





Frédéric Moser

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Career objective

To work for an innovative, environmentally conscious organizations and contributing to its success by providing my scientific and technical skills.

Work experience

Research assistant 03/2014 – 06/2014

University of Geneva Geneva

Application development and data processing for the biodiversity part of the ACQWA project¹ in Valais, Switzerland. Intensive use of R, Shiny (R), Caret (R), awk, SQLite and Grass GIS.

- ★ Text file processing (240 GB), creation and optimization of a relational database;
- ★ Spatial vector and raster processing. Creation of a spatial database with multiple environmental predictors;
- ★ Calculation of 40 hourly and monthly hydrologic indices for 25'000 segments of river, for 60 years;
- ★ Development of an interactive web application² to create, fit, analyse and share a potentially large ensemble of predictive models and predictions;
- ★ Creating a robust custom queue system to distribute any number of tasks on a remote calculation server, allowing real time concurrent access to the application and high performance parallel computing.

Research assistant 08/2013–12/2013

University of Geneva Geneva

Scripts and functions development in R, contribution to the introductory course of geomatics.

- ★ Development of a set of functions and scripts³ to automate statistical predictions of discharge for multiple hydrological stations, from simulated rainfall and glacial mass balance data for the 1951 to 2050 period;
- ★ Adding functions, optimization works for a web application⁴ made during my Master thesis to spatially explore a set of species distribution predictive models;
- ★ Conversion of a set of ArcGIS workshops to an open source GIS solution.

Education

Master of Environmental Sciences 2010–2013

University of Geneva Genève

Thesis : *Impact of climatic changes on alpine biodiversity: species distribution modelling for aquatic insect in Rhone watershed in Valais.*

Direction : D^r E. Castella & Prof. D^r A. Lehmann.

Bachelor of Arts in Geography 2007–2010

University of Geneva Genève

Thesis : *Shared space concept as a solution to reconsider street design at a human scale*

Direction : D^r B. Levy.

Computer skills

Indicative assessment⁵ :

GIS

..... Grass GIS
..... ArcGIS
..... QGIS

Databases

..... SQLite
..... Spatialite
..... PostGIS

Scripting

..... R
..... L^AT_EX
..... HTML
..... JavaScript
..... Shell scripts
..... CSS
..... Python

Libraries

..... Shiny (R)
..... Caret (R)
..... Leaflet (js)
..... GDAL

OS

..... OS X
..... Ubuntu server
..... Windows

CAD

..... Shark FX
..... Autocad

Others

..... Stella
..... SPSS
..... git

Languages

- ★ **Français** : langue maternelle ;
- ★ **English** : Proficient in technical english ;
- ★ **Deutsch** : Basiswissen.

¹ACQWA (*Assessing Climate Impacts on the Quantity and quality of WAter*). <http://www.acqwa.ch/>

²lebamod (*Laboratoire d'écologie aquatique: modélisation de distribution d'espèces*). <http://sdm.unige.ch/>

³smodiv (*Stat. pred. modeling of discharge in Valais*).

⁴hexdim (*Hexagonal grid distribution map*). <http://sdm.unige.ch>

⁵Scale: = basic, = advanced

Previous education

Diploma of watchmaker (rhabilleur) 2000–2001
School of watchmaking *Petit-Lancy*
Award : Fondation Hans-Wilsdorf prize

Diploma of watchmaker 1997–2000
Patek Philippe & School of watchmaking *Plan-les-Ouates*

Other work experiences

Computer technician 09/2009–02/2014
MacWorks SàRL (20-50%) *Geneva*
Computer and smartphone repair; data recovery.

Watchmaker 01/2008–04/2010
Andersen Genève SA (10-80%) *Geneva*
Watch complications designer.

Bicycle messenger 12/2005–11/2008
dvdmania.ch (10-20%) *Geneva*
Express delivery.

Watchmaker 11/2001–09/2006
Self-employed (80-100%) *Geneva*
Design of mechanical parts, unique watches manufacturing and repairing.

Service civil 06/2006–07/2006
Genève Roule *Geneva*

Database development on FileMaker 9.0 : payroll management for external employees; Customer reception and staff management.

Service civil 05/2005–08/2005
Institut d'architecture et d'urbanisme de l'Université de Genève *Carouge*

Archiving historic plans and slides in an image bank; Development of an interactive tutorial to assist digitizing process.

Bicycle messenger 01/2002–12/2003
Krick Cyclomessagerie (40%) *Geneva*
Express delivery.

Extracurricular activities

Secretary 04/2005–06/2012
Association Roue Libre *Geneva*

Committee member from 2005 to 2012. Secretary from 2006 to 2009.

Various activities within an association of bicycle couriers and urban cyclists: staff manager of the swiss bicycle messenger championship 2005 (staff = 100+); software/hardware development for bike races timing; administration of www.rouelibre.org; in charge of various communications projects.