

Prof. Dr. sc. nat. Christoph Weder

Curriculum Vitae, January 1 2025

Personal	Swiss and Irish Citizen; Born July 30, 1966; Married, 3 Children (ages 24, 28, 30)		
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 CH-1700 Fribourg, Switzerland +41 (0)26 300 9465 christoph.weder@unifr.ch	Home	Alpenweg 4 CH-3186 Duedingen +41 (0)26 492 0248 +41 (0)79 535 9072 christoph.weder@icloud.com

Core Research Expertise and Interests: Synthesis of Functional Polymers

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

Academic Positions

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
2010 - 2022	Director Adolphe Merkle Institute (AMI), University of Fribourg, Switzerland
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

2000 - present	Consultant for Several Multinational Clients
2010 - 2022	Member of Board of Directors , Tech Transfer Fribourg
1994 - 2010	Member of Board of Directors , Gel Instrumente AG, Thalwil, Switzerland
1999 - 2002	Member of Board of Directors , Omlidon Technologies, Zurich, Switzerland

Academic Education

- 1995 - 1999 **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

- 1988 – 2004 Compulsory Swiss Army Service in the rank of a soldier

Awards, Recognition, Named Lectureships

- 2025 Visiting Scientist, Pritzker School of Molecular Engineering, U. Chicago (USA)
- 2025 Visiting Scientist, POLYMAT, University of The Basque Country (Spain)
- 2022 International Biannual Belgian Polymer Group Award
- 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 ~340 peer-reviewed scientific articles, ~75 non-reviewed scientific articles or preprints, 18 book chapters. Editor of 2 books and 6 journal special issues. Inventor of 25 patent families. ~37'000 citations; H-index = 98 (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
Pioneered innovative concepts for mechanochromic polymers
Conceived and realized sea-cucumber mimicking mechanically adaptive polymers
Developed processing-structure-property relations of polymer/cellulose nanocrystal nanocomposites
Introduced (metallo)supramolecular polymers as stimuli-responsive materials
Established supramolecular polymers as light-healable materials and reversible adhesives
Demonstrated novel approaches for low-power upconversion in polymers

Technologies Developed or under Development

Bio-inspired adhesives. Under development.
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

2024 - present Associate Editor *ACS Applied Polymer Materials*
2011 - 2023 Associate Editor *ACS Macro Letters*
2010 - 2021 Co-Editor RSC Book Series *Polymer Chemistry*
2021 Guest Editor *Macromol. Rapid Comm.* 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

2024 - present Editorial Advisory Board *RSC Applied Polymers*
2023 - present Editorial Advisory Board *ChemistryEurope*
2023 - present Editorial Advisory Board *Science China Chemistry*
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 Editorial 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 *ACS Applied Polymer Materials (2023)*, *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 - 2023 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 - 2022 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.
- 2010 - 2022 Director Adolphe Merkle Institute. Build and led this institute with 4 chairs and ca. 100 employees and an annual budget of CHF 10 Mio.
- 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 - 2023 Board of Directors Polymer and Colloid Division, Swiss Chemical Society
- 2013 - 2016 Expert of the Swiss Academy of Technical Sciences (SATW)

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; PPS 38 (2023), PPS 39 (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
- 2023- present 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, Research Grants Council (RGC) of Hong Kong, 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. Kazlauskas (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 (9)

Dr. Georges Formon “Supramolecular Polymers” (2024-present)
Dr. Jessica Clough “Polymer Mechanochemistry” (2022-2022), now Asst. Prof. U. Fribourg
Dr. José Berrocal “Responsive Polymers” (2020-2023), now Group Leader ICIQ Tarragona
Dr. Stephen Schrettl “Polymer Mechanochemistry” (2017-2022), now Assoc. Prof. TU Munich
Dr. Justin Zoppe “Nanocellulose” (2017-2017), now Assoc. Prof. Polytechnic U. of Catalonia
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. Arizona State U.
Dr. Johan Foster “Cellulose nanocomposites” (2009-2011), now Assoc. Prof. U. British Columbia

Advisor of Postdoctoral Researchers (53)

