

# Marc Joiret | Curriculum Vitae

1, Avenue de l'Hôpital | B34(+5)CHU - GIGA-R in silico medicine  
Biomechanics Research Unit | 4000 Liège, Belgium

📞 (+32) 0476 73 93 24 • ✉ marc.joiret@uliege.be • 📅 birthdate : July 6th,1967

## Education

<b>Université de Liège, ULiège, Faculté des Sciences Appliquées</b> <i>Doctoral school   Biomechanics Dept. PhD ongoing</i>	<b>Liège, Belgium</b> 2018 – 2022
<b>Interuniversity Institute for Biostatistics and Bioinformatics</b> <i>Master of Biostatistics, English taught Program</i> <i>Magna cum Laude (2<sup>nd</sup> Master: Great Distinction, 1<sup>st</sup> Master: Distinction)</i>	<b>Hasselt, Belgium</b> 2015–2017
<b>Université de Liège, ULG</b> <i>Master of Science in Physics, specialized in Theoretical Physics</i> Great Distinction	<b>Liège, Belgium</b> 2002–2004
<b>Université de Liège, ULG</b> <i>Bachelor of Science in Physics</i>	<b>Liège, Belgium</b> 1996–1998
<b>Faculté universitaire des Sciences agronomiques, FUSAGx</b> <i>ir. Bioengineer, Dipl. Engineer in Chemistry and AgroBio-Tech</i> Great Distinction	<b>Gembloux, Belgium</b> 1987–1990
<b>Faculté universitaire des Sciences agronomiques, FUSAGx</b> <i>Bachelor of Science in Agronomy</i> Distinction	<b>Gembloux, Belgium</b> 1985–1987
<b>Faculté polytechnique de Mons, FPMS</b> <i>Entrance Admission test to Civil Engineering</i> 4th out of 260 candidates	<b>Mons, Belgium</b> July 1985

## Masters Thesis

**Title:** *M. Sc. Biostatistics, specialization Bioinformatics. Thesis : The impact of correlated genetic markers on large-scale DNA-based gene-gene interaction studies, 2017.*

**Supervisors:** Prof. Kristel Van Steen (KUL & ULG) & Prof. Ziv Shkedy (UHasselt).

**Description:** Genome-wide association simulation study of a pair of interacting functional variants associated to human complex diseases taking into account linkage disequilibrium as confounding. The Master thesis took place at GIGA-R (BIO3 research team, Liège).

**Title:** *M. Sc. Phys. Thesis : The speed of gravity in General Relativity, 2004.*

**Supervisors:** Prof. Jean Surdej & Yves De Rop & Jean-René Cudell & André Burnel.

**Description:** My M. Sc. Phys. thesis was in Relativistic Gravitation and dealt with the gravitomagnetic effects of matter currents on the time delay of electromagnetic signals.

**Title:** *Bio-engineer Thesis : Modeling and Production of Poly- $\beta$ -hydroxybutyric Acid (PHB) by *Alcaligenes eutrophus* in a pilot fermentor, 1990.*

**Supervisors:** Prof. Philippe Thonnart & Raphaëlle Rikir & Eric de Buyl.

**Description:** My Bio-engineer thesis took place at the Solvay Research Center in Neder-over-Heembeek and aimed at developing indirect (software) sensors for a microbiological process monitoring. PHB was used as source of enantiomerically pure monomers used in pharmacology as a cardiogenic substance when esterified to the arginin amino acid.

## Work Experience

---

### **Liège University | GIGA-R in silico medicine**

*PhD student*

**Liège, Belgium**

*2018–Present*

Researcher & Biostatistician | bioinformatician on the FNRS-FWO EOS funded program on Osteoarthritis.

Prof. Liesbet Geris is my PhD supervisor.

