



Jason Chu
Photography

IfA-UH

Report for Subaru Users Meeting

G. Hasinger
Jan 10, 2017

Solar Rotation

Cunnygham, Kuhn, Scholl
12/12/16

Disintegrating Comet

Kleya, Meech, Wainscoat
(PS1) 9/15/16

Habitable zone planets

Haghighipour 8/3/16

Jupiter's Red Spot

IRTF 7/27/16
Archie Toramuna, UH IfA

100 new Exoplanets

Sinukoff, Howard, Fulton
(K2, Keck, Gemini) 7/18/16

Snowline in planetary disk

Cieza, Williams
(ALMA) 7/13/16

Water Ice on Ceres

Schorghofer 7/8/16

New Quasi-Moon

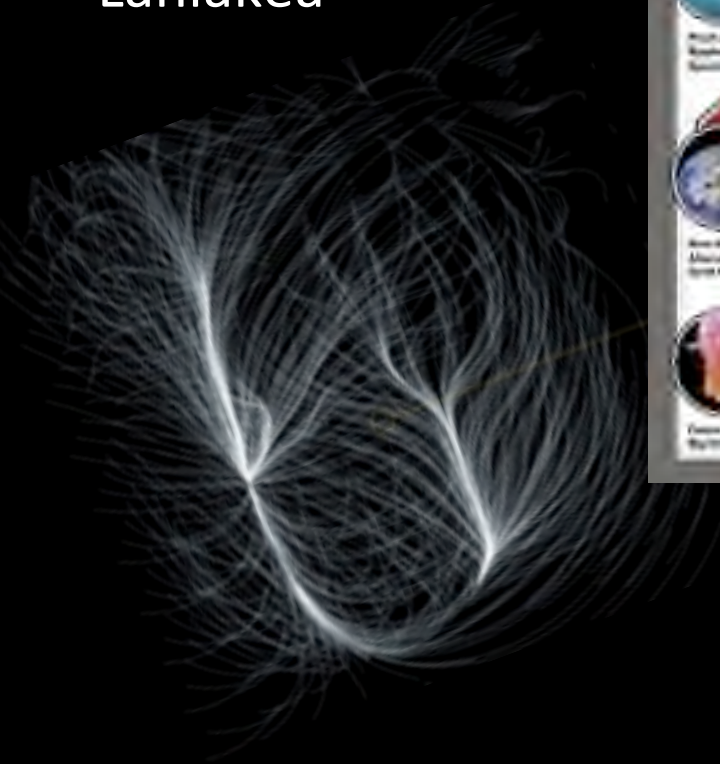
Wainscoat et al. (PS1) 6/16/16

Largest Tatooine System

Haghighipour 6/13/16

Scientific American Top Stories from IfA

Noam Libeskind &
Brent Tully
Laniakea



Istvan Szapudi
Cold Spot



Strategic Scientific Initiatives

- SHREK (now Keck Planet Finder) approved.
- ATLAS 1 in routine observations, 2 in preparation.
- HEROES / eROSITA/ Euclid / Spitzer (and several other interests) in the NEP region.
- Joint public release of the Subaru HSC SSP&UH data in the COSMOS field (3.2,1.4,7.3,6.0,11.1 hrs in grizy).
- Euclid Spectroscopic Calibration / Keck (3 additional UH researchers seats on the Euclid consortium; now Hasinger, Kaiser, Sanders, Szapudi).
- NSF REU Program has been approved (Paul Coleman and Jessica Lu), recruitment starts (this may be attached to the planned UHM Center for Undergraduate Research Experience: CURE)

HEROES – The Hawaii EROsita Ecliptic pole Survey

UH Large Collaborative Program: G. Hasinger (PI), A. Barger, E. Hu, M. Takamiya, R. Sunyaev, A. Cowie, R. Griffiths. Cooperating with L. Cowie & Conor McPartland

Excellent observing nights on CFHT (5n) and Subaru (11n)

Median seeing around 0.6"

90% of year 1 milestones achieved! Moves on in 2017A.

MoU with Russian colleagues for eROSITA data access.

