



**Ashish Nanda**  
Director

## Message

IIM Ahmedabad is India's premier management school, world renowned for its excellence in management research and education. FPM is IIMA's doctoral programme. It contributes to the Institute's mission by supporting the pursuit of cutting edge research in management.

FPM prepares qualified and capable scholars who will shape management thought in academic institutions and management organizations. We recruit highly motivated individuals with outstanding academic backgrounds to the programme. The doctoral programme provides participants exposure to a broad variety of research interests and faculty deeply engaged with industry and policy. Students develop strong theoretical foundations through coursework in particular areas and receive training in research methods. At the dissertation stage, they have an opportunity to engage actively and deeply with academics, practitioners, and policymakers as they conduct interdisciplinary research. The programme affords doctoral students the flexibility to use appropriate research method for their research questions.

The mix of breadth of coverage, proximity to practice, and flexibility in methodology enables doctoral students to undertake meaningful research on complex and relevant topics. Supporting the academic research is cutting edge infrastructure, including the best management library in India, and state-of-art access to online resources for research.

The doctoral programme enrolled its first student in 1971 and graduated its first student in 1974. Since then, 331 doctoral students have been conferred with the title, Fellow of the Indian Institute of Management Ahmedabad and have gone on to contribute significantly to management academies and other institutions.

We invite you to consider our doctoral programme and would be happy to discuss your academic interests if you have the inclination and commitment to undertake rigorous training, conduct research relevant to management thought and practice, and pursue an academic career with focus on research.



**Amit Garg**  
Chairperson, FPM

## Message

*The Indian Institute of Management Ahmedabad offers one of the most prominent and sought after doctoral programme in management in India. Our doctoral programme graduated its first student in 1974 and since then 331 doctoral students have been conferred with the title, “Fellow of the Indian Institute of Management Ahmedabad (FPM).”*

*We provide a thriving intellectual ecosystem for our doctoral students to chase knowledge and to ponder some of the most critical issues in management and corporate world – in India and internationally, and in the pursuit create solutions and new knowledge. FPM scholars investigate a wide range of topics and pursue questions relating to management, markets, finance, economics, public policy, business policy, human resources, and organizations. We provide excellent research facilities to our doctoral students including a state-of-the-art library on management literature, journals and databases, housing on campus, a decent fellowship, and additional financial support for research and conference attendance.*

*A doctoral degree in management could lead to rewarding careers filled with inquiry and intellectual growth, mostly faculty positions at institutions of higher learning such as business schools, consulting domains and think tanks, and also corporates to a certain extent. The FPM students have to demonstrate their independent research and thought leadership through publications in academic journals and scholarly presentations of their work. Their contributions extend not only to business practices, but also to public policy and governance.*

*Our FPM students come from a variety of backgrounds, including engineering, economics, psychology, public policy, management, and social sciences, and from all stages of life. Some begin immediately following their undergraduate studies while others pursue their doctoral ambitions after a decade or more of professional experience. The students develop a strong theoretical foundation through a rigorous 2-year coursework and then pursue their dissertation.*

*The faculty at IIMA brings tremendous research strength and a wide variety of industry and government experience across diverse sectoral and functional domains. These provide many opportunities to doctoral students who work closely with faculty members both in the classrooms as well as on individual research projects. The institute encourages cross-sectoral and cross-functional research.*

*We are conscious that we are training some of our prospective colleagues in India and abroad and therefore seek highly motivated individuals with outstanding academic backgrounds to research and advance the frontiers of management knowledge. We invite you to consider our doctoral programme and would be happy to discuss your academic interests, if you have the inclination and commitment to undertake rigorous training and subsequently pursue an academic or a corporate career with a focus on research.*

# About IIMA

IIMA offers several programmes for the development of management



The Indian Institute of Management, Ahmedabad (IIMA) has over forty years of leadership in management education. It was established in 1961 as an autonomous Institution by the active collaboration of the government of India, government of Gujarat, and industry. Today, it is not only a leader in applied management education in Asia, but also one of the finest institutions of management education in the world. Applicants to FPM possess from diverse backgrounds; only the best amongst them are admitted.

IIMA was conceived as a school of management and not purely as a business school. Its mission is to contribute to development of management thought through research, teaching, institution building, and consulting. It also aims to professionalize some of the vital sectors of India's economy such as agriculture, education, health, transportation, energy, and public administration.

IIMA has a large and distinguished faculty whose contributions to management research are significant. IIMA's faculty work on industry and government sponsored research, and lend their expertise to industry and other strategic sectors. IIMA's emphasis on academics and the efforts of its faculty are responsible for the Institute's position as a top management school in Asia.

# Doctoral Programme at IIMA

The programme offers research training in the following eleven areas of specialization:

01 Business Policy

Economics

02

03 Finance & Accounting

Food & Agribusiness

04

05 Human Resource Management

Information Systems

06

07 Innovation & Management in Education

Marketing

08

09 Organizational Behaviour

Production and Quantitative Methods

10

11 Public Systems

The objective of the Fellow Programme in Management is to provide students with skills to identify and research complex issues in the field of management. FPM seeks candidates with outstanding academic background intellectual curiosity, and discipline needed to make scholarly contribution.

FPM is a research programme. To selected students, IIMA provides an excellent environment for carrying out advanced research, thus creating highly committed researchers trained in the most recent methodologies and engaged in producing original research work.

The programme provides a diverse set of opportunities for interdisciplinary education and research. The small entering class ensures close interaction with the faculty; students can determine their own directions under the guidance of the thesis advisory committees.

The student becomes part of one of the eleven functional/sectoral groups and acquires basic theoretical knowledge and practical aspects of the area. This allows close interaction with faculty members, who provide the intellectual stimulation and help develop the student's

own research interests and professional goals. The programme is strongly committed to preparing thought leaders for the academic and corporate world.

Students spend generally a little over four years that includes two years of rigorous course work. From the First term onwards students take advanced doctoral level courses in the area of specialization along with some recommended PGP courses which provides a general management overview and develop basic skills for analyzing managerial problems. The doctoral dissertation, provides them with an opportunity to make original contribution to an area of management or to one of its source disciplines.

IIMA's faculty have studied and worked in the best of institutions within India and around the world. Their involvement with public and private organizations internationally allows them to bring relevant managerial issues into the classroom and in their research. This creates an exceptional environment for developing a research programme that can build sound theory for analysing complex managerial problems.



### Academic Standards

IIMA expects its doctoral students to achieve high levels of academic scholarship and integrity. Candidates have to meet the specified academic requirements before they can move from one phase of the programme to another. Those who fail to maintain academic standards, at any stage, may be advised to withdraw from the programme. The programme helps build proficiency in undertaking original inquiry in a field of management by first building an academic background in the area of specialization through course work, exhibiting proficiency in cutting edge methodology and research by completing the comprehensive examination, and getting trained to undertake original research by completing the dissertation.

