

**Management Development Program**  
**On**  
**“Data Analytics for Developing Successful**  
**Stock Trading Strategies”**

**July 20-21, 2019**



**Program Directors:**

**Prof. Kakali Kanjilal**  
**Prof R K Arora**



**International Management Institute**  
**New Delhi 110 016**

## **ABOUT THE PROGRAM**

Data Analytics has become a key resource in operational and strategic activities of any firm. The traditional functions of business management have been going through major waves of transformations across industries to keep pace with the challenges faced by rapid innovation in global business scenario. In this backdrop, all leading organizations have been gaining competitive edge by utilizing data analytics tools to attain meaningful insights and drive business.

Stock markets are generally believed to be unpredictable. The 'Random Walk Hypothesis (RWH)' is a financial theory which states that stock prices move in a random fashion, and hence they are unpredictable. Critics of RWH, however, believe that the markets are predictable as the stock prices exhibit some trends over a period of time. The tests of validity of RWH have mainly relied on testing linear dependence between successive past stock prices. However, many researchers and market practitioners have shown that the non-linearity is found in volatility of stock returns. The non-linear dependence of stock-returns enables short term forecasting of such returns and development of trading strategies accordingly.

In the financial market literature, predictive analytical techniques like Holt-Winter, ARIMA-MSARIMA, ARMAX, ARCH-GARCH and Cointegration techniques are widely used to forecast the stock price movements in financial markets. Recently, machine learning techniques like Neural Networks among many others became highly popular due to its forecast accuracy. These techniques have extensive applications in the areas of finance and power trading.

## **OBJECTIVE OF THE PROGRAM**

This two-day workshop on "*Data Analytics for Developing Successful Stock Trading Strategies*" is designed keeping in mind the dare need of current industry requirements and emerging trends of this domain. The program is developed to impart 'hands-on' practical lessons on forecasting the future of stock markets using latest predictive analytical techniques and then develop the most appropriate strategies accordingly. This workshop is led by experienced faculty as well as industry practitioners. It is designed for industry professionals at any stage of their careers, with analytical bent of mind. The workshop is divided into three main modules: i) Descriptive ii) Predictive and iii) Prescriptive

## **CONTENTS**

- I. **Descriptive Analytics Module:** This module will impart lessons on how to prepare, summarize and present a structured and an unstructured data.
  - Data Preparation
  - Data Summary
  - Data Visualization

**II. Predictive Analytics Module:** This module is the practice of extracting and classifying information from existing datasets to determine patterns and predict future outcomes and trends. The module will focus on

- Holt-Winter
- ARIMA-MSARIMA, ARMAX,
- ARCH-GARCH
- Machine Learning: Artificial Neural Network, Logistic Regression, Random Forest
- Cointegration, Pair-Trading

**III. Prescriptive Analytics Module:** Prescriptive analytics can continually take in new data to re-predict and re-prescribe, thus automatically improving prediction accuracy and prescribing better decision options. This module will focus on

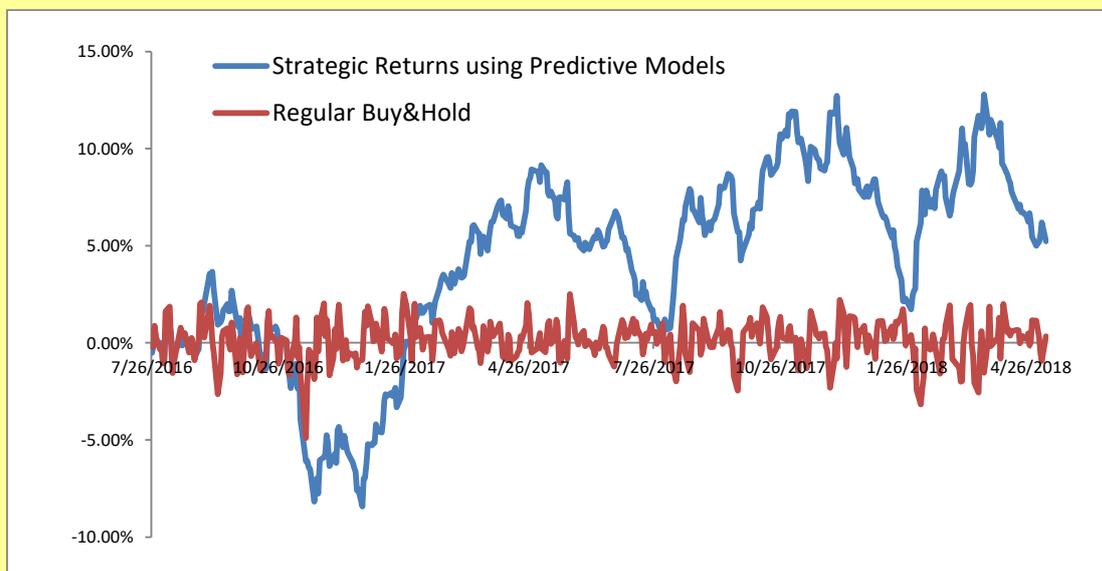
- Prediction Accuracy
- Simulation
- Scenario Analysis

### **SAMPLE RESULTS:**

The Table below presents the results of the application of predictive models on NSE-Nifty 50 over the period July 2017 to May 2018. These results pertain to 21 trades performed based on the predictions made by the models.

<b>Performance of Predictive Models on NSE-NIFTY50 from July'17 to May'18</b>	
Positive Trades (PT)	16
Negative Trades (NT)	5
Hit Ratio (PT/PT+NT)	76.2%
Positive Returns	20.9%
Negative returns	-4.3%
Net Return	16.6%
Average Returns	0.8%

The graph below presents the returns generated using a predictive analytical technique vis-à-vis the returns from a simple buy and hold strategy



## **PEDAGOGY**

The workshop will be a blend of interactive lectures, case discussions and computer lab sessions. Actual data from financial markets will be used to teach the application of analytical techniques using excel and statistical software E-views or R or Python. Participants are expected to bring their laptops to the class. The lab session will help the participants to demonstrate their learning by solving a business problem by applying the most appropriate techniques learnt in the workshop.

