



News from the COFI Director:  
Great start for the initiative to  
create the *Instituto de Cosmología y  
Física de las Américas* (COFI) in  
San Juan, Puerto Rico



COFI Director: Dr. Mayda Velasco



Dr. Adam Riess

Members from the scientific and academic community from Latin America, Europe and the United States gathered in San Juan, P.R., for four days at the beginning of November to launch the creation of the "Instituto de Cosmología y Física de las Américas (COFI)". Two of the events featured the 2011 Physics Nobel Laureate, Prof. Adam Riess, as the keynote speaker, setting the level of excellence to which COFI aspires.



Some of the guests at the inaugural event: Otegbola Ojo, MD (Atlantis Health Care, Canada/Nigeria), Dr. Ewa Rondio (Sultan Institute, Poland), Dr. Eric Dahl (Northwestern University, USA), Dr. Don Cundy (CERN, Switzerland) , Dr. Clara Matteuzzi (Milan, Italy) and Mr. Federico Rosado (COFI Construction and Operation Committee member, P.R.)

The activities were held at the Caribe Hilton Hotel and at the University of Puerto Rico, Rio Piedras Campus (UPR-RP), and included several meetings from the Board of Directors (BOD), a collaboration meeting attended by the visiting scientists and academics, and

members of the Scientific Advisory Committee (SAC), the inaugural event, the first public lecture of the COFI's "*Cátedra Magistral: Lecture Series*" and an orientation for physics and astronomy undergraduate students at the UPR-RP.

BOD members attending November meetings: Dr. Dwight McBride (Northwestern University, USA), Dr. Gladys Escalona (University of Puerto Rico), Dr. Harry Weerts (Argonne National Laboratory, IL, USA) and Dr. Mayda Velasco (COFI Director and Northwestern University, USA)



# Meetings of the Board of Directors

The board meetings focused on space, infrastructure, personnel and search for funds issues needed to start operations in about three years. Steps needed to ensure support from the local government agencies and

international entities, like UNESCO, were also discussed.

The Institute is an independent center active in theoretical, computational, and experimental disciplines, with the mission of advancing our understanding of the Universe and the laws that governs it at the most fundamental level and to promotes advances in applied physics.

BOD members attending the November meetings: Dr. Marta Losada (Universidad Antonio Nariño, Colombia), Dr. Fernando Quevedo (ICTP-Trieste, Italy and Cambridge University, UK) and Engg. Gladys Nieves (EDP University, P.R.)



BOD members attending the November meetings: Dr. Eric Bou (Texas), Law. Pedro Rivera Rivera (guest), Mr. Tony Ramirez (guest), Jose Huerta, MD (Banco Vida, P.R.) and Dr. Daniel Altschuler (University of Puerto Rico, Rio Piedras Campus)



SAC members attending November meetings: Dr. Ewa Rondio (Sultan Institute, Poland), Dr. Clara Matteuzzi (Milan, Italy), Dr. Andris Skuja (Univ. of Maryland, College Park, USA)

## Collaboration Meeting

A meeting including the COFI Director, SAC members and visiting scientist and administrators from USA, Colombian and European institutions worked on the physics program for 2015 and discussed possible collaborations between COFI and local scientific entities, like the Radio Telescope of Arecibo, and Latin America.

Between 2014 and 2017, COFI will organize about 15 lectures for the general public; several international workshops and develop a specialized doctoral level school with particular emphasis on advanced instrumentation, new methods of data analysis and statistics.

Based on the discussion, there will be two workshops in 2015: (1) will focus on topics at the intersection of cosmology

and particle physics (dark matter, dark energy, Higgs Boson, etc.), and (2) on biophysics and computational physics.

The summer school will be offered every two years and most likely the first one will be in 2016.

General agreement is that increasing the Latin America constituency is high priority.

Arch. Carlos Rubio and Law. Pedro Bras attended the inaugural event and are part of the team working towards having COFI recognized by the UNESCO.





