TESS Science Conference III – Program

NOT FINAL

MONDAY, JULY 29

9:00 – 9:15 Welcome, SOC chair

9:15 – 9:40 George Ricker (MIT) - Title TBD (25 min)
9:40 – 10:05 Roland Vanderspek (MIT) - Title TBD (25 min)
10:05 – 10:20 Dave Latham (Harvard-Smithsonian CfA) - The role of the TESS follow-up observing program working group
10:20 – 10:35 Christina Hedges (NASA GSFC) - Update from the TESS science support center at NASA GSFC

10:35 – 11:05 Coffee break

11:05 – 12:00 Session: Exoplanets I. Chair: TBD
11:05 – 11:30 Juliette Becker (University of Wisconsin-Madison) - Title TBD (25 min)
11:30 – 11:45 Madison Brady (University of Chicago) - Using TESS targets to characterize the compositions of nearby M dwarf planets
11:45 – 12:00 Angie Wolfgang (Eureka Scientific) - The Magellan-TESS Survey: Holistic characterization of small planets

12:00 – 1:30 Lunch (on own)

1:30 – 2:45 Session: Exoplanets II. Chair: TBD
1:30 – 1:45 Mike Lund (Caltech/IPAC-NExScI) - ExoFOP: Evolving Support for TESS and Future Missions
1:45 – 2:00 Pierre-Alexis Roy (Université de Montréal) - A paradigm shift in our understanding of sub-Neptunes: JWST transmission spectroscopy reveals that hydrogen and volatiles are mixed in a miscible envelope on sub-Neptunes
2:00 – 2:15 Benjamin Rackham (MIT) - Towards robust corrections for stellar contamination in transmission spectra using HST, JWST, and TESS: first results from two Legacy programs
2:15 – 2:30 Johanna Teske (Carnegie Earth & Planets Lab) - Atmospheres of Small TESS Planets from the JWST COMPASS (Compositions of Mini-Planet Atmospheres for Statistical Study) Program
2:30 – 2:45 David Armstrong (University of Warwick) - A statistical sample of planets in and near the Neptunian Desert revealed with HARPS RVs

2:45 – 3:45 Poster Session 1

3:45 – 5:00 Session: Exoplanets III. Chair: TBD
3:45 – 4:00 Emma Nabbie (USQ) - Transit Timing Variations of TESS Multi-Planet Systems: A Catalog From the First Five Years
4:00 – 4:15 Joey Rodriguez (MSU) - Hot Jupiters With Friends as a Guide for Planetary Evolution
4:15 – 4:30 Ashley Chontos (Princeton University) - 13 New TESS Planets and Homogeneous Properties for 21 Evolved Systems
4:30 – 4:45 Elisabeth Newton (Dartmouth College) - Exoplanets in THYME
4:45 – 5:00 Alex Polanski (University of Kansas) - Unveiling Orbital Architectures with the TESS-Keck Survey
TUESDAY, JULY 30

9:00 – 10:25  Session: Stellar Astrophysics I. Chair: TBD
9:00 – 9:25  Dan Hey (UH) - Title TBD
9:25 – 9:40  Ward Howard (UCB) - Unlocking the potential of TESS to constrain the radiation environment of every M dwarf with simultaneous 20 s NUV and red optical flare observations
9:40 – 9:55  Luke Bouma (Caltech) - Transient corotating gas clumps around young low-mass stars
9:55 – 10:10 Catherine Espaillat (BU) - Catching protoplanetary disk dissipation with TESS and JWST
10:10 – 10:25 Aylin Garcia Soto (Dartmouth College) - Contemporaneous observations of H_alpha, H_beta and H_gamma luminosities and photometric amplitudes for M dwarfs

10:25 – 10:55  Coffee break

10:55 – 11:55  Session: Stellar Astrophysics II. Chair: TBD
10:55 – 11:10 Yuto Kajikiya (Tokyo Institute of Technology) - Simultaneous photometry and spectroscopy of stellar flare on M dwarf YZ CMI using TESS and Seimei
11:10 – 11:25 Rafael Garcia (DAp/CEA-Saclay) - Measuring rotation periods and stellar oscillations in red giants with TESS data
11:25 – 11:40 Lyra Cao (Vanderbilt University) - TESS light curve amplitudes, rotation periods, and star spots in lower main sequence stars
11:40 – 11:55 Joel Ong (UH) - Asteroseismic identification and characterization of a rapidly rotating engulfment candidate

11:55 – 1:30 Lunch (on own)