## **WHO SHOULD ATTEND**

Executives of Investment Consulting and Brokerage Firms, Mutual Fund Professionals, Relationship Managers, Trading Professionals in Power Trading Companies and Academicians.

## **FACULTY AND RESOURCE PERSONS**

IMI faculty members and eminent resource persons from corporate will share expertise and experience in the various sessions.

## **PROGRAM DIRECTORS**

### **Prof. Kakali Kanjilal, Professor, Operations and Quantitative Methods**

Dr. Kakali Kanjilal, M.Sc (Statistics) and Ph.D (Economics & Finance) is a Professor in the area of Operations and Quantitative Methods, at International Management Institute, New Delhi. She is an associate editor of Global Business Review (GBR), one of the top-rated management journals of Asia. She has almost two decades of industry, teaching and research experience in the domain of applied econometrics & time series models, debt market and credit risk management. She has published many research articles in several international refereed journals of reputed publication house. She has held many training programs in American Express (India) Pvt Ltd. in the area of customer management and authorizations services for the credit card verticals of the company. She can be reached at [kakali@imi.edu](mailto:kakali@imi.edu), 91-47194122 (O).

### **Prof. Ravinder Kumar Arora, Professor, Finance and Accounting**

Dr. Ravinder Kumar Arora, MBA and Ph.D in Finance, is a professor of Finance and Accounting at International Management Institute, New Delhi. He has been a member of the U.P. Stock Exchange, Kanpur for a number of years. He is also a fellow member of The Institute of Cost Accounts of India and The Institute of Company Secretaries of India. He has about three decades of industry, teaching and research experience in the areas of managerial accounting, corporate finance, investments and risk management. He has published a number of research papers in reputed journals and conducted training programs for many companies. He can be reached at [rkarora@imi.edu](mailto:rkarora@imi.edu).

## **ADMINISTRATIVE DETAILS**

### **Dates:**

**July 20-21, 2019**

**Venue:**

International Management Institute  
B-10, Qutub Institutional Area  
New Delhi 110016

**FEE**

**Non-residential** – Rs 18,000 per participant (plus GST @ 18%) covering professional fee, programme kit and tea/lunch.

**Residential** – Rs 25,000 per participant (plus GST @ 18%) covering professional fee, programme kit and boarding and lodging (air-conditioned single room) at IMI Campus, New Delhi from post-noon of **July 19, 2019** till noon of **July 22, 2019**.

**Group Discounts –**

- 10% discount on fee amount is available in case an organization nominates 2 or more participants to the program.
- 20% discount on fee amount is available in case an organization nominates 4 or more participants to the program.

Fee is payable in advance by way of local cheque/DD in favor of "International Management Institute" payable at New Delhi or through direct electronic fund transfer to IMI Bank Account, as per following details:

**Allahabad Bank Account Number:** 50084979288

**MICR Code:** 110010007

**IFSC Code:** ALLA0211083

**Pan No.:** AAAT10972K

**GST No.** AAAT10972KIZJ

*Please mention the program name while making payment through electronic fund transfer.*

**REGISTRATION**

The registration form duly filled in along with the program fee should reach us at least 7 days before the commencement date of the program. **In case of subsequent withdrawal or cancellation of registration no refund of fee will be allowed.** However, substitute(s) may be permitted with prior intimation.

**CERTIFICATE OF PARTICIPATION**

The Institute issues a certificate of participation on conclusion of the program.

**ABOUT IMI**

International Management Institute (IMI) is India's first corporate sponsored Business School founded in 1981 with the original campus in New Delhi. The corporate sponsors included RPG Enterprises (lead sponsor), ITC, Nestle, Tata Chemicals, British Oxygen, SAIL, and Williamson Magor. It was set up in collaboration with the then IMI Geneva, now IMD Lausanne. Subsequently two other campuses were set up in Kolkata (2010) and Bhubaneswar (2011). In the last several years, IMI New Delhi has been consistently ranked in the top 10-15 Business Schools in the country and among the top 5 private Business Schools. It is accredited by the UK based Association of MBAs (AMBA), one of the top three international accreditation bodies for Business Schools globally.

IMI New Delhi has global linkages with leading schools in Europe, North America, and Asia. The Institute currently offers the PGDM, PGDM-HRM, PGDM-Banking & Financial Services, Executive PGDM and FPM (doctoral program). In addition, it has built a vibrant Executive Education vertical offering training to management professionals from the corporate world. The Institute has been empaneled by the Government of India to train participants from developing countries under the International Technical & Economic Corporation (ITEC) program of the Ministry of External Affairs.

IMI New Delhi puts a strong focus on high quality research by its faculty leading to publications in international peer reviewed academic journals. Its faculty have PhDs from top international and national universities/institutes, with many of them also having significant corporate experience.

***For registration/any other information, please contact:***

**Dr. Ekta Saxena**

General Manager (MDP & Online Education)

**Mobile:** 9911941090

**International Management Institute**

**Address:** B-10, Qutab Institutional Area, Tara Crescent  
New Delhi 110016

**Phone:** (011) 4719 4172 (Direct)

**Fax:** (011) 46012730

**E-mail:** [ekta.saxena@imi.edu](mailto:ekta.saxena@imi.edu), [mdp@imi.edu](mailto:mdp@imi.edu)

**Website:** [www.imi.edu](http://www.imi.edu)