Médecin Emeritus, Service of Cardiovascular Surgery, Department of Surgery, University Hospital and Medical Faculty of the University of Geneva. Cardiovascular surgeon, previously Head of Cardiovascular Research (clinical and experimental).

## HIGHLIGHTS

- Founder and CEO of CardioBeat Sarl, a consulting company for cardiovascular research, bio- & med-tech.
- Patent holder for novel dual-action coating for med-tech devices
- Cardiovascular research and development, experimental and clinical studies
- International contacts, congress organisation and good funding
- Previously, Visiting Professor, University of Verona, Italy
- Past President of the European Society for Artificial Organs (ESAO) 2006-2008.
- Founder of the International Hypothermia Registry (IHR)
- Co-Founder of the International Symposium on Vascular Tissue Engineering

## MAJOR ACHIEVEMENTS

- First author of the New England Journal of Medicine article: Outcome of Survivors of Accidental Deep Hypothermia and Circulatory Arrest Treated with Extracorporeal Blood Warming (Bern, 1997)
- Initiation of the International Hypothermia Registry (IHR): Geneva, 2013
- First-in-man introduction of hemofiltration during cardiopulmonary bypass (Zurich 1979)
- First transit-time flow measurement in cardiovascular surgery (Bern 1998) leading to Guideline Adoption (2010 – 2014)
- Team member of the first successful xeno heart transplant (Loma Linda 1984)
- Development of a novel bio-degradable synthetic tissue-engineered vascular prosthesis and first development of a drug-eluting vascular prosthesis
- Editor of Springer Reference Book on 'Vascular Tissue Engineering'

<b>SCHOOLS</b>	1951-1955	Primary School, Zurich & Paris
	1956-1957	Lycée Pasteur, Paris
	1958-1964	College (ENSR), Lausanne

**GRADUATION:** June, 1964 Federal Maturity Exam, Geneva

**MEDICAL SCHOOL:**

1964-1972 University of Zurich, Medical School

**MEDICAL DEGREE:**

Dec. 1972 Graduation of Medical School, Zurich  
M.D. Degree and License

**Electives:** Aug.-Oct. 1968 University of Bologna (Prof. G. Antuono, Medicine)  
**(1968-1971)** Oct.-Feb. 1969-70 Guy's Hospital, London University Medical School  
(Dr. C.L. Joiner, Dr. R. Kauntze, Medicine)  
Jun-Sep. 1970 U.C.H. University College Hospital, London  
(Prof. Lord M. Rosenheim, Medicine)  
Sep.-Jan. 1970-71 Hospital Zurich-Horgen (Dr. R. Fink, Surgery)  
Jan.-Feb. 1971 University Hospital, Zurich  
(Prof. E. Held, Gynecology & Obstetrics)  
Aug-Sept. 1971 Hôpital des Enfants Malades, Paris  
(Prof. J. Vialatte, Pediatrics)

**PROFESSIONAL EXPERIENCE & POSTGRADUATE TRAINING**

1973-1974 Peter Bent Brigham Hospital, Boston  
(Pathology Internship, Prof. G. Dammin)  
1974-1975 Peter Bent Brigham Hospital, Boston  
(Surgical residency, Prof. F.D. Moore)  
Harvard medical School, Teaching Fellowship appointment  
1975-1982 Surgical Clinic A, University Hospital, Zurich  
(Surgery including Thoracic & Cardiovascular training, Prof. A. Senning)  
1982-1984 Department of Cardiovascular Surgery  
Stanford University, Stanford, California  
(Postdoctoral Research Scholar, 2 years, Prof. N. Shumway)  
1984 Department of Cardiothoracic Surgery  
Loma Linda University Medical Center  
(Postdoctoral Clinical Fellowship, 3 months, Dr. J. Jacobson, Dr. L. Bailey)  
1985-1986 Service of Cardiovascular Surgery, Department of Surgery,  
University Hospital Geneva  
(Junior Faculty with clinical and experimental activity,  
18 months, Prof. B. Faidutti)  
1986-2002 Department of Thoracic and Cardiovascular Surgery  
University Hospital Bern  
(Faculty with Clinical, Research & Teaching appointments,  
Prof. U. Althaus / Prof. T. Carrel)  
2002-2010 Médecin Adjoint Agrégé, Service of Cardiovascular Surgery,  
Department of Surgery, Director of Clinical & Experimental Research, HUG  
(Prof. A. Kalangos)  
2011-2016 Médecin Consultant Bénévole, Service of Cardiovascular Surgery,  
Department of Surgery, Director of Clinical & Experimental Research, HUG  
(Profs. A. Kalangos, C. Huber)  
2017- Associated with the Division of Cardiovascular Surgery of the University  
Hospital of Geneva (INNOSUISSE Project)