### Academic Advisor

A member of the faculty from the student's area in consultation with the Area Chairperson acts as an Academic Advisor to the FPM students during the first year of the programme. The academic advisory process operates as follows:

Stage	Advisor	Nominated / Selected by
FPM First Year	Faculty from the area	Area Chairperson
FPM Second Year	Faculty from the area	Student
After Comprehensive Examination until TAC Formation	Chairperson, FPM	None
After formation of TAC	TAC Chairperson	None

The Academic Advisor helps students identify courses in their areas of interest, monitors their performance, and guides student during Phases I and II of the programme. Students seeking summer projects with the faculty may seek the help of the Academic Advisor.

Students are advised to closely interact with the Academic Advisor of their area from the time they enter the programme. This responsibility, however, is taken over by the Thesis Advisor once the student enters Phase III of the programme.

### Faculty Seminars and Workshops

Faculty seminars and research workshops are regularly organized at the Institute. Doctoral students are expected to regularly attend these activities and actively participate in them.



# Programme Overview

## Phase I (First Year Course Work)

- First Year FPM Compulsory Courses
- First Year Area FPM Courses
- Courses from other Areas and other Post Graduate Programmes (PGP,PGP-ABM,PGPX)

## Phase II (Second Year Course Work)

- Second Year FPM Compulsory Courses
- Second Year Area FPM Courses
- Courses from other Areas and other Post Graduate Programmes (PGP,PGP-ABM,PGPX)
- **Preparation and Completion of Area Comprehensive Examination**
- **Course on Communication for Management Teachers (CMAT)**

## Phase III Doctoral Dissertation

- Formation of Thesis Advisory Committee
- Approval of Thesis Proposal
- Research and Writing of Dissertation
- Thesis Seminar
- Thesis Defence

### Course Work:

The course work is spread across a minimum of five terms. Each academic year begins in June and ends in March/April and has three terms. All FPM students, irrespective of their areas of specialization, take a set of compulsory courses in their field of specialization and other interest areas. All students are also required to take program-wide compulsory courses specially designed to provide breadth of knowledge in the field of management and also teaching and research skills.

A student is expected to complete 30 course credits over the two years of the FPM program. Irrespective of their areas of specialization all FPM students take a set of compulsory courses in their first and second year worth 11.5 credits (7.5 in the first year and 4 in the second year).

The first year course work carries a total minimum credit requirement of 14.5 credits and a maximum of 18.00 credits. The second year course work carries a total minimum credit of 12 credits and a maximum of 18.00 credits.

A minimum of 6 credits have to be earned from taking courses at the post graduate programmes over two years.

During summer, at the end of the first year of course work, students are required to do a research project either with a faculty member at the Institute or in any other organization. First year course work ends with successful completion of all the courses with a minimum prescribed proficiency. While students need to meet certain academic requirements across all courses, a higher performance is required in certain Area Specified Courses.

(see area pages for details of such courses in each area).

### Comprehensive Exam & CMAT

Upon completion of the course work, the students take the area comprehensive examination. The area comprehensive examination tests whether the student has obtained a satisfactory level of knowledge in his/her field of specialization and whether he/she has satisfactorily integrated the various courses taken in the area.





Post Comprehensive Examination, student is required to take (01 Credit) Compulsory Course on Communication for Management Teachers (CMAT). This course is designed to provide formal inputs on teaching and learning in class.

If and only if a student passes the comprehensive examination, he/she enters the Thesis stage. The thesis stage consists of first developing a thesis proposal, for which the student identifies a thesis topic, forms a Thesis Advisory Committee [TAC], presents a seminar on the thesis proposal to the IIMA academic community, and gets the thesis proposal approved by the TAC. Then the student works closely with the TAC on his/her thesis. On completion of the thesis research, the student submits the thesis, gives a seminar, and defends the same.

### **Academic Assistance**

All FPM students past the successful completion of their comprehensive exam must independently assist in two unique courses (post graduate courses offered in the institute/FPM compulsory courses).

### **Doctoral Dissertation**

The dissertation or thesis provides the student with an opportunity to undertake original research in the area of interest. The dissertation should be a scholarly contribution to the knowledge pertinent to the understanding and resolution of management problems. Research is an essential part of the doctoral student's training at IIMA. Throughout the programme, starting as early as Phase I, students are encouraged to be actively involved in research activities at the Institute and with faculty members.

Phase III begins with the formation of the Thesis Advisory Committee in the initial part of the third year. Students are encouraged to meet faculty members with whom they share research interests and seek their assistance in identifying a dissertation topic as early as possible. In addition to the close working relationship during the course work, this interaction helps the student find a thesis advisor and form the thesis advisory committee. The thesis advisor advises the student on his dissertation and chairs the thesis advisory committee comprising at least two other members.

The student develops a written proposal and with the agreement of the thesis advisor gives a seminar on the thesis proposal. The proposal has to be approved by the thesis advisory committee. From then onwards, the student works closely with her/his thesis advisory committee on the dissertation. When the candidate's advisor judges that the dissertation is complete, the student gives a seminar on the dissertation work and subsequently defends orally the dissertation before a thesis examination committee. The FPM Chairperson appoints the thesis examination committee comprising of two members from the thesis advisory committee and two other members.

While the course work formally gets over with the completion of Phase II, doctoral students are encouraged to continue taking advanced courses of interest even during this last stage of study.





### Faculty

Agarwal Anurag K  
Barua S. K.  
Basant Rakesh  
Dixit M.R.  
Karna Amit  
Koshy Abraham

Mamidi Pavan  
Mathur Ajeet N.  
Parmar Ashih Jalote  
Pathak Akhileshwar  
(Chairperson, BP)  
Sharma Sunil

Singla Chitra  
Sud Mukesh  
Sugathan Anish  
Verma Sanjay

### Adjunct Faculty

Balasubramanian N.  
Manikutty S

The focus of research, teaching and advisory service of the Business Policy area lies in issues of corporate and competitive strategy formulation, execution, internationalization and legal aspects of business. The area faculty have investigated organizational response to changes in the economic environment of business, management and analysis of competitive forces, business growth and diversification, mergers and acquisitions, turnaround strategies, innovations and technology management, design of cross-border value chains and constellations, governance, competitiveness and international economic relations. Further it has researched issues in intellectual property and contract management. The context for area's activities spans large public and private enterprises, startups, small and medium enterprises and family owned organizations.

Some of the recent research projects have been:

- ▶ Co-evolution of capabilities in cross-border collaborations
- ▶ Management of Innovations and Technology
- ▶ Commercialization of Traditional Knowledge based Technologies by Small Entrepreneurs: An Exploration of Strategic and Policy Options
- ▶ Corporate Governance for Shareholder Value
- ▶ The Business Logic of Dotcom Businesses
- ▶ Achieving Zero Customer Dissatisfaction for Corporate Immortality
- ▶ Strategies of Family Owned Companies
- ▶ Strategic and Organizational Contexts for Innovations in the Software Sector
- ▶ Taking Charge and Reshaping Corporations
- ▶ Governance of institutions
- ▶ Computational Models of Mergers and Acquisitions
- ▶ Computational Models of Strategy Formulation
- ▶ Leadership Learning and Development
- ▶ Developing Multicultural Teams
- ▶ Understanding Dynamic Capabilities
- ▶ Reinternationalisation of enterprises

The Doctoral programme of the area develops knowledge, skills and attitudes in students that would enable them to pursue rewarding academic careers in strategic management, international business, and corporate governance. Although the requirements for admission to the programme are same as mentioned in the Admission Requirements section, candidates entering this area would benefit from work experience in an organization for at least two years.