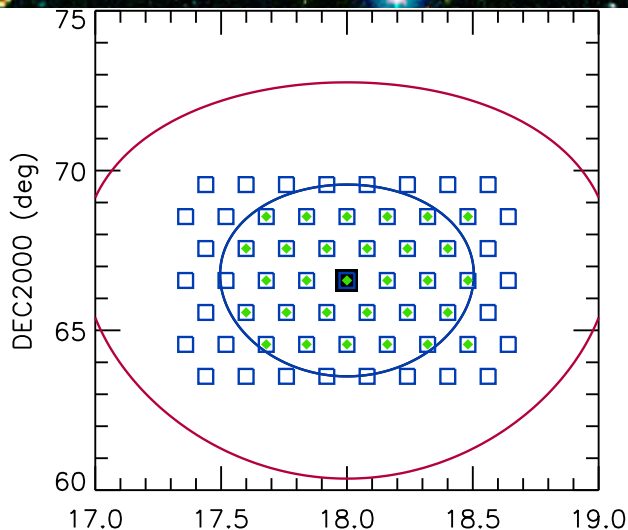
Re-analysis of ROSAT NEP data for HEROES

Euclid has selected HEROES as one of their deep fields

Spitzer has awarded the Euclid/WFIRST Legacy Survey

NGC6552

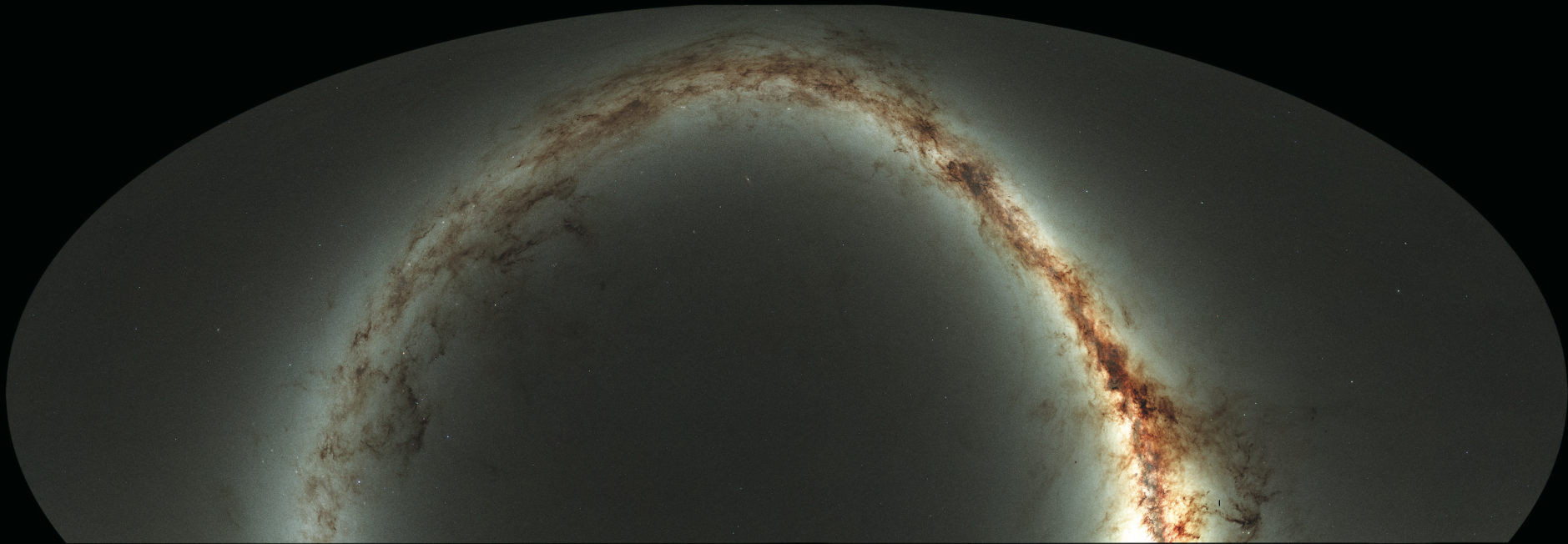
NGC6543 PN



see: www.ifa.hawaii.edu/HEROES

High-z cluster cand.

