HUMAN SYSTEMS LABORATORY

2019-20 Graduate Student Guide

Welcome to the Human Systems Laboratory, formerly the Man Vehicle Laboratory! HSL has an international reputation of excellence in human systems engineering, and aerospace physiology, a rich 57-year history, and a worldwide network of alumni(ae). Each year we have several large projects and numerous smaller ones underway. All are exciting. Our quality of life in HSL derives from our sense of purpose, and also our collegial spirit - our sense of "we". This guide provides a useful summary of some important HSL and Department policies and procedures that new graduate students should know. We also think it is important – without trying to sound too stern – to say clearly what we expect of our graduate students - and what you can expect of us. If you have questions, suggestions, or notice errors in this guide that should be fixed next year, be sure to let us know.

Jeff, Dava, Chuck, Julie, Larry, and Liz

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EXPECTATIONS

Research Assistants

Full Time RAs are officially junior staff members/employees of the laboratory, working under the direction of a faculty supervisor, and are expected to devote their normal 9-5 workdays to their assigned duties, except during hours in which they are in class. Class preparations, assignments, or other study should normally be done during evenings and weekends. An RA may do thesis work during the normal workday provided it is part of their research project assignment. RAs normally take only 24 units per semester, so you are expected to devote about 30-35 hours per week to your assigned research, including various lab and project meetings. In fairness to your research sponsor, RAs should not register for or listen to extra subjects or make other daytime commitments without the permission of your research supervisor. Your research should be your main focus. As a condition of your appointment, it is expected that you will not undertake additional regular paid employment inside or outside MIT.

Everyone wants to write a superb thesis. However, truth is, we measure HSL's professional productivity in terms of the number and quality of our open-literature journal articles and research reports, not theses. Unfortunately, theses are too often only read by the supervisor, (and sometimes used by parents and grandparents as sleep aids). So we expect you to write up your research in journal article or technical report format. To meet the thesis requirement, you can add additional background and suggestions sections, and submit this extended version. Your thesis is an archival document, perpetually available to the MIT community in electronic form on D-Space via the MIT Library (dspace.mit.edu), and to those outside. It is the place to record valuable information that you might not put in a journal article, including original data and computer program listings that might be useful to potential successors on your research project. You can then decide which version (thesis or journal article) you want to give to your parents.

Our research sponsors expect HSL to meet deadlines for research reports, publications, presentations, etc., without making excuses, and we expect the same professional approach from you. If your supervisor asks you to do something, and you accept, consider it a commitment. If you find you will have problems keeping your commitment, discuss it with your supervisor as early as you can. You'll need to plan your coursework ahead. "Oh, sorry, I couldn't finish it, because I had to study all day for a 16.400 exam" doesn't cut it. Accept full responsibility for the tasks you've accepted, and come to meetings with your supervisor fully prepared. Getting your work done is your job, not your research supervisor's.

Learning how to communicate effectively orally and in writing is an important part of your education and research training. Our sponsors typically ask for written progress reports at least once a year, so we'll often ask you to write a report describing your project, progress, and results. Oral reports on your research at individual, group, and lab meetings not only keep us all informed and help us to share suggestions, but serve as a way to practice oral communication in a professional yet friendly way.

RAs are normally appointed for the term, but may be terminated at any time if you are seriously delinquent in your work. Productivity in your assigned research is the most important criterion for continuing your appointment. As a professional researcher, you are also expected to be aware of and contribute to other research projects and to support necessary lab activities - a fancy way of saying you get to help us clean up the lab, help maintain computers, equipment, or our web page, or show visitors around once in a while.

Vacations and other absences must be arranged in advance with your research supervisor. A vacation totaling five working days per term (fall, spring, summer) - ordinarily taken during academic recess periods - is normally allowed. Academic holidays and vacations, other than legal holidays during which the Institute is closed, are considered normal workdays for Research Assistants. If you need more time off, some adjustment to your stipend and tuition support may be necessary. To avoid any misunderstandings, keep your research supervisor informed as to your plans, and each time you take vacation, document it in an email sent to your research supervisor.

Fellowship, Part Time RAs, Self-Supporting Students, and Visiting Students

Fellowship students, Part Time RAs, and self-supporting students have more latitude in terms of how much of their time they allocate to their HSL research. Be sure you have a clear understanding with your research supervisor about this. In return for access to lab resources, our expectations as to your relative productivity and also your participation in lab meetings and other lab activities are identical to those of full-time research assistants. We expect visiting graduate students from other universities to also participate as full lab members, however, as non-MIT students no classes are taken for your official record.

