



# *Presentation on* MIT AeroAstro Faculty Work Loads

Daniel Hastings & Steven Barrett  
*Department Head; Associate Department Head*

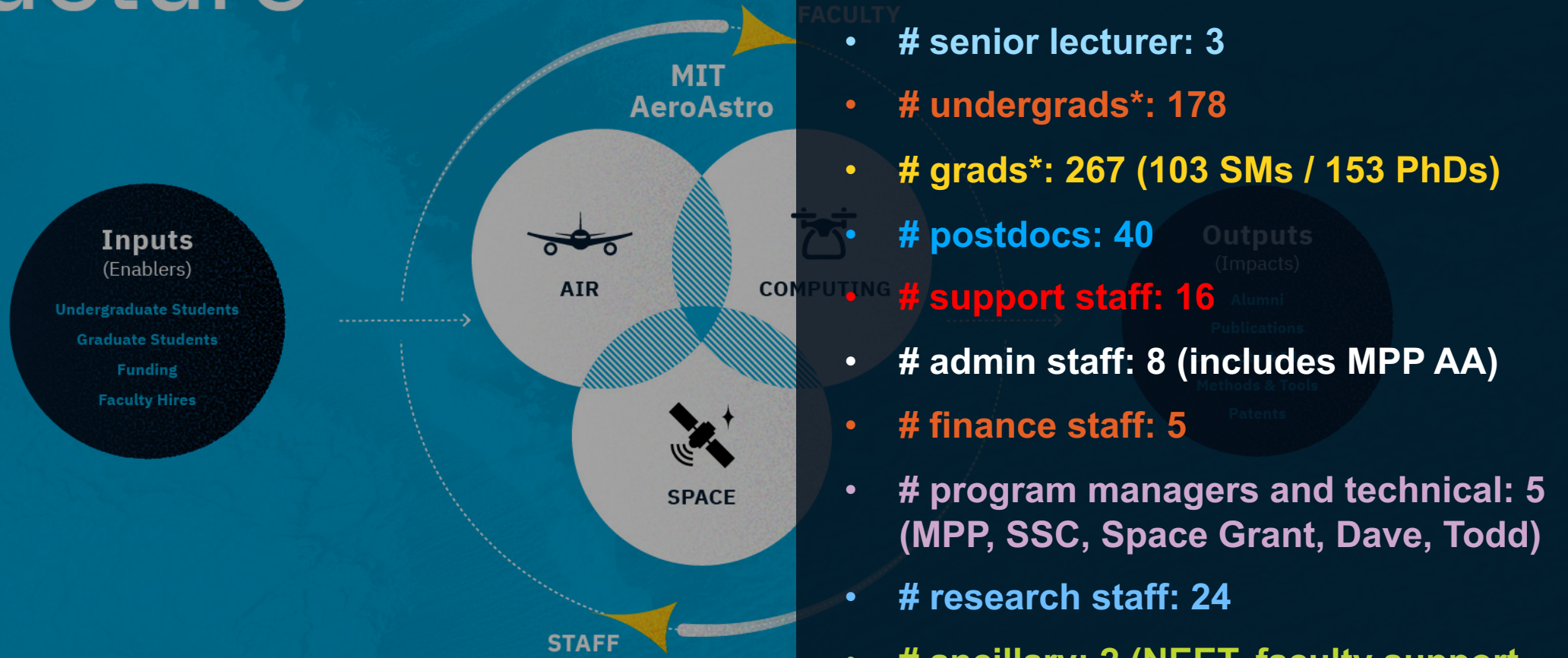


# State of the Department: Community

# Our Faculty



# Department Structure



## Snapshot

### People

- **# tenure-line faculty: 37.5; # PIs: 50**
- **# PoP: 2**
- **# senior lecturer: 3**
- **# undergrads\*: 178**
- **# grads\*: 267 (103 SMs / 153 PhDs)**
- **# postdocs: 40**
- **# support staff: 16**
- **# admin staff: 8 (includes MPP AA)**
- **# finance staff: 5**
- **# program managers and technical: 5 (MPP, SSC, Space Grant, Dave, Todd)**
- **# research staff: 24**
- **# ancillary: 2 (NEET, faculty support outside AA)**

# Research on best practices for understanding faculty workloads

# The Faculty Workload and Rewards Project

## About the Project

- 5-year NSF-funded action research project.
- Enhance equity in the way faculty workload is taken up, assigned, and rewarded.
- 53 departments in 20 colleges and universities.

