**Awards & Fellowships**

**Faculty:**

Daniela Calzetti  
National Academy of Science  
Daniela’s election to the NAS in April 2020 “in recognition of distinguished and continuing achievements in original research” marks one of the highest honors a scientist can achieve. She will be formally inducted in April 2021 at the NAS annual meeting. Congratulations, Daniela!

Alexandra Pope  
ADVANCE Faculty Fellow 2020-2021  
Congratulations to Alex, one of 39 faculty selected as an ADVANCE fellow to partner with the ADVANCE leadership team. This program is funded by the NSF and focuses on equity for women faculty in STEM.

Darby Dyar (Mt. Holyoke)  
Wellesley 2020 Alumni Achievement Award  
This award is Wellesley College’s highest accolade given to distinguished graduates with significant achievements that bring honor to themselves and their Wellesley alma matter. Congratulations, Darby!

**Graduate Students:**

- Jed McKinney: IPAC Visiting Graduate Student Fellowship, Spring 2020
- Zoe Kearney: 2019-2020 UMass Rising Researcher award

**Undergraduate Students:**

- Gopal Narayanan: NSF Mid-scale Research Infrastructure (MSRI) Grant
- Kate Follette (Amherst College): Accepted National Science Foundation (NSF) Grant

**Scientific Grants & Awards**

**LMT Team**  
Peter Schloerb (PI), Grant Wilson, Alexandra Pope, Min Yun, Lee Mundy (UMaryland):  
NSF Mid-Scale Innovations Program (MSIP) Award for $5,000,000  
The NSF MSIP award is a 3-year grant that will support the operation of the Large Millimeter Telescope (LMT) and allow astronomers from any U.S. institution its observing access for the first time. This funding support will improve the visibility of the LMT amongst astronomers internationally and foster more expansive use of the facilities, enhancing overall scientific productivity.

**A Call For Action: Racism and Diversity in Academia**

In response to rising racial tension and incidents of police brutality in the U.S., June 2020 marked a significant month to bring necessary awareness to racism on global and individual scales. We saw mass protests filling the streets and increased effort to spread knowledge of historic and current racial oppression.

Such pro-active responses foster hope for cultivating productive conversations and creating a future rooted in equality. Academia, and STEM subjects in particular, are known for their lack of diversity as a result of systemic injustices and inherent biases. To bring awareness to this and ignite change, many at UMass participated in the STEM Strike For Black Lives on Wednesday June 10th, 2020. On this day, scientists were encouraged to not engage in scientific work but rather educate themselves on racism and brainstorm action items for change.

The UMass Astronomy graduate students hosted a well-attended department-wide Zoom meeting to bring awareness to these issues on the day of the strike. As a result of this movement, graduate students continued to hold bi-weekly meetings and formed sub-committees to delegate specific action items for change. These committees are currently working together with faculty and staff to help develop long-term plans to increase diversity and ensure a welcoming department climate to all.

**Sub-committees formed by Graduate Students for Diversity, Equity and Inclusion Initiatives**

- Department Climate
- Admissions
- Outreach
- Statistics
Welcoming New Department Members

**Faculty**

- **Katherine Whitaker**  
  Kate joined UMass as a faculty member in Fall 2019.

- **Kim Ward-Duong**  
  Kim, a former FCAD fellow, has accepted a faculty offer at Smith College that will begin in Fall 2021.

**Staff**

- **Brian Lochner**  
  Brian joins the staff this year as bookkeeper to assist in the transition of Denise Parent’s retirement.

**Post-Docs**

- **Sean Linden**  
  Sean completed his PhD at University of Virginia and is a new post-doc working with Daniela Calzetti.

- **Connor Robinson**  
  Connor completed his PhD at Boston University and is the new FCAD fellow, working with Kate Follette (Amherst College)

**Graduate Students**

- **Darren Stroupe**  
  Darren joins us from his undergraduate institution University of North Carolina Asheville

- **Andrew Mizener**  
  Andrew joins us from his undergraduate institution Macalester College in Minnesota

Denise Parent Retires After 35 years

In May 2020 Denise Parent, a vibrant and beloved presence in the halls of the LGRT Astronomy Department, retired after 35 years as our primary staff bookkeeper.

Many would agree that Denise has been an essential backbone to the department over the years. Not only has she handled significant tasks for us swiftly and effectively, but she has done so while lifting the spirits of everyone around her with her joyous nature.

A Zoom celebration of Denise’s retirement was held in May 2020, where many faculty had the opportunity to express kind words and share fond memories. Denise (and her occasional dogs) will certainly be missed by all and we wish her a healthy and happy retirement.

Congrats Class of 2020
Undergraduate Astronomy Majors

- **Kay Bros**  
- **Daniel Martinez**  
- **Savio Oliveira**
- **Connor Gauthier**  
- **Sasha Stein**  
- **Lucy Grossman**
- **Cassidy Lita Hill**  
- **Alexis Wells**  
- **Arpit Jain**
- **Elisabeth Kiff**  
- **Yuxuan Zeng**  
- **Jack Mirabito**
- **Trevor Nelson**  
- **Caitlin Moeller**  
- **Roshan Karki**
- **Reed Hopkins**  
- **Zoe Kearney**  
- **Jason Hathaway**
- **Kenneth Lin**  
- **Owen Henry**

The Five College Astronomy Department held its annual Senior Celebration on April 29th, 2020 via Zoom. Research talks were given by Astronomy senior students presenting thesis work in addition to talks from Astr341 students, advised by Kimberly Ward-Duong (FCAD Fellow).

On May 8th, 2020 a graduation celebration was held via Zoom for the department’s graduating seniors. The celebration featured remarks from Department Head (Daniela Calzetti) and Senior Advisors (Alexandra Pope and Min Yun) as well as a photo slideshow by Katherine Whitaker. Each graduating student was acknowledged and given the opportunity to say a few words on behalf of their time at UMass.

