

# Yarone Meir Tokayer

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## EDUCATION

**YALE UNIVERSITY** | NEW HAVEN, CT

Ph.D, Physics | exp. 2027

*Thesis: "Probing the dynamical structure of dark matter halos using N-body and analytical techniques"; Advisor: Frank van den Bosch*

**COLUMBIA UNIVERSITY** | NEW YORK, NY

M.A., Philosophical Foundations of Physics | Feb. 2020

*Thesis: "Probability in Everettian Quantum Mechanics"; Advisor: David Z. Albert*

**THE COOPER UNION** | NEW YORK NY

B.S., Engineering, Mathematics | May 2014

*Summa cum laude; GPA: 3.9; Dean's List all semesters*

## RESEARCH

AREAS OF INTEREST: cosmology • galactic dynamics • dark matter  
gravitational lensing • supermassive black holes • X-ray astronomy

*5 refereed journal publications; 1 in prep.; 3 conference posters*

*A complete list of publications can be found on my [Google Scholar page](#)*

*Further details of undermentioned research can be found in my [academic CV](#)*

**YALE UNIVERSITY** | PH.D. CANDIDATE

Jul. 2021 – Present | New Haven, CT

Key aspects: N-body simulations; analytical simulations; curve fitting algorithms;  
spectral fitting; simulations of spectra; data processing and visualization;  
spectral analysis of X-ray telescope data

**COLUMBIA UNIVERSITY** | RESEARCH ASSISTANT

Aug. 2019 – Dec. 2020 | New York, NY

Key aspects: timing analysis, spectral analysis, and imaging of X-ray telescope  
data; fabrication and testing of detector arrays for balloon-born dark  
matter experiment

**MOTOR NEURON CENTER, COLUMBIA** | RESEARCH ASSISTANT

Sep. 2013 – May. 2014 | New York, NY

Key aspects: immunohistochemistry, stem cell-derived neuron cultures

## TEACHING

**LEITNER OBSERVATORY AND PLANETARIUM** | PLANETARIUM

PRESENTER

Jan, 2024 – Present | New Haven, CT

**YALE UNIVERSITY** | GRADUATE TEACHING FELLOW

Sep. 2021 – Present | New Haven, CT

**SAR HIGH SCHOOL** | PHYSICS TEACHER AND ADVISOR

Sep. 2014 – Jun. 2019; Jan. 2021 – Jun. 2021 | Riverdale, NY

**NAAALEH HIGH SCHOOL FOR GIRLS** | STEM TEACHER

Sep. 2019 – Jun. 2020 | Fair Lawn, NJ

**THE COOPER UNION** | TEACHING ASSISTANT

Fall 2021 | New York, NY

## SKILLS & LANGUAGES

### PROGRAMMING

Python (esp. pkgs for computation, data, visualization, and astronomy)

C/C++ • MATLAB • HTML

### SOFTWARE & TOOLS

Mathematica • Latex • LabVIEW

N-body codes • NASA HEASoft • Excel

### DESIGN TOOLS

Arduino • Microchip PIC • AutoCAD

SolidWorks • laser cutting

### TELESCOPES

data: Chandra • Swift, NuSTAR • NICER

observing: Keck, Palomar

### SPOKEN LANGUAGE

English (native) • Hebrew (fluent)

German (basic) • Yiddish (basic)

## COMMUNITY

### SERVICE

Slifka Center Board of Trustees ('23-'24)

Physics faculty search committee ('23)

### OUTREACH

Astronomy on tap

(New Haven, CT)

Super Science Showdown

(Yale Open Labs)

Engineers as Teachers

(Iridescent & Cooper Union)

High school talks: links [here](#) and [here](#)

## AWARDS

Teacher Award, 2017

(Robottraffic Competition, Technion, Israel)

Entrance Scholarship, 2016

(Philosophical Foundations of Physics, Columbia)

Tau Beta Pi

(Engineering Honors Society)

Goodman Prize, 2013

(Cooper Union)

## LINKS

Professional Webpage

ORCID:// [0000-0002-0430-5798](#)

Github:// [YaroneTokayer](#)