

**Institute for Advanced Studies  
in Basic Sciences**  
Gava Zang, Zanjan, Iran



**The Department of Mathematics**

# Departmental Overview

The Department of Mathematics at the Institute for Advanced Studies in Basic Sciences (IASBS) Zanjan was established in 1994 when it started to offer MSc degree courses in Pure and Applied Mathematics. The PhD programme began in 2004. The Mathematics Department carries out education and research activities in pure, applied, and financial mathematics.

The main aim of the postgraduate courses is to train experts in the mathematical sciences who will be able to carry out research at the international level. The faculty have a research-based outlook working on state-of-the-art topics in mathematics through national and international collaborations. The Department's research groups consist of **Analysis, Algebra, Geometry, Graph Theory and Combinatorics, Numerical Analysis, Financial Mathematics, Optimization, and Scientific Computing.**

Since its inception, the Mathematics Department has organised many national and international conferences, workshops and schools attracting a number of renowned mathematicians from around the world. In 2014, the European Mathematical Society (EMS) selected the Department of Mathematics at the IASBS as one of the Emerging Regional Centres of Excellence.

### The 5<sup>th</sup> Seminar on Operator Theory and its Applications

چهارمین سمینار نظریه عملگرها و کاربردهای آن  
 ۱۳۲۰ شمسنه ۱۳  
 March 13-14, 2019  
 Institute for Advanced Studies in Basic Sciences, Zanjan, Iran

**Scientific Committee:**  
 F. Abdollahi, Shiraz University  
 H. H. Attazadeh, ISBS  
 M. Amini, Tarbiat Moallem University  
 M. Bayar, Islamic Azad University-Zanjan Branch  
 A. Ghorbanalizadeh, ISBS  
 M. R. Jabbarzadeh, University of Tabriz  
 S. Karami Zaranofi, ISBS  
 M. Kian, University of Baghdad  
 F. Kittaneh, University of Jordan  
 M. Maysami Sadr, ISBS  
 A. R. Meaghlaiehi, Kermanshah University  
 F. Mirzapour, University of Zanjan  
 A. Morasaei, University of Zanjan  
 M. F. Mousavi, Southern Mathematical Institute of SAS, Korea  
 M. Radjabipour, Shahid Beheshti University of Tehran  
 J. Rooni, ISBS  
 Gh. Sadeghi, University of Salavara  
 H. Sal Moslehian, Ferdowsi University of Mashhad  
 A. Salemi, Shahid Beheshti University of Kerman  
 A. Taghavi, University of Mazandaran  
 Q. W. Wang, Shanghai University, China  
 Q. Xu, Shanghai Normal University, China

**Equation:**  $\|f(A+B)\| \leq \|f(A)\| + f(B)$

**Topics:** Spaces of Singular Matrices and Applications, Random Algebraic Geometry

**Speakers:** Antonio Lerario

### Summer School

IASBS 2018

### The 14<sup>th</sup> Workshop in Applied Stochastic Processes

Institute for Advanced Studies in Basic Sciences, Zanjan, Iran  
 December 9 - 11, 2018

**Organizing Committee:** Dr. Hassan Dadashi, Dr. Ali Bazdaji, Dr. Alireza Fardisheh

**Scientific Committee:** Prof. Ahmad Reza Soltani, Prof. Sijan Zangeneh, Dr. Abbas Ghahramani, Dr. Ali Bazdaji, Dr. Hassan Dadashi, Dr. Alireza Fardisheh

**Topic:** The 14th workshop in applied stochastic processes, following its tradition, will cover different research topics in stochastic processes and aims to provide an opportunity for researchers and graduate students working in these areas to communicate and share their ideas on related results, methods and problems.

### Second Research School on Commutative Algebra and Algebraic Geometry (RSCAAG)

Computational Commutative Algebra  
 September 1-12, 2018

**CoCoA**  
**SINGULAR**

**Invited Speakers:** John C. BUTCHER, Mehdi M. ADAMIANI, Yousef ASADI

**Department of Mathematics, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran**

### 14<sup>th</sup> Seminar on Differential Equations, Dynamical Systems and Applications

July 17-19, 2019  
 ISBS, Zanjan, Iran

**Topics:** Ordinary Differential Equations, Partial Differential Equations, Dynamical Systems, Applications

**Invited Speakers:** JOHN C. BUTCHER, MEHDI M. ADAMIANI, YOUSEF ASADI

**Department of Mathematics, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran**

### First Research School on Commutative Algebra and Algebraic Geometry (RSCAAG)

Algebra, Combinatorics and Geometry of Monomials  
 August 5-17, 2017  
 IASBS-Zanjan-Iran