**Rotating Residencies (1976-1982):**

1976-1977 Children's Hospital Zurich, Pediatric Surgery  
(Prof. P. Rickham, 8 months)  
1977 Department of Anesthesiology, University Hospital, Zurich  
(Prof. G. Hossli, 3 months)  
1977-1978 Cardiovascular Research, Surgical Clinic A, University Hospital,  
Zurich  
(Prof. M. Turina, Prof. A. Senning, 1 year)  
1978 Urology, University Hospital Zurich (Prof. G. Mayor, 6 months)  
1979-1980 Regional Hospital, Walenstadt (Surgery)  
(Dr. M. Cadalbert, Dr. B. Simeon, 1 year)

1980-1982 Surgical Clinic A, University Hospital, Zurich  
(Cardiovascular training & research Prof. A. Senning)

## CERTIFICATION

1981 Medical Doctorate (Thesis), University of Zurich  
1982 Board Certification (FMH) for Surgery  
(including Thoracic & Cardiovascular training)  
2005 Privat Doцент, (Senior Lecturer) Medical Faculty,  
University of Geneva

## TEACHING APPOINTMENTS

1974-1975 Harvard Medical School, USA, teaching fellowship  
Inselspital, University of Berne:  
1987-2002 Student teaching (Bedside)  
1988-2002 In charge of postgraduate teaching and conferences  
1992-2002 In charge of clinical and experimental research and teaching  
University Hospital of Geneva:  
2002-2010 Graduate & Postgraduate teaching at the University of Geneva  
2004 - Swiss partner, International Faculty of Artificial Organs (INFA)  
2005 - Co-founder, Director and teacher of the Internationally Co-  
tutored PhD Course in biotechnology and bioengineering with  
specialization in heart replacement, Universities of Geneva  
and Verona (visiting professorship)  
2008-2010 Initiation of Dry/Wet Lab Training for cardiovascular surgeons,  
2009-2010 Cardiovascular Research Courses (8 afternoons)  
2014- Rescue Mountain Teaching Session for the Master, Chamonix  
RESAMONT: Management of a victim in a cold environment.

## SCHOLARSHIP AWARDS

1982-1984 Swiss Heart Foundation & Foundation for academic education:  
Stanford University Heart Transplant Training

## RESEARCH AWARDS

1990 "Le Grand prix du Jury" of the International NMR Meeting in Lyon  
*Assessment of Cardiac Rejection with Nuclear Magnetic  
Resonance with and without Immunosuppressive Therapy*  
1993 Second prize of the Euroanaesthesia Meeting 1993 in Berne 1993  
*Quality control of different methods of autologous blood  
salvage in cardiac surgery*  
1993 Ernst-Derra-Prize of the German Society for Thoracic and  
Cardiovascular Surgery *MR Spectroscopy for assessing  
myocardial rejection in the transplanted rat heart*  
1995 Award of the Swiss Society for Research in Surgery (SSRS)  
*Assessment of Troponin-T for detection of cardiac  
rejection.*  
1996 Prize of the Schweiz. Rundschau für Medizin (with Th. Locher)  
*Differenzialdiagnose des Kreislaufstillstandes hypothermer  
Lawinenopfer: retrospektive Analyse von 32 Lawinenunfällen*  
1999 Arbeitsgruppe Herzinsuffizienz (young investigator award with D.  
Springe) *Einfluss der mechanischen Kreislauf-unterstützung  
auf den koronaren Blutfluss*  
2005 Turkish Society for Vascular Surgery (Best Young Investigator  
Prize with Dr. Mustafa Cikirikcioglu)  
2005 European Society for Vascular Surgery (ESVS), prize for the  
Annual Mtg, Japanese Society for Vascular Surgery,  
Hokkaido, Japan (with Dr. Mustafa Cikirikcioglu)  
*New biodegradable scaffolds for vascular tissue engineering:  
from the polymer to the rat aorta.*