Research notebooks and data archiving

Our contracts and grants require you to keep written chronological notes on your research in a separate paper or electronic lab notebook. These notebooks provide an important chronological record of the details of your work, and may serve any number of legal and technical purposes, sometimes long after you have made your fame and fortune elsewhere. Lab notebooks have proven invaluable to students working on follow-on projects, and are even important in patent applications. If you ever should apply for a patent, they can be absolutely critical in establishing rights to ideas! Lab notebooks and data from your experiments must remain in HSL after you graduate. Be sure to give your supervisor your notebook and data, or agree how and where the electronic versions will be archived. You can make a copy of your notebook to take with you.

Many of our NASA contracts also require that the data we obtain be archived electronically at an off-campus site. Some contracts also require that special steps be taken to maintain data confidentiality. In some cases, data must be destroyed within a certain number of months or years after project completion. Check with your supervisor.

OFFICES AND KEYS

Consistent with Aero/Astro Department policy, we provide student office space (desk, chair, bookshelf, phone etc.) for full time RAs. Part time RAs, supplemented fellowship, full fellowship and other self-supporting graduate students, TAs, undergraduates, and visiting students are accommodated on a space available basis, generally in that priority. Draper RAs (aka Draper Fellows) have offices at Draper, and may also have offices on campus. Office space is very limited, and sometimes it is just not possible to give everyone their own desk. If you are a TA, your teaching department is expected to provide office space during the semester you are teaching.

Request keys as soon as you can. See Liz Zotos in 37-335, 3-7805. You'll need a key to your own office, your lab, the main lab (37-146) and the HSL office foyer (37-219).

HSL expects you to keep your office neat, and that you will be considerate of your officemates. When you finally depart, we expect you to clean out your desk, and dispose of all papers, return your keys to Liz Zotos in 37-219, and your research notebooks, signed human use informed consent forms, and materials to your supervisor. We'll also likely ask you to provide electronic versions of your data and thesis for archival purposes.

Unfortunately, space is so limited that we simply have no room for storage of personal belongings if you plan to be away from MIT.

MEETINGS

HSL conference room (37-215)

We have a small conference room in the 37-219 suite specifically for HSL project meetings and small seminars. There is a speakerphone in the room, (phone # 3-7520), a white board, and a large LCD video screen, which you can connect to with your laptop via VGA or HDMI (cable needed). Please be sure to erase the

white board when finished (otherwise it becomes more difficult to erase later). You may reserve the room by emailing Liz, zotos@mit.edu or adding your name to the calendar posted on the door.

HSL lab meetings

We hold Lab meetings - nominally every other week - to discuss progress, problems, and common needs. Students often present their work, and sometimes we have outside speakers. Attendance is mandatory for all HSL staff including RAs supported on HSL projects. Undergrad UROPs and visitors are encouraged to attend. Time and place of all meetings are agreed upon at the beginning of each term.

Advisor meetings

Regular meetings should be scheduled between student and research supervisor. Arrangements should be made directly with your supervisor, or see your supervisor's assistant.

Jeff Hoffman and Julie Shah: Liz Zotos, 37-335, 3-7805, zotos@mit.edu

Dava Newman: Raina Pueles, 33-336, rkpueles@mit.edu

Chuck Oman and Larry Young: Pam Fradkin, 33-207, 8-9729, fradkin@mit.edu

Project meetings

People working on a specific large project should meet as needed.

Lab picnics and retreats

Usually we arrange an afternoon lab picnic or outing at some fun location in the fall and/or the spring. Families and significant others are encouraged to attend, and get to meet your colleagues. Once every few years during intersessions we schedule a daylong meeting (usually elsewhere on campus, away from the office) to collectively review our progress and problems and think strategically about our directions.

COMPUTING:

Computers

HSL has many PCs and workstations connected to MITnet for use on specific sponsored research projects, and some are available for general use. The data on these computers are generally not backed up. However, many students choose to use their own laptops for both class and research. (Obviously this is at your own risk, since MIT has no insurance). In either case, we expect you to routinely back up your work, either on a lab provided drive or over the net e.g. using the MIT-provided software. Saying “I lost all my data and thesis drafts because my hard drive crashed (or because of a virus)” is the contemporary equivalent of “my dog ate my homework” - and isn’t an acceptable excuse.

