

# Shivan Khullar

☎ (+1) 416-989-7569 | ✉ [khullar@astro.utoronto.ca](mailto:khullar@astro.utoronto.ca), [shivan.khullar@mail.utoronto.ca](mailto:shivan.khullar@mail.utoronto.ca), [shivankhullar@gmail.com](mailto:shivankhullar@gmail.com) | 🌐 [www.astro.utoronto.ca/khullar](http://www.astro.utoronto.ca/khullar)

## Education

### University of Toronto

PH.D. (DIRECT ENTRY) IN ASTRONOMY AND ASTROPHYSICS

Toronto, Canada

2019 -

### BITS Pilani University

B.E. (HONS.) ELECTRONICS AND INSTRUMENTATION AND MSc. (HONS.) PHYSICS

Goa, India

Aug 2014 - July 2019

## Publications

- 'Determining star formation thresholds from observations', **Shivan Khullar**, Mark R. Krumholz, Christoph Federrath, Andrew J. Cunningham, 2019 [ADS Link](#) [arXiv Link](#)
- 'Probing the high-z IGM with the hyperfine transition of  $^3\text{He}+$ ', **Shivan Khullar**, Benedetta Ciardi, Philipp Busch, Qingbo Ma, Marius B. Eide and Koki Kakiichi, 2019 (submitted to MNRAS). [Pre-print link](#)

## Undergraduate Research Experience

### Determination of Star Formation Thresholds from Observations

GUIDES - PROF. MARK KRUMHOLZ AND DR. CHRISTOPH FEDERRATH (RSAA, AUSTRALIAN NATIONAL UNIVERSITY, CANBERRA, AUSTRALIA)

RSAA, ANU, Canberra, Australia

August 2018 - Dec 2018

### Gravitational Decoherence

GUIDE - PROF. JOSEPH SAMUEL (RRI, BANGALORE, INDIA)

RRI, Bangalore, India

Jan 2019 - June 2019

### The $^3\text{He}+$ hyperfine transition line signal at high redshifts

GUIDE - PROF. BENEDETTA CIARDI (MAX PLANCK INSTITUTE FOR ASTROPHYSICS, GARCHING, GERMANY)

MPA, Garching, Germany

June 2018 - July 2018

### Determining the size distribution of H II regions during Reionization using granulometry

GUIDE - PROF. TIRTHANKAR ROY CHOUDHURY (NCRA-TIFR, PUNE)

NCRA-TIFR, Pune, India

May - June 2017

### Mass Modelling of galaxies using HI 21-cm line observations

GUIDE - DR. NEERAJ GUPTA (IUCAA, PUNE)

IUCAA, Pune, India

May - July 2016

## Workshops and Conferences

- International Max Planck Research School on Astrophysics at the Ludwig Maximilians University, Munich  
Talk - Star Formation Thresholds: Real and Illusory — **24-28 Feb 2019**

## Teaching

### Graduate

- Fall 2019 — AST101 The Sun and Its Neighbours