## IMSA NEWSLETTER



Conference: New Developments of Birational Geometry **January 23-24, 2025** 

- Conference and Prizes: Miami **Mathematical Waves** January 27-29, 2025
- **Mathematical Waves Prize Presentation** January 29, 2025
- McKnight-Zame **Distinguished Lecture Series** January 29, 2025
- Conference: **Homological Mirror Symmetry** Jan. 30-Feb. 2, 2025
- **Conference: New Developments of Birational Geometry** January 23-24, 2025

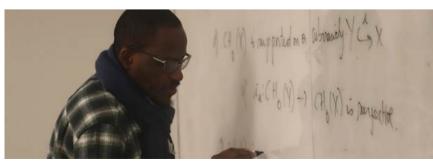












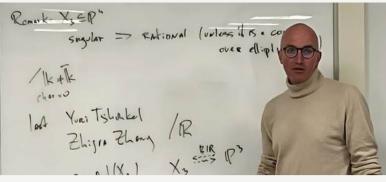






## Conference: New Developments of Birational Geometry January 23-24, 2025











## Mathematical Waves, Conference and Prizes January 27-29, 2025















### Continued: Mathematical Waves, Conference and Prize Presentation















Mathematical Waves
Prize Presentation

January 29, 2025 Lakeside Village Auditorium









































Sponsored by the Simons Foundation and the University of Miami















## McKnight-Zame Lecture Series | Janaury 30, 2025









Sponsored by the Simons Foundation and the University of Miami





















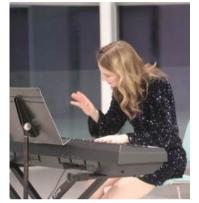




### Continued: McKnight-Zame Lecture Series

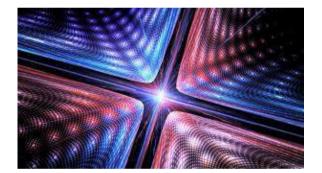












## Homological Mirror Symmetry

January 30 to February 2, 2025













Sponsored by the Simons Foundation and the University of Miami

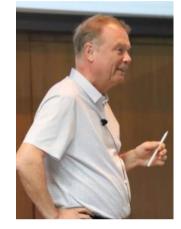
## Continued:

## **Homological Mirror Symmetry Conference**







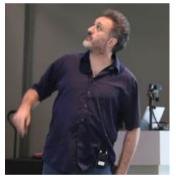
























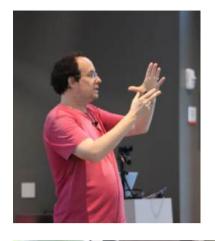






#### Continued:

### Homological Mirror Symmetry Conference















# Upcoming Events March to May 2025



- March 24–29, 2025, Conference Lefschetz Centennial
- March 25, 2025, TWAS in IMSA
- March 26, 2025, IMSA's Frontiers in Mathematics Lecture Series/WIMSA Distinguished Lecture Series
- April 21–25, 2025, Conference on Geometry at Large, and ICMAT-IMSA Collaboration
- October 30–31, 2025, Conference: Topological States of Matter
- November 9-14, 2025, Workshop on Singularities
- November 13-15, 2025, Conference: Integrable Systems



## **IMSA**





March 24 - 29, 2025

Lakeside Village Pavilion 1280 Stanford Drive Coral Gables, FL 33146

FRONTIERS IN MATHEMATICS LECTURE SERIES BY PROFESSOR MOIRA CHAS, STONY BROOK ON WEDNESDAY, MARCH 26, 2025 AT 5:30 PM

To Register:



For more information visit: imsa.miami.edu



Solomon Lefschetz

Please join us for a reception in honor of Solomon Lefschetz A celebration of his life Thursday, March 27, 2025 at 6:30 pm Lakeside Village Pavilion

1280 Stanford Drive, C.G., FL 33146

SIM NS

Speakers Include: Rodolfo Aguilar, University of Miami Benjamin Bakker, University of Illinois Chicago Enrique Becerra, Cinvestav Leonardo Cavenaghi, University of Miami Moira Chas, Stony Brook Herb Clemens, The Ohio State University Mark de Cataldo, Stony Brook Ron Donagi, UPENN Robert Friedman, Columbia University Phillip Griffiths, IAS, University of Miami Matt Kerr, Washington University in St. Louis Bruno Klingler, Humboldt University of Berlin Kyoung-Seog Lee, POSTECH Ernesto Lupercio, Cinvestav

