

Michael Hoch

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PERSONAL DATA Date of Birth: 30th December 1965

Nationality: Austrian

LANGUAGES German Mother tongue / English Fluent / French Fluent

Key Competences and Qualities

- Internationally acclaimed science education specialist
- Creative innovator of novel ideas and concepts for promoting particle physics, physics, science, CERN and its experiments
- Experienced international exhibition designer, manager, and curator
- Creator of acclaimed SciAr displayed worldwide
- Proven ability to transform ideas into reality; successful project manager and enthusiastic and competent team member
- High potential to maintain sustainability and growth of current projects and to facilitate new opportunities
- Proven ability to build partnerships, both scientific and interdisciplinary, with a variety of groups and organizations within and outside the science community, including attracting and integrating resources both human and financial
- Maintains an extensive international network of contacts and collaborators – scientists, artists, science and art institutions, educational establishments (at both school and university level), museums and exhibition centres, and media
- Inspirational public speaker (German, English or French) and educational workshop leader
- Experienced science communicator; public outreach, and education specialist, with an excellent understanding of the underlying science and technology of particle physics, CMS, and CERN
- Regular, active CMS and CERN guide, in demand for a wide audience – interdisciplinary school and university students, general public, media, VIPs, etc.
- Producer and communicator of written material for educational outreach purposes
- Accomplished photographer and video producer for educational, outreach technical archive, and artistic purposes

Awards

- European Physical Society Prize 2017 "for initiatives highlighting the conceptual and physical beauty of high-energy physics, and the inspirational qualities that are common to both Art and Science"
- Fleck Fellowship June 2016 - Banff Art Centre, Canada
- CMS 2015 achievement award for "outstanding contributions to CMS outreach and education programs, as well as for the creation of and dedication to the art@CMS programme"

Principal exhibitions, educative cross-disciplinary Science networking and engagement

- Founder of the ORIGIN network, since 2018
 - https://mhoch.web.cern.ch/Art@CMS/ORIGIN_CERN_IR_Nov2019_final.pdf
- Founder and project leader of the art@CMS project, since 2012
 - <http://mhoch.web.cern.ch/mhoch/Art@CMS/Art@CMSprojects.pdf>
- Initiator, curator, Cultural Collisions Vienna, Austria/ 2020
 - https://mhoch.web.cern.ch/Art@CMS/2019_60JahreOesterreichAmCERN_CulturalCollisions.pdf
- Curator, lecturer workshop leader, “Meet the Universe”, Muscat, Oman
 - https://mhoch.web.cern.ch/Art@CMS/2019_OMANscienceFestival_final.pdf
- Initiator, curator, project co-manager, Balloon museum & festival Chateau d’Oex, Switzerland
 - https://mhoch.web.cern.ch/Art@CMS/HPBeck2020_Physics_at_international_balloon_festival.pdf
- Initiator, curator, project co-manager – OSC Ontario Science Centre Toronto, Canada/ 2018
 - https://mhoch.web.cern.ch/Art@CMS/CulturalCollisionsCanadaORIGIN_summaryJune2018.pdf
- Initiator, curator, project manager South East Europe Exhib. Croatia, Bosnia, Montenegro/ 2018
 - https://mhoch.web.cern.ch/Art@CMS/SouthEastEuropeInitiativeByORIGIN_art@CMS_nov2018.pdf
- Curator, project co-manager – Science Festival Exhibition, Montenegro/ 2017
 - <https://www.youtube.com/watch?v=ikNhOIXtdgQ>
- Initiator, Team member, organising and co-curator of the CERN section, lecturer, workshop organizer NHM Natural History Museum Vienna Austria/ 2016 - 2017
 - <http://mhoch.web.cern.ch/mhoch/Art@CMS/NHM-Vienna2016.pdf>
- Co-curator of the CERN section, scientific advisor, lecturer, workshop organizer, round table discussion Landesmuseum Vorgeschichte Halle, Germany/ 2016 - 2017
 - <https://www.youtube.com/watch?v=z9v-EhWd6Hc>
- curator and project co-manager – Science & Technology Festival, Georgia/ 2018
 - <https://www.youtube.com/watch?v=wAYkB5fgvVo>
- co-curator – exhibition, lecturer, SciArt workshop organizer, FERMILAB USA/ 2015
 - <http://mhoch.web.cern.ch/mhoch/Art@CMS/FERMILABReport2015.pdf>
- Curator, artist, lecturer, Cite du Temps Genève, Switzerland/ 2016
 - http://mhoch.web.cern.ch/mhoch/Art@CMS/CMS_TheArtofScienceGeneva2016.pdf
- Co-curator, artist, lecturer; IBS Cultural Centre Korea 2019
 - <https://www.youtube.com/watch?v=mw-FMGVLcZ8>
- Curator, project manager IEEE2016 conference, Strasbourg, exhibition – viewed by general public, conference participants, and a delegation of EU parliamentarians and research advisors
 - <http://mhoch.web.cern.ch/mhoch/Art@CMS/IEEEStrasbourgReport2016.pdf>
- Joint workshop leader ECOLINT Geneva – ongoing educative SciArt workshop, initiated in 2014
 - <https://www.youtube.com/watch?v=yTqDm0Yp04E>
- Exhibition adviser - US Higgs Discovery Event Capitol Hill Washington for US politicians 2013
 - <https://mhoch.web.cern.ch/Art@CMS/USHiggsDiscoveryEventReport2013.pdf>
- Book Editor/contributing author “CMS - The Art of Science”, published 2016
- Creator of iconic CMS life size poster in collaboration with CERN photographer M. Brice 2011
 - <http://mhoch.web.cern.ch/mhoch/Art@CMS/CMSLifeSizeImage.pdf>