- 2005 European Society for Surgical Research. Walter Brendel  
Awardee Session, 3<sup>rd</sup> position (with Dr. Mustafa Cikirikcioglu)
- 2005 Société Suisse pour la Science des Animaux de Laboratoire  
Prix 2005 (with Dr. Vet Med Suzanne Osorio-da Cruz)
- 2006 Research prize: French Society of Vascular Surgery,  
Research prize: Italian Society of Vascular Surgery  
(with Dr. Damien Mugnai)
- 2007 ESAO Annual Meeting, Krems, Austria (Best Poster Award with  
Dr. Mustafa Cikirikcioglu)  
*Planimetric analysis of implanted electrospun PDS-PLA  
grafts in the rat systemic arterial circulation*
- 2008 European Society for Cardio-Vascular Surgery, ESCVS  
(Young Vascular Surgeon Prize with Dr. Damiano Mugnai)  
*Experimental aortic replacement in a rat model with  
degradable synthetic vascular prosthesis*
- 2008 ESAO Annual Meeting, Geneva (Wichtig Award with Dr.  
Benjamin Nottelet)  
*Factorial design optimization and in vivo feasibility of poly(e-  
caprolactone)-micro- and nanofiber small diameter vascular grafts*
- 2008 Turkish Society for Cardiovascular Surgery (1<sup>st</sup> Research Award  
with Dr. Erman Pektok)  
*Degradation and healing characteristics of small-diameter  
poly(e-caprolactone) vascular grafts in the rat systemic  
arterial circulation*
- 2009 Prix Denber-Pinard 2009: *Luminal coating of small diameter  
ePTFE vascular grafts with inorganic and organic materials:  
effects on neo-endothelialisation, intimal hyperplasia and  
patency* (Thesis: Dr. M. Cikirikcioglu, Faculté de Médecine  
2009)
- 2009 Best Student Prize from the European Society of Biomaterials  
Lausanne, September (Sarra de Valence):  
*Assessment of Paclitaxel in the prevention of vascular  
graft intimal hyperplasia formation.*
- 2012 Wichtig Award from the European Society for Artificial Organs  
(ESAO), Rostock, September (Sarra de Valence):  
*Long term performance of polycaprolactone vascular  
grafts in a rat abdominal aorta replacement model*
- 2012 Prix Marie-Claude Marti, Geneva, October (Damiano Mugnai).  
*Experimental noninferiority trial of synthetic small-caliber  
biodegradable versus stable vascular grafts*
- 2021 Paul Dudley White International Scholar Award of the American  
Heart Association for the Highest Ranked Abstract from  
Switzerland at the Resuscitation Science Symposium 2021
- AWARDS**
- 2008 Trophy of Excellence in the Science of Artificial Organs from the  
International Federation for Artificial Organs for Scientific  
Accomplishments
- 2014 ESSR Lifetime Achievement Award for surgical research
- 2018 "Emil Buecherl Award" Lifetime Achievement Award from the  
European Society for Artificial Organs (ESAO)
- RESEARCH GRANTS**
- 1987-1989 Schweizerische Stiftung für Kardiologie  
*"Experimentelle Erprobung neuer kleinkalibriger  
Gefässprothesen"*
- 1988-1989 Stiftung zur Förderung der wissenschaftlichen Forschung