Laurent Meersseman, Université d'Angers, France

Tony Pantev, UPENN Carlos Simpson, University of Nice Dennis Sullivan, Stony Brook Alberto Verjovsky, UNAM Claire Voisin, CNRS Filip Zivanovic, SCGP







## IMSA'S FRONTIERS IN MATHEMATICS LECTURE SERIES WIMSA DISTINGUISHED LECTURE SERIES

Wednesday, March 26, 2025 at 4:30 pm Lakeside Village Pavilion, 1280 Stanford Drive, Coral Gables, FL 33146



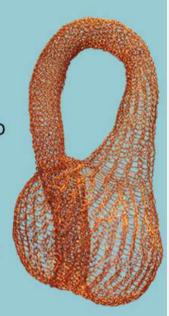
## Professor Moira Chas,

Stony Brook University

She works in low dimensional topology, and gravitates to mathematics that can be expressed by pictures. A big part of her research is finding mathematical conjectures with computers. She is best known for her work on string topology.

## Klein Bottles and Möbius Bands reveal their secrets

The Klein bottle and the Möbius band are among the most famous topological objects, yet they still have the power to make us ponder. We will explore their history and uncover some of their hidden aspects, some of which remain little known, even to seasoned mathematicians. If time permits, we will also explore intriguing sides of the projective plane.



To register, Scan the QR Code:





For more information visit: imsa.miami.edu



Sponsored by the Simons Foundation and the University of Miami

COMUNIDAD

#### Premio latinoamericano a investigadores del Instituto de Matemáticas

Rita Jiménez Rolland y Alfredo Nájera Chávez, de la unidad del IM en Oaxaca, obtuvieron el Young Mathematician IMSA Prize

Carlos Ochoa Aranda Feb 3, 2





Fotos: Instituto de Matemáticas

por segundo año, investigadores del Instituto de Matemáticas (IM) fueron galardonados con el Premio Latinoamericano de Investigación en Matemáticas otorgado por el Institute of the Mathematical Sciences of the Americas (IMSA), de la Universidad de Miami. En esta edición, la Unidad Oaxaca del IM destacó con el reconocimiento Young Mathematician IMSA Prize a Rita Jiménez Rolland y Alfredo Nájera Chávez.

En 2023, lo recibieron Santiago Alberto Verjovsky Solá, Raquel Perales Aguilar y José Antonio Seade Kuri.

emio latinoamericano a investigadores del Instituto de Matemátic

https://www.gaceta.unam.mx/premio-latinoamericano-a-investigadores

Premio latinoamericano a investigadores del Instituto de Matemática

https://www.gaceta.uram.mx/premio-latinoamericano-a-investigadores

Desde Miami, Florida, donde se llevó a cabo la ceremonia de premiación, Rita Jiménez Rolland expresó su satisfacción por este reconocimiento. "El IMSA busca dar mayor visibilidad a las matemáticas en América Latina y su conexión con el mundo. Para nosotros es un honor recibirlo, porque fortalece la presencia de la UNAM y de Oaxaca, donde yo me ubico, en el ámbito matemático global. Además, promueve la creación de redes y reconoce el trabajo de la comunidad matemática en México".

Por su parte, Alfredo Nájera Chávez subrayó la relevancia de estos premios más allá del prestigio. "El reconocimiento no sólo da visibilidad, sino que también motiva. En mi caso, me impulsa a seguir trabajando y a mejorar. Además, es una oportunidad para conectar con matemáticos de renombre, lo cual es invaluable. En América Latina no siempre es fácil acceder a los círculos más influyentes de la matemática global, y premios como este ayudan a superar esas barreras".

Una parte significativa del trabajo de investigación de Rita Jiménez se ha enfocado en estudiar un objeto matemático, grupo que captura las simetrías de una superficie. Éste es importante por su relación con varias áreas en matemáticas: aparece en el estudio dinámico de difeomorfismos y flujos; se usa para probar varias técnicas y conjeturas en teoría geométrica de grupos, y se incluye en geometría algebraica por su estrecha relación con el espacio moduli de curvas algebraicas.

"En mis investigaciones he estudiado este grupo desde diferentes perspectivas y me siento muy orgullosa del trabajo que he realizado en colaboración con varios miembros de la comunidad matemática en México".