### The Programme

A student specializing in the Business Policy area takes a wide range of courses, including those in areas of specialization. A typical course set in the programme is as follows.

Students develop their own programme of study in consultation with faculty to complete course requirements.

#### First Year Area FPM Course

- ▶ Core Course on Strategic Management

#### Second Year Courses

(This list is indicative and courses offered may differ)

- ▶ Advanced Seminar on Action Research Methodologies
- ▶ Seminar on Entrepreneurship
- ▶ International Strategic Management
- ▶ Advanced Strategic Management I and II
- ▶ Strategy and Innovation
- ▶ Economics of Strategy
- ▶ Corporate Governance

#### Third Year

- ▶ Comprehensive Examination
- ▶ Dissertation

#### Fourth and Fifth Year

- ▶ Dissertation

## Some Recent Thesis Titles and Placement of students

Year	Name Placement/Current Organization	Thesis
2016	<b>Abrar Ali Mohammad Usmanali Saiyed</b> Ahmedabad University	Patterns and Determinant of Internationalization by New Ventures in India: A Study of Entrepreneurial, Firm and Industry Factors
2016	<b>Kamal Sharma</b> IIM Indore	Impact of CEO Succession on Strategic Changes in Large Indian Firms
2016	<b>Samar Singh</b>	Community Influences on Strategy-as-Practice in Family Businesses



### Faculty

Basant, Rakesh	D'Souza, Errol	Sahay, Arvind
Chakrabarti, Anindya	Mathur, Ajeet	Sarin, Ankur
Das, Abhiman (Chairperson, ECO)	Mohapatra, Sanket	Sharma, Shruti
Dev, Pritha	Morris, Sebastian	Virmani, Vineet
Deodhar, Satish	Pingali, Viswanath	
Dholakia, Ravindra H	Tumbe, Chinmay	
	Ram Mohan, T T	

Economics is a basic discipline for a well-rounded management education. The curriculum for doctoral students, therefore, includes several courses in theoretical and applied economics. Significant research has been done by faculty members of the area on the efficiency of public enterprises, fiscal and monetary policy, sources of economic growth, comparative rates of growth in developing countries, regional disparity in growth in India, planning for rural development and employment, entrepreneurship development, regulation (especially that relating to infrastructure), innovation and alliances at the firm level, labour market issues, agricultural policy and trade issues, and policies relating to IPRs and FDI. Recent faculty research projects have been on:

- ▶ Reform of state owned enterprises in India
- ▶ Competition policy in India
- ▶ Monetary policy transmission
- ▶ Measurement of inflation expectation
- ▶ Measurement of efficiency and productivity
- ▶ Technology capacity building within firms
- ▶ Social security and personnel economics
- ▶ The cooperative theory of matching problems
- ▶ Sustainability of fiscal debt of states in India
- ▶ National agricultural policy
- ▶ Regional dimension of economic growth in India
- ▶ Salary fixation for public and government sector employees
- ▶ Programme evaluation and impact assessment
- ▶ Centre-State relations, fiscal development & role of Finance Commission
- ▶ Issues in fiscal responsibility and budget management
- ▶ Capital market: efficiency and pricing models
- ▶ Evaluation of mid-day meal scheme
- ▶ Economics of food quality
- ▶ Hedonic pricing
- ▶ CSR and the government mandate
- ▶ Make in India theme and lessons from corporate world
- ▶ Economics of regulation
- ▶ Pharmaceutical economics
- ▶ Experimental economics
- ▶ Applied game theory
- ▶ Aggregate supply and growth – inflation trade-off
- ▶ Inter-sectoral terms of trade and supply response in agriculture
- ▶ Primary healthcare and policies
- ▶ Energy pricing and policies
- ▶ Missing markets in international business
- ▶ Labour markets regulation
- ▶ Trade, imported intermediate inputs and skills in India

- ▶ Impact of FDI on labour
- ▶ Role of IT in firm-level productivity and organizational change
- ▶ Role of technology in wage and employment trends in India
- ▶ Industrial corridors and economic development
- ▶ Impact of access to foreign markets on unskilled labour
- ▶ Role of industrial clusters in economic growth
- ▶ Sovereign credit ratings
- ▶ Sub-sovereign (corporate) ratings
- ▶ Unconventional monetary policy spillovers for emerging economies
- ▶ Global capital flows
- ▶ Migration and remittances
- ▶ Shadow sovereign ratings
- ▶ Financial liberalization and inequality
- ▶ New Keynesian DSGE models: dynamics of inflation
- ▶ Network structure of the international trade network
- ▶ Emergence of Zipf's law in size distributions of economic quantities
- ▶ Endogenous business cycle models
- ▶ Applications of evolutionary game theory to macroeconomics.
- ▶ Networks
- ▶ Economic Development
- ▶ Migration networks
- ▶ Business, Economic and Demographic History
- ▶ Urban Economics

The programme has an explicit objective of training students in the tools of modern economic analysis to make them competent researchers and teachers. Most students have taken up teaching and research careers in leading academic institutions or research and consultancy positions in business and government. The environment at IIMA provides many opportunities to develop their skills by working closely with faculty and attending workshops and seminars.

### The Programme

A doctoral student in the area takes a wide range of courses, including those in the area of specialization. A typical course set in the programme is as follows.

#### First Year Area FPM Course:

- ▶ Advanced Microeconomics

#### Second Year Courses:

(This list is indicative and courses offered may differ)

- ▶ Advanced Macroeconomics
- ▶ Econometrics
- ▶ Labour Markets in Developing Countries
- ▶ Economics of Strategy
- ▶ Economics of Organisation
- ▶ Monetary Theory and Policy
- ▶ Empirical Issues in International Trade
- ▶ Public Finance  
(jointly offered with PSG Area)
- ▶ Game Theory and Applications
- ▶ Advanced Data Analysis
- ▶ Time Series Analysis  
(jointly offered with Finance Area and P&QM Area)
- ▶ Economic Development and Growth  
(jointly offered with Public Systems Group)

#### Third Year

- ▶ Comprehensive Examination
- ▶ Dissertation

#### Fourth Year

- ▶ Dissertation

## Recent Thesis Titles and Placement of Students

Year	Name Placement/Current Organization	Thesis
2016	<b>Anand Sharma</b>	Industrial Productivity Growth and Agglomeration Economies
2016	<b>Jani Vishalkumar Jayantkumar</b> Goa Institute of Management	International Trade: Elixir or Venom for Health?
2014	<b>B. Sundar</b> Joint Director and Faculty (Forest economics), Andhra Pradesh Forest Academy	Numeracy, Financial Literacy, Risk Attitudes, and Impatience of Forest Dependent Communities: Evidence from Andhra Pradesh
2014	<b>Indrajit Thakurata</b> Faculty, Indian Institute of Management, Indore	Rich Dad, Poor Dad: Life-Cycle Portfolio Savings & Human Capital Accumulation





### Faculty

Agarwalla, Sobhesh K.  
(Chairperson-F&A)

Barua, Samir K.

