

Registration Form

Applied Programming Course

Hydrogeology, Environmental Geology, GIS
2020

Halle (Saale), Germany

November 21 - 22 & 28 - 29, 2020

Deadline for registration October 15, 2020

Complete the following form:

Name: _____

Title: _____

Organization: _____

Address: (at your option) any later version. _____

City: _____ State: _____

Zip: _____

Country: _____

Phone: _____ Fax: _____

E-mail: _____

Fees for external participants on request

Fax or Mail to:

Prof. Dr. Wolfgang Gossel

Martin Luther University

Halle-Wittenberg

Tel: 0049 345 55 26 136

Fax: 0049 345 55 27 220

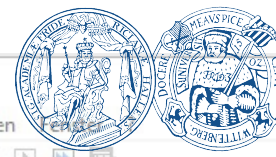
E-Mail: wolfgang.gossel@geo.uni-halle.de

Prof. Dr. Wolfgang Gossel

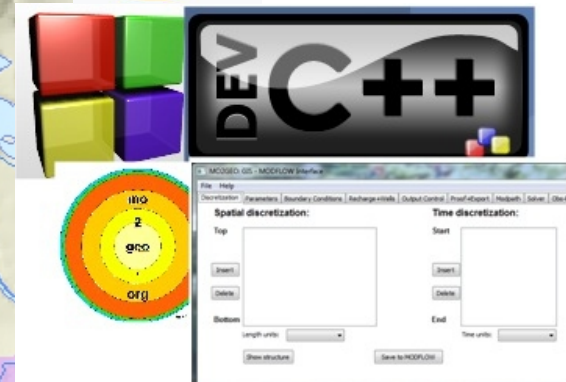
Department of Applied Geology

v.-Seckendorff-Platz 3

D-06120 Halle/Saale, Germany



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Martin Luther University
Halle-Wittenberg
Institute for Geosciences and Geography
Department of Applied Geology

Course Description

Computer programs become more and more dominant in sciences because of their modeling and simulation capabilities. In general ready-to-use software is applied to scientific questions. In rare cases scientific software tools don't match the task to be carried out and at this point a new tool has to be programmed according to specific needs. For the connection of OpenSource GIS and numerical modelling tools interfaces with parameter distributions and boundary conditions have to be developed. Python is a complex universe ready for solution of many problems in this field.

Course Objectives

- Learning introductory Python
- Object oriented programming approaches
- Efficient algorithms
- Set up graphical user interfaces.
- Reading and writing data/data exchange.
- Learning from OpenSource Software
- Inserting new features to OpenSource GIS

Applied Topics

- QGIS and Python programming
- Variogram calculation
- Kriging interpolation
- Special features of 3d variogrammetry

Course Lectures and Labs

Saturday Nov. 21, 2020

Introduction: Programming basics
Python syntax
IDEs and different operating systems

GUI programming

Vector data exchange

Sunday Nov. 22, 2020

Variogram programming
Using visualization libraries

Application: Variogram visualization

Saturday Nov. 28, 2020

NumPy, SciPy & Co.

Kriging interpolation based on variogram

Data exchange with raster data files in OpenSource GIS

Sunday Nov. 29, 2020

3d in Python and GIS: Cross sections
3d visualization

Our PC Labs

2 Labs with >10 multicore CPU PC
Operating system:
MS Windows 10 (R) and Ubuntu Linux

Venue: V.-Seckendorff-Platz 4
06120 Halle
Third floor

Fees and further information on request

Course Instructors

apl. Prof. Wolfgang Gossel and Dipl. Geol. Lars Schimpf
Martin Luther University Halle

Prof. Dr. Wolfgang Gossel is specialist in groundwater modelling and GIS-applications

1992 - 2000 Senior geologist at WASY Ltd.
2000 - 2002 Hydrogeologist at BGR
since 2002 Senior Research Scientist in
Hydrogeology MLU

Location

Halle (Saale), Germany
Faculty Nat. Sciences III
Institute of Geosciences and Geography
von-Seckendorff-Platz 3