Projects in progress

- SURATOMICA, <https://www.suratomica.com/> Bogota, Colombia 2019 – 2021
- Cultural Collisions, JRC European Commission / CERN collaboration 2020 - 2022
- ORIGIN exhibition & workshops, HanYang Museum Seoul, Korea 2020
- South East Europe exhibition tour, Montenegro, Croatia, Bosnia, autumn 2020
- ORIGINS – ERUSMUS+ project for South East Europe 2021 - 2023
- Creation of Science & Art booklet series 2016 – ongoing
- Creation of the Junior Scientist Program 2017 - ongoing

Additional tasks and duties

Design, Curation, Organization of exhibitions promoting science, physics, particle physics;

at CERN and worldwide in collaboration with institutes, schools or universities or e.g. museums

Organizing and conducting educational workshops on science, physics, particle physics, CERN and CMS for school and university students locally at CERN or internationally.

Delivering public talks and participating in science cafes, round table discussions,

promoting science, physics, particle physics CERN and CMS worldwide.

EU funded project CREATIONS; cross disciplinary project for art&science schools based on art@CMS education programme (co-author and major contributor) - <http://creations-project.eu/>

CERN P5 – CMS visitor infrastructure (concept creation, realization of infrastructure and organization structure, guide training, maintenance 2011 - 2014)

CMS virtual visits (idea and conceptual design, overseeing operation through 2012 – 14 together with Z.Szilasi, N.Beni) - see Proceedings of the 14th ICATPP Conference, Vol. 1, 728-736., or teaser video 2013 http://www.youtube.com/watch?v=22AbPJ_F2UU&feature=youtu.be

Science writing - author and co-author of articles in various journals, magazines and books, e.g. GEO DE, NEWS, AUT, Furche AUT, Wiener Zeitung, Halle (Saale) DE

TV documentary films (camera operator for WDR, Quarks & Co; “Der TeilchenFaenger” DE, “The Sense of beauty” by Valerio Jalongo, SUI/ IT, and technical support for many other documentaries)

Photo and Video archive for both ALICE and CMS (large technical, historical and artistic archive available for collaborators and media covering 2007 – present)

Communication, Education, and Public Outreach related publications

Como 2014; Hoch, M. & Alexopoulos, A. (2014) ART@CMS and SCIENCE&ART@SCHOOL: Novel Education and Communication Channels for Particle Physics. Proceedings of the 14th ICATPP Conference, Vol. 1, 728-736.

