

Sylvain Vanneste

CURRICULUM VITAE

Contact and details



Birth Belgium
Mail ➤ sylvain.vanneste@gmail.com
Whatsapp 0032 475 73 25 53
Skype darkynder

Communication skills



French	English	Arabic
Native	Fluent	Beginner

Education



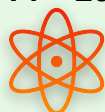
2016 – 2019 **Cosmology Physics**
Doctor - PhD
*Laboratoire de l'Accélérateur
Linéaire d'Orsay (LAL),
France*



References

- Matthieu Tristram
- Sophie Henrot-Versillé
- Thibaut Louis
- François Couchot

2014 – 2016 **Particles & Cosmology**
Physics master diploma
*Université Catholique de
Louvain (UCL), Belgium*



Degree

Great distinction
Promotion Saluatorian

References

- Jean-Marc Gerard
- Jan Govaerts
- Christophe Ringeval
- Fabio Maltoni

2011 – 2014 **Engineering**
Bachelor diploma
*Université Catholique de
Louvain (UCL), Belgium*



Work experience



**Volunteer
tutoring**
2020

➤ *zupdeco.org*
Sciences and mathematics
online volunteer tutoring
during Covid19 pandemic.

**Cosmology
physics PhD
Thesis**
2016 - 2019

*Laboratoire de l'Accélérateur
Linéaire d'Orsay - LAL*
(see next page)

**University
tutoring**
2016 - 2019

Paris-Saclay University
• 76h : C/C++ computing
• 46h : Continuum mechanics

**Publisher,
moderator,
video editor**
2014 - 2017

➤ *mrmondialisation.org*
➤ *facebook/M.Mondialisation*
Think tank ecohumanistic.
Encourage debate and
generate ideas freely from
facts, videos, images.

**Ecological
volunteer**
2015 – 2016

KAP Oasis LLN, Belgium
Volunteering for ecological,
social, and voluntary
simplicity lifestyle projects.

**Work-camp
project
Leader**
**2009, 2011,
2014, 2015**

➤ *compagnonsbattisseurs.be*
Supervising groups of
volunteers in work-camps
(Spain, Belgium, Germany,
Italy)

**Field hockey
coach**
2015 – 2016

➤ *LLN Hockey Club*
Training & coaching little
fellows and older ones.

PhD - Cosmology Physic



Title B-modes measurements in the Cosmic Microwave Background

Supervisors ➤ Matthieu Tristram
➤ Sophie Henrot-Versillé

Access ➤ tel.archives-ouvertes.fr/tel-02426412#

We develop analysis pipeline and numerical tools to study the Cosmic Microwave Background (CMB) large angular scale polarisation data in order to measure the tensor-to-scalar inflationary parameter r and reionisation depth τ . The algorithms allow to clean the data from galactic foregrounds contaminations and to optimally estimate the power spectra. Application of our methods on the *Planck* satellite public data provides consistent and more robust results than other studies. In particular, these methods could be applied to upcoming experiments such as the *LiteBIRD* satellite.

Publications :

- | | |
|-------------|---|
| 2018 | Quadratic estimator for CMB cross-correlation (Phys. Rev. D 98, 103526) |
| 2018 | Comparison of results on N_{eff} from various Planck likelihoods (arXiv: 1807.05003) |
| 2019 | Consistency of CMB experiments beyond cosmic variance (Phys. Rev. D 100, 023518) |
| 2018 | Thermal architecture for the QUBIC cryogenic receiver (arXiv:1811.02296) |
| * | One publication refereed for MNRAS |

Master Thesis Particle Physics



Title Higgs self coupling and mass models prediction

Supervisors ➤ Jean-Marc Gerard

Access ➤ <https://tinyurl.com/y3sv4jut>

We review and extend models that constrain separately the Higgs mass, its trilinear self-couplings, as well as its quartic self-couplings. The frameworks are SuperSymmetric models, a superconnection model, a top quark induced model, and a couplings reduction model.

Programming & Software



Good level Python, C/C++, Matlab, LaTeX

Intermediate Bash, Shell, Mathematica, Java, Oz, VHDL, Geant4, Robotran, AppleScript, Brainfuck, Photoshop, AfterEffect.

Main education subjects



- Numerical computing, algorithms, methods, simulations,
- Cosmology, statistics, relativity, neutrinos, astroparticles, nuclear physics,
- Quantum mechanics, quantum fields theory, elementary particles, particle physics,
- Mathematical physics, group theory, symmetries,
- Experimental methods, data acquisitions,
- Mechanical engineering, fluids, thermodynamics, chemistry.

About me



I am highly interested in and fascinated by fundamental sciences, especially by physics. Driven by curiosity, my goal is always to understand the subject as a whole.

I also keep interests in a wide range of other topics. Biology, riddles & puzzles, arts, climatology, dances, ecology, psychology, Autechre, didgeridoo, piano, philosophy, IDM & psytrance musics, spirituality, climbing, water sports, Feynman, space engineering, yoga, computing sciences, camper-van, video montage, ytp, Kurzgesagt, poï, woofing, and getting schwifty, are some of them.

I am strongly convinced that knowledge diversity, free times, and fostering of creativity, are keys solutions for an improved future.

I believe that learning and exploring is just as important as teaching and passing on knowledge to others. That is why I am myself seeking to teach.