You may also store or back-up your files using cloud services. MIT provides access to Dropbox, OneDrive, and Google Drive (http://kb.mit.edu/confluence/display/istcontrib/Data+Storage+and+Collaboration+Options). MIT has agreements to host a certain default space depending on the cloud service. Not all data can be stored on the cloud and you should check with your supervisor prior to storing data on these servers.

Viruses and hackers are a major problem at MIT. Downloadable anti-malware tools are available for PCs and Macs from the MIT IS&T web site for free. You need an MIT certificate to access: http://ist.mit.edu/software-hardware?type=16 . There is no excuse for not using them. We expect every HSL computer used in HSL research will have virus detection tools installed, with current virus data files. If you’ve been attacked, respond immediately and let your research supervisor know. If your computer starts

propagating viruses, MIT may turn off your internet connection. We expect you to be sure your important files and data are properly backed up via CrashPlan so that you can restore your computer and work.

A variety of software is freely available through IS&T for MIT students to use on their own computers e.g. MATLAB, Office.

HSL also has stand-alone licenses for a number of applications. These are generally purchased by and for specific research projects. If you need a specific application, check with your supervisor. If you "borrow" HSL softeware (e.g. Systat) for your own computer, we expect you to be sensitive to the licensing issues, and certainly not to make it available to users outside the lab.

Your supervisor may ask you to take system management responsibility for a specific HSL computer. That means you get to decide what goes on it, how it is configured, and who uses it, but it is your responsibility is to be sure everything on it is backed up, in proper repair, and properly protected from viruses, and keep a record of the configuration and serial numbers, in case warranty repairs are needed.

Many of HSL computers have directly connected ink-jet/laser printers. There is also a HP Laserjet in building 41, and a HP M402dne monochrome printer in 37-219 that can be reached via MITnet. We share these, so if you are printing large/complex jobs, be considerate and try to do it at night. Computer and printer facilities (programming, writing, e-mail) were purchased by our sponsors for research purposes. Use for web browsing, classwork and personal e-mail use always takes a lower priority to research. Printer paper and ink are expensive in large quantities. In fairness to our research sponsors, if you have a large printing job (e.g. a hundred pages) unrelated to your research project we expect you to take it to MIT Copy Tech (11-004).

Our general policy is that any HSL member can use any HSL computer temporarily, but shouldn't leave files behind, install new applications, change the system configuration, or otherwise do anything "risky" without checking with the system manger first.

If you need computing hardware or software help, there are a number of resources. First email or call MIT's Information Systems & Technology Service Desk at servicedesk@mit.edu, or leave a message at x3-1101. When computers break, you can often take HSL computers to IS&T in Building E17 for a repair estimate. Costs of repairing or upgrading HSL owned computers or printers are borne by individual research grants – there is no "general" lab funding for this. If you need repairs or upgrade, check with your supervisor for an account number. The Aero/Astro Department has an email list aa-help@mit.edu, overseen primarily by Anthony Zolnik and Brían O'Conaill for IT issues. Sending an email to this address will generate an AeroAstro IT help ticket.

Networks

HSL is networked to MITnet, managed by MIT Information services with the help of the Aero Department. MITnet reaches us as a TSP Ethernet RJ45 socket, running TCP, usually with fixed network addresses. Lots of information is available on MIT's web page about this. There are roughly a dozen net drops in HSL labs and offices. Laptops typically use wireless access. Please connect to "MIT SECURE" and log on with your Kerberos username. Some of our desktop computers use internet connection sharing to support other local computers and printers using dynamic addressing. To add a computer to the net, see your research supervisor, who will arrange for a net drop and internet address. For problems, call x3-1104 or net-help@mit.edu.

When you register as a student, you are given an Athena account, and a Kerberos password. There are numerous Athena terminals all around campus, but these are gradually being phased out as more and more students use laptops. Most all classrooms and the libraries now have wireless service.

Copying/Scanning

A copier/scanner is available in the HSL 37-219. Please use discretion in copying, and don't abuse the privilege.

HSL Email List

HSL maintains its own mailman email list. Mail addressed to hsl@mit.edu will automatically be sent to everyone in the lab. Please add yourself to the list by visiting http://mailman.mit.edu/mailman/listinfo/

HSL Server and Web Site

HSL maintains a web site (http://hsl.mit.edu/), that has the lab publication lists, announcements of upcoming events, and lists of people, projects, and UROP (Undergraduate Research Opportunities Program) openings. There is also a private wiki with folders containing useful MIT forms and lab documents. To get access to the HSL-only wiki, use your Kerberos account information. If you need help accessing the site or the wiki, contact Andy Liu (amliu@mit.edu).

