

ARLIE PETTERS

QUOTE

*"I was inspired to go into academia as a result of exposure to various role models from **underrepresented backgrounds**. Having benefited from such exposure early on, I truly believe in the importance of bringing perspectives from predecessors to the underrepresented **minority** community in an academic setting." [Arlie Petters]*

EARLY LIFE

Arlie Petters was born on the 8th of February 1964, in **Dangriga, Belize**. He grew up surrounded by nature, in a town of less than three thousand people and **scarce electricity**. According to him, "these humble beginnings also come with a blessing, in that the night sky was just breathtaking," he would see **millions of stars**, and he felt a deep connection with them. These connections **sparked** his interest in **cosmos, physics, math, and philosophy**. Petters later joined his mother in **1977**, who moved to **New York City** long before in search of the **American Dream**.



EDUCATION

After, Arlie immigrated to America, he spent his two final years of high school in Brooklyn, and later joined the City University of New York, **Hunter College**. From there Petters earned his **BA and MA in mathematics and physics** from Hunter College. He also earned a **PhD in mathematics** from **MIT**. Arlie Petters has been the William and Sue Gross **Associate Professor of Mathematics** at Duke University since 1998 and was named **director of undergraduate studies** in the department in **August 2002**.

MAJOR CONTRIBUTIONS TO THEIR FIELD

- Petters' research explores how gravity acts on light. He pioneered the **mathematical theory of weak-deflection gravitational lensing**, which brought powerful methods from pure mathematics to bear on astronomy. Over the ten-year period from **1991 to 2001**, Petters systematically developed a mathematical theory of weak-deflection gravitational lensing, beginning with his 1991 MIT Ph.D. thesis on **"Singularities in Gravitational Microlensing."**
- Following his 1991-2001 body of mathematical lensing work, Petters turned to more **astrophysical lensing** issues from **2002 to 2005**. In collaboration with astronomers, he applied some of the mathematical theory in Singularity Theory and Gravitational Lensing [his book] to help develop a practical diagnostic test for the presence of dark substructures in galaxies lensing quasars.

UNIQUE CIRCUMSTANCES

In his town, Dangriga, he barely had any electricity, so he had studied under a kerosene lamp. When he came to America, he didn't really understand race as a concept until strangers on the street called him the "n" word. In Belize, he grew up in his preteens years without being demeaned, but once he got to America he **suffered** a lot of **racism**.

MISCELLANEOUS/FUN FACTS

- In 1998, Petters was awarded **mathematics' most prestigious** Sloan Research Fellowship as well as a 5-year National Science Foundation Career Grant.
- In November 2002, he became the **first recipient** of the **Blackwell-Tapia Prize**.
- In 2008 Petters was also included among the Human Relations Associates' list of **"The Twenty-Five Greatest Scientists of African Ancestry,"** which went back as early as the 18th century.
- Arlie Petters, Joachim Wambganss, Harold Levine published a book in 2001 called **"Singularity Theory and Gravitational Lensing."**