Desai, Naman

Gandhi, Shailesh

Jacob, Joshy

Laha, Arnab K.

Mohapatra, Sanket

Nagar, Neerav

Pandey, Ajay

Ram Mohan, T. T.

Sinha, Sidharth

Varma, Jayanth R.

Venkateshan, Prahalad

Virmani, Vineet

### Adjunct Faculty

Gujarathi, Mahendra

Patel, Rajendra

Premchander

The teaching and research interests of the Finance and Accounting Area spans a broad range of issues such as, earnings and cash flow manipulation, corporate disclosure, management control, corporate finance, corporate governance, asset pricing, market microstructure, management of financial institutions, risk management, financial regulation and empirical methods in finance. The faculty members are vigorously engaged in both academic and applied research. The Area faculty members serve on several government committees and corporate boards.

Some of the recent research projects undertaken by faculty in the Area are:

- ▶ Liquidity and bid-ask spread behavior in the Indian market
- ▶ Block trading and market microstructure issues
- ▶ Systematic risk factors in the Indian stock market
- ▶ Influence of sentiment in market-wide pricing of assets
- ▶ Underpricing of IPOs in the Indian capital markets
- ▶ Do managers manipulate gross profits? Role of product market competition

As the primary emphasis of the programme is to prepare students to engage in high quality research, candidates must possess a strong aptitude for abstract thinking and quantitative analysis. Requirements for admission to FPM in Finance and Accounting are mentioned in the Admission Requirements section later.





## The Programme

The programme has a two-year coursework phase followed a dissertation phase, which usually takes about two years. The coursework takes the students through a range of courses, intended to familiarize the participants with the core theoretical foundations, empirical methods, and stylized empirical realities of modern finance. A student specializing in the Finance & Accounting Area takes wide range of courses including those in the area of specialization. A typical course set in the programme is as follows.

### First Year Area FPM Course

- ▶ Asset Pricing

### Second Year

(This list is indicative and courses offered may differ)

- ▶ Seminar Course in Empirical Accounting Research (Core/Elective\*)
- ▶ Seminar in Behavioural Finance (Elective)
- ▶ Seminar Course in Corporate Finance (Core/Elective\*)
- ▶ Derivatives Pricing (Elective)
- ▶ Time Series Analysis (Elective)
- ▶ Empirical Research in Auditing and Corporate Governance (Core/Elective\*)
- ▶ Empirical Asset Pricing (Core/Elective\*)
- ▶ Seminar Course on Privatisation (Elective)
- ▶ Seminar Course in Accounting and Markets (Elective)
- ▶ Seminar Course in Accounting and Organization (Elective)
- ▶ Mathematical Finance (Elective)

\* Two compulsory courses Either (Empirical Asset Pricing AND Seminar Course in Corporate Finance) OR (Seminar Course in Empirical Accounting Research AND Empirical Research in Auditing and Corporate Governance)

### Third Year

- ▶ Comprehensive Examination
- ▶ Dissertation

### Fourth Year

- ▶ Dissertation (continued from third year)

## Recent Thesis Titles and Placement of Students

Year	Name Placement/Current Organization	Thesis
2015	<b>Nilesh Kumar Gupta</b> IIM Tiruchirappalli	A Study of Investor Sentiment in Indian Market
2011	<b>Priyanka Singh</b> Analyst HSBC, Bangalore	The Dynamics of Bid-Ask Spread in an Order Driven Market: The Case of Indian Stock Market
2010	<b>Sobhesh Kumar Agarwalla</b> IIM, Ahmedabad	Intraday Activity Patterns and Market Microstructure Effects in Indian Capital Markets: An Empirical Investigation Using High Frequency Data



### Faculty

Dholakia, Ravindra H  
Gandhi, Vasant P  
Gupta, Anil K

Jaiswal, Anand K  
Raghuram, G  
Sharma, Vijay Paul  
(on leave)

Singh, Sukhpal  
(Chairperson, CMA)  
Varma, Poornima

The Centre for Management in Agriculture (CMA) at IIMA is an inter-disciplinary research centre, which was formed in 1963 and designated as a Centre in 1971. CMA is involved in applied, policy, and problem solving research in food and agribusiness, rural and allied sectors. Much of this is relevant to organizations dealing with agri-inputs and services such as seeds, fertilizers, agrochemicals, farm machinery and equipments, rural credit and insurance as well as organizations involved in procurement, processing, and marketing of outputs such as foodgrains, fruits, vegetables, livestock products, fish, poultry, and forest produce, besides for policy at union and state level.

The CMA undertakes applied policy research in a wide range of fields, relevant to the public, cooperatives, voluntary/non-profit and private sectors. The research studies undertaken at CMA include issues of farm and allied inputs, farm and allied production, agri finance, agro and rural marketing, international agro trade, rural organizational planning, implementation, and monitoring, producers' institutions, and rural development planning, and administration. The CMA faculty also undertake a large number of policy-related research studies for the Ministry of Agriculture, Government of India as one of its three Agro-Economic Research Units (AERUs) in India. CMA provides consulting services to national and international, private, public, cooperative, and voluntary organizations.

Major ongoing and recently completed research projects include:

- ▶ Enhancing Rice Productivity and Food Security: A Study of the Adoption of the System of Rice Intensification (SRI) in Selected States of India.
- ▶ Farmers' Participation in India's Futures Markets: Exploring Direct and Indirect Benefits.
- ▶ Agro-input Marketing Models in India: Performance and Potential.
- ▶ Irrigation and Entrepreneurship: Status and Lessons for Improvements and Expansion.
- ▶ Coping with Climate Change through Agro-Biodiversity: A View from Below.
- ▶ Soil Health, Plant Health and Human Health.
- ▶ Sustainability of Self-help and Joint-liability Group Institutions under Micro-finance.
- ▶ Assessment of Marketed and Marketable Surplus of Major Foodgrains in India.
- ▶ Biotechnology in Agriculture: The Promise, Performance and Concerns.
- ▶ Problems and Prospects of Oilseeds Production in India.
- ▶ An Analysis of Resource Conservation Technology: A Case of Micro-Irrigation System (Drip Irrigation).
- ▶ Producer Companies in India: Organization and Performance.
- ▶ Management of Agri-business Contracts and Organizations.
- ▶ The doctoral programme with specialization in Food & Agribusiness aims at developing graduates for academic careers in leading management educational institutions, which need faculty members who can address managerial issues related to food and agri-business, rural, and allied sectors as well as research and training agencies. Requirements for admission to the doctoral programme in Food & Agribusiness are mentioned in the section on "Admission requirements". Applicants to this area must have an aptitude for research and inclination to work in agribusiness or related sectors.