Left: Dr. Michael H. Schmitt (Director of Graduate Studies in the Dept. of Physics and Astronomy, Northwestern Univ., IL, USA) and Dr. Carlos Padin (Chancellor, Universidad Metropolitana, P.R.);

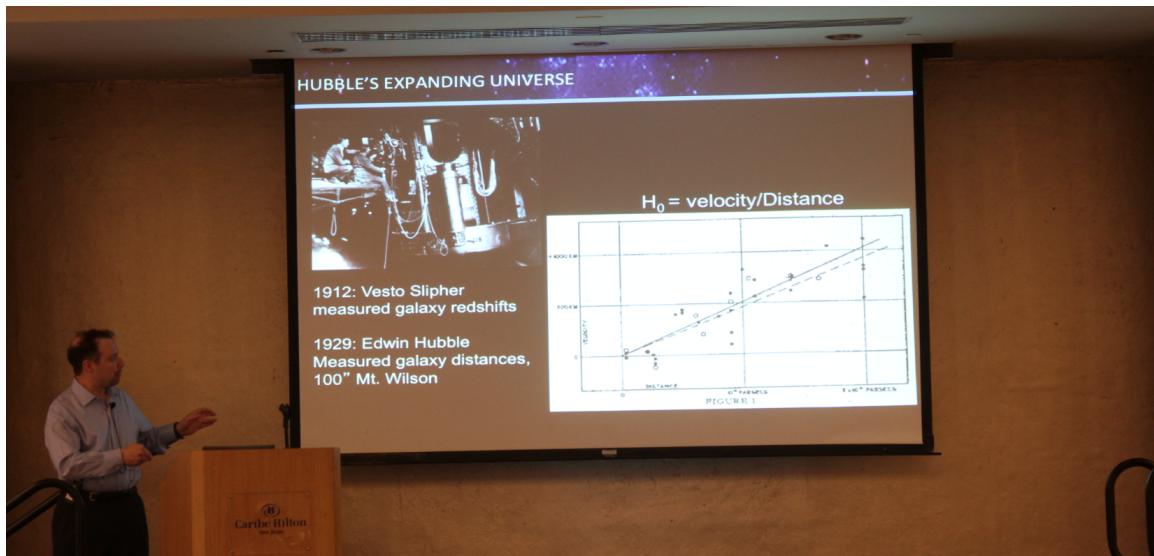
Right: Dr. Marcelle Soares-Santos (Fermi National Accelerator Lab., IL, USA)



Dr. Cecilia Gerber (Univ. of Illinois in Chicago, USA), Nsombi Ricketts (Assistant Dean, Northwestern Univ., IL, USA), Mr. Rios (Northwestern Univ., IL, USA), Engg. Gladys Nieves (COFI BOD, EDP University, Puerto Rico), Dr. Nora Bonin (Associate Director of Office of International Affairs, Univ. of Illinois in Chicago, USA);



Daniel Elvira (Fermi National Accelerator Lab., IL, USA), Dr. Chris White (Associate Provost of the Illinois Institute of Technology, USA), Dr. Adilson Motter (Northwestern Univ., IL, USA) and Dr. Bryan Lynn (Case Western Reserve Univ., Ohio, USA)



Prof. Riess discussing the main observational evidence from Supernova measurements that show the acceleration in the expansion of the Universe

## The COFI Inaugural Event on the 2<sup>nd</sup> of November

About 100 guests from the scientific and academic community from Puerto Rico, Latin America, Europe and United States, and COFI supporters joined us on the second of November for a reception, a scientific presentation and a dinner in the "Salon Las Olas" of the Caribe Hilton Hotel on the occasion of the COFI inaugural event. About 40 percent of the guests came from abroad and representatives



from most of the institutions of higher education from Puerto Rico were present.

The guests were enthralled by the masterly account of the scientific achievements of the scientist Adam Riess, winner of the Nobel Prize in Physics in 2011, who was the keynote speaker on the occasion of the COFI inaugural event. The "Cátedra Magistral" focus on the subject of "The Surprising History of Accelerated Universe". "Why the Universe is accelerating now? What is Dark Energy? The truth is that we really do not know and this is what makes this phenomenon into something so exciting to be studied," argued Riess during the presentation. At the end he stated, "What is so attractive is that Dark Energy actually is showing us how the Universe makes physics at that interface. It is a very important clue for us to follow, as we will learn and gain a deeper insight into the physics".