Pan-STARRS1 Data Release: A new era of Wide-Field Surveys

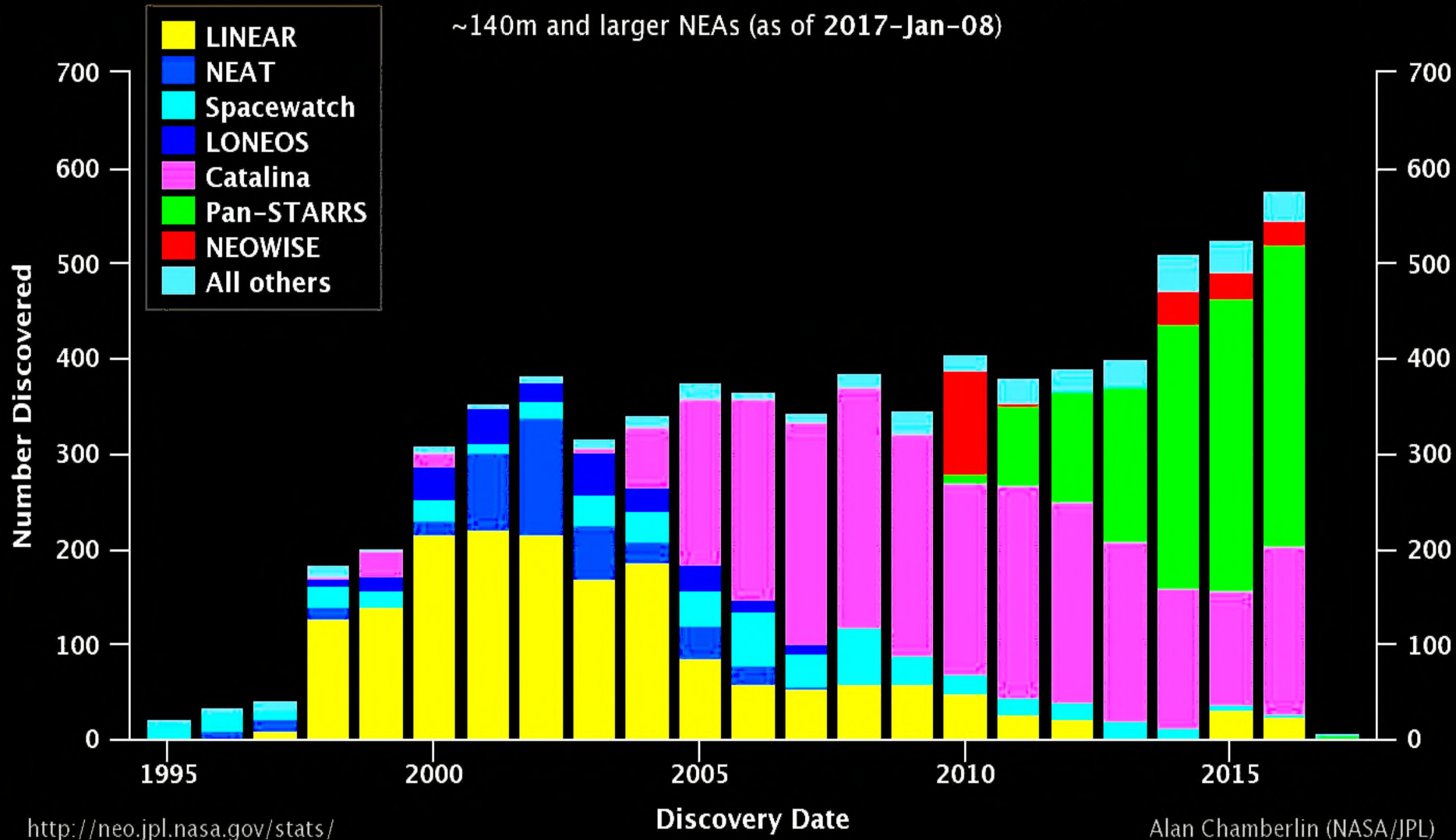


Final public release date for PS1SC Survey data: 12/19. Co-funded by Moore Foundation. 7 papers out on astro/ph soon. Look out for press coverage on Monday. Press conference at 2017 Jan AAS meeting.

