

# GuidosToolbox seminar/workshop information sheet

Please find below a generic summary for a full-day workshop on GuidosToolbox with further technical requirements on the second page of this document.

**Workshop Title:** GuidosToolbox: Digital Image Analysis of Pattern, Connectivity, Fragmentation, and more

**Instructor:** Peter Vogt, European Commission, Joint Research Centre, Institute for Environment and Sustainability, Forest Resources and Climate Unit

**Date and Time:** to be determined, 09:00 to 18:00

**Objectives:** Processing of satellite data including analysis of pattern, connectivity, fragmentation; use of gdal-libraries for pre-/post-processing; producing GoogleEarth image overlays.

**Target audience:** People interested in generic image object analysis, specifically on pattern, connectivity, fragmentation, distance and change analysis.

**Course Summary:** The GuidosToolbox software includes a wide variety of generic image processing tools for the analysis of raster images. Morphological Spatial Pattern Analysis (MSPA) classifies the shape and connectivity of image objects, which can then be transformed into a network setup for further examination with graph-theory software (i.e. Conefor). Further routines are available for the quantitative assessment of fragmentation; analysis of change, cost, shape, restoration, distance, Influence Zones, and landscape composition. This course will use sample data of forest maps to illustrate the use and benefit of these routines. Additional tools within GuidosToolbox address generic image analysis and batch processing, which can be employed for a wide variety of pre- and post-processing tasks, as well as data publishing in GoogleEarth.

## **Course outline:**

Part 1 (3 hours):

Motivation for new ways of image object analysis: pattern, connectivity, fragmentation and more. GuidosToolbox: program features and application examples

Part 2 (5 hours):

Hands-on training using sample datasets:

- a) Data preparation for image pattern analysis
- b) MSPA, connectivity, fragmentation, distance and change analysis
- c) Import/export to ArcGIS/QGIS, export to GoogleEarth overlays
- d) Help with user data, discussion and suggestions

### **Remarks to the organizer:**

The proposed training course was given at a variety of locations in the past years. The free course is designed as 1-2 day workshop but it can be shortened and/or adapted to the organizer's needs. The course is provided in the following two options:

- a) **Seminar:** illustration, motivation, program features, and application examples of the image analysis methodologies available in the GuidosToolbox software collection.  
Duration (part 1 above): 0.5 to 3 hours
  
- b) **Workshop:** hands-on training using sample datasets (part 2 above).  
Duration (part 1+2 above): 8 hours to 2-day course  
Duration (part 2 alone): 2 to 8 hours

Workshop attendance certificates will be issued and can be customized with the organizer before a workshop. Further information on previous and planned future courses are available at:

<http://forest.jrc.ec.europa.eu/download/software/guidos/workshops/>

The GuidosToolbox software and the workshop material are freely available. A customized version of the workshop material (adapted to the organizer's requirements if needed) will be provided to the course participants two weeks before the course. Installing the software requires a laptop with 4GB RAM and 10 GB free disk space. If necessary, installation help will be provided. Course participants should bring their own laptop with GuidosToolbox and the workshop material already installed. Having such a laptop is highly recommended but not mandatory to participate in this course.

### **Technical requirements at the location:**

- Meeting room with power supplies and Internet access for up to 30 participants
- Projector (ideally with HDMI port) to which I can connect my own laptop
- No computing hardware (participants and myself will bring their own laptop)
- **Free course: no charges from my side**

Please contact me for any further questions regarding a GuidosToolbox seminar or workshop:

[Peter.Vogt@ec.europa.eu](mailto:Peter.Vogt@ec.europa.eu)

Tel: +39 0332 785002