



ISI WSC 2019 Short Course Programme

COURSE TITLE :	SC5 - High-dimensional time series analysis
DURATION :	1 Day
DATE :	17 August 2019
VENUE :	Sasana Kijang
REGISTRATION FEES :	Developed Country MYR 1,140 (Approximately EUR 240) Developing Country / Student* MYR 710 (Approximately EUR 150) * For student, proof of enrolment is required

INSTRUCTOR 1

Prof. Rob J Hyndman

Monash University
Australia

Rob J Hyndman is Professor of Statistics in the Department of Econometrics and Business Statistics at Monash University, and Editor-in-Chief of the *International Journal of Forecasting*. Rob is the author of over 150 research papers and 5 books in statistical science. In 2007, he received the Moran medal from the Australian Academy of Science for his contributions to statistical research, especially in the area of statistical forecasting. He has won awards for his research, teaching, consulting and graduate supervision.

INSTRUCTOR 2

Ms. Earo Wang

Monash University
Australia

Earo Wang is a PhD candidate at Monash University, Australia, working on statistical visualization of temporal-context data. She is the author of many R packages including `tsibble`, `sugrrants`, `hts` and `rwalkr`

COURSE DESCRIPTION

It is becoming increasingly common for organizations to collect huge amounts of data over time, and existing time series analysis tools are not always suitable to handle the scale and type of data collected. In this workshop, we will look at some new methods that have been developed to handle the analysis of large collections of time series.

We will explore feature-based visualizations and interactive visualizations, in order to explore time series data in high dimensions. A similar feature-based approach can be used to identify anomalous time series within a collection of time series. Finally, we will discuss how fast automatic forecasting algorithms, along with sparse forecast reconciliation, can allow millions of time series to be forecast in a relatively short time

SYLLABUS

1. Tidy time series analysis using tsibbles.
2. Interactive visualization of high-dimensional time series.
3. A feature-based approach to time series analysis
4. Automatic forecasting algorithms
5. Optimal forecast reconciliation

TARGET AUDIENCE

Participants should be familiar with the use of R, at least to the point where they can fit a linear regression model, and work with data frames.