SECURITY

Unfortunately, there are problems throughout the Institute with security. Computers, wallets, and other valuables disappear regularly, particularly from offices and labs with open doors. Do not leave valuables in easily accessible places. MIT has no insurance for "minor" (but important to us) losses. Major losses (>$1000 deductible) are covered by MIT insurance, but the items must be stored in areas secured by more than one lock. Vigilance and locked doors are our bst protection. So please keep the door to your office and the main lab (37-146) and the VR-Lab (37-127) doors closed at all times. If you have subjects coming, please don't prop the door open – put up a sign saying how they can reach you. If you see someone you don't recognize, introduce yourself (e.g. "can I help you?") or if you are suspicious, notify campus patrol.

IN CASE OF EMERGENCIES:

General Emergency: DIAL 100 (Campus Patrol/EMT).

Fire Alarms (flashing lights and sirens): Tests are almost always announced ahead of time so if the alarm goes off unexpectedly, assume the alarm is real. Alert your coworkers, and get out of the building ASAP. Don't use the elevator. Take valuables but don't bring your bicycle. Proceed immediately out the front door to Vassar Street then to the lawn in front of Building 33 & 35 and wait for instructions.

SAFETY AND SAFETY BRIEFINGS:

Bikes should not be parked in the main 37-146 lab. Officially, they are not even supposed to be brought into the building. If you keep yours in your office, you have to promise all of us to leave it behind in case of a fire alarm.

NEVER do any bench or experimental work or run any moving device while working alone in the lab. If you were injured, you'd need someone to call for help. If you find it necessary to do other work alone during off hours, you can call the campus patrol (3-1212), who are happy to check up on you occasionally.

HSL Safety Coordinator – (Tom Abitante, abitante@mit.edu)

The MIT Environmental Health Service inspects the labs at least once a semester. Most of their concerns are usually related to potentially hazardous materials or simple housekeeping (messy desks, tripping hazards, sharp edges on equipment). Try to be proactive about these so you don't get written up. If you are working on an experiment involving hazardous materials be sure you are familiar with the appropriate clean-up procedures. If you have a spill, immediately notify our building environmental safety coordinator for the Lab, , If you have equipment that has reached the end of its service life (old computers, broken chairs, etc.), if it has an MIT Property Office Tag on it, talk with Liz Zotos first. It must be taken off the Property Office rolls, and a red tag affixed to it. Old stuff (especially computers but also furniture or office cruft) can be offered to the MIT community by posting to the reuse@mit.edu mailing list. Check out MIT's recycling web site http://web.mit.edu/workinggreen/reuse/recycle.html for disposal procedures.

All new HSL students and staff are required to take the Aero/Astro Department or School of Engineering on-line safety briefing - and to take a refresher once every two years. When you take the briefing, verify that a record is kept to show that you have completed it. You should also walk through your research area once a semester with your research supervisor and assess (and remedy) any safety hazards. The link to the training is at https://ehs.mit.edu/site/training. https://aeroastro-ehs.mit.edu/emergency-preparedness-and-general-safety-guidelines-presentation-aeroastro.

EXPERIMENTS INVOLVING HUMAN SUBJECTS

All experiments involving human subjects must be reviewed and approved by the MIT Committee on the Use of Humans as Experimental Subjects (COUHES), https://couhes.mit.edu/.

Everyone involved in the conduct of an experiment involving human subjects must have completed the MIT COUHES "human subject investigator training" course online. As soon as you have your MIT ID number and MIT web certificate, go to the COUHES web site, http://couhes.mit.edu/, register, and take the CITI Biomedical Investigators course.

As you plan a new experiment, you will need to prepare a detailed "Protocol" for review by COUHES and also an "Informed Consent Statement" explaining the experiment and the risks and benefits which the subject and experimenter both sign. Forms are available at http://couhes.mit.edu/forms-templates but the process is now completed on-line. Your "protocol", "informed consent statement" ("ICS"), and also any advertising flyers and questionnaires must be reviewed and approved by COUHES prior to initiation of experiments. COUHES meets once a month, usually the third week of each month. So the approval process takes time and it is important to plan ahead. Sometimes experiments that involve only minimal risks can be administratively approved more quickly, but that is only determined after you submit your protocol for review. Approvals are valid for a period of one year. COUHES will provide the project PI with a certificate of approval, and a version of your ICS bearing the COUHES approval stamp. You should be sure to ONLY use the COUHES stamped version of the ICS in your experiments, and that the date on the approval is current.