## About the Intervention

- Workshop on Workload Inequality
- Create Work Activity Dashboards
- Identify and Implement Workload Policies
- Individual Professional Development on Faculty Time Management

## The Faculty Workload and Rewards Project Team

Shared leadership and credit: I co-led the FWRP with Dawn Culpepper, Joya Misra, Audrey Jaeger, Elizabeth Beise with early assistance from Courtney Lennartz

Funded by the National Science Foundation  
ADVANCE-IHE PLAN Project (1463898)

<http://facultyworkloadandrewardsproject.umd.edu/>



## We found practices that make a difference!

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- O'Meara, K., Jaeger, A., Misra, J. Lennartz, C. & Kuvaeva, A. (2018, December 19). Undoing disparities in faculty workloads: A randomized trial experiment. *PLOS One* 13(12).



## What We're Aiming for: Equitable Workload Conditions

<b>Transparency</b>	Widely visible information about faculty work activities available for departments members to see.
<b>Clarity</b>	Clearly identified and well-understood benchmarks for faculty work activities.
<b>Credit</b>	Recognition and rewards for faculty members who are expending more effort in certain areas.
<b>Norms</b>	A shared commitment to ensuring faculty workload is fair with systems that reinforce these norms.
<b>Context</b>	Acknowledgment that different faculty members have different strengths, interests, and demands that shape their workloads with workload flexibility to recognize this context.
<b>Accountability</b>	Mechanisms to ensure that faculty members fulfill their work obligations

# What are our norms?

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- Each faculty member is expected to do research, teaching (including mentoring) and internal service
- Each faculty member is expected to live our values (MIT and Department)
- Faculty members who are Full Professors are expected to do more service
- Rough weighting for annual review
  - Junior faculty (Asst, AWOT)- Research 50%, Teaching 30%, Service and Community contribution 20%
  - Senior faculty (AWIT, Full) -Research 40%, Teaching 30%, Service and Community contribution 30%
- MIT and each Department is a shared governance system and all faculty are expected to contribute
- Faculty with major administrative roles may have reduced expectations on teaching

## • Research norms

- We do research with UROPs, graduate students, postdocs and research scientists
- The balance between these is up to the faculty member but all faculty are expected to have graduate students
- For students who are graded (UROPs on grades, graduate students), we will provide them with candid feedback in a timely way
- We will aim to meet with graduate students on a regular basis usually weekly
- We will develop our postdocs according to a written mentoring plan
- Faculty are expected to be available to serve on PhD committees outside of their students

## • Community norms

- Faculty are expected to engage in their external professional community
- Faculty are asked to proactively nominate colleagues for awards
- Faculty are expected to attend faculty lunches, distinguished lectures, offsites and faculty search talks

# What are our norms?

## • Teaching norms

- We teach one class a semester on average
- Each class should be approx. 12 units
- We teach a given class for at least 3 years before we may rotate to another class
- For UG classes, we will produce reflective memos at the end of each semester (for ABET)
- Mentoring of students is recognized as part of our teaching. We will actively mentor our undergrads, grad students, postdocs and research scientists

## • Service norms

- We all need to advise some number of UG students
- Junior faculty (Asst, AWOT) will usually serve on one Dept comm and not as chair
- Senior faculty (AWIT, Full) are expected to serve on several Dept committees as well as MIT or SoE committees
- Senior faculty may chair one or more committees
- All faculty are expected to attend and do work on their committees
- Faculty are expected to attend grades meetings

How will we follow the best practices?