Official NASA NEO Discovery Stats.

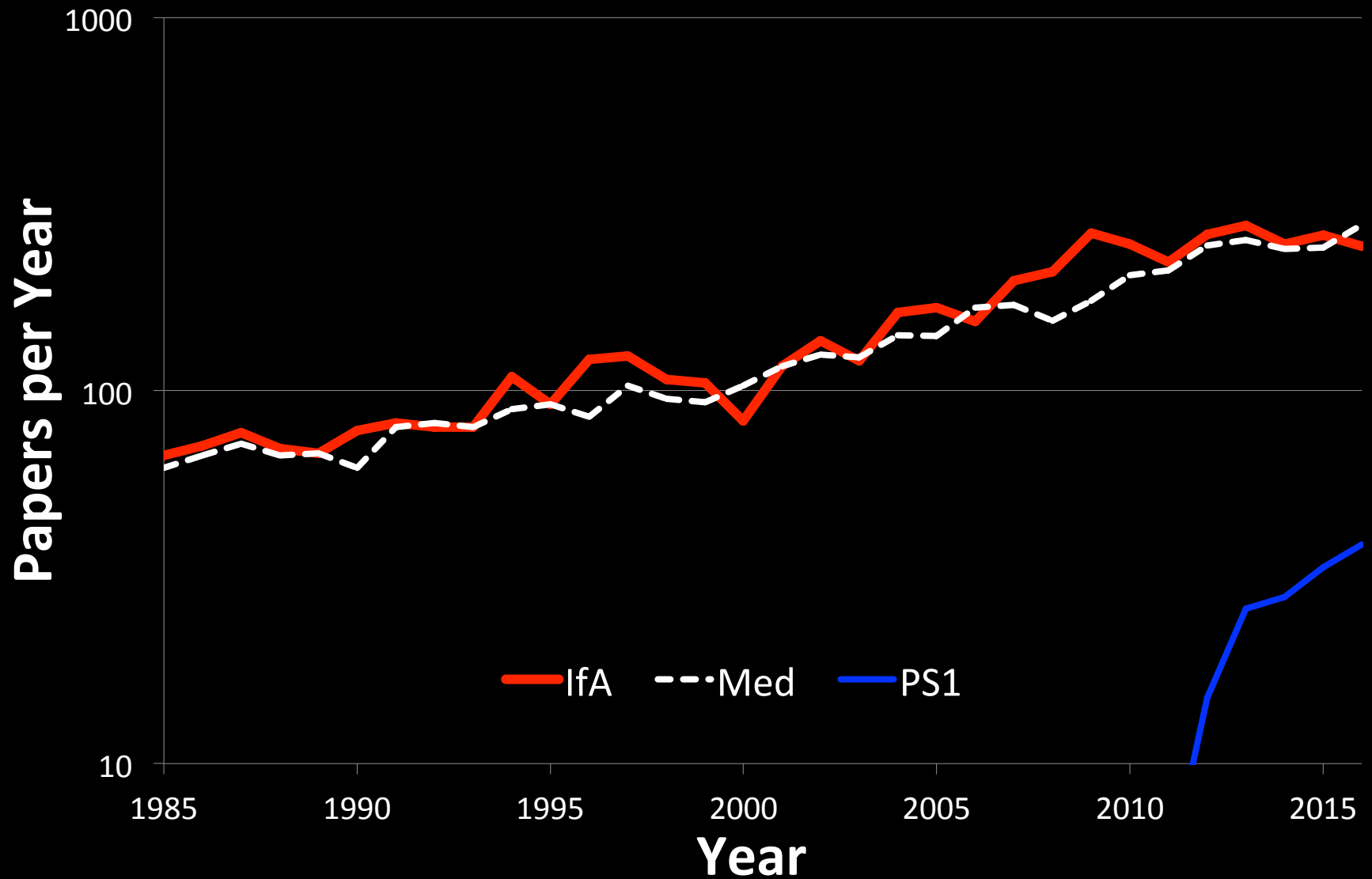
Near-Earth Asteroid Discoveries by Survey

