Prof. Dr. sc. nat. Christoph Weder

Curriculum Vitae, April 2022

Personal	Swiss and Irish Citizen; Born July 30, 1966; Married, 3 Children (ages 22, 26, 28)
Researcher IDs	ORCID: 0000-0001-7183-1790; Google Scholar: Christoph Weder
Web	ami.swiss
Work Address	University of Fribourg Adolphe Merkle Institute Chemin des Verdiers 4 1700 Fribourg, Switzerland +41 (0)26 300 9465 christoph.weder@unifr.ch

Core Research Expertise and Interests: Synthesis of Functional Polymers

Design, synthesis, processing, investigation of structure-property relationships, and application of functional polymers, notably stimuli-responsive polymers, supramolecular polymers, polymer nano-composites, bio-inspired polymers, and polymers with unusual optical and mechanical properties.

Academic Positions

2010 - present	**Director** Adolphe Merkle Institute (AMI), University of Fribourg, Switzerland
2009 - present	**Professor of Polymer Chemistry and Materials** Adolphe Merkle Institute, University of Fribourg, Switzerland
2010 - present	**Adjunct Professor** Dept. of Macromolecular Science and Engineering, Case Western Reserve University (CWRU), Cleveland OH, USA
2003 - present	**Visiting Professor** Petrochemical College, Chulalongkorn University, Bangkok, Thailand
2014 - 2020	**Director** National Competence Center in Research (NCCR) Bio-Inspired Materials
2007 - 2010	**Professor** (2008-2010: **F. Alex Nason Professor**) Dept. of Macromolecular Science and Engineering, Dept. of Chemistry CWRU
2001 - 2007	**Associate Professor** Dept. of Macromolecular Science and Engineering, Dept. of Chemistry CWRU
2005 - 2008	**Research Scientist** Louis Stokes Cleveland Department of Veterans Affairs Medical Center
1995 - 2000	**Senior Research Associate** and **Independent Lecturer** ("Privatdozent") Department of Materials, ETH Zürich, Switzerland, Group of Prof. P. Smith
1994 - 1995	**Postdoctoral Research Fellow** Dept. of Chemistry, MIT, Cambridge, USA, Advisor: Prof. M.S. Wrighton
1989 - 1994	**Research and Teaching Assistant** Departments of Chemistry and Materials, ETH Zurich, Switzerland

Industrial Experiences

2010 - present	**Member of Board of Directors,** Tech Transfer Fribourg
2000 - present	**Consultant for Several Multinational Clients**
1994 - 2010	**Member of Board of Directors,** Gel Instrumente AG, Thalwil, Switzerland
1999 - 2002	**Founding Member of Board of Directors,** Omlidon Technologies LLC, Zurich,

Academic Education

1995 - 2000	**Habilitation**, Degree awarded: *Venia Legendi* for *Photofunctional Polymers* Department of Materials, ETH Zürich, Switzerland, Group of Prof. P. Smith Habilitation: "Polarizing Light with Polymers"
1990 - 1994	**Dissertation**, Degree awarded: Doctor of Natural Sciences ("Dr. sc. nat.") Department of Materials, ETH Zürich, Switzerland, Advisor: Prof. U.W. Suter Thesis: "New Polyamides with Stable Nonlinear Optical Properties"
1990 - 1992	**Education as Chemistry Teacher**, Degree awarded: High School and College Teacher License ("Fachausweis für das Höhere Lehramt") Institute for Behavioural Sciences, ETH Zürich, Switzerland
1985 - 1990	**Undergraduate Studies in Chemistry**, Degree awarded: Master Degree in Chemistry ("Dipl. Chem. ETH"), Thesis: "Synthesis of Cross-Linkable Aramids" Department of Chemistry, ETH Zürich, Switzerland, Advisor: Prof. U.W. Suter

Pre-College Education

1980 - 1985	High School at Kantonsschule Enge, Zürich, Switzerland Degree awarded: Baccalaureate ("Eidg. Matura Typ E, Wirtschaft")
1972 - 1980	Elementary and Secondary Schools in Mühlheim a. Main, Germany (1972 - 1974) and Thalwil, Switzerland (1974 - 1980)