1:30 – 3:00  Session: Exoplanets IV. Chair: TBD
1:30 – 1:45 Rachel Fernandes (Pennsylvania State University) - Tracing the evolution of short-period exoplanets: Insights from young stellar clusters
1:45 – 2:00 Sydney Vach (USQ) - The occurrence and evolution of small young planets in comoving populations with TESS
2:00 – 2:15 Madyson Barber (UNC Chapel Hill) - A 3 Myr transiting planet in the presence of a misaligned transitional disk
2:15 – 2:30 Nardiello Domenico (Università degli Studi di Padova (UNIPD)) - Young planets with TESS
2:30 – 2:45 Louise Dyregaard Nielsen (Munich University) - Tracing planet formation with the youngest transiting exoplanet candidate
2:45 – 3:00 John Livingston (ABC/NAOJ) - Low densities, eccentricities, and entropies in a young, compact multi-planet system

3:00 – 3:30 Coffee break

3:30 – 5:00  Session: Data Analysis I. Chair: TBD
3:30 – 3:45 Douglas Caldwell (SETI Institute) - SPOC light curves, target pixel files, and other goodies in the extended mission
3:45 – 4:00 Glen Petitpas (MIT) - Updates to QLP and TEV from the TESS science office at MIT
4:00 – 4:15 Daniel Muthukrishna (MIT) - Modeling and removal of scattered light in TESS full frame images using generative AI
4:15 – 4:30 Lionel Garcia (Flatiron Institute, CCA) - Detection of transiting exoplanets around active stars with nuance

4:30 – 5:00 State of the profession talk: Jonathan Chou (MIT) – Mental health in academia
WEDNESDAY, JULY 31

9:00 – 10:10  Session: **Extragalactic Astrophysics.** Chair: TBD
9:00 – 9:25  Ben Shappee (UH) - Title TBD
9:25 – 9:40  Rahul Jayaraman (MIT) - Using TESS to study optical counterparts to gamma-ray bursts
9:40 – 9:55  Derek Buzasi (Florida Gulf Coast University) - Searching for GRB precursors with TESS
9:55 – 10:10  Armin Rest (STScI) - TESS light curves with SYNDIFF

10:10 – 10:40  Coffee break

10:40 – 11:55  Session: **Extragalactic & Galactic Astrophysics.** Chair: TBD
10:40 – 10:55  Qinan Wang (Johns Hopkins University) - Searching for early excess of SNe Ia from Kepler and TESS
10:55 – 11:10  Kirill Sokolovsky (University of Illinois Urbana-Champaign) - TEQUILA SHOTS: An image subtraction pipeline for AGN and transient science with TESS
11:10 – 11:25  Rayna Rampalli (Dartmouth College) - Wrinkles in time: Tracing spiral arm passages using gyrochronology
11:25 – 11:40  Lizhou Sha (University of Wisconsin-Madison) - Confirming the tidal tails of the young open cluster Blanco 1 with TESS rotation periods
11:40 – 11:55  Christopher Lindsay (Yale University) - Asteroseismic modeling of metal-poor, alpha-rich giants in the Halo

11:55 – 1:30  Lunch (on own)

1:30 – 3:00  Parallel Session 1: **Extragalactic Transients Science with TESS,** Organizer: Qinan Wang (Session program TBD)
1:30 – 3:00  Parallel Session 2: **Cooler Transiting Exoplanets: A long-term vision for TESS,** Organizer: Sam Gill (Session program TBD)
3:00 – 3:30  Coffee break

3:30 – 5:00  Parallel Session 3: **Brown dwarfs from the TESS mission and beyond,** Organizer: Theron Carmichael (Session program TBD)
3:30 – 5:00  Parallel Session 4: **TESS exoplanet demographics,** Organizer: Jessie Christiansen (Session program TBD)

THURSDAY, AUGUST 1

9:00 – 10:30  Session: **TESS Users Committee** (Session’s program TBD)

10:30 – 11:00  Coffee break

11:00 – 11:55  Session: **Solar System Science.** Chair: TBD
11:00 – 11:25  Deb Woods (MIT/Lincoln Labs) - Title TBD (25 min)
11:25 – 11:40  Nora Takacs (Konkoly Observatory) - Exploring the physical properties of Jupiter Trojans and Hildas with the TESS space telescope
11:40 – 11:55  Ben Cassese (Columbia University) - Initial results of a TESS outer solar system survey

11:55 – 1:30  Lunch (on own)

1:30 – 2:45  Session: **Exoplanets V.** Chair: TBD
1:30 – 1:45  Nicholas Saunders (UH) - Evolved and aligned: Newly discovered TESS hot Jupiters demonstrate rapid obliquity damping after the main sequence
1:45 – 2:00  Alexander Venner (USQ) - Seeing beyond the shadows: Accessing TESS system architectures with astrometry
2:00 – 2:15  Xianyu Wang (Indiana University) - Prevalent spin-orbit alignment of warm Jupiters in single-star systems: evident even around hot stars
2:15 – 2:30  Steven Giacalone (Caltech) - The origins of close-In brown dwarfs from the stellar obliquity distribution
2:30 – 2:45  Mutian Wang (Nanjing University) - Photo-dynamical analysis of circumbinary multi-planet system TOI-1338: a fully coplanar configuration with a puffy planet