~140m and larger NEAs (as of 2017-Jan-08)

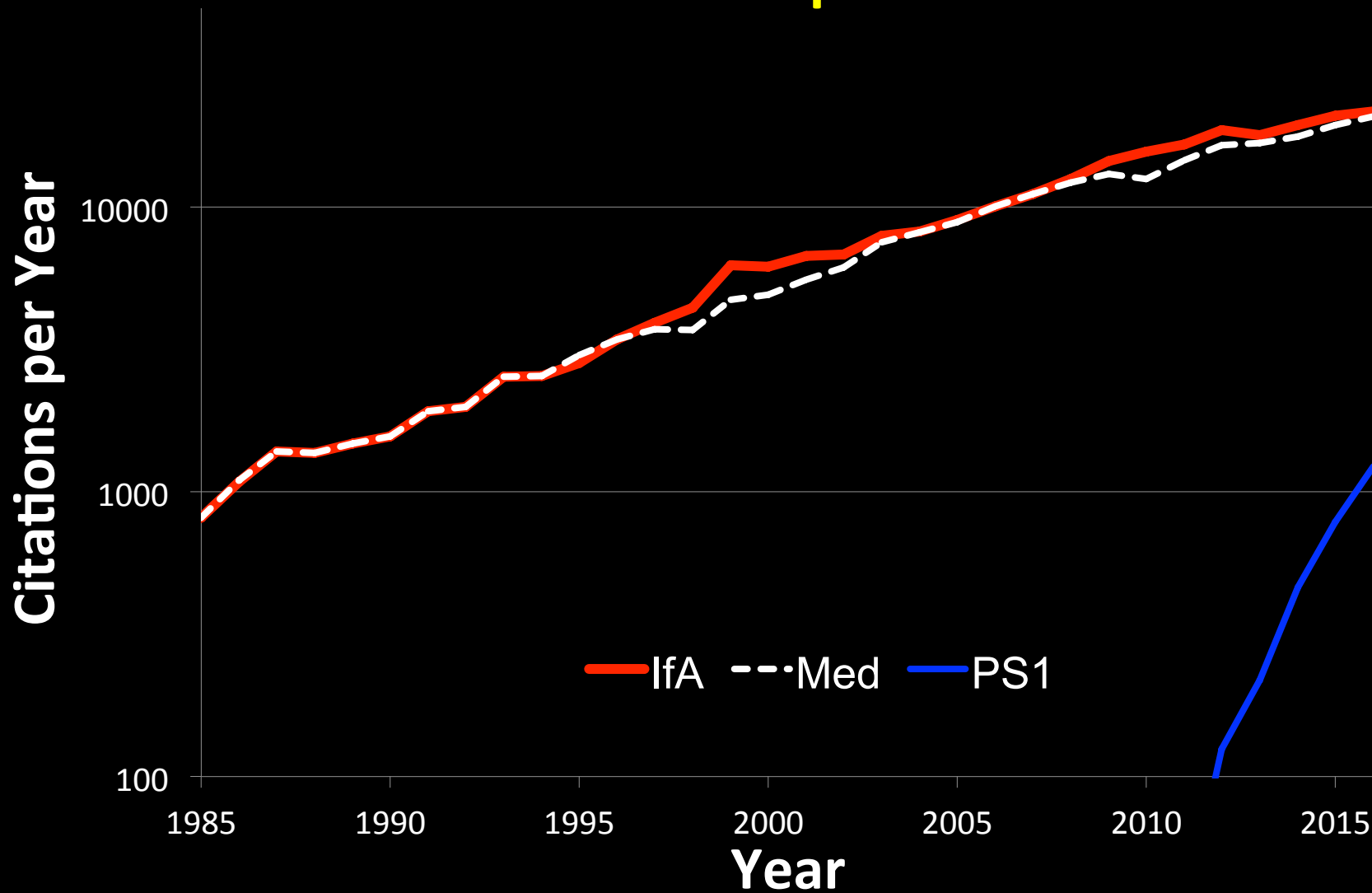


Pan-STARRS1 is the most prolific NEO discovery machine!

