

Invention Patents Granted to UPR-Mayagüez Department of Physics faculty members

As of March 2005, out of 25 patents in the entire portfolio of the University of Puerto Rico, 10 were the result of inventions by UPRM - Department of Physics faculty members. This is by far the largest number for any academic department in the UPR system. The following list of eleven patents includes one not assigned to UPR since it resulted from previous work. One additional patent has been applied for and is currently pending. Invention disclosures which have been submitted to the UPR Intellectual Property Office but for which the University have not yet applied to the U.S. Patent and Trademark Office are not included.

U.S. Patent No. **5,080,739**. Issued January 14, 1992.

Method for Making Beam Splitters and Partially Transmitting Normal-Incidence Mirrors for Soft X-Rays

[Félix E. Fernández](#) and Charles M. Falco

(Assignee: The United States of America as represented by the Secretary of the Air)

U.S. Patent No. **5,274,689**. Issued December 28, 1993

Tunable gamma ray source

[Jose C. Palathingal](#), Kelvin G Lyn, and Palakkal Asoka-Kumar

U.S. Patent No. **5,405,659**. Issued April 11, 1995.

Method and Apparatus for Removing Material from a Target by Use of a Ring-shaped Elliptical Laser Beam and Depositing the Material onto a Substrate

[Félix E. Fernández](#)

U.S. Patent No. **5,475,228**. Issued December 12, 1995

Unipolar blocking method and apparatus for monitoring electrically charged particles

[Jose C. Palathingal](#)

U.S. Patent No. **5,557,471**. Issued September 17, 1996.

Lens for Depositing Target Material on a Substrate

[Félix E. Fernández](#)

U.S. Patent No. **5,746,823**. Issued May 5, 1998.

Organic crystalline films for optical applications and related methods of fabrication

[Alexander Leyderman](#)

U.S. Patent No. **6,117,362**. Issued Sept.12, 2000.

Long Persistence blue phosphors

William M Yen, [Weiyi Jia](#), Lizhu Lu, Huabiao Yuan

U.S. Patent No. **6,198,530**. Issued March 6, 2001.

Organic crystalline films for optical applications and related methods of fabrication

[Alexander Leyderman](#)

U.S. Patent No. **6,267,911**. Issued Jul.31, 2001.

Phosphors with long persistent green phosphorescence

William M Yen, [Weiyi Jia](#), Lizhu Lu, Huabiao Yuan

U.S. Patent No. **6,534,134**. Issued March 18, 2003.

Apparatus and Method for Pulsed Laser Deposition of Materials on Wires and Pipes

[Félix. E. Fernández](#)

U.S. Patent No. **6,608,205**. Issued August 19, 2003.

Organic crystalline films for optical applications and related methods of fabrication

[Alexander Leyderman](#) and [Yunlong Cui](#)

Pending patent application:

Long persistent phosphors and persistent energy transfer technique

William M. Yen, Dongdong Jia, [Weiyi Jia](#), and Xiao-Jun Wang.

Application No. 20040164277. Filed in July, 2002.