



2019 Summer Undergraduate Research Program Handbook



2018 Summer Undergraduate Research Fellows



2019 Summer Undergraduate Research Program



Program Office S3-104

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Table of Contents

Program Schedule	4
Program Description	7
Program Dress Code	7
Travel Guidelines	7
Healthcare and Emergency Contact	8
Guidelines for Disability Documentation	8
UMMS Email and Internet	8
Packages and Mail	8
Housing Information	9
Housing Security and Guidelines	10
Housing Checkout	11
Social Events	11
Bus Transportation	11
Parking at WSU and UMMS	11
First Day of the Program	12
Required Scheduled Events	12
Weekend Reporting Guidelines	12
Incident Reports	12
Poster Session	12
Closing Ceremony and Luncheon	12
Program Evaluations and Surveys	12
Housing Checkout	11
Items Prohibited in Residence Halls	13
Worcester State University Area Information	14
Supermarkets	14
Pharmacies	14
Transportation	14
Restaurants	15
Take Out / Carry Out	16
Banks	16
Churches	17
Movie Theatres	18

Shopping	19
UMMS Campus Map	20
UMMS Plantation Street Parking Garage	21
UMMS Area Map	22
WSU Campus Map	23
WSU Area Map	24
Life in Worcester	25
Index	26

University of Massachusetts Medical School
2019 Combined Summer Undergraduate Research Program
May 26, 2019– August 2, 2019

Week	Day	Date	Time	Event	Room
1	Sunday	May 26	12:00pm-4:00pm	Housing check in and lunch: Wasylean Hall	Worcester State University (WSU)
	Monday	May 27		Memorial Day Holiday	
	Tuesday	May 28	9:00am	Welcome Orientation - Brian Lewis PhD, Pranoti Mandrekar, PhD.	Faculty Conference Room (FCR) S1-342
			10:00am	Dean GSBS Mary Ellen Lane, PhD	
			11:00am	Completion of paperwork, ID Badges/Parking Tags Questions/Tour	
			12:00pm	Lunch "Get Acquainted Lunch"	
			2:00pm	Meet preceptors and go to lab assignments	
			7:00pm	WSU Orientation/SEP & CSURP	MPR Room in Sheehan Hall
	Wednesday	May 29	9:00am-10:00am	RCR Chemical Safety Presentation, Stephen Tutto	Amphitheater I S2-102
			10:00am-11:00am	Notebook Organization, Clearra Smith	Amphitheater I S2-102
			11:00am-01:00pm	Responsible Conduct of Research: Ethics, Anne Winslow	Amphitheater I S2-102
2	Thursday	May 30	9:00am-10:00am	RCR Animal Medicine Presentation, Andrew Leiter	Amphitheater I S2-102
			10:00am-11:00am	RCR Radiation Safety Presentation, Allison Rapa	Amphitheater I S2-102
			11:00pm-01:00pm	RCR Training	Amphitheater I S2-102
			12:30pm- 2:00pm	PPD Readings (if needed)	Employee Health
	Friday	May 31	9:00am-10:00am	Library and Computer Resources, Vivian Okvere	Library and Computer Resources
			10:00am-12:00pm	RCR Training	Amphitheater I S2-102
	Monday	June 3	9:00am-10:00am	Research Lecture: TBA	Hiatt Auditorium S1-608
	Tuesday	June 4	5:00pm- 8:00pm	Presentation/Dinner/Socializer "Muckity Muckdom" Deborah Harmon Hines, PhD.	FCR S1-342
	Wednesday	June 5	9:00am-10:00am	Research Lecture: TBA	Amphitheater I S2-102
	Thursday	June 6	8:30am-10:00am	Breakfast Club (by invitation)	ASC Café
	Friday	June 7	9:00am-10:00am	Research Lecture: TBA	Hiatt Auditorium S1-608

3	Monday	June 10	9:00am-10:00am	Research Lecture: TBA	Hiatt Auditorium S1-608
	Tuesday	June 11	8:30am-10:00am	Breakfast Club (by invitation)	ASC Café
	Wednesday	June 12	9:00am-10:00am 4:00pm- 6:30pm	Research Lecture: GSBS Recruitment Panel Event, GSBS Dean Lane	Hiatt Auditorium S1-608 ASC MPR East -AS1-2130
	Thursday	June 13	8:30am-10:00am	Breakfast Club (by invitation)	ASC Café
	Friday	June 14	9:00am-10:00am	Research Lecture: TBA	Hiatt Auditorium S1-608
4	Monday	June 17	9:00am-10:00am	Group Discussion Leader Meeting	Hiatt Auditorium S1-608
	Friday	June 21	12:00pm- 1:00pm	Luncheon Lecture: TBA	Amphitheater I S2-102
	Monday	June 24	9:00am-10:00am	Group Discussions	S3-402, S4-402, S5-402, S6-402
5	Tuesday	June 25	5:00pm- 7:00pm	Program BBQ Socializer <i>*In case of RAIN</i>	UMMS Volleyball/Basketball courts <i>Sherman Center East MPR-AS1-2130*</i>
	Friday	June 28	12:00pm- 1:00pm	Luncheon Lectures – Alicia Shields "How to Prepare a Professional Poster"	Amphitheater I S2-102
	Monday	July 1	9:00am-10:00am	Group Discussions Host Evaluations Due	S3-436, S4-402, S5-402, S6-402
6	Tuesday	July 2	8:30am-10:00am	Breakfast Club (by invitation)	ASC Café
	Wednesday	July 3	8:30am-10:00am	Breakfast Club (by invitation)	ASC Café
	Thursday	July 4	All Day	Holiday Independence Day	
	Friday	July 5	All Day	Holiday Day After	
	Monday	July 8	9:00am-10:00am	Group Discussions	S3-402, S4-402, S5-402, S6-402
7	Tuesday	July 9	7:30am- 8:30pm	Field Trip-Newport Mansions & Beach	Newport, RI
	Thursday	July 11	7:30am- 8:30pm	**Rain Date: Field Trip-Newport Mansions & Beach	Newport, RI
	Friday	July 12	8:30am-10:00am 12:00pm- 1:00pm	Breakfast Club (by invitation) Luncheon Lecture	ASC Café Amphitheater I S2-102