IfA Publications



IfA Citations per Year

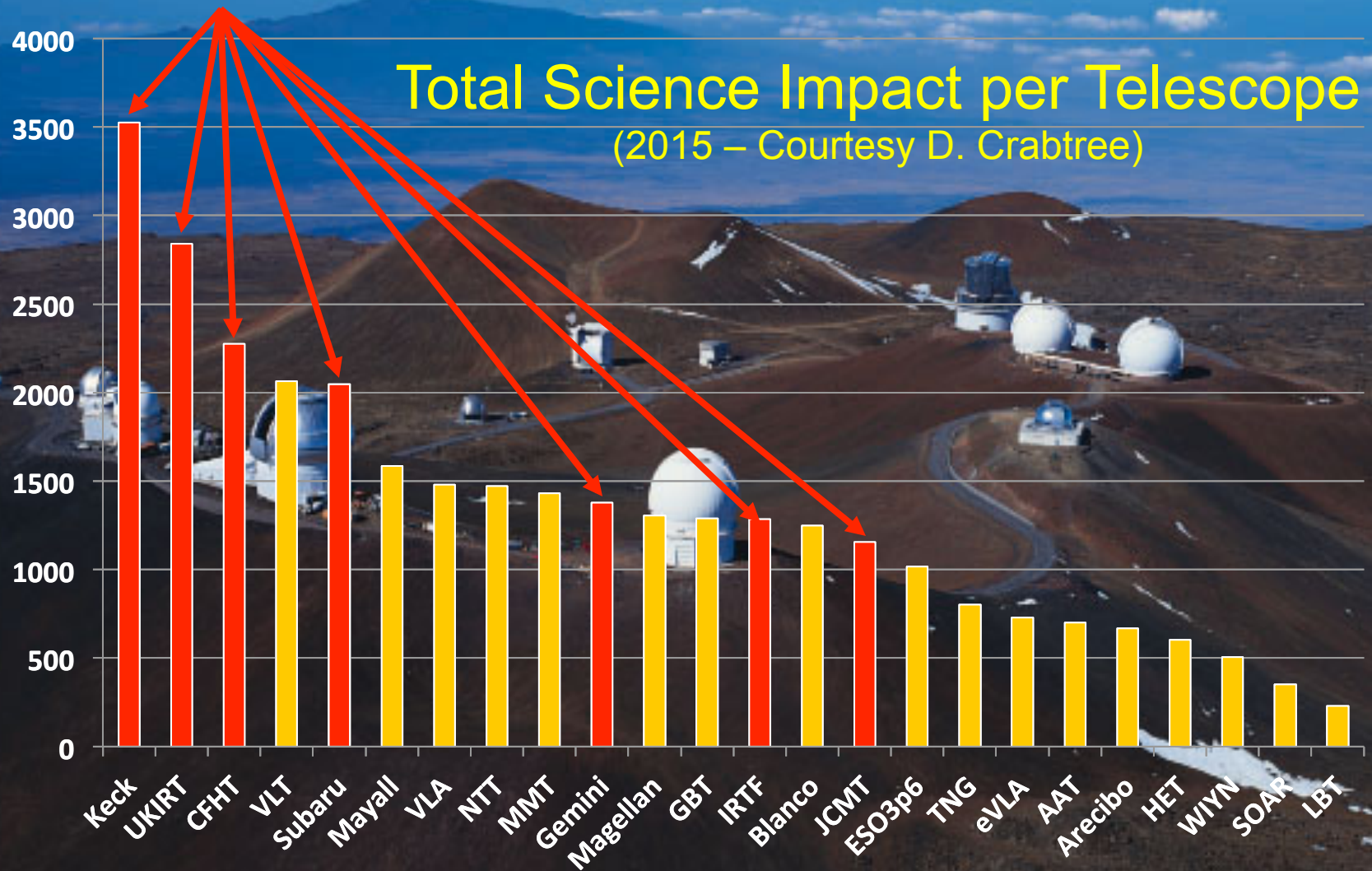


Publications of Major Observatories



$$\text{MKO} = (\text{Keck} + \text{UKIRT} + \text{CFHT} + \text{Subaru} + \text{Gemini} / 2 + \text{IRTF} + \text{JCMT} + \text{SMA} + \text{CSO}) * 0.8$$

