

# Discovering Super-massive Black Holes



**Gordon Richards**  
Associate Professor, Physics

## CURRENT RESEARCH

How finding super-massive black holes helps to understand our place in the universe

While gazing up at the night sky, it is almost unfathomable to consider the incredible complexity that defines the intricacies of our Universe. Dr. Gordon Richards, of Drexel University, is an astronomer and astrophysicist that studies our universe in order to find clues that will shed light on how the galaxies that we see today came to be. Specifically, Dr. Richards studies quasars, which are galaxies that are host to a super-massive black hole in their centers that "eats" materials around it. Quasars were first discovered in 1963 and now, during the course of his research, Dr. Richards has arguably "discovered" more of these black holes than anyone else. He continues to lead researchers by creating innovative tools and technologies to find even more quasars and furthermore, to use quasars as tools to probe our Universe.

Dr. Richards' research lays a foundation for addressing many of the pressing questions we have had about black holes and our universe since we were kids. Dr. Richards' research on black holes, and the field of astronomy in general, serves as an inspiration for budding young scientists around the world. In addition, Dr. Richards' use of modern statistical methods to find black holes makes his research unique and allows him to mine through massive data sets more efficiently and accurately than ever before. In terms of physics, his research is also unique because he and his team are trying to understand how new data can fit with old models of black holes in quasars or if those models need to be updated.

Current research includes:

- Counting Black Holes: Dr. Richards and his collaborators are hoping to identify as many super-massive black holes as possible...

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## AFFILIATION

Drexel University

## EDUCATION

- A.B., in Astrophysical Sciences, 1994 , Princeton University
- S.M., in Astronomy & Astrophysics, 1995 , University of Chicago
- Ph.D., in Astronomy & Astrophysics, 2000 , University of Chicago

## AWARDS

- Thompson Reuters' "Highly Cited Researchers 2014", 2014
- Alexander von Humboldt Research Fellowship, 2013
- Antelo Devereux Award for Young Faculty, Drexel 2009
- Alfred P. Sloan Research Fellowship, 2007-2011
- Sugarman Award, University of Chicago, 2000

## RESEARCH AREAS

Technology, Space, Space

## FUNDING REQUEST

Your contributions will support the continued research of Dr. Gordon Richards as he studies quasars and uses them as tools to learn more about our universe. Your donations will support the necessary cost of \$160K per year for personnel, travel, publications, and equipment. In choosing to donate, you will play an important part in helping researchers to understand our universe and what it is becoming.