**Invited Speakers:** JOHN C. BUTCHER, MEHDI M. ADAMIANI, YOUSEF ASADI

**Department of Mathematics, Institute for Advanced Studies in Basic Sciences (IASBS), Zanjan, Iran**

### چهارمین کنفرانس بین المللی آنالیز غیرخطی و بهینه‌سازی

Fourth International Conference on Nonlinear Analysis and Optimization  
 ۲۸-۳۰ تیر ۱۳۹۷  
 June 18-20, 2018

**Invited Speakers:** Samir Adly, FRANE ARTS DANILIEVIC, CHIE FABIAN FLORES-BAZAR, CHEE NICHOLAS HARTSON-VIN, GABRIEL ALFREDO NORTONOV, AN-CHI CONSTANTIN ZAFARANU, ROMANA JOFAR ZAFARANU, IRAN

**Department of Mathematics, Institute for Advanced Studies in Basic Sciences, Zanjan**

### مدرسه ریاضی IASBS

دانشگاه تحصیلات تکمیلی علوم پایه زنجان  
 ویژه دانشجویان کارشناسی  
 با حضور و سخنرانی دکتر بهمن مهتری

**سخنرانان:**  
 معادلات دیفرانسیل  
 دکتر سید فریاد حسینی  
 دکتر سیدرضا آفراسیابی  
 دکتر قاسم الله سلیمانی  
 دکتر محمد شهریار  
 دکتر بهمن مهتری  
 دکتر دینامی اصل  
 دکتر خدیجه نادانی اصل

**علم داده:**  
 دکتر میرعلی حاجی میرصادقی  
 دکتر کبری علیشاهی  
 دکتر زهره زبیدی  
 دکتر مهدی ولبانی

شروع ثبت نام: ۳۰ تیرماه  
 پایان ثبت نام: ۳۰ مردادماه  
 مدیر برگزاری: بهمن مهتری  
 دبیر برگزاری: بهمن مهتری

**IASBS**  
 دانشگاه تحصیلات تکمیلی علوم پایه زنجان  
 صندوق پستی: ۴۵۱۹۰-۱۱۵۹  
 وبسایت: [iasbs.ac.ir/mathschool/98](http://iasbs.ac.ir/mathschool/98)

# Graduate Studies

---

**The Department of Mathematics offers the following postgraduate courses.**

- ✓ *Master's programmes in Pure, Applied, and Financial Mathematics*  
These are two-year MSc programmes consisting of 10-12 courses in the first year and a research thesis project in the second year.
- ✓ *PhD degree courses in Analysis, Algebra, Geometry, Graph Theory and Combinatorics, Numerical Analysis, Financial Mathematics, and Optimisation*  
These are four-year doctoral programmes consisting of at least 6 courses and a comprehensive examination in the first two years, and a research thesis project in the remaining two years whose outcome is expected to be publishable in reputable international journals.
- ✓ *Seamless Direct MSc-PhD programmes in Pure and Applied Mathematics for undergraduate degree holders*  
These are five-year programmes. The first 2 years are spent on passing 10-13 courses and a comprehensive examination. The last 3 years are spent on carrying out research with outcomes publishable in reputable international journals.



# Research Facilities

- ✓ The Mathematics Department has a computational laboratory, which is used both for education and research.
- ✓ Further analytical facilities housed in other departments of the Institute are also available to the faculty and the students.
- ✓ The usual general facilities to support student activities are available and include personal office space, computer lab, web facilities, and meeting rooms.
- ✓ Financial support is made available to attend domestic and international workshops, schools and conferences.
- ✓ Teaching and research assistantships are also provided.



# Faculty Members



**Mohammad Hosein Alizadeh**  
*Assistant prof. of Analysis*  
(Generalized Monotone Operators)  
<https://iasbs.ac.ir/~malizadeh>



**Saeed Karami Zrandi**  
*Assistant prof. of Numerical Analysis*  
(Numerical Linear Algebra and Matrix Theory)  
<https://iasbs.ac.ir/~s.karami>



**Khadije Nedaiasl**  
*Assistant prof. of Numerical Analysis*  
(Numerical Solution of Integrable System)  
<https://iasbs.ac.ir/~nedaiasl>



**Ali Akbar Yazdan Pour**  
*Assistant prof. of Algebra*  
(Commutative Algebra and Algebraic Geometry)  
<https://iasbs.ac.ir/~yazdan>