MAUNAKEA OBSERVATORIES



Almost no major astronomical discovery without MKO telescopes
30% more publications than the Hubble Space Telescope

Future of UKIRT

- UKIRT is operated by a scientific partnership between UH, University of Arizona and Lockheed Martin Advanced Research Lab. SCA until 2022.
- Major funding source for the last two years was Space Debris research funds from NASA Johnson Space Flight Center.
- These funds have run out in 9/16 and since then UKIRT operations are funded by smaller contributions from the partners, but this is not sustainable.
- New larger partners have indicated interest for the next few years, but we expect a limited period of reduced operations in the next few months. EAO likely to play an important role.
- CFHT has made the very interesting proposal to bring SPIROU to UKIRT and convert the telescope into a very efficient planet hunting machine with strong community involvement.
- This concept is called MSTAR: Maunakea Scholars Telescope for Astronomy Research (time frame > 2018).

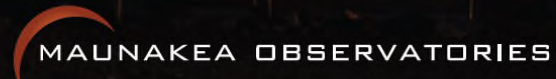
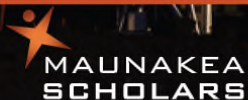
Key Partnerships

A program as ambitious as MSTAR requires forging new partnerships to bring about major new research and educational opportunities. Some of the prospective partners exploring participation in this program include:

- **The University of Hawai'i** - providing the telescope on Maunakea
- **East Asia Observatory** - providing the resources to operate and maintain that telescope
- **'Imiloa Astronomy Center** - providing student outreach and cultural components of the program
- **Canada-France-Hawai'i Telescope** - providing SPIRou and overall MSTAR coordination within the Hawaii astronomy community

Partnerships and funding support will catalyze MSTAR, allowing this groundbreaking initiative to come to life.