If the experiment is a collaborative one that involves sharing health related information with investigators at another institution like the Mass Eye and Ear Infirmary or the Volpe Center, an additional "HIPAA" form must be read and signed, in addition to the Informed Consent Statement.

Illness/Injury: Before beginning any experiment, discuss with your supervisor what you will do if any subjects withdraw from your experiment or become ill or are injured in any way. If unexpected withdrawals, illness or injury ever occur, remember to notify your research supervisor, who probably will have to report the incident to COUHES.

Compensation: Subjects are normally paid for their participation in our experiments. For routine behavioral experiments involving minimal stress or discomfort, the rate is typically $15/hour. You must be sure to use the "human subject compensation form" available on HSL.mit.edu to collect specific information from them. If subjects are international residents, we need the name of their home country and the type of VISA they hold. Unfortunately visa rules may prevent us from being able to pay foreign students for participating in experiments. Be sure to verify that we can pay them before accepting them as subjects. Depending on your sponsor's requirements, you may also have to ask your subject about their ethnic background, for demographic balancing purposes.

Archiving: At the conclusion of any experiments, the signed "informed consent", "HIPAA" form and "human subject compensation forms" should be given to Liz Zotos (Hoffman, Oman, Shah, Young) or Quentin Alexander (Newman), who maintains a permanent file. HSL has to submit reports each year to COUHES indicating the number of subjects tested, demographics, etc. on each project. We can't do this without your help. We also have to save your notes and data. See also the earlier section on research notebooks and data archiving. If you are conduction a study with Prof. Stirling, consent forms must be provided to her after subject data collection is completed. Do not wait until the study is over or you are graduating.

Statistical design of experiments

Virtually every thesis project in HSL involves performing an experiment, usually on human subjects. We expect all HSL students to learn the basics of applied statistics (e.g. regression, ANOVA, chi-square, etc.) and statistical design of experiments, and to review the design of their experiments with their supervisor. Dr. Alan Natapoff for many years was HSL's resident statistical expert and saved numerous thesis projects from the ignominy of a null result. HSL students often refer to "Natapoff's Laws", sometimes wistfully since some have had to learn them the hard way. Natapoff's Laws are:

- Great experiments don't just happen. They have to be carefully designed.
- Never average over sets of data that you suspect may be different.
- Not all statistically significant effects are important.
- A non-significant result doesn't prove the null hypothesis.
- Don't try to prove that an effect exists using statistical tests unless you also can see it looking at the data with your own eyes.

UNDERGRADUATE ASSISTANTS (UROPS)

Undergraduates often work on projects in HSL, sometimes on a project of their own, but more often through the MIT Undergraduate Research Opportunities Program (UROP) assisting faculty and graduate students, working either for academic credit or pay. If you're interested in recruiting a UROP to help you with your project, discuss it with your research supervisor. At the beginning of each term, MIT allocates a certain amount of MIT funding to support "UROPs for pay". For projects that miss the funding deadline, or are not awarded funds, the stipend of UROPs-for-pay can also be charged to research grants. A third option is for the students to do a "UROP-for-academic-credit" only. What UROPs accomplish is usually proportional to the time you spend working with them, and how motivated they are. Including them in your project meetings and discussions and asking them to make presentations to the group is really helpful. Many HSL graduates owe their success in part to industrious and creative UROP helpers, so getting a UROP to work on your project is often extremely worthwhile. MIT alumni often say that their UROP was one of the real high points of their undergraduate years, since it was their first experience with real research. HSL UROP web page http://hsl.mit.edu/urop/.

PUBLICATIONS, REPRINTS, AND REFERENCE MATERIALS

Searching MIT libraries

Many journals and theses are electronically available online through the MIT Library's VERA system. This has become a powerful searching resource. Articles from journals which are not available through MIT can be obtained as a PDF through Inter-library loan (ILLiad). Fill out the form at https://libraries.mit.edu/illiad

The MIT Libraries has many services under "Document Services" http://libraries.mit.edu/docs/ . They can send you journal articles, MIT theses, MIT research publications electronically.