Military

1985 – 2004	Swiss Army Service in the rank of a soldier

Awards, Recognition, Named Lectureships

2022	Anselme Payen Award, ACS Division of Cellulose and Renewable Materials
2019	Covestro Distinguished Lecturer, Texas A&M University
2017	Fellow of the American Chemical Society Division of Polymer Chemistry
2017	Member of the Swiss Academy of Engineering Sciences (SATW)
2011	ERC Advanced Grantee
2009	Bayer MaterialsScience Lecturer
2008	F. Alex Nason Professor of Engineering at Case Western Reserve University
2008	Case School of Engineering Research Award
2007, 2008, 2009	Nominee Bruce Jackson Award for Excellence in Undergraduate Mentoring
2005	US National Science Foundation Special Creativity Award
2002	DuPont Young Professor Award
2002	3M Non-Tenured Faculty Award
2001	DuPont Aid to Education Award
2000	Melville Lecturer, University of Cambridge
1994	Swiss National Science Foundation Research Fellowship

Publication Statistics

Author of ~300 peer-reviewed scientific articles, ~75 non-reviewed scientific articles or preprints, 18 book chapters. 29 journal covers. Editor of 2 books and 6 journal special issues. Inventor of 23 patent families. ~22'050/27'900 ISI/Google Scholar citations. H-index = 80/87 (ISI/Google Scholar).

Major scientific contributions

Established poly(*p*-phenylene ethynylene)s as semiconducting materials

Discovered a polarizing energy transfer process and introduced polarizers based on this mechanism

Introduced innovative concepts for mechanochromic polymers

Conceived and realized sea-cucumber mimicking mechanically adaptive polymers

Contributed to the understanding of processing-structure-property relations of polymer nano-composites with cellulose nanocrystals

Pioneered the use of (metallo)supramolecular polymers as stimuli-responsive materials

Established supramolecular polymers as light-healable materials and adhesives

Exploited polymer multilayer technology to create lasers and data storage systems

Demonstrated novel approaches for low-power upconversion in polymers

Technologies Developed or under Development

Shape memory polymers. Licensed to Covestro. Under development by Sonova AG.

Terabyte scale optical data storage media. Under development by Folio Photonics LLC.

Security feature for banknotes. Commercialized by Landqart AG.

Dielectric method to determine curing of reactive resins. Commercialized by Gel Instrumente AG.

Photochromic fishing lines. Commercialized by Pure Fishing Co.

Editorship, Guest Editorship

2011 - present	Associate Editor *ACS Macro Letters*
2010 - 2021	Co-Editor RSC Book Series *Polymer Chemistry*
2021	Guest Editor *Macromol. Rapid Commun.* Special issue *Mechanochromic Polymers*
2019	Guest Editor *Chimia* Special issue *NCCR Bio-Inspired Materials*
2018	Guest Editor *Small* Special issue *10th Anniversary of the AMI*
2016	Guest Editor *Chem. Soc. Rev.* Special issue *Bioinspired Surfaces and Materials*
2011	Guest Editor *J. Mater. Chem.* Special issue *Mechanically Responsive Polymers*
2009	Guest Editor *Chimia* Special issue *Swiss Scientists Abroad*
2006	Editor *Advances in Polymer Science* Special issue *Poly(arylene ethynylene)s*
2000	Editor *Macromolecular Symposia* Issue on *Polymers in Display Applications*

Editorial Advisory Boards

2020 – present	Editorial Advisory Board *Materials Advances*
2019 – present	Editorial Advisory Board *Materials Chemistry Frontiers*
2013 - present	Editorial Advisory Board *Journal of Materials Chemistry C*
2011 - present	Advisory Board *Polymer Bulletin*
2006 - present	International Advisory Board *Macromolecular Chemistry and Physics*
2006 - present	International Advisory Board *Macromolecular Rapid Communications*
2001 - present	Editorial Board *Journal of Applied Polymer Science*
Terms completed	*RSC Advances (2013-2016), Polymer Chemistry (2010-2012), ACS Applied Materials & Interfaces (2009-2014)*, *Macromolecules (2007-2009)*, *Journal of Materials Chemistry (2007-2012), Journal of Inorganic and Organometallic Polymers and Materials (2006-2012)*

Scientific Advisory Boards (last 5 years)

2020 - present	Scientific Advisory Board *Freiburg Center for Interactive Materials and Bioinspired Technologies* University of Freiburg (DE)
2020 - present	Scientific Advisory Board *German Cluster of Excellence Living, Adaptive and Energy-Autonomous Materials Systems (livMatS)* University of Freiburg (DE)
2020 - present	Scientific Advisory Board *MRSEC CHARM,* University of Delaware DE (USA)
2020 - present	Scientific Advisory Board *UCSD MRSEC,* UCSD San Diego CA (USA)
2014 - 2020	External Advisory Board *CSEM*
2008 - present	Advisory Board *International Symposium on Stimuli-Responsive Polymers*

