

Marc Gillioz

CURRICULUM VITAE

Theoretical physicist and software engineer

Sion, CH · [gillioz.github.io](https://github.com/marcgillioz) · marc.gillioz@hevs.ch · [LinkedIn](#) · [ORCID](#)

EMPLOYMENT

2023– Sion, Switzerland	Senior Academic Associate  HES-SO Valais-Wallis, School of Engineering  Electrical Energy Efficiency Group - Power systems - Machine learning - Optimization Website
2022–2023 Zurich, Switzerland	Development Engineer  Supercomputing Systems AG - C#/.NET - Terraform - Azure cloud Website
2019–2022 Trieste, Italy	Postdoctoral Researcher  SISSA  Theoretical Particle Physics Website
2016–2019 Lausanne, Switzerland	Postdoctoral Researcher  EPFL  Theoretical Particle Physics Laboratory Website
2014–2016 Davis, CA, USA	Postdoctoral Researcher  UC Davis  QMAP Website
2012–2014 Odense, Denmark	Postdoctoral Researcher  University of Southern Denmark  CP3-Origins Website

EDUCATION

2008–2012 Zurich, Switzerland	Ph.D. in Theoretical Physics  University of Zurich Website
2003–2008 Lausanne, Switzerland	M.Sc. in Physics  EPFL Website
2005 London, UK	Erasmus Exchange Year, Physics  Imperial College Website

SKILLS

 Code Python C++ C# / .NET	 Software engineering Linux systems DevOps Cluster computing	 Scientific computing Polars dataframes Optimization Computer algebra	 Machine learning JAX PyTorch scikit-learn	 Physics Quantum field theory Particle physics Complex networks	 Electrical engineering Power grids
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LANGUAGES

 Spoken languages
French Native speaker
English Fluent
German Fluent
Italian Intermediate
Danish Basic

2026

Anomaly Detection with Machine Learning Algorithms in Large-Scale Power Grids
Marc Gillioz, Guillaume Dubuis, Étienne Voutaz, and Philippe Jacquod
arXiv preprint Feb 2026
[arXiv](#)

2025

The momentum-space conformal bootstrap in 2d
Marc Gillioz
arXiv preprint Feb 2025
[arXiv](#) [Code](#)

A large synthetic dataset for machine learning applications in power transmission grids
Marc Gillioz, Guillaume Dubuis, and Philippe Jacquod
Nature Scientific Data Jan 2025
[DOI](#) [arXiv](#) [Code](#)

2023

Conformal field theory for particle physicists
Marc Gillioz
Springer 2023
[DOI](#) [arXiv](#)

2022

Spinors and conformal correlators
Marc Gillioz
JHEP 2022
[DOI](#) [arXiv](#) [Code](#)

2021

From Schwinger to Wightman: all conformal 3-point functions in momentum space
Marc Gillioz
arXiv preprint Sep 2021
[arXiv](#)

Conformal partial waves in momentum space
Marc Gillioz
SciPost Phys. 2021
[DOI](#) [arXiv](#)

2020

A scattering amplitude in Conformal Field Theory
Marc Gillioz, Marco Meineri, and Joao Penedones
JHEP 2020
[DOI](#) [arXiv](#)

Convergent Momentum-Space OPE and Bootstrap Equations in Conformal Field Theory
Marc Gillioz, Xiaochuan Lu, Markus A. Luty, and Guram Mikaberidze
JHEP 2020
[DOI](#) [arXiv](#)

Conformal 3-point functions and the Lorentzian OPE in momentum space
Marc Gillioz
Commun. Math. Phys. 2020
[DOI](#) [arXiv](#)

2018

Momentum-space conformal blocks on the light cone
Marc Gillioz
JHEP 2018
[DOI](#) [arXiv](#)

Graviton Scattering and a Sum Rule for the c Anomaly in 4D CFT
Marc Gillioz, Xiaochuan Lu, and Markus A. Luty
JHEP 2018
[DOI](#) [arXiv](#)

2017

Scale Anomalies, States, and Rates in Conformal Field Theory
Marc Gillioz, Xiaochuan Lu, and Markus A. Luty
JHEP 2017
[DOI](#) [arXiv](#)

2016

Local renormalization of supersymmetric Yang-Mills theories

Marc Gillioz

Phys. Rev. D 2016

[DOI](#) [arXiv](#)

2015

Constraining new colored matter from the ratio of 3 to 2 jets cross sections at the LHC

Diego Becciolini, Marc Gillioz, Marco Nardecchia, Francesco Sannino, and Michael Spannowsky

Phys. Rev. D 2015

[DOI](#) [arXiv](#)

2014

Vector-like Bottom Quarks in Composite Higgs Models

Marc Gillioz, Ramona Gröber, Andreas Kapuvári, and Margarete Mühleitner

JHEP 2014

[DOI](#) [arXiv](#)

2013

a New Conformal Window Bound from the a theorem

Oleg Antipin, Marc Gillioz, and Francesco Sannino

arXiv preprint Mar 2013

[arXiv](#)

Standard Model Vacuum Stability and Weyl Consistency Conditions

Oleg Antipin, Marc Gillioz, Jens Krog, Esben Mølgaard, and Francesco Sannino

JHEP 2013

[DOI](#) [arXiv](#)

The a theorem for gauge-Yukawa theories beyond Banks-Zaks fixed point

Oleg Antipin, Marc Gillioz, Esben Mølgaard, and Francesco Sannino

Phys. Rev. D 2013

[DOI](#) [arXiv](#)

2012

Higgs Low-Energy Theorem (and its corrections) in Composite Models

M. Gillioz, R. Grober, C. Grojean, M. Mühleitner, and E. Salvioni

JHEP 2012

[DOI](#) [arXiv](#)

Perturbative and nonperturbative aspects of the phenomenology of composite Higgs models

Marc Gillioz

Zurich U. 2012

[DOI](#)

Dangerous Skyrmions in Little Higgs Models

Marc Gillioz

JHEP 2012

[DOI](#) [arXiv](#)

2011

Classical skyrmions in $SU(N)/SO(N)$ cosets

Marc Gillioz

JHEP 2011

[DOI](#) [arXiv](#)

The Little Skyrmion: New Dark Matter for Little Higgs Models

Marc Gillioz, Andreas Manteuffel, Pedro Schwaller, and Daniel Wyler

JHEP 2011

[DOI](#) [arXiv](#)

2009

A Light composite Higgs boson facing electroweak precision tests

Marc Gillioz

Phys. Rev. D 2009

[DOI](#) [arXiv](#)