Alfredo Nájera Chávez mezcla geometría, álgebra y combinatoria para estudiar espacios con origen en la teoría de cuerdas de la física teórica. "He contribuido completando fundamentos ausentes en una parte de la teoría e introduciendo construcciones que se conjeturaba que existían, en colaboración con investigadores de México y del extranjero".

Una de las ideas centrales de su investigación es la de deformar un espacio en otro más simple y con muchas simetrías, con el fin de entender las propiedades geométricas del espacio original a partir del espacio simétrico. "El álgebra y la combinatoria juegan un papel central en este procedimiento, ya que permiten llevar a cabo el proceso de deformación en forma controlada, de tal modo que la información esencial del espacio no se pierda al deformarlo".

Para Rita Jiménez Rolland uno de los mayores desafíos en la investigación matemática es mantener la motivación. "Las matemáticas pueden ser una actividad solitaria y, en

ocasiones, es difícil encontrar o reencontrar el impulso para seguir adelante".

Nájera Chávez, por su parte, enfatizó la dificultad de comunicar las matemáticas dentro y fuera del gremio: "Más allá del reto intelectual, lo más difícil ha sido la cantidad de obligaciones que asumimos como investigadores. Nuestra labor principal es la investigación, y el tiempo que podemos dedicarle a esto se acota mucho por el volumen de responsabilidades académicas y burocráticas relacionadas con el acceso y la gestión de recursos. Hacer investigación de alto nivel requiere de mucho tiempo y dedicación".

Finalmente, explicó Jiménez Rolland que el proceso de selección incluyó la presentación de cartas de recomendación, una descripción de sus trabajos y una carta de postulación por parte de una persona o institución, así como un currículum corto.

Un comité científico evaluó las candidaturas y determinó a los ganadores.

•	Alfredo Nájera Chávez	G5538	Institute of the Mathematical Sciences of the Americas (IMSA)		
Premio Latinoamericano de Investigación en Matemáticas				Rita Jiménez Rolland	Young Mathematician IMSA Prize

© 2017 - Hecho en México, Universidad Nacional Autónoma de México (UNAM). Esta págine puede ser reproducida con finea no lucrativos, atempre y cuando no se mutile, se cire la fuente completa y su dirección electrónica. De otro forma, requiere permiso previo por escrito de la institución.

Dirección General de Comunicación Socia

2/12/2025, 2:45 PM 3 of 3 2/12/2025, 2:45 PM

#### **NAVEGAR**

29/01/2025

## Marcelo Viana recebe 'Prêmio IMSA de Matemático'









Viana recebeu o prêmio de Maxim Kontsevich, membro do júri e medalha Fields 1998

O diretor-geral do IMPA, Marcelo Viana, recebeu nesta quarta-feira (29) o "Prêmio IMSA de Matemático Estabelecido", concedido pelo Instituto de Ciências Matemáticas das Américas (IMSA), por meio do Grupo Colaborativo de Sociedades Matemáticas da instituição. A cerimônia de premiação ocorreu na 2ª edição do Mathematical Waves Miami (MWM), na Universidade de Miami, nos Estados Unidos.

"Estou muito grato ao júri por me escolher como ganhador deste prêmio, é uma grande honra para mim. Ainda mais tratando-se de uma distinção conferida pelo IMSA, uma instituição cuja missão de promover cooperação em matemática nas Américas tem tanta afinidade com a nossa atuação no IMPA", declarou Viana.

A condecoração faz parte da iniciativa "Prêmio IMSA: Celebrando a Excelência em Matemática Latino-Americana", que homenageou Viana e mais dois matemáticos com pesquisa influente na América Latina. Eles foram reconhecidos pelo "Prêmio IMSA Jovem Matemático". Alfredo Najera Chaves, da Universidade Nacional Autônoma do México (UNAM), venceu como jovem proeminente na carreira matemática. E Rita Jimenez Rolland, da UNAM, recebeu reconhecimento como mulher com pesquisa matemática relevante na América Latina. Todos os premiados receberão um valor em dinheiro e um certificado de reconhecimento por suas contribuições excepcionais à

#### **NAVEGAR**



Leia mais: Folha: 'Uma prova matemática surpreendente' Aloisio Araújo é entrevistado pelo Valor Econômico IMPA inaugura vitrine de prêmios e condecorações

A escolha dos homenageados passou por um rigoroso processo de seleção, que envolveu um comitê composto por matemáticos relevantes de diversas áreas da disciplina. A avaliação priorizou especialmente "significância matemática, impacto e qualidade de seus trabalhos".