Professional Leadership (last 5 years)

2017 - present	Co-PI (Swiss Lead) PIRE (Partnerships for International Research and Education) Bio-Inspired Materials and Systems. This international collaboration involves ca. 20 PIs and 15 PhD students at Case Western Reserve University and the Universities of Chicago, San Diego and Delaware (all USA), and the AMI.
2014 - 2020	Director National Competence Center in Research (NCCR) Bio-Inspired Materials. Initiated, planned, and led this center with 16 research groups and >90 researchers at 4 Universities (U. Fribourg, U. Geneva, EPFL, ETHZ).
2014 - 2022	Board of Directors Paul Rhyner Foundation
2013 - present	Board of Directors Polymer and Colloid Division, Swiss Chemical Society
2013 - 2016	Expert of the Swiss Academy of Technical Sciences (SATW)
2010 - present	Director Adolphe Merkle Institute. Built this department-like institute, which now has 4 research groups, 100 employees, and an annual budget of CHF 10 Mio.

Other Professional Affiliations

American Chemical Society (ACS), Division Member: POLY and PMSE; Materials Research Society (MRS); Swiss Chemical Society (SCS).

Co-Organizer / Member Scientific Organizing Committee (last 5 years)

Co-vice Chair/co-Chair GRC Bio-inspired Materials 2022/2024; Int. Conference on Organic and Polymer Synthesis (Guangzhou, China 2018); 10th International Conference on f-Element ICFE10 (2018), Soft matter interfaces: from biology to engineering applications (2017), Biointerfaces (2016).

Reviewer Scientific Journals (last 5 years)

ACS Appl. Polym. Mat., ACS Appl. Mat. Interf., Adv. Funct. Mater., Adv. Sci., Adv. Mater., Angew. Chem., Biomacromolecules, CCS Chemistry, Chem, Chem. Eur. J., Chemie in unserer Zeit, Chem. Mater., Chem. Sci., J. Am. Chem. Soc., J. Mater. Chem., J. Phys. Chem., J. Polym. Sci.,Macromol. Chem. Phys., Macromol. Mater. Eng., Macromol. Rapid Commun., Macromolecules, Nature, Nature Chemistry, Nature Communications, Nature Materials, New J. Chem., Polymer Chemistry, Science.

Award Committees

2018 - present	Swiss Industry Science Fund – Swiss Chemical Society Industrial Science Award
2013 - 2015	Anselme Payen Award Committee (ACS Div. of Cellulose and Renewable Mat.)

Reviewer Funding Agencies (last 5 years)

A. von Humboldt Foundation, Bavarian Ministry of Science and Education, European Research Council, FNR Luxembourg, German Research Foundation, Petroleum Research Funds, Science Foundation Ireland, Swiss National Science Foundation, US Army Research Office, US National Science Foundation.

Current Collaborators (Outside UniFr, last 5 years)

M. Albrecht (Berne), M. Borkovec (Geneva), H. Börner (Berlin), J. Brugger (EPFL), N. Bruns (Darmstadt), J. Capadona (CWRU), H. Chiel (Cleveland), E. Cranston (UBC), S. Dubas (Bangkok), A. Eceiza (Basque U.), J. Foster (Vancouver), J. Gilman (NIST), K. Kazlaukas (Vilnius), A. King (Helsinki), N. Kimizuka (Kyushu), H.A. Klok (Lausanne), E. Kontturi (Aalto), L. Korley (Delaware), H. Manuspiya (Bangkok), R. Marti (HES-SO), F. Meinardi (Milan), A. Monguzzi (Milan), T. Nakamura (Hokkaido), H. Otsuka (Tokyo), E. Oveisi (EPFL), A. Petzold (Halle), R. Quinn (Cleveland), E. Reichmanis (Atlanta), S.J. Rowan (Chicago), P. Russo (Atlanta), Y. Sagara (Hokkaido), L. Schreiber (Bonn), Y.C. Simon (USM), A. Studart (Zurich), A. Takahara (Kyushu), N. Tamaoki (Hokkaido), W. Thielemans (Leuven), T. Thurn-Albrecht (Halle), N. Yanai (Kyushu), J. Zoppe (UPC)