## The Programme

A candidate in the Food & Agribusiness area takes a wide range of courses including those in the area of specialization. The typical course set is as follows:

### First Year Courses

- ▶ Agro-Food Value Chain Management and Development

### Second Year Courses

(This list is indicative and courses offered may differ)

- ▶ Agricultural Management I
- ▶ Agricultural Management II
- ▶ Agricultural Development Policy
- ▶ Institution Building
- ▶ Advanced Course on Strategic Management of Intellectual Property Rights
- ▶ FPM Courses from other areas

### Third Year

- ▶ Comprehensive Examination
- ▶ Dissertation

### Fourth Year

- ▶ Dissertation

## Some Recent Thesis Titles and Placement of students

Year	Name Placement/Current Organization	Thesis
2016	<b>Kanish Debnath</b> FLAME University	The Role of Community Health Insurance in Perfecting Financial Inclusion
2014	<b>Dinesh Jain</b>	Institutional Interaction and Participative Decision-Making in Development Programmes: A Study of Their Importance in Effective Natural Resource Management
2014	<b>Varsha Khandker</b> Faculty, TAPMI	Challenges in the Introduction of New Technologies: A Study of the Performance and Adoption of Hybrid Rice in India
2013	<b>Debdatta Pal</b> IIM, Indore	Managing Rural Institutional Credit: Lessons from Interlinked Transactions



### Faculty

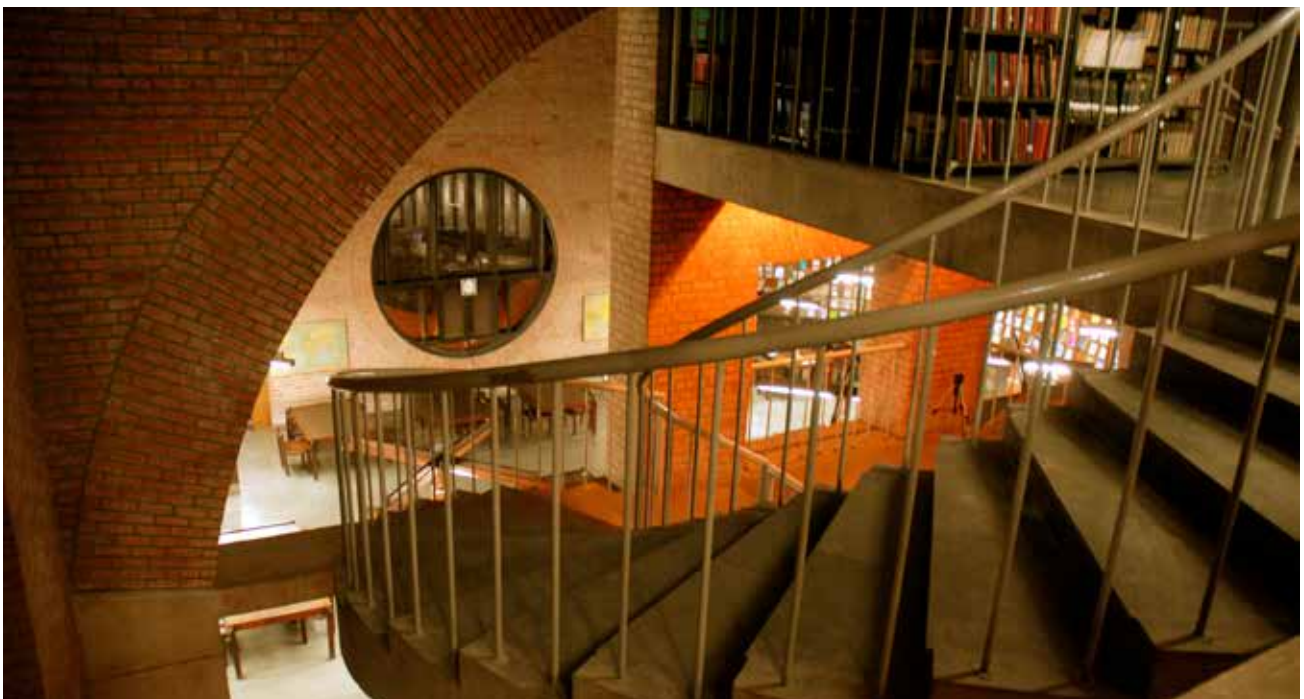
Agarwal, Promila  
Chandwani, Rajesh  
Maheshwari, Sunil

Sarrion, Miguel  
Singh, Manjari  
Varkkey, Biju  
(Area Chair)

The Human Resources Management area comprises faculty members having interests in HRM, employee/industrial relations, labor economics, human behavior and industrial sociology.

Current research interests of the faculty include -- philosophical foundations of HRM, strategic human resource management, international and cross cultural HR, performance management and high performing work organizations, work climates, compensation and rewards, employee empowerment, employee engagement, negotiations in business, and alternate dispute resolution, human resource information systems, public personnel management, people management in services, employment relations, business turnaround, organizational transformation, ethics in business, and corporate social responsibility.

The admission requirements for the area are given in the section on Admission Requirements.



## The Programme

A student specializing in the HRM area takes a wide range of courses, including those in the area of specialization. A typical course set in the programme is as follows.

### First Year Area FPM Course

- ▶ Foundation Course in HRM

### Second Year Courses

- ▶ Foundations of Research in HRM I
- ▶ Foundations of Research in ERM I
- ▶ Foundations of Research in HRM II
- ▶ Foundations of Research in ERM II
- ▶ International Human Resource Management
- ▶ Qualitative Research Methods in HRM
- ▶ Quantitative Techniques in HRM
- ▶

### Third Year

- ▶ Comprehensive Examination
- ▶ Dissertation

### Fourth Year

- ▶ Dissertation



## Recent Thesis Titles and Placement of Students

Year	Name Placement/Current Organization	Thesis
2016	<b>Vijay Lakshmi Singh</b> Asst. Professor, Bennett University	Drivers, Facilitators and Consequences: Exploring & Examining Job Crafting among Management Consultants
2013	<b>Manisha Mishra</b> Asst Prof. (Human Capital Management), Jindal Global Business School (Sonipat)	An Exploratory Study of Post Implementation Experiential Perceptions of Reservations with Focus on Stigmatization Processes in the Higher Professional Education Context





### Faculty

Aggarwal, Manish  
Barua, Samir K  
George Kandathil

Jain, Rekha  
Krishnamoorthy  
Srikumar

Ranganathan, Kavitha  
(Chairperson)  
Verma, Sanjay

### Adjunct Faculty

Bhatnagar, Subhash

Jajoo, B H

The Information Systems Area was set up to respond to the importance of, and need for, research in computer applications in management of government, private and public enterprises, and other forms of organizations. Starting in the 1970s in an environment that was largely unaware of the potential benefits of computerization, IS Area has worked at identifying potential applications, implementing these applications in public and private sectors, and designing and offering courses related to its area of work.