Antes da cerimônia, Viana ministrou a palestra "Dinâmica parcialmente hiperbólica". O matemático abordou características exibidas por sistemas parcialmente hiperbólicos, especialmente ligados à rigidez, expoentes de Lyapunov e folheações patológicas. Mais 23 matemáticos latino-americanos conduziram palestras sobre temas diversos, como Intersecções reais e esparsas, Geometria de fibrados de Hodge em superfícies de Riemann e Estruturas complexas e simpléticas em grupos de Lie quase abelianos.



# Societies from Latin America and the Caribbean are present at the Mathematical Waves Miami 2025

Conference brings together the main scientists and mathematicians from the Latin American continent from January 27th to 29th at the University of Miami

The success of the event in 2024 motivated the <u>Institute of Mathematical Sciences of the Americas (IMSA)</u> to hold the 2nd edition of <u>Mathematical Waves Miami (MWM)</u>, at the University of Miami, in Florida. Held from January 27th to 29th, the event is an opportunity to recognize and honor scientists from Latin America and the Caribbean for renowned lectures and awards in the field of Mathematics.

Over the three days, a congregation of the main mathematical societies on the continent will hold conferences in Miami with the aim of joining forces in favor of the advancement of science and the promotion of "the integration of the Hispanic community in the global mathematical speech".

On the first day of MWM 2025, the main auditorium of the Lakeside Village Pavilion hosted plenary sessions by <u>Jaqueline Godoy Mesquita</u>, President of the Brazilian Mathematics Society, <u>Lino Grama</u>, professor at the Institute of Mathematics, Statistics and Scientific Computing at the State University of Campinas, also in Brazil, <u>Alicia Dickenstein</u>, President of the International Mathematical Union (IMU), <u>Luis Núñez-Betancourt</u>, researcher at the CIMAT, in Mexico, and <u>Alberto Verjovsky</u>, researcher at the Mathematics Institute of the National Autonomous University of Mexico (UNAM) and winner of one of the IMSA awards in 2024.

Holding the MWM for the 2nd consecutive year in Miami emphasizes the importance of the event to the international scientific community. For Jaqueline Mesquita, president of the **Brazilian Mathematics Society**, the visibility that the IMSA event brought to research and studies by mathematicians from Latin America only made the 2nd edition of the event even more relevant on the international scientific scene.

"The event in 2024 was a success and IMSA, in fact, aims for this: to publicize exceptional work by several researchers from Latin America to the international mathematical community. An initiative like this is very important to show the potential of Mathematics in Latin America and the Caribbean", analyzes Jaqueline.

Winner of the IMSA Award for Best Mathematician Established in 2024, mexican Alberto Verjovsky believes that the recognition is concrete proof of the contributions of Latin American researchers to science in a way that can go beyond the continent's borders.

"Unfortunately, today there are still few scientific awards awarded to researchers from Latin America. The contribution of Latin American Mathematical Societies is vast and this is a very impactful event, as Miami is a center for meetings of all nationalities. Latin America plays an important role in the arts, tourism, but also in the area of science. With this event, IMSA seeks to celebrate the notable contributions to Mathematics from researchers on the continent, who often end up serving as inspiration for new generations", points out Verjovsky, Ph.D. from Brown University and a reference in the areas of Geometry, Topology and Dynamics.

In the view of <u>Ernesto Lupercio</u>, Senior Executive Liaison for Global Outreach of IMSA, the relevance of MWM around the world makes the mathematical community already imagine the event as a kind of Nobel Prize for Mathematics in Latin America in the coming years.

"You recognize the importance of the awards, which recognize both established mathematicians, such as Alberto Verjovsky, and younger mathematicians, such as Raquel Perales and Miguel Walsh, who won in the young mathematicians category and place themselves as favorites to win other international distinctions in the field. They will continue to be able to continue their fantastic work in Latin America and, above all, they represent models to encourage new generations who dream of studying Mathematics in the region", observes the researcher at the Center for Research and Advanced Studies at the National Polytechnic Institute (CINVESTAV), in Mexico City.

In 2024, IMSA awarded Alberto Verjovsky in the Established Mathematician category, while Raquel Perales, researcher at the Mathematics Research Center (CIMAT), in Mexico, and Miguel Walsh, professor at the University of Buenos Aires, in Argentina, achieved the distinction as Young Mathematicians.

The winners of the 2025 edition will be announced on Wednesday (29). You can follow the complete <u>MWM schedule</u> on the official IMSA website.