Advisor of Research Group Leaders (8)

Dr. Jessica Clough "Polymer Mechanochemistry" (2022-present)

Dr. José Berrocal "Responsive Polymers" (2020-present)

Dr. Stephen Schrettl "Polymer Mechanochemistry" (2017-present)

Dr. Justin Zoppe **"**Nanocellulose" (2017-2017), now Asst. Prof. Universitat Politècnica de Catalunya

Dr. Lucas Montero "Supramolecular Polymers" (2013-2014), now Scientific Coordinator NCCR

Dr. Gina Fiore "Supramolecular Metallopolymers" (2009-2011), now Nestlé Research

Dr. Yoan Simon "Stimuli-Responsive Polymers" (2009-2011), now Assoc. Prof. USM

Dr. Johan Foster "Cellulose nanocomposites" (2009-2011), now Assoc. Prof. UBC

Advisor of Postdoctoral Researchers (44)

Dr. Andrea Dordero **"**Photonic Pigments" (2021-present)

Dr. Subhajit Pal **"**Capsule-containing Polymers" (2021-2022)

Dr. Jimaja Sethun **"**Responsive Polymersomes" (2020-present)

Dr. Jessica Clough "Polymer Mechanochemistry" (2020-2022)

Dr. James Hemmer **"**Supramolecular Polymers" (2019-present)

Dr. Guillaume Moriceau **"**Photonic Pigments" (2019-2020)

Dr. Philip Scholten **"**Responsive Polymersomes" (2019-2021), now Bloom Biorenewables

Dr. Feyza Karazu Kilic **"**Shape Memory Polymers" (2018-2020), now EPFL

Dr. Visuta Engkagul **"**Stimuli-Responsive Composites" (2018-2021), now Innovation Group Ltd.

Dr. Justin Zoppe **"**Nanocellulose" (2017-2017), now Prof. Universitat Politècnica de Catalunya

Dr. Anuja Shirole **"**Smart Adhesives" (2017-2018), now Lund University

Dr. Carlo Perotto **"**Smart Adhesives" (2016-2018), now Petronas Lubricants

Dr. Shraddha Chhatre **"**Smart Adhesives" (2016-2018), now CSIR - NCL, Pune

Dr. Anselmo del Prado Abellán **"**Smart Adhesives" (2016-2018), now Univ. Madrid

Dr. Dafni Moatsou "Mechanically Adaptive Nanocomposites" (2015-2017), now Senior Res. KIT

Dr. Stephen Schrettl "Polymer Mechanochemistry" (2015-2017), now Group Leader AMI

Dr. Ester Verde Sesto "Polymer Mechanochemistry" (2015-2016), now UPV/EHU

Dr. Alexander Hähnel "Polymer Mechanochemistry" (2014-2015), now Freudenberg New Technol.

Dr. Yoshimitsu Sagara "Polymer Mechanochemistry" (2013-2015), now Assoc. Prof. TIT

Dr. Lucas Montero "Supramolecular Polymers" (2013-2014), now Scientific Coordinator NCCR

Dr. Burcak Icli "Mechanochemistry in Polymers" (2012-2015), now Schoeller Allibert SA

Dr. Hua Zou "Mechanically Adaptive Nanocomposites" (2012-2013), now Asst. Prof. USST

Advisor of Postdoctoral Researchers (continued)