	Universität Bern <i>"Erprobung von Herzabstoßungsreaktionen bei der Ratte mittels NMR"</i>
1992	Extrakredit der medizinischen Fakultät der Universität Bern <i>"Anschaffung eines hämodynamischen Monitoringsystems (Mikrokristalle) zur Erfassung hämodynamischer Veränderungen bei Herzabstoßungsreaktionen"</i>
1992-1993	Schweiz. Herzstiftung <i>"Erfassung von MR-spektroskopischen Herzabstoßungsreaktionen"</i>
1993	Stiftung zur Förderung der wissenschaftlichen Forschung Universität Bern <i>"Erfassung von MR-spektroskopischer Herzabstoßungsreaktion"</i>
1993-1996	Schweizerischer Nationalfonds (principal investigator) <i>"Detection of rejection by phosphorous magnetic resonance in experimental orthotopic heart transplantation"</i>
1994-1995	Schweizerischer Nationalfonds (principal investigator) <i>"Elektromikroskopische Untersuchung von transplantierten Herzen"</i>
1996-1999	Schweizerischer Nationalfonds (with T. Carrel) <i>"Functional, metabolic and morphologic assessment of transmyocardial laser revascularisation in hibernating myocardium"</i>
1997-1999	Schweizerische Herzstiftung (principal investigator): <i>"Intraoperative Transit-Time-Fluss- und Widerstands-messung in der koronaren Herzchirurgie"</i>
1999-2002	Schweizerischer Nationalfonds (principal investigator): <i>"Artificial bypass grafts and vascular gene therapy"</i>
1999-2002	Schweizerische Herzstiftung (principal investigator): <i>"Antiangiogenic gene therapy for prevention of intimal hyperplasia in synthetic vascular grafts"</i>
2007	SNF Sino-Swiss Cooperation Research Fellowship (with Prof. D. Kong, Taijin University, China)
2008-2012	SNF grant <i>'Drug Eluting Cardiovascular Prostheses using Nanofibre-structured Biodegradable Polymers'</i>
2016-2018	Innogap Innovation Grant for development of anti-thrombotic vascular grafts.
2021	Foundation Gerbex-Bourget: Grant for flow studies
2022 -	FIF Grant from FONGIT
2023 -	INNOSUISSE Grant for Dual Action LbL Coating for Vascular Grafts

## RESEARCH INTERESTS

- Cardiovascular physiology and flow measurements
- Cardiovascular pharmacology and drug development
- Rejection and transplantation immunology (Hesperis-ECOT Diploma)
- Tissue engineering, gene therapy and angiogenesis
- Molecular and cellular biology (Postgraduate Course 1999)
- Graft development and new devices
- Hypothermia research and international registry
- Blood salvage, EPO and artificial blood
- Artificial organs and cardiovascular support
- Small and large animal physiology and chronic animal models

## COLLABORATIONS (past and present):

- Harvard University: J. Folkman Group
- Stanford University: B. Reitz, MD, Robert C. Robbins, MD
- Commonwealth University of Virginia: G. Bowlin, MD

- Nankai University, Tianjin, CN: D. Kong
- University of Verona: A. Mazzucco, MD, G. Faggian MD
- University of Strasbourg (CNRS): G. Decher
- EPFL Lausanne/ETH Zürich: J.A. Hubbell, MD
- EPGL (Ecole de Pharmacie Genève-Lausanne): R. Gurny
- Several Departments of the Universities of Geneva
- Several Departments of the University of Bern: O.M. Hess, MD
- National Heart Institute, Kuala Lumpur, Malaysia: Yakub Azhari, MD
- Poznan University of Medical Sciences, Poland: Michal Wojtalik, MD

## SCIENTIFIC BOARDS

- ESAO Editorial Board of the International Journal of Artificial Organs
- Reviewer of 10+ peer-reviewed cardiovascular & tissue engineering journals
- Grant reviewer for the British Heart Foundation
- 2014 – 2016 Member of the External Advisory Board, TECAS-ITN  
*TECAS: Tissue Engineering Solutions for Cardiovascular Surgery, Marie Curie Initial Training Network (ITN)*
- 2016 Springer Reference – Tissue Engineering Series
- International Symposium for Vascular Tissue Engineering (2015 - )
- International Symposium on Accidental Hypothermia (2007 - )