**Dr. Carlos Gonzalez (Interim Dean of the Faculty of Natural Sciences UPR-RP), Physicists and Astronomers from Puerto Rico: Dr. Hector Mendez (University of Puerto Rico, Mayaguez), Dr. Moises Orengo (Chancellor of the University of Puerto Rico, Carolina Campus) and Prof. Daniel Altschuler (UPR-RP and COFI BOD) and Prof. Adam Riess (Johns Hopkins Univ., MD, USA)**



**Dr. Angel Lopez (University of Puerto Rico, Mayaguez), Dr. Idalia Ramos (University of Puerto Rico, Humacao), Dr. Sudhir Malik (University of Puerto Rico, Mayaguez) and Dr. Jose Alonso Costa (University of Puerto Rico, Cayey)**



Distinguished members of the local academic and artistic community: Top: Mrs. Zulma Marrero, Prof. Adam Riess, Mrs. Celia Altschuler and Mrs. Nancy Riess, Prof. Jose O. Sotero-Esteva (Math Dept. from University of Puerto Rico in Humacao); Bottom: Prof. Jose Fontanez and Prof. Isabel Escabi from la (Universidad Interamericana de P.R.) and Prof. Ileana Casanova and Prof. Raul Bras (Chemistry Dept. from University of Puerto Rico in Mayaguez)

About ten high school and young undergraduate students, interested in physics and astronomy, were invited to the inaugural dinner. They took the opportunity to interact with the scientist attending the event.

Some of the students attending the event: Miss Tatiana Peregrina, Mr. Eric Bou Jr. and Miss Gretchen Bou with Prof. Michael H. Schmitt; Miss Valeria Llovet, Miss Cecilia Pou and Mr. Manuel Perea with Prof. Riess



Among those attending the event was the aviation electrical engineer Luis Guillermo Betancourt Bagos, winner of a Silver Snoopy from NASA, who is one of the Puerto Ricans that worked on the Hubble Telescope, the device used by Prof. Riess on the Supernovae measurements.

Also present were several experts and scientist from the Radio Telescope from Arecibo, including the Chancellor of the Universidad Metropolitana, Dr. Carlos M. Padín, which is the educational entity administrating that scientific facility, as part of a consortium with the SRI International and the Universities Space Research Association.

Physics and astronomy enthusiasts and COFI contributors attending the inaugural event:

Top: Prof. Riess and Mr. Luis Betancourt, Mrs. Johnny Hernandez, Mrs. Rosa Betancourt;

Middle: Mrs. Ketzia Rosario Rodriguez and Mr. Federico Rosado Jr. with Prof. Riess, Miss Carina Elvira;



Mrs. Yazmin Conte and Mr. Andres Alonso and Mr. Federico Rosado and Laura Peres Montfort  
with Prof. Riess



Members of the medical community attending the inaugural event: Top: German Gonzalez, MD and Mrs. Fabiola Vilella, Dr. San Miguel and Norma Alonso-Cedo, MD, Jorge Ortega Gil, MD; Bottom: Jaime L. Velasco Santos, MD, Rafael Burgos, MD and Johnny Hernandez, MD

Philanthropist, members of the legal community and the private sector attending the inaugural event:  
Top: Law. Jaime L. Velasco Bonilla, Law. Pedro Llovet with COFI Director Dr. Mayda Velasco and Mrs. Andrea Barrrientos; Bottom: Law. Luis Rivera, Arch. Carlos Lopez Vilella and Engg. Gonzalo Gonzalez



# The inaugural activity at the Caribe Hilton Hotel was a success thanks to the fabulous local organizing committee

The local organizing committee was composed of:

- Top: Arch. Annelisse Molini (COFI Outreach and Public Relations (OPR) Director), Dr. Vilma Ortega MD, Dr. Mayda Velasco (ex officio), Ginny Jove (OPR Committee), Gladys Nieves (BOD), Lourdes Llovet (OPR Committee);
- Bottom: Mrs. Mayda Bonilla Pagan; Dr. Gretchen Velasco MD and Mrs. Brenda Justiniano.
- Not attending: The Honorable Enid M. Gavilan Perez.



