#### R Kullanarak Veri Analizi ve Forecasting Çalıştayı

IIF (International Institute of Forecasters ) tarafından desteklenen ve Cardiff Üniversitesinden Dr. Bahman Rostami-Tabar tarafından yürütülen bir proje kapsamında tamamen ücretsiz olan ve üç gün boyunca sürecek olan bir çalıştay yapılacaktır. Çalıştayın temel amacı, gelişmekte olan ekonomilerde forecasting'in öneminin vurgulanması; üniversite öğrencilerinin, akademisyenlerin ve profesyonellerin, R yazılımını kullanarak forecasting ilkelerini karar verme süreçlerinde göz önünde bulundurmalarını desteklemektir. Bu projenin nihai hedefi, 5 yıl içerisinde 20 ülkeden 400 birey yetiştirmektir. Ülkeler, Dünya Bankası verilerine göre oluşturulan düşük ve düşük-orta gelirli ülkeler arasından seçilmektedir.

Çalıştay İngilizce dilinde gerçekleştirilecektir. Çalıştaya ilişkin afişi ve çalıştay programını mail ekinde bulabilirsiniz.

Çalıştaya kayıt olmak için lütfen aşağıdaki aşağıdaki bağlantıyı kullanın.

Kayıt için:

 $\underline{https://www.eventbrite.co.uk/e/data-analytics-and-forecasting-using-r-tickets-53143658112}$ 

# Democratising Forecasting Initiative: A series of workshops on data analytics and forecasting using R in developing countries

#### What is the project about?

A series of workshops in developing economies to promote the importance of forecasting and 'train the trainers' in the form of university students, academics and professionals on the principles of forecasting using R software to support decision making. The workshops are designed for 3 days and are free of charge. The ultimate goal of this project is to train 400 individuals, over 5 years in 20 countries in the world. Countries are selected according to the World Bank Data with focus on countries with lower and lower-middle income.

The workshops are sponsored by <u>International Institute of Forecasters</u> and organised by Dr. Bahman Rostami-Tabar, <u>Cardiff University</u>, UK.

## Benefits to the participants and forecasting community

- 1. Transfer of knowledge and skills on "forecasting" which can be served to make better decisions that may have positive direct impact on their society;
- 2. Provide an up-to-date training in data analysis and forecasting using R;
- 3. Create a research network among target countries with a focus on analytics for social good;
- 4. Participants will receive a certificate delivered by IIF and Cardiff University.

#### What participants learn in the workshop?

Assuming basic knowledge of statistics and, participants will learn:

- The importance of forecasting and its relation to decision making in public organizations, private sector, governments, Health, Humanitarian Organizations, etc;
- How to prepare, manipulate and visualize data using R;
- The theory behind forecasting models;
- How to produce forecasts and evaluate their accuracy across a range of statistical forecasting models using real-world data;
- How to use R functions and their packages related to forecasting models;
- How to visualize, export and report results for interpretation and insights using RMarkdown.

### This workshop is for you if you:

- are academic, student and want to expand your knowledge on forecasting using R software;
- are practitioner and want to learn how to analyse, data and produce forecasts to inform decisions.

#### Prerequisites:

- Basic knowledge in statistics;
- No knowledge of forecasting is assumed;
- No prior knowledge of R is assumed.

#### Sponsored by:



# International Institute of Forecasters

#### **About the Instructor:**



Dr. Bahman Rostami-Tabar is an Assistant Professor of Management Science at Cardiff Business School, Cardiff University, UK. He holds a Ph.D. in Industrial

He holds a Ph.D. in Industrial engineering and his research addresses social impacts of forecasting and analytics and forecasting issues in supply chains.

Bahman Rostami-Tabar

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#### Guest speakers from organisations:









# Program

Start: 09:30 a.m.

End: 04:45 p.m.

#### Refreshment breaks:

• Morning: 11:15 - 11:30

Afternoon: 03:15 - 03:30 p.m.

**Lunch**: 01:00 p.m. - 02:00 p.m.

# **Topics**

# Priming: Webinar, 2 weeks before the workshop

#### Day 1

Essentials in R	
Reports with RMarkdown	
Data preparation	
Data manipulation	
Data visualisation	
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#### Day 2

Forecasting and decision making: Guest lectures	100	
Time series patterns		
Forecaster's toolbox: time series graphics, simple	fore	ecasting methods,
residual diagnostics, accuracy measurement	Contraction of the contraction o	

Day 3	
Exponential smoothing models	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
ARIMA models	
Regression	

#### Reference:

Forecasting: Principles and Practice (2018), Rob J Hyndman and George Athanasopoulos.

R for Data Science (2018), Garrett Grolemund and Hadley Wickham.