## PROFESSIONAL AFFILIATIONS

Schweizerische Gesellschaft für Chirurgie  
Schweizerische Gesellschaft für Thorax-, Herz- und Gefässchirurgie  
Schweizerische Gesellschaft für Kardiologie  
Schweizerische Gesellschaft für Gefässchirurgie  
Schweizerische Gesellschaft für Intensivmedizin  
Swiss Society for Research in Surgery  
Swiss Cardiovascular Research & Training Network (SCRTN)  
Schweizerische Gesellschaft für Bergmedizin  
Deutsche Gesellschaft für Chirurgie  
Deutsche Gesellschaft für Thorax-, Herz und Gefässchirurgie  
Sektion experimentelle Chirurgie der Deutschen Gesellschaft für Chirurgie  
Oesterreichische Gesellschaft für Alpin- und Höhenmedizin  
European Association for Cardio-Thoracic Surgery (EACTS)  
European Society for Artificial Organs (ESAO) (Governor/Past President 2006-2008)  
European Society for Surgical Research (ESSR) (Past national delegate)  
European Society for Organ Transplantation (ESOT)  
European Society of Magnetic Resonance in Biology and Medicine  
European Society for Heart and Lung Transplantation (ESHLT)  
International Society of Magnetic Resonance in Medicine (ISMRM)  
International Society for Heart and Lung Transplantation (ISHLT)  
International Society for Minimally Invasive Cardiac Surgery (Past national delegate)  
Regmed.eu, Founding Member of the taskforce, European Federation  
Regenerative Medicine  
Society of Thoracic Surgeons (STS)  
Tissue Engineering & Regenerative Medicine International Society (TERMIS)  
Union of Vascular Societies of Switzerland

### **Member of several national and international working groups (WG):**

- Swiss cardiovascular MR WG
- Swiss Anaemia WG

- Swiss intraoperative flow WG
- Swiss Accidental Hypothermia WG (AKOR SRK/IVR)
- Swiss Society of Cardiology Working Group on Heart failure
- Task force chairman on hypothermia, drowning WG (international)
- Scientific Board Member Network for Advancement of Transfusion Alternatives (NATA)
- Cardiovascular surgery WG, American Heart Association
- Cardiovascular surgery WG (Nr. 25), European Society of Cardiology
- Cardiovascular MR WG, International Society of Magnetic Resonance in Medicine
- Basic science WG, International Society for Heart and Lung Transplantation
- Board Member of the International Federation of Artificial Organs 2007-2009
- Member of the Jury (medical expert) for the Prix Neode, Neuchâtel 2008
- European Society for Artificial Organs (ESAO), Heart Support Working Group
- Jury Member of the Evaluation Committee, Doctoral Programme in cardiovascular sciences, University of Verona, Italy, 2010
- Expert Member of the European CardioCell Expert Meeting 2014
- Member of the Jury (medical expert) for the Prix Neode, Neuchâtel 2015
- Tissue Engineering & Regenerative Medicine International Society (TERMIS):
- President of the Thematic Group on Vascular Tissue Engineering, 2016
- European Research Network from the Vascular Access Society, 2020-21