Outreach

**Graduate students share expertise with Sunderland Elementary school class**

Graduate students met with the Sunderland students multiple times to discuss perspectives on these topics and were featured as guests on their podcasts, a new and creative project style assigned by their teacher Ryan Copeland.

**Virtual Fall Equinox at the Sunwheel**

On September 22, 2020, Steve Schneider led the seasonal sunrise and sunset educational gatherings at the UMass Sunwheel for the fall equinox.

Due to the pandemic, this year the event was streamed on Zoom, as it typically attracts large and interested crowds of students and locals. In addition to descriptions of the celestial motions causing the sun’s changing position, Schneider’s web broadcast featured discussion about the design and history of the Sunwheel.
LMT/TolTEC Operations Update

Many astronomers at UMass are anxiously awaiting the completion and commissioning of the TolTEC camera to the 50-meter Large Millimeter Telescope (LMT) in Mexico. This instrument, with 7,000 detectors, 3 observing bands, and impressive mapping speed will shed new light on many astrophysical questions.

Prior to the pandemic, TolTEC was on track to be shipped to Mexico during summer 2020; however, mandatory quarantine and travel restrictions affected both the completion timeline of the instrument and shipping plans. While the camera was mostly finished by March 2020, significant testing is required before it can leave the lab. This testing was halted from March-July due to the Covid-19 shutdown.

Since July, the TolTEC lab has resumed testing on a limited basis and is making remarkable progress. The lab, led by Grant Wilson, has recently been working to diagnose a deformation caused by a filter type commonly used in millimeter-wave cameras, a dichroic filter. With this task almost complete, Grant is happy to report that all other aspects of the camera look good and nearly ready to be shipped.

Unfortunately, due to travel and border restrictions, at this point in time it remains unclear when we will be able to ship TolTEC to Mexico, as many of these contingency factors are out of our control.

Photo: TolTEC in-progress with team members (left to right): Steve Kuczarski, Grant Wilson, Reid Contente, Zhiyuan Ma, Sophia Abi-saad, Michael McCracken, and Nat DeNigris

2019 Defense:

• Dr. Riwaj Pokhrel
  Advisor: Robert Gutermuth
  Currently: Post-Doctoral Researcher at University of Toledo

2018 Defense:

• Dr. Kathryn Grasha
  Advisor: Daniela Calzetti
  Currently: Post-Doctoral Researcher at The Australian National University

• Dr. Hansung Gim
  Advisor: Min Yun
  Currently: Post-Doctoral Researcher at Arizona State University

2017 Defense:

• Dr. BoMee Lee
  Advisor: Mauro Giavalisco
  Previously: Post-doctoral researcher at UC Santa Cruz
  Currently: Assistant Professor at New Mexico State University (2020)

Summer 2020 Remote Research & Learning

Despite the disruption of transitioning to remote learning and meetings, this summer the UMass Astronomy department successfully hosted seven independent undergraduate research experiences. The students presented their research to the department on Zoom on August 20th, 2020. Their names and advisors are listed below:

Undergraduate Research Projects

• Lillian Wright (UMass)
  Advisor: Kate Whitaker

• Leonardo Drake (UMass)
  Advisor: Daniel Wang

• Anthony Englert (UMass)
  Advisor: Min Yun

• Joyce Caliendo (UConn)
  Advisor: Kate Whitaker

• Savio Oliveira (UMass)
  Advisor: Rob Gutermuth

• Tyler Metivier (UConn)
  Advisor: Kate Whitaker

• Rafi Rubenstein (Brandeis)
  Advisor: Daniel Wang

Summer Astronomy Course for High Schoolers

Each summer, volunteering graduate students teach an intensive two-week Modern Astronomy course to a group of ~ 10-15 high school students for college credit. In these two weeks the students sit through lectures, labs, learn coding, and observe at the Amherst College telescope. Despite restrictions, the summer 2020 program, led by graduate student Sarah Betti, still went on with a few modifications.

The school was moved to operate remotely on Zoom and extend for three weeks rather than two, with less intense daily schedules to ease screen-time exhaustion. Additionally, no college credit was offered this time. While labs and lectures had to be modified, the program was successful and the student feedback was largely positive considering the circumstances.

The 16 participating High School students gave their final presentations to the department on July 31st, detailing their guided group work on analyzing star cluster data. Congratulations to the students and the graduate students who led lectures and labs over the course of these 3 weeks: Patrick Kamienski, Dooseok Jung, Alyssa Sokol, Yvonne Ban, Nat DeNigris, Michael McCracken, Zhiyuan Ji, and Roxana Popescu

Alumni Updates

Summer Astronomy Course

for High Schoolers

2019 Defense:

• Dr. Riwaj Pokhrel
  Advisor: Robert Gutermuth
  Currently: Post-Doctoral Researcher at University of Toledo

2018 Defense:

• Dr. Brandt Gaches
  Advisor: Stella Offner
  Currently: Post-Doctoral Researcher at Universität zu Köln in Germany

• Dr. Kathryn Grasha
  Advisor: Daniela Calzetti
  Currently: Post-Doctoral Researcher at The Australian National University

• Dr. Hansung Gim
  Advisor: Min Yun
  Currently: Post-Doctoral Researcher at Arizona State University

2017 Defense:

• Dr. Andrew Battisti
  Advisor: Daniela Calzetti
  Currently: Post-Doctoral Researcher at The Australian National University

• Dr. Joseph Burchett
  Advisor: Todd Tripp
  Previously: Post-doctoral researcher at UC Santa Cruz
  Currently: Assistant Professor at New Mexico State University (2020)