### **AQUATION s.a.**

*Managing Director*

**Liège, Belgium**

*2007–2017*

I founded AQUATION s.a. and settled on my own as an independent consultant specialised in life science engineering and modeling for health, agro-industry, environment, water treatment. My strength lies in providing new knowledge-based services to public or private owned companies in the bio-economy market model.

Detailed achievements:

- Statistical experimental design for the measurement of the effect on bitterness of water sulfate/chloride ratio in the brewing of trappist beers by a panel of rating judges
- Water treatment engineering projects for general contractors and public tenders in Belgium and abroad (Vietnam, Tunisia, Indonesia, Algeria, Sri Lanka)
- Water Demineralisation engineering projects for the industry
- Water Thermal Desalination research projects for the industry
- Anaerobic water treatment process engineering projects for the industry
- Auditing for water source treatment in the the brewing industry
- External reviewer for the European Commission to rank applicants calling for FP7 funding under water or circular economy thematic

### **BALTEAU s.a., CMI group**

*R&D Manager and Senior Project Engineer*

**Sprimont, Belgium**

*1999–2007*

Research program coordinator, in charge of public fund raising and senior project engineer.

Detailed achievements:

- Research program project leader on membrane bioreactor technology for waste water treatment : process modelling, pilot tests on membrane ultrafiltration modules
- Waste water treatment plant design, engineering, construction follow-up and plant starting-up. Budget in charge in the range 0.3 to 6 millions euros

### **WATCO s.a., Tractebel group**

*Project Engineer and business development*

**Welkenraedt, Liège, Brussel, Belgium**

*1992–1999*

Project Engineer and business unit leader in Landfill Engineering and Biogas to Energy Sector.

Detailed achievements:

- New Landfill site project set up near Warsaw (Tractebel, Poland)
- Design, permitting procedures, environmental impacts follow-up of landfill extension projects in Wallonia and Flanders
- Design, call for tender, execution follow-up of a complete biogas collection and valorisation unit (gas collecting pits, piping network, blowers, gas analysers, high temperature flare and 1.8 MW gas engines) at the Engis landfill site. Budget in charge : 3.5 millions euros.

### **Morgan Guaranty Trust Company of New York**

*Analyst Programmer, IT Dept.*

**Brussel, Belgium**

*1992–1992*

Database queries programming on the Eurobonds clearing organization (EUROCLEAR) for the Information Management.

Detailed achievements:

- IBM 3090 Mainframe application programming (RDBMS, SQL, DB2 and PL1)
- Team work in an English speaking environment for 7 months.

## Computer and software skills

---

**Intermediate:** HTML5, CSS, JavaScript,  $\LaTeX$ , Microsoft Windows, Mathematica

**Advanced:** UNIX/Linux scripts, R language, Matlab, Python, C++, DBMS MS Access, SQL, Excel, Visual Basic, FORTRAN, PASCAL, SAS Statistical Analysis (SAS Certified Base Programmer), OpenBUGS and JAGS (Bayesian methods), PLINK, simuPOP, MB-MDR (GWAS), Ingenuity Pathway Analysis, Netlogo

**Artificial Intelligence, machine learning and data mining:** Unsupervised and supervised machine learning, PCA, CART, Clustering, LASSO, Elastic net, SVM, Agent Based Modeling, Cellular Automaton, Genetic Algorithms, Network Science

## Communication and Pedagogical Skills

---

**2007–2017:** Invited lecturer for water treatment and environmental sciences at the Polygone de l'Eau, Verviers & Mons, 18 ECTS credits per year.

**2017:** Invited lecturer for Energy course at HEC ULG Liege in the Master in Environmental Management, 3 ECTS credits per year.

## Languages

---

**French:** Mothertongue

**English:** Advanced Level

*Level 4 | CEFR C1 | TOEFL 550*

**German:** Basic

*Zertificat Deutsch als Fremdsprache, Goethe-Institut*

**Dutch:** Basic

## Interests

---

- Reading | Learning | Writing
- Epistemology
- Hiking
- Chess
- Swimming
- Yachting and Sailing