EPS 2015; Lapka, M., Goldfarb, S., Aguirre, L., Hill., Adam-Bourdarios, C., Alexopoulos, A., Beni, N., Hoch, M., Petrilli, A. & Zsilasi, Z. (2015) ATLAS and CMS Virtual Visits: Bringing Cutting Edge Science into the Classroom and Beyond. The European Physical Society Conference on High Energy Physics, Vienna, 22-29 July.

LHCP2016; Paolucci, P., Alexopoulos, A., Hoch, M., & Adam-Bourdarios, C. (2016) STEAM: Education and Communication with Art at ATLAS and CMS. Fourth Annual Large Hadron Collider Physics. Lund, 13-18 June.

ICHEP2016; Hoch, M., Alexopoulos, A., Preece, S., Storr, M. & Petrilli, A. (2016) art@CMS SciArt Workshops. 38th International Conference on High Energy Physics, Chicago, 3-10 August

Education

1995 – 1998 **PhD**, CERN – University of Technology Vienna, “Gaseous Detector Development

1985 – 1995 **Diplom Ingenieur**, Applied Physics, University of Technology, Vienna

1985 – 1994 **Teacher Training for High Schools** - Physics and Sport, University Vienna

May 1985 Abitur **Degree HTL Ingenieur**, Higher Technical Engineering School HTL – X, Vienna

Work Experience

2012 – present Affiliation HEPHY, art@CMS / ORIGIN program leader, CMS outreach team

Develop, implement and coordinate novel cross-disciplinary science engagement programmes as tools for science communication and education for international collaborations in particle physics as described above

2011 – present Affiliation HEPHY, member of CMS technical coordination team

Involvement in CMS technical coordination, safety and P5 visits and visitor infrastructure

2007 – 2011 Member of staff, Academy of Science, Vienna, HEPHY Institute, CMS

Applied Physicist – science communicator providing support for the HEPHY and CMS outreach effort to promote particle physics, design exhibition and educational support materials. Coordinator for the CMS tracker power system. Involvement in the tracker upgrade projects. Supervision and co-ordination of students and technicians

2006 – 2008 Adventure Art / private company in Thoiry, France

Managing Director

Idea, conceptual design, fundraising and realization of a cultural and educative festival. Successful implementation and coordination of a large variety of animations, educational workshops, exhibitions and cultural events. Supervision of employees and responsible for all financial issues and accounting.

<http://mhoch.web.cern.ch/mhoch/Art@CMS/FetedesTournesolsThoiry20072008.pdf>

1999 – 2005 CERN staff member, applied Physicist, ALICE

Important contributions to the design, R&D, construction, assembly and commissioning of the ALICE TPC field cage. Supervision of various technicians and academic students. Artistic photo exhibition on the ALICE TPC – at the Centre Culturelle Jean Monnet – St. Genis / FR. Various presentation and contributions at international conferences, e.g. invited talk on gaseous detectors at the Vienna Conference on Instrumentation 2004; "Trends and New Developments in Gaseous Detectors". Impressive photo archive of detector photos of the ALICE TPC and LHCb RICH.

ADDITIONAL EXPERIENCE

1996 – 2013 Support for the CERN Teachers and Visitor Programmes

2007 – 2009: Organization of educative courses Passeport Vacances - Ville de Genève/ Switzerland 2000

– 2004 Organization of weekend outings for the CERN summer students (00-04)

1999: Participant in the CERN outreach/ recruitment fair, Technical Museum Vienna/ AUT

1997: Organization of one week particle physics seminar for Physics teachers in Vienna/AUT;

1997: Production of documentary video: „Austrians at CERN“

1996 – present: Teaching „Ecole International de Ski de Geneve“ and CERN Ski Club

1985 – 1995: Organizing and performing weekly training courses for different institutes:

- KSV – Ministry of Science and Culture, Bank Austria, WAT-ASKOe 1985–1994
- Assistant teacher in High School – physics & sports
- Participant as trainer and teacher in high school camps