The thrust of the Area is to stay at the cutting edge of management computing and facilitate development of decision-making capabilities for socio-economic development. Research in decision support systems, expert systems, computer aided instruction, management information systems, algorithm design, developmental informatics, software export, etc. has been an important tool in achieving this objective. Recent research has been in e-Governance, mobile ad-hoc networks, ICT for development, decision support systems, public administration, design of network configurations and information integration. Some recent research projects are:

- ▶ Knowledge management in software and other industries
- ▶ Design and analysis of algorithms for project management
- ▶ Modeling of supply chain management problems
- ▶ Designing and managing enterprise wide digital infrastructure
- ▶ Community radio for rural mobile ad-hoc networks
- ▶ Object oriented frameworks for parallelized nonlinear optimization
- ▶ Frameworks for evaluation of e-Government Projects
- ▶ Business intelligence
- ▶ Open innovation
- ▶ Internet Governance

As the interests of the faculty are very broad, research topics chosen by doctoral students also tend to have wide variety. Based on the topic of dissertation, tools used in the research may vary and may include user surveys, decision support systems, and optimization techniques such as integer or non-linear programming. Some topics could need extensive software development.

A thesis in information systems could be conceptual and a researcher could build on existing literature or develop case studies. While the dissertation need not necessarily use sophisticated technical tools, the topic should be necessarily concerned with information systems. It is essential that a doctoral student should have a good insight into and appreciation for the role of information technology in management and skills for model building and analysis to understand the impact of decisions involved in this area.

In the past, doctoral students have worked in areas like: Multi-mode multiple resource constraints in project scheduling and machine scheduling problems, Study of Indian telecom startup firms in the context of new firm formations, Developing e-Government impact assessment framework, Collaboration in Internet enabled supply chains, Developing and optimizing the distribution model for electronic supply chain management systems in the Indian context, Alliances and partnerships in electronic businesses, Studying the behaviour of buyers and sellers in an e-commerce context, and Developing a framework for evaluating open innovation projects.

## The Programme

A student specializing in the Information Systems area takes a wide range of courses including those in the area of specialization. A typical course set in the programme is as follows.

### First Year Area FPM Course

- ▶ Data Structures and Programming

### Second Year Courses

(This list is indicative and courses offered may differ)

- ▶ Database Management and Online Transaction Processing (OLTP)
- ▶ Data Mining Algorithms and Applications
- ▶ Networks and Distributed Systems
- ▶ Distributed Computing Systems
- ▶ Information Systems Frameworks
- ▶ System and Object Oriented Analysis and Design
- ▶ Telecom Policy and Internet Governance

### Third Year

- ▶ Comprehensive Examination
- ▶ Dissertation

### Fourth Year

- ▶ Dissertation



## Recent Thesis Titles and Placement of Students

Year	Name Placement/Current Organization	Thesis
2015	<b>Anurag Saxena</b> Indian Institute of Public Health, Gandhinagar	Analysis and Design of Public Policy Using System Dynamics Approach: A Case in Healthcae Sector
2013	<b>Sudeep K. Krishnan</b> EXL	Degree of Openness and Project Performance: A Multi-Country Empirical Assessment of Open Innovation Information Technology Initiatives
2012	<b>Madhukar Dayal</b> Director Research (Engine Development), Ministry of Railways, Government of India (Bharat Manak Nagar, LucknowSarkar)	New Exact methods for Scheduling Multi Mode Multiple Resource Constrained Project Scheduling Problems



### Faculty

Gupta, Anil K

Ranganathan, Kavitha

Sarin, Ankur

Sharma, Rajeev  
(Chairperson-RJMCEI)

Vijaya Sherry Chand

Vohra, Neharika

The Ravi J. Matthai Centre for Educational Innovation (RJMCEI) was formally set up in 1991, after a group of faculty members had worked for about three years on educational training and research, and institution building in education. From an initial focus on institution building, the mandate of the RJMCEI has gradually expanded to include primary education, literacy and secondary education. The common thread running through the Centre's various activities is a focus on innovations and innovative approaches to countering problems in education. The RJMCEI is involved in applied and policy research in education that is relevant to public education systems. Research undertaken at the RJMCEI has included innovative responses to the issues of basic and secondary education and literacy, and to management issues in higher education, including management and technical education. Members of the RJMCEI also provide consulting services to national and international organizations.

The doctoral programme with specialization in Innovation and Management in Education aims at developing robust research scholars and teachers who can take up leadership roles

in educational organizations and systems. The focus on innovation and management will develop in the graduates a unique academic capability that combines a management perspective with the broader theme of innovation. This fits in with the emerging demand for people with fresh perspectives on educational change from a wide range of emerging academic institutions, organizations that provide services and ancillary support to the regular educational structures, well-established national and international educational planning organizations and academic institutions, and various research bodies and social think tanks.

The requirements for admission to the doctoral programme in "Innovation and Management in Education" are mentioned in the section on "Admission Requirements." Applicants must have an aptitude for research and inclination to work in education or related sectors.







## The Programme

A student specializing in the Innovation and Management in Education area will take a wide range of courses including those in the area of specialization. A typical course set in the programme is as follows.

### *First Year Area FPM Course*

- ▶ Education: Theory, Policy, Practice

### *Second Year Courses*

(This list is indicative and courses offered may differ)

- ▶ Analysing and Evaluating Educational Policy
- ▶ Change and Innovation in Education: Structure, Processes, Strategy and Leadership
- ▶ Qualitative Research Methods in Education
- ▶ Public Financing of Education
- ▶ Organizational Development and Change in Educational Institutions
- ▶ Technology in Education
- ▶ Change and innovation in Education
- ▶ Using Quantitative Methods for Causal Inference in Education Research

### *Third Year*

- ▶ Comprehensive Examination
- ▶ Dissertation

### *Fourth Year*

- ▶ Dissertation



### Faculty

Abhishek	Gandhi, Vasant P	Sahay, Arvind
Banerjee, Arindam (Chairperson- Marketing)	Jaiswal, Anand Kumar	Sharma, Dheeraj
Chandwani, Rajesh	Koshy Abraham	Sinha, Piyush Kumar
G, Raghuram	Laha, Arnab	Tripathi, Sanjeev
	Mukhopadhyay, Soumya	Verma, Sanjay

### Adjunct Faculty

Jain, A. K.