2:45 – 3:45  Poster Session 2

3:45 – 5:00  Session: Stellar Astrophysics III. Chair: TBD
3:45 – 4:00  Zitao Lin (Tsinghua University) - Revealing imprints of tidal evolution and radius inflation with TESS transiting brown dwarfs
4:00 – 4:15  Dominick Rowan (The Ohio State University) - Measuring fundamental stellar parameters with eclipsing binaries
4:15 – 4:30  Masafumi Niwano (Tokyo Tech) - Possible anti-correlations between pulsation amplitudes and the disk growth of Be stars in giant-outbursting Be X-ray binaries
4:30 – 4:45  Linhao Ma (Princeton University) - Variability of blue supergiants in the LMC with TESS
4:45 – 5:00  Shishir Dholakia (USQ) - Catalog of stellar companions from pulsation timing in first four years TESS

FRIDAY, AUGUST 2

9:00 – 10:15  Session: Data Analysis II. Chair TBD
9:00 – 9:15  Te Han (UC Irvine) - TESS-Gaia Light Curve (TGLC): high-precision, dilution-free TESS FFI light curves
9:15 – 9:30  Andreas Hadji georgiou (University of Warwick) - RAVEN: RAnking and Validation of ExoP laNets
9:30 – 9:45  Ryan Ridden-Harper (University of Canterbury) - TESSreduce: Extracting high quality calibrated PSF photometry from TESS
9:45 – 10:00  David Rapetti (USRA/NASA Ames) - Comparing and automatically optimizing the performance of systematic error correctors for TESS light curves
10:00 – 10:15  Tyler Pritchard (UMD/NASA GSFC) - TESSVectors: easy spacecraft based de-trending for the community

10:15 – 10:45  Coffee break

10:45 – 12:00  Session: Synergies I. Chair: TBD
10:45 – 11:00  Vikash Singh (INAF - Osservatorio Astrofisico di Catania) - CHEOPS-TESS occultations of KELT-20 b
11:00 – 11:15  Christopher Mann (NRC-HAA) - NEOSSat and ORACLE: Unshrouding TESS’s most challenging exoplanet candidates
11:15 – 11:30  Conny Aerts (KU Leuven) - TESSing Gaia’s discovery of ~60,000 new nonradial pulsators: a novel pathway to ensemble asteroseismology of massive stars
11:30 – 11:45  Mayuko Mori (Astrobiology Center) - Multi-band starspot characterization by synergy of TESS and ground-based telescopes.
11:45 – 12:00  Daniel Huber (UH) - TESS 20-Second data as a pathfinder for the Habitable Worlds Observatory

12:00 – 1:30  Lunch (on own)

1:30 – 3:00  Session: Exoplanets VI. Chair: TBD
1:30 – 1:45  Mallory Harris (UNM) - Microlensing exoplanet candidate with TESS
1:45 – 2:00  Bob Aloisi (University of Wisconsin - Madison) - A search for habitable-zone planets and their precursors orbiting white dwarf stars
2:00 – 2:15  Sydney Jenkins (MIT) - JWST follow-up of first TESS planet transiting a white dwarf
2:15 – 2:30  Hugh Osborne (University of Bern) - Unlocking long-period planets with CHEOPS: Detection of a resonant sextuplet of sub-Neptunes orbiting HD110067
2:30 – 2:45  Tyler Fairington (USQ) - A formation dichotomy revealed in the eccentricity distribution of TESS small planets
2:45 – 3:00  **Noah Vowell** (MSU) - *Using transiting brown dwarfs to define the planetary mass limit*

3:00 – 3:30  **Coffee break**

3:30 – 5:00  **Session: Synergies II. Chair: TBD**
3:30 – 3:45  **Billy Edwards** (SRON, Netherlands Institute for Space Research) - *Population studies of exoplanet atmospheres with ESA-Ariel: Current approach to target selection and the impact of TESS*
3:45 – 4:00  **Marc Pinsonneault** (Ohio State University) - *Red giant asteroseismology in TESS and Roman*
4:00 – 4:15  **Erica Thygesen** (MSU) - *The K2 & TESS synergy: Uniting NASA’s planet hunters*
4:15 – 4:30  **Giampaolo Piotto** (Universita’ di Padova) - *The PLATO Mission – An overview*
4:30 – 4:45  **Yoshi Eschen** (University of Warwick) - *Viewing the PLATO field through the lenses of TESS*
4:45 – 5:00  **Ben Hord** (NASA GSFC) - *NASA’s Pandora SmallSat Mission: Multiwavelength characterization of exoplanets and their host stars*