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MSTAR

Maunakea Scholars Telescope
for Astronomy Research

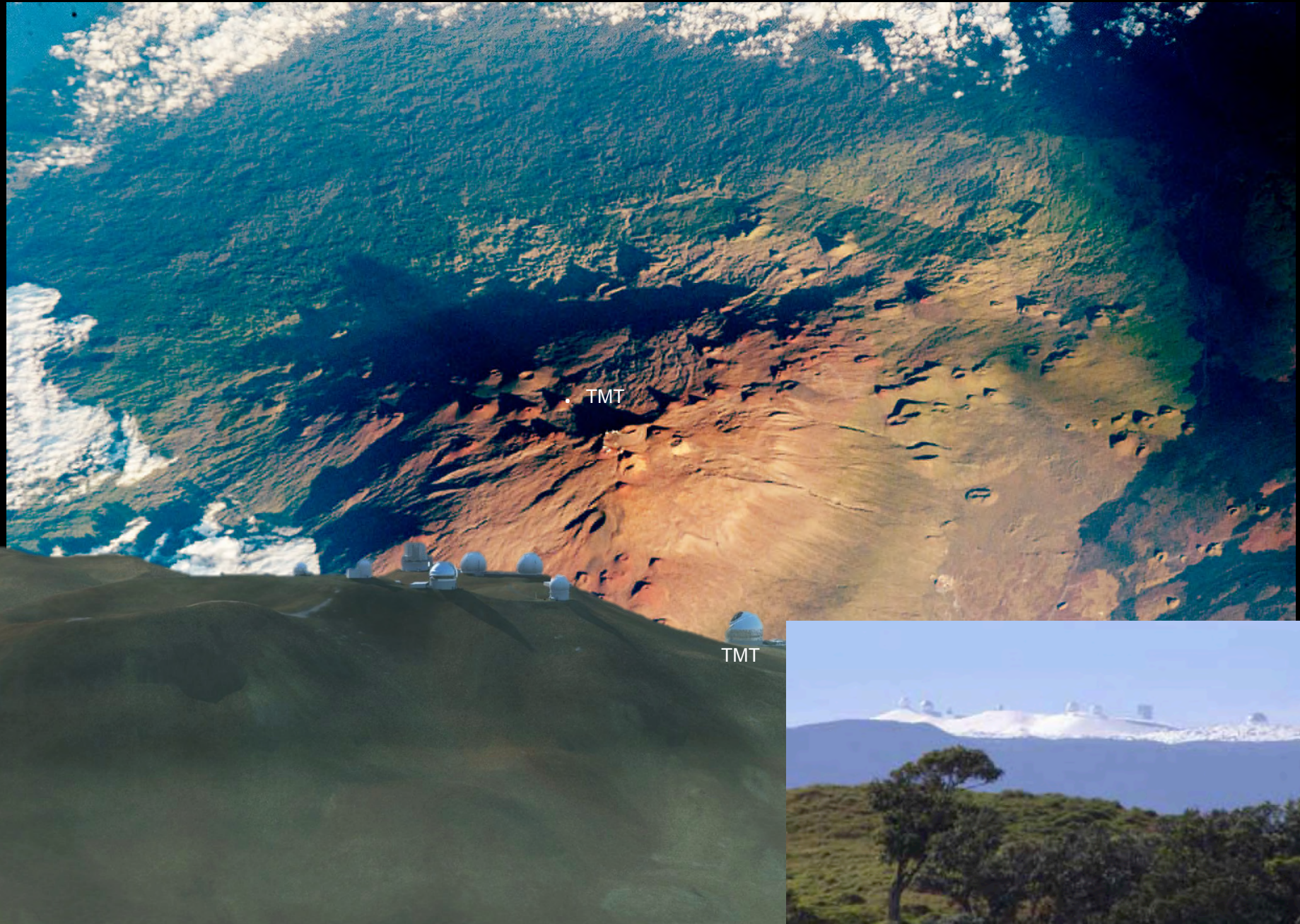
TOMORROW'S DISCOVERERS

DKIST Enclosure Completed

All legal cases successfully completed! (good example for TMT!)



TMT on Maunakea



TMT Contested Case Hearings



VIDEO: IfA Director Testifies At TMT Hearing

HILO (BIVN) - Astronomer Gunther Hasinger gives his opening statement, saying the future of Maunakea astronomy hangs in the balance of the Thirty Meter Telescope conflict.

BIGISLANDVIDEONEWS.COM

Without trying to take sides on the Thirty Meter Telescope (TMT): This is a great speech by Günther Hasinger at the TMT hearing, where (among other) he talks about how much astronomy has benefited from Hawai'ian telescopes, and how everyday life has been strongly influenced by astronomical discoveries and research.

Facebook Comment, 10/30

The petitioners were trying to drag out the contested case. In the meantime Judge Amano has imposed a ½ hr time limit. The process has taken up speed. UH and TIO have rested their case and the petitioner's first witnesses were cross-examined today. There are ~30 more witnesses. Thus the hearing may continue into February. More uncertainties about the

Envision Maunakea

The intention of Envision Maunakea is to nurture a civil discourse across a diverse sample of Hawai'i residents regarding the future of Maunakea. This project emerges from independent efforts initiated by Ka'iu Kimura ('Imiloa), Doug Simons (CFHT), and Stephanie Nagata (OMKM) begun in 2015 by a group of concerned and committed Hawai'i Island community members.

IfA has joined this effort. This is important in the context of the TMT and lease extension.

Envision Maunakea: Weaving a Path Forward Through Collaboration and Community



Ka'a i ka malu ō
Still being cherished, fostered
Pukui and Elbert (Hawaiian-English Dictionary)

A Proposal by
Gregory Chun, University of Hawai'i at Mānoa
Ka'iu Kimura, Executive Director, 'Imiloa Astronomy Center
Doug Simons, Executive Director, Canada France Hawaii Telescope Corporation
Stephanie Nagata, Executive Director, Office of Maunakea Management

Mahalo !