Marketing Area faculty has wide range of interests in research and dominant interest in case writing. The research interests include consumer information search and consumer choice; consumer response to advertising, sales promotion, dynamic pricing, and country of origin; strategic response of organizations to dynamic market conditions, sales people's customer orientation, brand extension strategies, relationship marketing, B2B marketing, ethic logistics, new product introduction and management, international marketing strategies of firms, different pricing strategies; strategic firm behaviour under competitive conditions (using mathematical modeling techniques), competitive strategies, comparative impact of marketing spend on shareholder value, alliances and firm cooperation, market driving strategies, customer based business strategies, strategies for retailing, etc. Some recent research projects are:

- ▶ Case Development on "Paradigm Shift of Apollo Tyres Ltd."
- ▶ Examining Service Profit Chain for Online Retail Store Using Individual Level Data
- ▶ Hedonic Shopping Behaviour: A Cross-Country Study
- ▶ New Product Development Initiatives in India
- ▶ Cases in Retail
- ▶ Examining Service Profit Chain for Online Retail Store Using Individual Level Data
- ▶ New Product Development Initiatives in India
- ▶ Store Cues and Shopper Values: A Means-End Chain Approach
- ▶ Path to Purchase
- ▶ Place of Origin Effects in Service Quality Perceptions among Indian Consumers
- ▶ Path to Purchase
- ▶ Shopper Marketing
- ▶ Legal and Ethical Issues in Advertising: A review of Indian Advertisements
- ▶ Interaction effects between consumers' cognitive load and promotion framing for strong and weak brands
- ▶ Liberating yet stressful: the paradoxical implications of the use of Mobile Communication Devices by professionals
- ▶ Managing Emotions: Emotional Labor or Emotional Enrichment
- ▶ Use of social media for promotion related messages by Indian Brands
- ▶ Impact of bundle forms on change in consumers' Reference Price (IRP) of bundle components
- ▶ The effect of counting direction of time on hedonic / utilitarian preferences
- ▶ Impact of interaction of primes on consumer behavior
- ▶ Comparison of blind and sighted individuals on parameters of memory, preference prediction on detection
- ▶ Identifying the Enablers of Reverse Innovation in Emerging Markets
- ▶ In depth study of Analytics process development in Indian Organizations - a few cases
- ▶ Brand Adoption by Retailers that Serve Customers at the Base of Pyramid
- ▶ Turning Around the Business as Well Creating Sustainability
- ▶ Green Advertising
- ▶ Legal and Ethical Issues in Indian Advertisements
- ▶ Advertising and Promotions in Mobile Platform
- ▶ Ordering effect in alphanumeric brand names
- ▶ Impact of price framing on quality perceptions
- ▶ Samsung Electronics in India: Challenges of Multi-Channel Retailing
- ▶ Airtel Zero: Data Pricing, Two Sided Markets Led Business Models and Net Neutrality
- ▶ Hippo on Twitter: Tracking Product Stock-outs in Retail Stores:
- ▶ The Quest for Gold: Communications Challenge
- ▶ GE in India: Changing Healthcare
- ▶ Fruitzone India Limited (A): Designing the Research Questions
- ▶ Fruitzone India Limited (B): Designing the Research Questionnaire
- ▶ Fruitzone India Limited (C): Data Collection & Analysis
- ▶ Fruitzone India Limited (D): Additional Conclusive Research
- ▶ Q-Connect: Reaching Rural Customers with Assam Mobile Theatre
- ▶ Selling Sketches - The case of Artistically Yours (A)
- ▶ Selling Sketches - The case of Artistically Yours (B)
- ▶ ABC Films: Marketing Research on Product Placement (A)
- ▶ ABC Films: Marketing Research on Product Placement (B)
- ▶ ABC Films: Marketing Research on Product Placement (C)

- ▶ Snapdeal: Business Models, Price Discounting and Consumer Behavior in a Nascent Online Market
- ▶ BART: Sales force and Pricing in B2B markets
- ▶ Impact of Price Regulation on Availability of Pharmaceuticals in India
- ▶ Tensile Pricing
- ▶ Impact of Price Discounts on a Bundle on Reference Price and Purchase of Components
- ▶ Building, Sustaining and Managing Brand Relationships
- ▶ Pricing Theory: A Neuroscience Perspective

Significant contributions in case research span business and non-business enterprises and encompass almost all areas of marketing management in the Indian context. In the last three years, the marketing area faculty have written more than 35 new cases based on field data. The business contexts covered include information technology, manufacturing, automobiles, retailing, financial services, other services, online recruitment, and media. The decision areas covered by the case studies cover all areas of marketing: segmentation and targeting, positioning, product, brand, price, advertising, sales promotion, distribution, retail, sales management, organisation design, and strategy and strategic marketing.

#### Admission Criteria

The requirements for admission into the doctoral programme in marketing are the same as the ones mentioned in the Admission Requirement section. While it is not mandatory, prior academic and/or experiential exposure to marketing and related areas would be of some help for aspiring applicants. Successful applicants should show potential for developing abilities to (a) understand and crystallize important and interesting marketing problems, (b) conceptualize a research plan, (c) implement the research plan, and (d) make original and substantial contribution to the knowledge pool in the domain of their inquiry.

#### The Programme

Student will undertake doctoral level courses from various domains in first year. Students in the marketing area gain a basic understanding of management through undergoing a few courses in the first year with PGP students. In the second year, students build a strong background through taking three different types of courses. Required marketing area courses in the second year provide participants an opportunity to build strong background in quantitative models in marketing, marketing strategy, applications of behavioural sciences in marketing, marketing theory, and marketing management. They are expected to take courses in research methodology such as econometrics, experimental analysis, statistical analysis, and mathematical and applied game theory models in marketing. Participants can gain a broad perspective in the field of marketing management through taking a package of graduate level marketing elective courses in brand management, sales and distribution management, marketing strategy, advertising and sales promotion, retailing, logistics, internet marketing and e-commerce, strategic marketing, and customer based business strategies. In order to complete their requisite credits, a student, in consultation with the faculty, can design the second year course package from the three types of courses.

The broad course designs in marketing in the first year are listed below. (This list is indicative and courses offered may differ.) A typical course work in the second year also is given below.

#### First Year Area Specified Course

- ▶ Marketing Strategy

#### Second Year

(This list is indicative and courses offered may differ.)

- ▶ Behavioural Science Applications in Marketing
- ▶ Game Theory and Strategic Behaviour (jointly offered with Economics area)
- ▶ Seminar on Experimental Methods in Marketing
- ▶ Qualitative Method (Tentative)
- ▶ Seminar on Quantitative Models in Marketing
- ▶ Mental Accounting, Pricing & Neuro Marketing
- ▶ Structural Equation Modelling
- ▶ Marketing Theories and Contemporary Issues
- ▶ Reading Seminar in Marketing Management
- ▶ International Marketing Research and Teaching
- ▶ Seminar on Bottom of the Pyramid

#### Third Year

- ▶ Comprehensive Examination
- ▶ Dissertation

#### Fourth Year

- ▶ Dissertation

## Some Recent Thesis Titles and Placement of Students

Year	Name Placement/Current Organization	Thesis
2016	<b>Harsh Dadhich</b> Forbes Marshall	Perception of Foreignness of Brands: An Investigation of Consumers Classificatory Schema and its Impact on Brand Evaluations
2016	<b>Khandeparkar Kapil Laxman</b> Goa Institute of Management	Let's Put a Smile on that Face: A Study on the Embeddedness of Humorous Advertisements
2016	<b>Prantosh Jnanranjan Banerjee</b>	Impact of Bundle Forms on Change in Consumers Internal Reference Price (IRP) for Bundle Components
2016	<b>Saravana Jaikumar L</b> Assistant Professor - Marketing, IIM Udaipur	Impact of Overlapping Price Ranges on Psychological Price Perception: Revisiting the Range Theory of Pricing