# COFI Public lecture at the University of Puerto Rico on the 3<sup>rd</sup> of November

Enthusiasts of physics and astronomy were captivated by the eloquence and humor of Prof. Adam Riess, who visited the University of Puerto Rico, Rio Piedras (UPR-RP), as part of the

COFI inaugural celebrations and delivered first presentation of the COFI's "Cátedra Magistral: Lecture Series".

The event was attended by more than 500 people, including students, researchers, and other science enthusiasts. The scientific community included about 15 individuals of those visiting Puerto Rico to participate in the COFI activities.

The master of ceremonies was the UPR-RP faculty member and one of the scientists in COFI's board of directors, Dr. Daniel Altshuler. There were introductory remarks by Dr. E. Carlos Severino Valdez (Chancellor of the UPR-RP), one of the co-sponsors of the event Dr. Dwight McBride (Dean of The Graduate School of Northwestern University) and the COFI Director and Northwestern University faculty member, Dr. Mayda M. Velasco Bonilla.

The Chancellor said: "it is a privilege for this campus and for the country that we can share with Dr. Riess; and above all to have our students the experience of listening to a very prominent international figure in the field of physics. With this event we



**COFI**  
INSTITUTO DE COSMOLOGÍA Y  
FÍSICA DE LAS AMÉRICAS

El Instituto de Cosmología y Física de las Américas y La Universidad de Puerto Rico invita al público a la conferencia:

**"Supernovas ¿Materia Oscura? ¿Energía Oscura?  
La Sorprendente Historia del Universo Acelerado"**

**Adam Riess**  
**Premio Nobel en Física (2011)**

Lunes, 3 de noviembre del 2014, a las 11:30 en el Anfiteatro #1 de la Facultad de Estudios Generales de la Universidad de Puerto Rico, Recinto de Río Piedras

Favor registrarse para recibir información: <http://sites.northwestern.edu/cofi/>

**TGS** THE GRADUATE SCHOOL  
UNIVERSITY OF PUERTO RICO  
**UPR** Universidad de Puerto Rico  
**CIERA**  
**BANCOVIDA** BANCO DE PUERTO RICO  
**Argonne** LABORATORY  
**Universidad de Puerto Rico**

La conferencia será en inglés.

Para más información: [cofi.pr@gmail.com](mailto:cofi.pr@gmail.com)

affirm again that the University of Puerto Rico is the window that exposes the world to Puerto Rico and Puerto Rico to the world."

Prof. Velasco, who did her undergraduate work at the UPR-RP, talked about the COFI initiative: "This is the beginning of something wonderful. We will have the opportunity to expand the scientific and research capacity of our country, and to work with all the great scientists, who are already with us. In the future, the new generation will not have to emigrate in order to do the kind of work that I have done for the last 30 years outside of Puerto Rico." Prof. Velasco finished by saying: "We are coming back."

The international guests and Prof. Riess had the opportunity to interact with UPR faculty and students at a lunch organized by Prof. Lillian Bird from the Chancellors Office and Prof. Carlos Gonzalez, Dean of the Faculty of Natural Sciences.

The activity at the UPR was possible thanks to the local university support from Prof. Lionel Orama and Mrs. Gretchen Krans from the Office of the President of the UPR system; Prof. Gladys Escalona from the Office of Research and Technology; Mrs. Elsa Marin from the Office for Development and Communications; Prof. Carmen Pantojas and Prof. Jose Nieves (Chairman) from the Physics and Astronomy Department; Astronomer and Prof. Marta Lebron from the Faculty of General Studies; Prof. Lillian Bird from the Chancellors Office and Prof. Carlos Gonzalez, Interim Dean of the Faculty of Natural Science.