Dr. Animesh Saha "Smart Adhesives" (2012-2013), now BASF
Dr. Katharina Gries "Smart Adhesives" (2012-2014), now Metrohm AG
Dr. Rebecca Parkhurst "Polymer Mechanochemistry" (2012-2014), now US Govt. Accountab. Off.
Dr. Shuo Bai "Mechanically Adaptive Composites" (2011-2012), now University of Strathclyde
Dr. Matt Roberts "Adaptive Nanocomposites" (2011-2013), now Switch Materials Inc. Canada
Dr. Pratheep Annamalai "BioNanocomposites" (2010-2012), now Univ. of Queensland
Dr. Sandeep Kumar "BioPolymer Nanocomposites" (2010-2012), now DuPont de Nemours
Dr. Gina Fiore "Supramolecular Metallopolymers" (2009-2011), now Nestlé Research
Dr. Yoan Simon "Stimuli-Responsive Polymers" (2009-2011), now Assoc. Prof. USM
Dr. Johan Foster "Cellulose nanocomposites" (2009-2011), now Assoc. Prof. UBC
Dr. Julie Mendez "BioPolymer Nanocomposites" (2009-2010), now Assoc. Prof. IUPUC
Dr. Markus Geuss "Phototonic Crystals " (2009-2011)
Dr. Lorraine Hsu "Bio-Inspired, Stimuli-Responsive Polymers" (2009-2010)
Dr. Liming Tang "Polymers with Integrated Sensing Capabilities"(2006-2010)
Dr. O. Van den Berg "Semiconducting Polymer Nanowires" (2006-2007),
Dr. M. Schroeter "Conducting Poly(*p*-phenyleneethynylene)s" (2005-2007), now Teamleader GKSS
Dr. Jeff Capadona "Bio-Inspired, Stimuli-Responsive Polymers" (2005-2008), now Prof. CWRU
Dr. Dan Knapton "Organic/Inorganic Hybrid Polymers" (2004-2006), now Lubrizol
Dr. Param Iyer "Organic/Inorganic Hybrid Polymers" (2003-2004, now Prof. IIT Guwahati
Dr. Quinghui Chu "Proton-Conducting Membranes" (2002-2004), now Exxon Mobile
Dr. M. Schroers "Smart Materials with Controllable Stiffness" (2002-2003), now BASF
Dr. Anja Palmans "Light-Polarizing Polymers" (1999-2000), now Prof. TU Eindhoven

Host of Visiting Scientists (2)

Dr. Maki Kinami, Toyobo Research Center, Shiga, Japan (2004-2006)
Dr. C. Löwe, EMPA, Dübendorf, Switzerland (2001-2002), now U. Zurich

Advisor of Ph.D. Students (57)

Chaninya Mak-Iad "Healable Polymers" (2021-present)
Luca Grillo "Bio-inspired Membranes" (2021-present)
Xueqian Hu "Upconverting Polymers" (2021-present)
Davide Lardani "Upconverting Polymers" (2021-present)
Ilaria Onori "Supramolecular Polymers" (2020-present)
Franziska Marx "Supramolecular Polymers" (2019-present)
Derek Kielbala "Mechanochemistry in Polymers" (2018-present)
Livius Muff "Mechanically Morphing Polymers" (2018-present)
Hanna Traeger "Mechanochemistry in Polymers" (2018-present)
Chris Rader "Biopolymers for Packaging Applications" (2018-present)
Claudio Cappelletti "Metallosupramolecular Polymers" (2018-present)
Marco Mareliati "Supramolecular Polymers" (2017-2021)
Gwendoline Delepierre "Hairy Cellulose Nanocrystals" (2017-2021), now Michelin
Baptiste Monney "Mechanically Adaptive Polymers" (2017-2021), now Michelin

Advisor of Ph.D. Students (continued)