Dr. Indradip Mandal “Elastic Metals” (2025-present)
Dr. Davide de Luca “Mechanochromic Polymers” (2025-present)
Dr. Linlin Deng “Mechanochromic Polymers” (2024-present)
Dr. Justus Wessler “Mechanochromic Polymers” (2024-present)
Dr. Manon Guivier “Supramolecular Polymers” (2024-present)
Dr. Georges Formon “Supramolecular Polymers” (2023-2024)
Dr. Satyajit Das “Polymer Electrolyte Batteries” (2023-2024)
Dr. Anasthios Skandalis “Supramolecular Adhesives” (2022-2024)
Dr. Andrea Dordero “Photonic Pigments” (2021-2022), now Group Leader AMI
Dr. Subhjit Pal “Capsule-containing Polymers” (2021-2022), now Postdoc UC Berkeley
Dr. Sètuhn Jimaja “Responsive Polymersomes” (2020-2022), now Givaudan
Dr. Jessica Clough “Polymer Mechanochemistry” (2020-2022), now Asst. Prof. U. Fribourg
Dr. James Hemmer “Supramolecular Polymers” (2019-2024), now Huntsman AG
Dr. Guillaume Moriceau “Photonic Pigments” (2019-2020), now Johnson & Johnson
Dr. Philip Scholten “Responsive Polymersomes” (2019-2021), now Bloom Biorenewables
Dr. Feyza Karazu Kilic “Shape Memory Polymers” (2018-2020), now SICPA
Dr. Visuta Engkagul “Stimuli-Responsive Composites” (2018-2021), now Innovation Group Ltd.
Dr. Justin Zoppe “Nanocellulose” (2017-2017), now Assoc. Prof. Polytechnic U. of Catalonia
Dr. Anuja Shirole “Smart Adhesives” (2017-2018), now Postdoc U. Washington
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 Spanish Nat. Res. Council
Dr. Dafni Moatsou “Mechanically Adaptive Nanocomposites” (2015-2017), now STRATEC GmbH

Dr. Stephen Schrettl "Polymer Mechanochemistry" (2015-2017), now Assoc. Prof. TU Munich
Dr. Ester Verde Sesto "Polymer Mechanochemistry" (2015-2016), now Senior Res. CFM 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 Assoc. Prof. USST
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. Arizona State U.
Dr. Johan Foster "Cellulose nanocomposites" (2009-2011), now Assoc. Prof. U. British Columbia
Dr. Julie Mendez "BioPolymer Nanocomposites" (2009-2010), now Assoc. Prof. IUPUC
Dr. Markus Geuss "Photonic 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 Helmholtz Hereon
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 retired

Advisor of Ph.D. Students (64)

Jonas Eschmann "Mechanochromic Polymers" (2024-present)
Nick Zahnd "Bio-inspired Batteries" (2024-present)
Oindrila Mondal "Adaptive Dynamic Polymer Systems" (2024-present)
Luca Bertossi "Supramolecular Polymer Systems" (2022-present)
Marta Oggioni "Supramolecular Polymer Systems" (2022-present)
Iulia Scarlat "Mechanochemistry in Polymers" (2022-present)
Matilde Folkesson "Artificial Muscles" (2022-present)
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” (2020-2024)
Franziska Marx “Supramolecular Polymers” (2019-2023), now Gottlieb Binder GmbH
Derek Kielbala “Mechanochemistry in Polymers” (2018-2022), now Postdoc U. Mainz
Livius Muff “Mechanically Morphing Polymers” (2018-2022), now Postdoc UCSB
Hanna Traeger “Mechanochemistry in Polymers” (2018-2022), now Climeworks AG
Chris Rader “Biopolymers for Packaging Applications” (2018-2023), now EMPA
Claudio Cappelletti “Metallosupramolecular Polymers” (2018-2022), now Roche
Marco Mareliati “Supramolecular Polymers“ (2017-2021), Deceased
Gwendoline Delepierre “Hairy Cellulose Nanocrystals” (2017-2021), now Michelin
Baptiste Monney “Mechanically Adaptive Polymers“ (2017-2021), now Michelin
Aristotelis Kamtsikakis “Nanocomposite Membranes” (2017-2021), now DuPont
Felipe Saenz “Optical Upconversion in Nanostructured Polymers” (2016-2021), now CSEM
Diana Hohl “Polymers for Debonding on Demand Applications” (2016-2020), now ABB
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), Assoc. Prof. U. Félix H. Boigny
Soo-Hyon Lee “Optical Upconversion “ (2011-2014), now NYC Data Science Academy
Mehdi Jorfi “Adaptive Nanocomposites“ (2011-2014), now Ass. Prof. 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 “Adaptive nanocomposites” (2006-2010), now Assoc. Prof. 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 Kunzleman “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
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 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 ethynylene) 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 (~65) and Academic (~30) Advisor of Undergraduate Students

External Funding History

<i>Past Funding at CWRU</i>	Various	2001-2009		> \$4'400'000 completed
<i>Funding at the University of Fribourg</i>				
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 completed 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	2021-2025	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	2021-2023	Fr	152'000 completed
Supramolecular Polymer Systems	SNF	2022-2026	Fr	560'000 active
Bio-inspired Adhesives	Innosuisse	2022-2024	Fr	300'000 active
Adaptive Polymer Systems	US ARO	2023-2026	Fr	238'000 active
Polymer Batteries	AFOSR	2023-2025	Fr	400'000 active
Elastic Metals	SNF	2025-2025	Fr	100'000 active

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

¹Full Grant amount: CHF 40'000'000.

²Full Grant amount: CHF 1'544'000; additional funding from the US-NSF to the US groups participating in this program was \$ 5'500'000 (PI L. Korley).

³Full Grant amount: CHF 500'000.