## Faculty

D'Cruz, Premilla  
(Chairperson-OB Area)

Gupta, Parvinder

Gupta, Vishal

Kandathil, George

Khokle, Pradyumana

Noronha, Ernesto

Sharda, Kirti

Sharma, Dheeraj

Sharma, Rajeev

Vohra, Neharika

## Adjunct Faculty

Bhatnagar, Deepti

The Organizational Behaviour (OB) area is internationally recognized for its teaching and research. Faculty members in the area have diverse research interests which include individual and interpersonal effectiveness, job involvement, gender issues at the workplace, work attitude, organizational excellence, human resources development, managerial culture and values, organizational dynamics and design, organizational learning, management of change and strategic organizations. Recent research in the area has been on:

- ▶ Ethnicity and diversity at the workplace
- ▶ Work-family issues
- ▶ Technology, power, and work
- ▶ Organizational sense making
- ▶ Team work
- ▶ Transformation of organization and industry
- ▶ Leadership
- ▶ Organizational commitment and psychological well-being
- ▶ Organization citizenship behaviour
- ▶ Cross-cultural issues

If students have an interest to apply their knowledge in their basic discipline such as psychology or sociology to the organizational context, research in OB will allow them to do so. It is not necessary for candidates to have an MBA degree, or a degree in psychology or sociology, to do an FPM in the area. Rather, students from diverse disciplines are encouraged to apply for the doctoral programme in OB.





## The programme

A doctoral student in the OB area takes a wide range of courses, including those in the area of specialization. A typical course set in the programme is as follows.

### First Year courses

- ▶ Basics of Micro OB

### Second Year Courses

(This list is indicative and courses offered may differ)

- ▶ Advanced Micro OB
- ▶ Organizational Structure and Processes
- ▶ Organization Theory and its Social Context
- ▶ Organizational Diagnosis and Change
- ▶ Classics in OB
- ▶ Quantitative Methods and Analysis
- ▶ Methods of Qualitative Research: Gathering and Analysing Data
- ▶ Crafting and Publishing of Research
- ▶ Leadership in Organizations: A Review of Theory and Practice
- ▶ Advanced Topics in Quantitative Methods
- ▶ Psychometric Methods

### Third Year

- ▶ Comprehensive examination
- ▶ Dissertation

### Fourth Year

- ▶ Dissertation

## Some Recent Thesis Titles and Placement of Students

Year	Name Organization	Placement/Current	Thesis
2015	<b>Nobin Thomas</b> IIM Indore		Multilevel Network Measures for Organizational Learning Process
2015	<b>Dharma Raju Bathini</b> IIM Calcutta		Exploring Work Intensification: The case of Telehomework in the IT Sector in India
2015	<b>Vijayta Doshi</b> IIM Udaipur		Understanding The Experiences of 'Not Knowing' in Workplace



## Faculty

Bandyopadhyay, Tathagata

Barua, Samir K

Bhadra, Dhiman (Chairperson)

Dutta, Goutam

Ghosh, Diptesh

Guha, Apratim

Jayaswal, Sachin

Laha, Arnab K

Mukherjee, Saral

Ravichandran, N

Roy, Debjit

Sinha, Ankur

Soman, Chetan A

Sriram, Karthik

Venkateshan, Prahalad

The Production and Quantitative Methods (P&QM) area offers courses on Operations management, Operations research, and Statistics. Doctoral students in the area are required to be proficient in all the three areas while developing advanced level skills in at least one of the three. The area offers doctoral level courses in mathematical programming, statistics, stochastic processes, operations management, technology management, modelling and contemporary manufacturing methods and techniques.

Faculty research interests in Operations management are on strategic or operational issues related to manufacturing and service

planning, supply chain coordination, shop floor scheduling and improving productivity of plant operations, design of operations, technological change and innovation, R&D capabilities, economics of flexible operations and process planning. In operations research, faculty interests include linear and integer programming, large scale optimization, combinatorial optimization, revenue management and network optimization. Interest in this area is both in modeling as well as in development of algorithms and heuristics for such problems. Typical application areas for research include finance, logistics, and the process industry. Faculty research interests in statistics are modeling discrete and financial data, survey sampling, finite population inference, biostatistics, longitudinal and survival analysis, Bayesian inference, reliability analysis, time series analysis, statistical genetics, directional statistics, functional data analysis and stochastic processes.





## The Programme

### First and Second Years

- ▶ During the two-year coursework phase, students take a wide range of courses, including those in their area of specialization and other management areas.
- ▶ In the first year, a student is required to take courses worth 14.5 to 18 credits. This includes 7.5 credits of FPM courses common to all FPM students and a 1 credit area course specified by the P&QM area. The remaining courses to be credited are decided upon jointly by the student and her/his academic advisor.
- ▶ In the second year, a student is required to take courses worth 14.5 to 18 credits. Among these, 2.5 credits are FPM compulsory courses common to all FPM students and a few compulsory courses specified by the P&QM area. The remaining courses to be credited are decided upon jointly by the student and her/his academic advisor. An indicative list of electives that students can choose from is given in the next section.

### First Year Area FPM Course

- ▶ Introduction to Mathematical Programming

### Second Year Courses

- ▶ (This list is indicative and courses offered may differ)
- ▶ Advanced Probability in Management
- ▶ Mathematical Programming
- ▶ Seminar in Operations Management I and II
- ▶ Systems Analysis and Simulation
- ▶ Applied Multivariate Analysis
- ▶ Applied Multivariate Analysis for Qualitative Dependent Variable
- ▶ Modelling for Management Decision Making
- ▶ Real Analysis
- ▶ Stochastic Processes
- ▶ Queing Models
- ▶ Time Series Analysis
- ▶ Applied Statistical Inference
- ▶ Large Scale Optimization
- ▶ Revenue Management and Dynamic Pricing

### Third Year and later

- ▶ At the beginning of the third year, a student is required to appear for and pass a comprehensive examination on the courses that s/he has credited in the first two years. On successful completion of the comprehensive examination, a student decides on a topic of her/his research and her/his thesis advisor. The student then presents and defends her/his thesis proposal and works on her/his doctoral thesis.

## Some Recent Thesis Titles and Placement of Students

Year	Name Placement/Current Organization	Thesis
2016	<b>Amit Kumar Vatsa</b> JDA Software	Multi-Period Facility Location Problem with an Uncertain Number of Servers
2015	<b>Avijit Khanra</b> IIT, Kanpur	Essays on the Newsboy Problem
2013	<b>Harish Venkatesh Rao</b>	Stochastic Optimization Based Decision Support System for Asset-liability Management in Life Insurance Firms
2013	<b>Ravi Kothari</b> HSBC	Metaheuristics for the Single Row Facility Layout Problem