



# THE INSTITUTION OF ENGINEERS, MALAYSIA

Bangunan Ingenieur, Lots 60/62, Jalan 52/4, Peti Surat 223, 46720 Petaling Jaya, Selangor Darul Ehsan  
Tel: 03-79684001/2 Fax: 03-79577678 E-mail: sec@iem.org.my IEM Homepage: <http://www.myiem.org.my>

## TALK ON "INTRODUCTION TO PYTHON FOR SCIENTISTS AND ENGINEERS"

(Organised by Information and Communications Technology Special Interest Group, IEM)

Date : 4<sup>th</sup> June 2014 (Wednesday)  
Time : 5.30pm to 7.30pm (Refreshments will be served at 5.00pm)  
Venue : TUS and C&S Lecture Room, 2<sup>nd</sup> Floor, Wisma IEM, Petaling Jaya  
Speaker : Mr. Boey Pak Cheong

BEM Approved  
CPD/PDP HOURS: 2 hours  
Ref No: IEM14/HQ/204/T

### SYNOPSIS

Python is an easy to learn, excellent language that meets the modern-day computational needs of scientists, engineers and data analysts. It is seen as alternative to the traditional C, C++, FORTRAN as well as MATLAB, OCTAVE and other mathematical packages.

This talk introduces the core features of the language plus the essential third party Python libraries for scientific and engineering computing. It also focus on how to get started and think in Python. We begin with demonstrating how to use the highly interactive Python environment (IPython) to do rapid application development.

- Data types (numbers, strings, lists, dictionaries, etc)
- Language syntax and structure
- Reading and writing files
- Defining functions
- Modules
- Classes
- Exception handling

Next the libraries for scientific and engineering computing such NumPy, matplotlib, Pandas, and SciPy are introduced. NumPy is the foundation package for rapid manipulation and processing of large data sets using N-dimensional arrays. Matplotlib offers comprehensive 2D plotting while the SciPy ecosystem offers numerical integration, splines, optimization, solving systems of differential equations, etc.

One of the most attractive features of Python is its ability to seamlessly integrate with C, C++ and Fortran code. The variety of tools that have emerged to enable this is discussed.

### BIODATA OF SPEAKER

Boey Pak Cheong holds an honours degree in Chemical Technology from Universiti Malaya but became keenly interested and actively involved in computer programming from the late 1980s onwards. He has more than 20 years experience in software development using various programming languages (including Python, C, PHP, Javascript, HTML, CSS2, LaTeX) in the Windows and Linux operating systems, with more than 17 years experience in using the Python language in a production environment. Currently, he is the Principal Consultant with Pytech Resources specializing in Python and Django training and consultancy services, web applications and software development.

He has previously worked in technical and management positions with British Petroleum, ITT and Alcatel and also attended a senior management training program at the London Business School, UK.

He has conducted professional training courses in Python programming at the introductory, intermediate and advanced levels for several leading multinational companies in Malaysia, including Intel, SMART Modular Technologies and F-Secure, CSGI amongst others. He also conducts courses for the Django Web Development Framework, Linux and Tcl/Tk.

He created the software for a leading e-commerce website using Python that dynamically generates comprehensive pdf reports either in English or Chinese and continues active development of new products for this website as well as new ones. Other websites developed include a free classified ads website covering Asian countries using the Django web development framework launched early 2008.

### ANNOUNCEMENTS TO NOTE:

1. Talk is **STRICTLY** for IEM members only (pre-registration is **NOT** required).
2. Telephone and/or fax reservation will **NOT** be entertained.
3. Non members may also attend the talk and will be charged a registration fee of RM 50 and an administrative fee of RM 10.
4. For affiliate members, there will be no registration fee. However, they are requested to produce their membership card as proof of membership. For the list of affiliates, please refer to [www.myiem.org.my/content/memorandum\\_of\\_understanding-469.aspx](http://www.myiem.org.my/content/memorandum_of_understanding-469.aspx).
5. Limited seats are available on a "first come first served" basis (maximum 110 participants).
6. IEM members are required to produce your **membership cards** for confirmation of attendance (CPD purpose).
7. Latecomers will not be allowed to enter if the lecture hall is full nor be entitled to CPD.

**IEM members who fail to produce their membership cards will be charged a fee of RM20.00**

### FUNDS FOR IEM BUILDING FUND (WISMA IEM)

- Kindly be informed that IEM will be charging participants RM10.00 administrative fee for talks organized by IEM.
- The fee would be used for overhead costs, building maintenance expenses as well as to support the purchase of the new building.
- All contributions will be deeply appreciated by IEM
- Students are however exempted.

Your understanding is greatly appreciated.

### CPD HOURS CONFIRMATION

Name: .....

Membership No: .....

Signature: .....

Ir. Lee Mun Poh  
Chairman,  
Information and Communications Technology Special Interest Group, IEM