Aristotelis Kamtsikakis "Nanocomposite Membranes" (2017-2021), now DuPont
Felipe Saenz "Optical Upconversion in Nanostructured Polymers" (2016-2021), now EPFL
Diana Hohl "Polymers for Debonding on Demand Applications" (2016-2020), now AMS AG
Sandra Wohlhauser "Single Component Nanocomposites" (2016-2021), now University of Fribourg
Julien Sauteaux "Supramolecular Polymers" (2015-2021), Now Philip Morris
Anne-Cécile Ferahian "Supramolecular Polymers" (2015-2019), now BHF Biel
Laura Neumann "Mechanochemistry in Polymers" (2015-2019), now Cabb AG
Céline Calvino "Mechanochemistry in Polymers" (2014-2018), now U. Freiburg (DE)
Luis Olaechea "Metallosupramolecular Polymers" (2014-present), now BHF Biel
Worarin Meesorn "Mechanically Adaptive Nanomaterials" (2014-2019), now ZHAW Winterthur
Marc Karman "Mechanochemistry in Polymers" (2014-2019)
Jens Natterodt "Mechanically Adaptive Nanocomposites" (2013-2016), now Dow
Anuja Shirole "Mechanically Adaptive Nanocomposites" (2013-2017), now University of Lund
Apiradee Nicharat "Processing of Cellulose Nanocomposites" (2013-present), Now SCS
Anna Lavrenova "Mechanochemistry in Polymers" (2012-2016), Now Evonik
Mathieu Ayer "Metallosupramolecular Assemblies" (2012-2017), now Asulab
David Thevenaz "Mechanochemistry in Polymers" (2012-2016), now Armasuisse
Janak Sapkota "Processing of Cellulose Nanocomposites" (2012-2016), now UPM Biomaterials R.
Christian Heinzmann "Supramolecular Adhesives" (2012-2015), now Bachem AG
Dirk Balkenende "Metallosupramolecular Polymers" (2012-2016), now ERIKS Sealing & Polymer
Roberto Vadrucci "Optical Upconversion in Polymers" (2011-2015), now Endress AG
Silvana Müller "Cellulose Aerogels" (2011-2014), now TH Nürnberg
Sandra Camarero "Anisotropic Cellulose Nanocomposites" (2011-2015), now Polymat EHU
Tobias Kuhnt "Controlled Release from modified Cellulose " (2011-2015), now Polymat EHU
Souleymane Coulibaly "Supramolecular Metallopolymers" (2011-2014), now U. Félix H. Boigny
Soo-Hyon Lee "Optical Upconversion " (2011-2014), now NYC Data Science Academy
Mehdi Jorfi "Mechanically Adaptive Nanocomposites" (2011-2014), now Harvard Medical School
Mahesh Biyani "Mechanically Adaptive Nanocomposites" (2011-2014), now Halliburton
Bastien Schyrr "New Polymer Based Sensors" (2010-2014), now Theranoptics
Sonia Kracht "Mechanochemistry in Polymers" (2009-2012), now Merck Life Science
Kadhiravan Shanmuganathan "Responsive Cortical Implants" (2006-2010), now CSIR-NCL
Brian Makowski "Dynamic Photonic Crystals" (2006-2011), now Sherwin Williams
Joe Lott "Functional Multilayer Polymer Films" (2006-2010), now Kodak
Mark Burnworth "Metallosupramolecular Polymers" (2005-2011), now Sherwin Williams
James Mendez "Charge Transport in Conjugated Polymers" (2005-2010), now Asst. Prof. IUPUC
Jill Kunzelman "Polymers with Integrated Sensing Capabilities" (2004-2009), now PolyOne
Brent Crenshaw "Polymer Chameleons "(2002-2006), now Engineered Polymer Solutions
Akshay Kokil "Conjugated Polymer Networks" (2001-2005), now Asst. Prof. U. Mass. Lowell
Sven Zimmermann "Orientation of Discotic Liquid Crystals" (U. Marburg 2004), now Novaled
Christoph Kocher "Anisotropic Functional Polymer Systems" (1999-2003), now Landqart
Moritz Ehrenstein "Polyamides with Long Alkane Segments" (1999-2003), now BASF

Advisor of Ph.D. Students (continued)

Andrea Montali "Light-Emitting Polymer Displays" (1996-1999), now Synthes
Daniel Steiger "Poly(*p*-phenylene alkylene)s" (1996-1999), now Ethicon Products

Research Advisor of Master Students (20)

Nicolas Stankovic "Upconverting Polymers" (2018-2018)
Sandra Graterol->Wohlhauser "New Polymer Systems" (2015-2015), now University of Fribourg
Luis Miguel Olachea "Supramolecular Polymers" (2013-2014), now BHF Biel
Mathieu Ayer "Supramolecular Polymers" (2011-2012), now Asulab
David Thevenaz "Optical Upconversion with Metal-Free Dyes" (2011-2012), now Armasuisse
Charles Sing "Polymeric Threshold Temperature Sensors" (2008), now Assoc. Prof. UIUC
James Kostka "Light-Emitting Polymers " (2008-2010), now General Electric Co.
Claire Rademaker "Synthesis of Conjugated Polymer Networks" (2005-2006), now US PTO
Eric Hittinger "Conjugated Polymer Networks" (2002-2003), now Prof. RIT
Ravisubash Tangirala "Photo-Patternable Nanomaterials" (2002-2003), now Nanosys Inc.
Christian Huber "Conjugated Polymer Networks" (2001)
Katharina Sigg "Optical Sealing of Polymers" (2001)
Christoph Kocher "Patterning of Functional Polymer Systems" (2000), now Landqart
Magnus Kristiansen "Proton-Conducting Membranes" (2000), now Prof. FHNW
Michael Eglin "Thermoplastic Processing of Photoluminescent Polarizers" (1999)
Simon Amhof "Polarizing Energy Transfer in Photoluminescent Polymers" (1998)
Claude Curti "Poly(*p*-phenylene ethynylen)e Light-Emitting Diodes" (1998)
Florian Dötz "Synthesis of Novel Poly(*p*-phenylene ethynylene)s" (1997)
Moritz Ehrenstein "Poly(*p*-phenylene alkylene)s - a Class of Forgotten Polymers" (1997)
Christian Sarwa "Polarized Light Emission from Oriented Polymers" (1997)