The main UPR COFI sponsors for this event were:

- The Northwestern Graduate School (TGS)
  - <http://www.tgs.northwestern.edu/>
- Argonne National Laboratory (ANL)
  - <http://www.anl.gov/>
- Banco Vida
  - <http://www.bancovida.com/>
- The Physics and Astronomy Department of Northwestern University
  - <http://www.physics.northwestern.edu/>
- Center for Interdisciplinary Exploration and Research for Astrophysics (CIERA)
  - <http://ciera.northwestern.edu/>



- Coverage of the UPR-RP event by the local press can be found in:

[\*\*HTTP://WWW.ELNUEVODIA.COM/PREMIONOBELDEFISICACOMPARTELASORPRENDENTEHISTORIADELUNIVERSO-188716.HTML\*\*](http://www.elnuevodia.com/premionobeldefisicacompartelasorp rendentehistoriadeluniverso-188716.html)

- The UPR-RP event is also available on YouTube:

[\*\*HTTPS://WWW.YOUTUBE.COM/WATCH?V=ObDLDRDMEYI\*\*](https://www.youtube.com/watch?v=ObDLDRDMEYI)

- The article provided below, about the COFI initiative and written by the journalist Osman Perez Mendez, appeared on Nov. 5 in the "El Nuevo Dia" newspaper.

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EL NUEVO DÍA  
Miércoles, 5 de noviembre de 2014

## Comienza a gestarse Instituto de Cosmología y Física

Aunque todavía es un proyecto, contó con un premio Nobel para su charla inaugural

Osman Pérez Méndez  
osman.perez@grimedia.com  
Twitter:@Osman\_PM

Los primeros pasos en la creación del Instituto de Cosmología y Física de las Américas fueron por todo lo alto, con la presentación en la Universidad de Puerto Rico en Río Piedras del premio Nobel de Física, Adams Riess.

La doctora Mayda Velasco, directora del Instituto, al que han decidido llamar COFI de forma más corta, explicó que la institución está en plena gestación. Pero mientras se completa, planean ofrecer unas cuatro charlas al año abiertas al público general y libre de costo, que estarán a cargo de importantes personalidades en el campo de la física, como el caso del doctor Riess, astrofísico ganador del prestigioso galardón en el 2011 en conjunto con Saul Perlmutter y Brian P. Schmidt, por probar que la expansión del universo se está acelerando.

"COFI, hoy es un instituto virtual,

**"Hay muchas personas interesadas en este proyecto, que quieren ayudar a formar este Instituto"**

MAYDA VELASCO  
Doctora en física



pero va a ser un instituto internacional", dijo la doctora Velasco en la presentación del evento, resaltando que ella es "producto de la Universidad de Puerto Rico, recinto de Río Piedras".

"Este es el comienzo de algo maravilloso. Vamos a tener la oportunidad de expandir la capacidad de investigación científica en nuestro País, y colaborar con todos los científicos fantásticos que ya están con nosotros.

Pero en la futura generación puede que muchos de ustedes puedan quedarse y hacer el tipo de trabajo que yo he hecho por los últimos 30 años fuera de Puerto Rico. Estamos volviendo", dijo Velasco, quien también es profesora de la Universidad Northwestern, a la audiencia, antes de dar paso al doctor Riess.

El premio Nobel y profesor de la Universidad John Hopkins, compartió

con el público sobre el universo y su constante expansión, y la energía oscura, un misterioso e importante componente del universo que la ciencia aún trata de comprender.

Al comentar que la presentación fue como "la inauguración del instituto", Velasco resaltó que "hay muchas personas interesadas en este proyecto, que quieren ayudar a formar este instituto. Hay mucho respaldo tanto a nivel local como internacional".

Velasco explicó que para la creación del centro se están considerando cuatro localidades en el Viejo San Juan.

La física añadió que el dinero inicial para el proyecto provendrá mayormente de la Unesco, aunque también hay universidades, instituciones y fundaciones colaborando. Entre esas entidades, mencionó al Laboratorio Nacional Argonne, cuyo director asociado de la división de física e ingeniería, Harry Weerts, formará parte de la junta de directores de COFI, así como a la Universidad de Northwestern, cuyo decano de la escuela graduada, el doctor Dwight McBride, participó de la inauguración de COFI.

