David L Nieland

Subject: INTRODUCTION TO PYTHON FOR BIOLOGISTS - DATA HANDLING/MANAGEMENT

 "Introduction to Python for biologists"

http://prstatistics.com/course/introduction-to-python-for-biologists-ipyb/

This course is being delivered by Dr Martin Jones, an expert in Python and author of two text books,

Python for Biologists [http://www.amazon.com/Python-Biologists-complete-programming-beginners/dp/1492346136/]

Advanced Python for Biologists [http://www.amazon.com/Advanced-Python-Biologists-Martin-Jones/dp/1495244377/].

This course will run from 23rd - 27th May 2016 at SCENE (the Scottish Centre for Ecology and the Natural Environment), Loch Lomond National Park, Glasgow.

Python is a dynamic, readable language that is a popular platform for all types of bioinformatics work, from simple one-off scripts to large, complex software projects. This workshop is aimed at complete beginners and assumes no prior programming experience. It gives an overview of the language with an emphasis on practical problem-solving, using examples and exercises drawn from various aspects of bioinformatics work. After completing the workshop, students should be in a position to (1) apply the skills they have learned to tackle problems in their own research and (2) continue their Python education in a self-directed way.
Intended audience:

This workshop is aimed at all researchers and technical workers with a background in biology who want to learn programming. The syllabus has been planned with complete beginners in mind; people with previous programming experience are welcome to attend as a refresher but may find the pace a bit slow.

The workshop is delivered over ten half-day sessions (see the detailed curriculum below). Each session consists of roughly a one hour lecture followed by two hours of practical exercises, with breaks at the organizer's discretion. There will also be plenty of time for students to discuss their own problems and data.

Students should have enough biological background to appreciate the examples and exercise problems (i.e. they should know about DNA and protein sequences, what translation is, and what introns and exons are). No previous programming experience or computer skills (beyond the ability to use a text editor) are necessary, but you'll need to have a laptop with Python installed.

Curriculum:

Day 1:
Module 1 - Introduction
Module 2 - Output and text manipulation

Day 2:
Module 3 - File IO and user interfaces
Module 4 - Flow control 1: loops

Day 3:
Module 5 - Flow control 2: conditionals
Module 6 - Organizing and structuring code

Day 4:
Module 7 – Regular expressions
Module 8 - Dictionaries

Day 5:
Module 9 – Interaction with the file system

Module 10 - Optional free afternoon to cover previous modules and discuss data

The cost is £500 including lunches and course materials. An all-inclusive option is also available at £710; this includes breakfast, lunch, dinner, refreshments, accommodation and course materials. Participants will need a laptop with a recent version of Python installed.

Please send inquiries to oliverhooker@prstatistics.co.uk or visit the website www.prstatistics.com

Please feel free to distribute this information anywhere you think suitable

Upcoming courses - email for details oliverhooker@prstatistics.com SPATIAL ANALYSIS OF ECOLOGIC AL DATA USING R (April) ADVACNING IN STATISTICAL MODELLING USING R (May) TIMES SERIES DATA ANALYSIS FOR ECOLOGISTS AND CLIMATOLOGISTS (May) ADVANCES IN SPATIAL ANALYSIS OF MULTIVARIATE ECOLOGICAL DATA: THEORY AND PRACTICE (July) ADVANCES IN DNA TAXONOMY USING R (August) GENETIC DATA ANALYSIS USING R (August) INTRODUCTION TO BAYESIAN HIERARCHICAL MODELLING (August) MODEL BASED MULTIVARIATE ANALYSIS OF ECOLOGICAL DATA USING R (October) LANDSCAPE (POPULATION) GENETIC DATA ANALYSIS USING R (October) APPLIED BAYESIAN MODELLING FOR ECOLOGISTS AND EPIDEMIOLOGISTS (October)

Dates still to be confirmed - email for details oliverhooker@prstatistics.com STABLE ISOTOPE MIXING MODELS USING SIAR, SIBER AND MIXSIAR USING R INTRODUCTION TO R AND STATISTICS FOR BIOLOGISTS PHYLOGENETIC DATA ANALYSIS USING R BIOINFORMATICS FOR GENETICISTS AND BIOLOGISTS

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