Research (~60) and Academic (~30) Advisor of Undergraduate Students

External Funding History

Past Funding at CWRU	Various	2001-2009	> $4'400'000	completed
Funding at University of Fribourg				
Get a Grip	Industrial	2010-2013	Fr 180'000	completed
Thermal Transport in Nanocomposites	Industrial	2010-2010	Fr 80'000	completed
Instrumentation Grant	SNF	2010-2010	Fr 200'000	completed
Smart Polymer Nanocomposites NFP62	SNF	2010-2013	Fr 342'000	completed
Better Rapid Prototyping Resins	CTI	2010-2011	Fr 109'000	completed
Cellulose as Bio-scaffold	Industrial	2011-2014	Fr 310'000	completed
Smart Polymer Nanocomposites	Industrial	2011-2013	Fr 280'000	completed
Shape Memory Materials	Industrial	2011-2013	Fr 300'000	completed
Chances and Risks of Nanomaterials NFP64	SNF	2011-2014	Fr 450'000	completed
Organometallic Polymer Systems	SNF	2011-2014	Fr 500'000	completed
Polymer Nanocomposite Processing NFP66	SNF	2012-2016	Fr 400'000	completed
HIProFip	NANO	2012-2014	Fr 121'000	completed
(De)bonding on Demand	CTI	2012-2014	Fr 307'000	completed
Adaptive Adhesive Systems	CTI	2012-2014	Fr 387'000	completed
Supramolecular Polymers	US ARO	2012-2014	Fr 170'000	completed
Mechanically Responsive Polymers	ERC	2012-2017	Fr 2'400'000	completed
Stimuli-Responsive Materials NCCR	SNF	2014-2026	Fr 2'000'000	active[1]
Smart Polymer Nanocomposites NRP62	SNF	2012-2014	Fr 274'000	completed
Chances and Risks of Nanomaterials NRP64	SNF	2014-2015	Fr 200'000	completed
Stimuli-Responsive Metallopolymers	SNF	2014-2017	Fr 550'000	completed
Polymer Nanocomposite Processing NRP66	SNF	2015-2016	Fr 102'000	completed
Smart Polymer Nanocomposites	Industrial	2014-2016	Fr 122'000	completed
In-situ customization of hearing-aid parts	CTI	2017-2019	Fr 350'000	completed
One-Component Nanocomposites	US ARO	2015-2018	Fr 200'000	completed
Supramolecular Adhesives Precor	SNF	2015-2019	Fr 350'000	completed
Adhesives for Debonding on Demand	ERC-POC	2016-2017	Fr 150'000	completed
Smart Membranes (PlaMatSu)	ERC-ITN	2017-2020	Fr 229'000	completed
Polymers for Light Management	Industrial	2016-2018	Fr 230'000	completed
Stimuli-Responsive Supramolecular Polymers	SNF	2017-2021	Fr 1'142'000	completed
PIRE Bio-Inspired Materials and Systems	SNF	2017-2022	Fr 386'000	active[2]
CNC One-Component Composites	US ARO	2018-2021	Fr 240'000	completed
Supramolecular Polymers	Industrial	2018-2021	Fr 355'000	completed
Upconverting Polymers	SNF	2020-2024	Fr 660'000	active
Polymers for Carbon Capture	Industrial	2020-2021	Fr 156'000	completed
Graded Membranes SPIRIT	SNF	2021-2025	Fr 250'000	active[3]
Historical Paper Restoration	Innosuisse	2021-2022	Fr 152'000	active
Supramolecular Polymer Systems	SNF	2022-2026	Fr 560'000	active
Smart Adhesives	Innosuisse	2022-2024	Fr 300'000	active

CW served as principal investigator on all grants listed, except for those funded by the US ARO (PI S. Rowan, co-PI CW), and the ERC-ITN (PI N. Bruns, Participant CW).

[1]Full Grant amount: CHF 40’000’000.

[2]Full Grant amount: CHF 1’544’000; funding from the US-NSF to the US groups participating in this program is $ 5’500’000 (PI L. Korley).

[3]Full Grant amount: CHF 500’000.