El Instituto, que contará en su junta con la doctora Gladys Escalona y el catedrático Daniel Altschuler, tendrá énfasis en dos áreas: la cosmología, que se enfoca en el principio y la formación del universo; y la física aplicada, que abarca las aplicaciones de los avances en la física en la medicina, la física de cómputos y la creación de modelos aplicados, entre otros.

La doctora dijo que COFI se inspira en el Centro Internacional de Física

Teórica, promovido por la Unesco y fundado en Trieste, Italia, hace 50 años, y que ha ayudado muchísimo a desarrollar físicos en países menos desarrollados. Sin embargo, explicó, que los latinoamericanos no han aprovechado tanto ese centro.

"Queremos tener este Instituto en Puerto Rico y con énfasis en Latinoamérica. Es algo que además coincidiría con el desarrollo que está experimentando en Latinoamérica la educación y las ciencias", dijo.

La doctora estimó que el Instituto sería además un espacio importante para el desarrollo de estudiantes, profesores e investigadores de la Isla.

"Después de graduarme de la Universidad de Puerto Rico, tuve que salir afuera para continuar mis estudios de doctorado, porque aquí no había las facilidades para hacerlo, no estaba disponible. Y esa es otra razón de este instituto, proveer el espacio de investigación para maestrías y doctorados", afirmó Velasco.

**2011**

Este fue el año en que fue premiado con el Nobel de Física el científico Adam Riess, quien fue el primer orador de las charlas públicas que tiene previsto hacer el naciente Instituto de Cosmología y Física de las Américas.

## Board of Directors

- **Daniel Altschuler, PhD** (Astronomer) University of Puerto Rico. Former director of the Arecibo Radio Telescope Observatory.
- **Eric Bou Diaz, PhD** (Clinical Pharmacist) Mission Regional Medical Center. Ex Director of Brownsville Hospital, Texas.
- **John Ellis, PhD** (Physicist) King's College London, UK. Former CERN staff Adviser to the CERN Director General for relations with Non-Member States.
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- **Gladys Nieves** (Industrial Engg.) President, EDP University, Puerto Rico, Inc.
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- **Harry Weerts, PhD** (Physicist) Associate Laboratory Director for Physical Sciences and Engineering of Argonne National Laboratory.

## Scientific Advisory Board

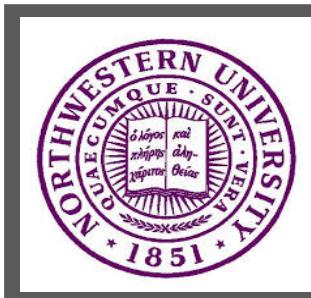
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- **Ewa Rondio, PhD**, Poland, Director of Sultan Institute, Former CERN associate director.
- **Andris Skuja, PhD**, Canada, Experimental Physics, University of Maryland.
- **Sara Solla, PhD**, Argentina, Complex System and Neural-network, Northwestern Univ. Feinberg School of Medicine.
- **Daniel L. Stein, PhD**, American, New York University, Professor of Physics and Mathematic. From 2006-2012 he served as the NYU Dean of Science.
- **Matias Zaldarriaga, PhD**, Argentina, Princeton Institute of Advance Studies.



## Photographs courtesy of Luis E. Velasco

COFI Operations are possible thanks to generous donations and support from:

- Norma Alonso-Cedo, MD
- Mr. Manuel F. Bou and Mrs. Carmen H. Bou
- Magdalen Flores, MD and Jose Nieves Sosa, MD
- Mr. Paul Lynn
- Vilma Ortega, MD and Jose Huerta, MD
- Mr. Jose (Tony) Ramirez
- Keith Ramos, MD
- Alma Torres, DDS and Engg. Gonzalo Gonzalez
- Gretchen M. Velasco, MD, PA, Dr. Eric Bou-Diaz and Bou-Velasco Family



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