**Esmeel Asadi**  
*Assistant prof. of Geometry*  
(Differential Geometry and Mathematical physics)  
<https://iasbs.ac.ir/~easadi>



**Alireza Khastan**  
*Associate prof. of Numerical Analysis*  
(Fuzzy Differential Equations)  
<https://iasbs.ac.ir/~khastan>



**Behzad Nemati Saray**  
*Assistant prof. of Numerical Analysis*  
(Numerical solution of differential equations)  
<https://iasbs.ac.ir/~bn.saray>



**Rashid Zaare-Nahandi**  
*Associate prof. of Algebra*  
(Commutative Algebra and Algebraic Geometry)  
<https://iasbs.ac.ir/~rashidzn>



**Hassan Dadashi-Arani**  
*Assistant prof. of Financial Mathematics (...)*  
<https://iasbs.ac.ir/~dadashi>



**Salman Khodayifar**  
*Assistant prof. of Optimization*  
(Network Design and Dynamic Network Flows)  
<https://iasbs.ac.ir/~s.khodayifar>



**Jamal Rooin**  
*Associate prof. of Analysis*  
(Analytic Inequalities Geometry of Banach Spaces )  
<https://iasbs.ac.ir/~rooin>



**Manouchehr Zaker**  
*Professor of Combinatorics*  
(Graph Theory, Algorithms and Combinatorics)  
<https://iasbs.ac.ir/~mzaker>



**Mohammad Farrokhi D. G.**  
*Assistant prof. of Algebra*  
(Algebraic Graph Theory and Combinatorics)  
<https://iasbs.ac.ir/~farrokhi>



**Behnam Khosravi**  
*Assistant prof. of Algebra*  
(Semigroup Theory and Group Theory)  
<https://iasbs.ac.ir/~b.khosravi>



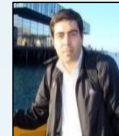
**Fazlollah Soleymani**  
*Assistant prof. of Financial Mathematics*  
(Computational Finance)  
<https://iasbs.ac.ir/~soleymani>



**Ali Foroush Bastani**  
*Associate prof. of Financial Mathematics*  
(Computational Finance)  
<https://iasbs.ac.ir/~bastani>



**Maysam Maysami Sadr**  
*Assistant prof. of Analysis*  
(Mathematical physics)  
<https://iasbs.ac.ir/~sadr>



**Ali Taherkhani**  
*Assistant prof. of Combinatorics*  
(Graph theory and Combinatorics)  
<https://iasbs.ac.ir/~ali.taherkhani>



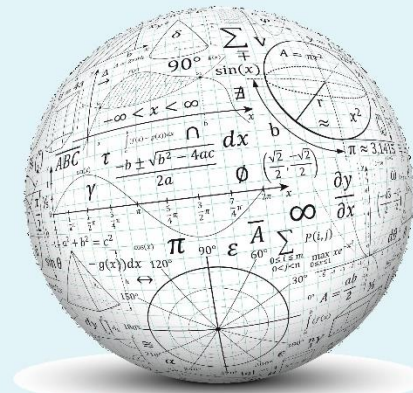
**Arash Ghorbanalizadeh**  
*Assistant prof. of Analysis*  
(Mathematical Analysis and Fourier Analysis)  
<https://iasbs.ac.ir/~ghorbanalizadeh>



**Abbas Nasrollah Nejad**  
*Assistant prof. of Algebra*  
(Commutative Algebra and Algebraic Geometry)  
<https://iasbs.ac.ir/~abbasnn>



**Saad Varsaie**  
*Associate prof. of Geometry*  
(Differential Geometry)  
<https://iasbs.ac.ir/~varsae>



# Contact us

## Head of the Mathematics Department:

Dr Ali Taherkhani

[ali.taherkhani@iasbs.ac.ir](mailto:ali.taherkhani@iasbs.ac.ir); T: (+98) 24 3315-5108

Office: 108, Mathematics Building

## Departmental Administrator:

Ms Zoleikha Reihany

[reihany@iasbs.ac.ir](mailto:reihany@iasbs.ac.ir); T: (+98) 24 3315-5047

Office: 047, Mathematics Building



Visit us at: <https://iasbs.ac.ir/departments/math/>

Institute for Advanced Studies in Basic Sciences (IASBS)  
444 Prof Yousef Sobouti Blvd, Zanjan 45137-66731, Iran  
Post Code: 45137-66731