Copies of older seminal journal articles which are not yet available on-line might be kept by faculty and staff on their computer databases. In addition, we have a collection of student theses, and student research notebooks shelved in the lab, 37-142. You may also find our theses in the library's theses collection http://libraries.mit.edu/ and https://libguides.mit.edu/dspace/about-theses .

Laboratory Publications

Reprints are located in room 37-219 beneath the mail folders and to the right of the printer. They are arranged inverse chronologically by year and HSL Publication Number. See the current "HSL Publication List" on HSL.mit.edu. A paper copy is posted on wall above cabinets. Feel free to borrow what you need, but don't

EVER take the last copy, or the one marked "master" in blue. Reprints cost several dollars apiece, so don't accumulate large stacks of extra reprints in your office. Liz also keeps a folder on her computer with PDFs of many recent publications and theses. We keep a current list of all HSL papers in both Word and EndNote citation manager format. It is handy to keep a copy of the HSL publist on your computer so you can search it.

Borrowing faculty books

Your advisor may lend you books from their personal shelves, or you may ask to borrow books and papers that are not available in the MIT Library. Never take a book from your advisor's shelf without asking first. You MUST sign them out in the red binder marked "Check Out List" in 37-219, and return them as soon as you are finished. All HSL students can check out Prof. Newman's books from her 33-307 office by signing them out with Quentin Alexander.

HSL INCOMING MAIL:

If you are a graduate student affiliated with HSL, you can use HSL as your professional address, and have your mail delivered to the HSL main office in 37-219. Each lab member has a mail folder on the file cabinet inside 37-219. The US Post Office prefers that items sent to us be addressed as:

(Your name)
MIT Human Systems Laboratory
77 Massachusetts Avenue, Rm 37-219
Cambridge, MA 02139.

For arriving FedEx, UPS packages or ground shipping, use

(Your name)
MIT Human Systems Laboratory
70 Vassar Street, Rm 37-335
Cambridge, MA 02139

FACILITIES

Main Lab Facility 37-146

The main lab room (146) is currently used mostly for our EVA projects, but also contains common facilities, such as our tool chests, workbenches, equipment, scavenged parts shelves, refrigerator, table, and lots of chairs. The refrigerator is for food and drinks. Don't ever store chemicals in it. If you leave food in the refrigerator, be sure to remove it before it turns green.

Feel free to use the lab desks as necessary, but do not reposition cabinets or desks. It is important to return tools and such to their appropriate place and to keep your work area neat. Please relinquish bench space when you are not actively using it. Equipment in need of repair should be tagged (so someone else doesn't make the same frustrating discovery) and your supervisor should be notified.

In the main lab the Vicon Motion Capture Cameras are often set up for testing or an experiment - do not move or adjust the motion capture cameras without permission. Please check with Golda Nguyen if you wish to use them. Other equipment such as the APDM Inertial Measurement Units (contact: Tim McGrath), metabolic and EMG sensors (contact: Tom Abitante) and pressure sensors (contact: Rachel Bellisle) is also stored in the lab and available for use.

Office supplies for research

Office supplies for research are not provided by the Aero/Astro Department. Check with your research supervisor on how to purchase office supplies. Supplies in the cabinet in 37-219 are for students working on Profs. Hoffman, Young and Oman's projects. Prof. Newman's students should get office supplies from Quentin in 33-336.

Purchasing equipment, supplies, airline tickets, etc.

Please get your supervisor's approval before making any purchases and see their administrative assistant for help with purchasing.

Jeff Hoffman, Chuck Oman, Julie Shah: Liz Zotos, 37-219, 3-7805
Dava Newman: Quentin Alexander, 33-336, 3-6270

They can purchase the items for you with the MIT Procurement Card or MIT Purchase Order.

If you buy items with your own pocket money, you may be reimbursed for the amount. See the appropriate fiscal person or the Administrative Assistants. Important: MIT is TAX EXEMPT, so if you make a purchase yourself, you will not be reimbursed by MIT if the vendor charges tax. We have a Tax Exempt Form to give the vendor when making your purchase for MIT. This form is located in 37-219 in the Folder marked "Tax Exempt Form".