# How we follow the best practices

- **Transparency**
  - Faculty service on Dept committees will be posted to our website behind the firewall
- **Clarity**
  - Clearly understood benchmarks for faculty workload will be posted to our website
- **Credit**
  - Faculty service workload is an explicit part of promotion from AWIT to Full
  - Exceptional service will be recognized via merit based salary increases
- **Norms**
  - Norms will be posted and periodically discussed
- **Context**
  - Since different faculty have strengths in different areas (some are better teachers, some are better administrators etc), the Department Head will explicitly account for this in the annual review
- **Accountability**
  - For each faculty member, a discussion of contributions relative to the norms will be part of the annual review
  - Committee chairs can also give feedback to the Department Head on the contributions of a faculty member on a committee

# Committees

# Committees (1/3)

Name	Chair	Members
<b>Sector Heads</b>		Z. Spakovszky (Air), O deWeck (Space), D. Darmofal (Computing)
<b>Undergraduate Committee</b>	Y. Marzouk	S. Barrett (ADH), W. Harris (advising & student support), J. Hoffman (outreach), Z. Cordero (outreach/FPOP), C. Fan (outreach/FPOP), B. Wardle (UROPs/internships), S. Hall, A. Lozano-Durán, B. Wardle; M. Drela Academic Program Administrator: M. Stuppard
<b>Graduate Committee</b>	J. How	S. Barrett (ADH), Y. Marzouk, N. Leveson, Q. Wang, R. Radovitzky., O. de Weck. B. Williams, J. Péraire, E. Modiano, Graduate Program Administrator: L. Petrarca
<b>Grad Admissions Committee</b>	J. Péraire	S. Barrett (ADH), K. Cahoy, L. Carlone, Z. Cordero, C. Guerra-Garcia, R. Linares, O. de Weck, C.. Fan, E. Greitzer, W. Harris, J. How, E. Modiano, M. Win, L. Petersen, K. Arquilla, N. Leveson GAC Administrator: L. Petrarca
<b>Diversity, Inclusion &amp; Innovation (Exec.)</b>	K. Cahoy	S. Barrett (ADH), D. Hastings (DH), M. Win, D. Phillips (Diversity Officer), W. Harris, N. Leveson, K. Arquilla



# Committees (2/3)

Name	Chair	Members
<b>Awards</b>	E. Greitzer	J. How, S. Widnall
<b>Faculty Search</b>	H. Balakrishnan	Z. Cordero, P. Lozano, W. Harris, E. Greitzer, J. How, S. Barrett (ADH)
<b>Space</b>	S. Barrett (ADH)	E. Greitzer, A. Zolnik, B. O’Conaill, O. de Weck, J. How, Y. Marzouk, Z. Spakovszky, D. Hastings (DH)
<b>Dept. Leadership Team</b>	D. Hastings (DH) and S. Barrett (ADH)	Sector Heads (Z. Spakovszky, D. Darmofal, O de Weck), Chair of the UG Committee (Y. Marzouk), Chair of the Grad Committee (J. How), Chair of DEI (K. Cahoy), Chair of the Faculty Search Comm (H. Balakrishnan)
<b>Digital Education</b>	S. Barrett (ADH) & S. Hall	Q. Wang, O. de Weck, L. Carlone, C. Fan, D. Darmofal, E. Crawley, C. Guerra-Garcia

# Committees (3/3)

Digital Education Sub Committees	Chair	Members
Digital Education – Micro SB	E. Crawley, W. Harris	S. Barrett, A. Lozano-Durán, R. Linares, S. Hall, E. Modiano, L. Carlone, K. Arquilla
Digital Education – Micro SM (autonomy)	J. How, S. Karaman	B. Williams, L. Carlone, H. Balakrishnan, J. Hansman, K. Cahoy,
Digital Education – Content	D. Darmofal, C. Guerra-Garcia	Q. Wang, S. Hall, E. Greitzer, R. Radovitzky, Z. Spakovszky, L. Carlone, L. Peterson
Digital Education – Resourcing	D. Hastings, S. Barrett	W. Harris, J. Peraire, O. de Weck, E. Crawley, D. Mindell
Digital Education – Infrastructure	O. de Weck, R. Radovitzky	A. Lozano-Durán, C. Fan, Q. Wang, J. Sabnis, D. Hastings

# Summary

# We are great department in a world-class institution – these explicit best practices will make us better

- A long history of leadership in aerospace
- A distinguished and energetic faculty
- New directions for the department
- Passionate students
- Exciting research
- Deep connections within MIT, with local partners and with strategic partners
- Many excellent facilities
- Committed to leading the aerospace profession!