## CONGRESS ORGANISATION

- Organiser, XXVII Congress of the European Society for Artificial Organs-ESAO, *Lausanne*, Switzerland, August 31 - September 2, 2000
- Organiser, 2<sup>nd</sup> Swiss Experimental Surgery Symposium, *Geneva*, January 12-13, 2006
- Organiser, ESAO Winter School, *Gstaad*, Switzerland, 1-3 February, 2007
- Co-organiser of the 1<sup>st</sup> International Symposium on Accidental Hypothermia, *Cortina d'Ampezzo*, December 14, 2007
- Organiser, 4<sup>th</sup> Swiss Experimental Surgery Symposium, *Geneva*, January 10 –11, 2008
- Organiser, ESAO Winter School, *Cortina d'Ampezzo*, Italy, 6-8 March, 2008
- President and organiser, XXXV Congress of the European Society for Artificial Organs-ESAO *Geneva*, 3 – 6 September 2008
- Organiser, 2<sup>nd</sup> International Symposium on Accidental Hypothermia, *Zermatt*, September 25, 2009
- Co-organiser, Symposium romand pour médecins praticiens confrontés à des patients atteints de pathologie valvulaire, Chateau de Coppet, October 2009
- Organiser, 6<sup>th</sup> Swiss Experimental Surgery Symposium, *Geneva*, January, 2010
- Co-Organiser of the ESAO Winter School, with Cornell University, New York, *Semering*, Austria, March, 2010
- Honorary President of the 45<sup>th</sup> ESSR Annual Congress, *Geneva*, 9-12 June 2010
- Organiser of the 8<sup>th</sup> Swiss Experimental Surgery Symposium, *Geneva*, January, 2012
- Co-Organiser, ESAO Winter School/Verona University, *Catania*, Sicily, February, 2012
- Co-Organiser, 1<sup>st</sup> Swiss Accidental Hypothermia Day, *Bern*, 27 November 2013
- Co-Organiser, Cardiovascular Research Days, *Cortina*, Italy, 16-18 January 2014
- Co-Organiser, ISMM/4<sup>TH</sup> Int'l Symposium on Hypothermia, *Bozen*, Italy, 25-31 May 2014
- Co-Organizer, 24<sup>th</sup> Congress World Society of Cardiothoracic Surgeons, *Geneva*, 6-10 September 2014
- Co-Organiser, Swiss Hypothermia Day, Expert Meeting, *Bern*, 7 November 2015
- Jury Member, Neode Prize 2015, (medical technologies) *Neuchatel*, December 2015
- Co-Organiser, Swiss Experimental Surgery Symposium, *Geneva*, January, 2016
- Co-Organiser, 5<sup>th</sup> International Symposium on Accidental Hypothermia, *Interlaken*, 2016
- Co-Organiser, 6<sup>th</sup> International Symposium on Accidental Hypothermia, *Tromso*, 2018
- Co-Organiser, ISACB + ISVTE 2019, *Zürich*,
- Co-Organiser, 7<sup>th</sup> International Symposium on Accidental Hypothermia, *Lausanne* 2022
- Co-Organiser, 8<sup>th</sup> International Symposium on Accidental Hypothermia, *Scotland* 2024
- Co-Organiser, ISACB + ISVTE 2024, *Vienna*
- Co-Organiser, 9<sup>th</sup> International Symposium on Accidental Hypothermia, UK 2026
- Co-Organiser, ISACB + ISVTE 2026, *Miami*

## **PUBLICATIONS/PRESENTATIONS** (see separate publication list)

Over 80 publications of which more than 30 are first-author papers in peer reviewed journals with a total impact factor over 130.

One of the keystone papers is entitled "Outcome of Survivors of Accidental Deep Hypothermia and Circulatory Arrest Treated with Extracorporeal Blood Warming" and is published in the New England Journal of Medicine (N Engl J Med 337:1500-5,1997).

ESSR Internet Course on Surgical Research 2010: Responsible for Module II- Human and Experimental Research, No. 22-Animal models for cardiovascular research.

Responsible tutor for more than 20 doctoral theses.

More than 100 invited lectures.

## **COURSES/ DIPLOMAS**

Participation in several management, public health and statistic courses, as well as microsurgery training course at the University of Bern.

European College of Transplantation Diploma, Rome 1992 and Munich 1993.

Molecular and Cellular Biology Postgraduate Course at the University of Bern 1999.

Executive Management Program in Health Care Policy at Harvard University 2002.

Advanced Course "Science and Grant Writing", Research Section of the Swiss Surgical Society, 11-12 May 2005.

Entrepreneurship training UNITEC / GENEIOUS / FONGIT, 2022 -

## **HONORARY SPEAKER**

Gstaad Yacht Club, 2025

Ordres Dynastiques De La Maison Royale De Savoie, 2025

Swiss Society of Cardiac Surgery, 2025

## **CONSULTING ACTIVITY**

Advice for cardiovascular diseases and research with expertise on artificial organs, bio- and med-tech. (Cardiola / Ceremed / CTI / Endosense / Johnson & Johnson / Kips Bay / Medela / Medi-Stim /

## **EXTRACURRICULAR INTERESTS**

Competitive sports (participation at the academic ski world championship in 1968 in Innsbruck and sailing world championship in 1969 in Bermudas); holder of an active pilot and sailing license and member of several (non-)professional associations (i.e. Harvard and Stanford Club: Board member); arts and performing arts amateur (opera and ballet); eager for visiting foreign countries and cultures.

**LANGUAGES** English, French, German, Italian (oral and written)