Once you have supervisor approval for large purchases or travel you may also need to get prior approval or resolve contract and budget questions working through one of the administrative units at MIT who handle our various contracts. Liz Zotos can help you with the liaison. FYI these units are:

Department of Aeronautics & Astronautics Fiscal Officers				
Hoffman	Jennie Leith	33-214B	jennie@mit.edu	3-4929
Oman, Young	K. Ngan Le	33-214D	ngan_le@mit.edu	4-5542
Newman	Suxin Hu	33-214A	suxin@mit.edu	3-0492
Shah	Jei Lee Freeman	22-214D	jeileef@mit.edu	3-1695

Reimbursement for MIT travel

You will see announcements of scientific meetings posted frequently. From time to time your supervisor may suggest you attend a meeting, a NASA conference, or submit a paper based on your research. When you travel, MIT's travel policies apply, as does MIT's travel insurance. HSL staff frequently use the MIT Concur online booking tools which is accessed through MIT Atlas (https://atlas.mit.edu – click on the 'Travel' link). For complex travel and personalized service, we frequently use Travel Collaborative, (617) 497-7400. They can charge tickets to the HSL Travel Card, and know about special MIT rates which some airlines have, some of which allow schedule changes with no penalty. Or you can use the web or your own agent and pay yourself, and get reimbursed. When you return from your trip, you must submit all your original itemized receipts within two weeks to your research supervisor's admin so the reimbursement can be processed. This can also be completed online through Atlas. For those travelling in coach on government grants, "upgrades" such as extra leg room/exit row/premium economy seats are unallowable, but "seat selection fees" such as aisle or window or anything that isn't extra legroom are allowable, as are luggage fees when required for professional reasons. Check the MIT travel site https://vpf.mit.edu/site/travel for additional information and policies and procedures. Foreign travel typically requires sponsor approval, so plan well in advance. You must use a US Carrier when booking flights, if one is available.

Aero/Astro Dept. Shop and special test equipment loans

Minor fabrication and certain electronic work can often be done at the workbenches in the main lab. Work requiring machine tools, a technician, or more extensive support or loan of special test equipment can often be arranged with the Aero/Astro department shop/project lab in the basement of Building 33. Talk with technical instructors Dave Robertson (33-017A, 3-7216), Todd Billings (trb@mit.edu, 3-7726) about your needs. We often use Aero/Astro shop facilities. Dave and Todd are extremely knowledgeable, helpful, and friendly and very good people to get to know. They don't charge for their advice, but if you do need a significant amount of their time, they may need to charge some of their time to your project. So always ask, and if they need to charge their time, be sure you know what it costs and your supervisor agrees and arranges it. Periodically, they run shop training classes, which you should take if you expect to use any specialized equipment.

HSL bulletin boards

We have 3 of them:

- Outside 37-219 for notices, posters and publications of general interest
- Inside 37-219 above mail folders: important notices, and items relevant to the current week.
- Inside 37-219 opposite the mail folders: photos of HSL members, memorabilia, announcements of longer term interest.

SHERRY AWARD

Each spring, HSL gives the "Sherwood A. Modestino" award to the graduate student or non-staff postdoc who has done the most to contribute to the work and spirit of the HSL. The winners invariably are people who have served as our "gatekeepers". They focus not only on their own research, but are interested in and knowledgeable about other HSL projects as well, and help other students by volunteering as research subjects, or by serving as internal consultants, offering help solving specialized programming or electromechanical design problems, offering to help edit their student colleagues' thesis drafts and presentations. They often help to recruit and mentor UROPs, and walk visitors (including prospective graduate or high school students and sometimes reporters) around the lab, and organize tours and grad student poster sessions, and safety meetings. The award is named for Sherry Modestino, HSL's administrator/computer systems manager in the 1970s and 80s. Sherry valued these qualities in our students – and possessed them herself. Winners' names are on display in 37-219, and each also receives a plaque.

Past winners include: Mark Shelhamer, Dan Merfeld, Nick Groleau, Dave Balkwill, Keoki Jackson, Erika Brown, Chris Carr, Jessica Marquez, Phil Ferguson, Kristen Bethke, Jessica Edmonds, Dan Buckland, Hiro Aoki, Jaime Mateus, Allie Anderson, Aaron Johnson, Forrest Meyen, Ana Diaz, Brad Holschuh, Conor Cullinane, Sherrie Hall, Hosea Siu, and Richard Fineman. They are our superstars!

CAREER GUIDANCE

Some day you will leave us for the "real" world. Often employers send us job postings, or ask us for names of our soon-to-be or recent graduates. You can also help us to help you by keeping us up to date about your career goals, address, email and phone numbers. When we can, we'll try to help by putting you in touch with potential employers.