8	Monday	July 15	9:00am-10:00am	Group Discussions	S3-402, S4-402, S5-402, S6-402
	Friday	July 19	12:00pm- 1:00pm	Luncheon Lecture: TBA	Amphitheater I S2-102
9	Monday	July 22-26	8:30am- 9:30am 9:00am-10:00am	Monday- Friday Scheduled Poster review meetings with Participants and LPC Group Discussions	S3-104 S3-402, S4-402, S5-402, S6-402
	Friday	July 26	12:00pm- 1:00pm 9:00am - 1:00pm	Luncheon Lecture: TBA Final posters due on USB Drive to LPC for print approval /final abstracts due on same USB drive	Amphitheater I S2-102 S3-104 Office of Outreach Programs
10	Monday	July 29	9:00am-11:00am	Group Discussions	S3-402, S4-402, S5-402, S6-402
	Tuesday	July 30	4:00pm	Posters delivered/pick up to UMMS	New Medical School Lobby
	Wednesday	July 31	9:00am-12:00pm	Practice presenting poster/ LPC & Group Leaders Program evaluations emailed to participants/due by midnight	New Medical School Lobby
	Thursday	August 1	9:00am -10:00am 1:00pm- 5:00pm	Group photo shoot – Professional Photographer Poster Presentation – Professional Dress Poster Judging, LPC (Professional Dress REQUIRED)	UMMS Campus New Medical School Lobby New Medical School Lobby
	Friday	August 2	10:00am 12:00pm 1:30pm	Closing Ceremony (Professional Dress REQUIRED) Keynote TBD Luncheon Take down posters	AS2- 2102 AUD AS1-2130 EastWest MPR New Medical School Lobby
	Saturday	August 3	10:00- 1:00pm	Housing Check out	Worcester State University

FCR- Faculty Conference Room ASC-Albert Sherman Center MPR- Multi Purpose Room
 NIH- National Institutes of Health LRB- Lazare Research Building AMP- Amphitheater

Please check email DAILY for updates. Schedule is subject to change. Attendance is mandatory to all events.

Program Description

The University of Massachusetts Medical School's (UMMS) Combined Summer Undergraduate Research Program is a **non-academic credit**, ten-week, highly structured research experience. The program consists of "hands-on" laboratory research with an investigator serving as a mentor, role model and advisor.

The Combined Summer Undergraduate Research Program is funded by the National Institutes of Health (NIH) and UMMS Provost's Office Summer Undergraduate Research Experience (SURE).

Trainees will create career-building connections between researchers, post docs, graduate students, and peers.

This program is a comprehensive, highly structured hands-on research experience. There are 'no normal' weeks in the program. Each week varies. Hours vary depending on the experiments Trainees are working on at the time. Trainees are required to be in the laboratory during the hours requested by the laboratory hosts, which may involve evenings and weekends. There are also *required* social events and a field trip. Each Trainee's schedule is different.

Summer Research Fellows are **required** to:

- Attend all seminars, lectures, group discussions, luncheon lectures, socializers and field trips and live in housing provided by the program.
- Prepare an abstract of their work.
- Prepare and present a scientific research poster using the format provided by the program.
- Wear UMMS ID at all times when on campus.

Guests, friends and family must get permission from the Administrative Coordinator or Directors in advance to attend program functions. There is institutional liability attached to guests, friends and family members who are not part of the program.

Program Dress Code

The University of Massachusetts Medical School maintains a professional environment. Trainees will encounter patients, medical and professional personnel. Please dress accordingly. Open shoes and sandals are prohibited in laboratories by OSHA standards. Casual dress is appropriate for labs. Dress jeans are allowed. Business attire is required for the Professional Poster Session and Closing Program.

Travel Guidelines

Airline travel to attend the program will be paid for and scheduled by UMMS staff, as well as travel to/from Boston Logan. To make travel arrangements contact Ms. Charles at (508) 856-2444 or by email at linhelle.charles@umassmed.edu. **Trainees will be responsible for the cost of any changes to their travel arrangements.** Two pieces of luggage per flight (within weight limits of the airline) will be reimbursed with a receipt.

If a Trainee chooses to make his/her own travel arrangements, the total travel allowance cannot exceed \$500 per Trainee. Program travel expenses are for travel either roundtrip from your college or home address listed on your application. Mileage and toll reimbursement are paid from point of origin and back for those who drive to Worcester one time only. Travel reimbursements require receipts and will be paid after the program ends.

Sunday, May 26, 2019 is the program arrival date with flights scheduled so Trainees arrive at Worcester State University (WSU) during scheduled check in - 12:00 pm and 4:00 pm. Program staff will be at WSU Residence Hall for check in. Trainees arriving after 4:00 pm should contact WSU Campus Police at (508) 929-8044 for residence hall access.

Saturday, August 3, 2019 is the departure date. If an additional night's stay is required, Ms. Charles must be notified by July 19, 2019.

Health Care and Emergency Contact

Trainees should carry their health insurance card at all times. Trainees requiring non-emergency health care should contact their insurance carrier for a local physician referral.

In case of a medical emergency, call 911 immediately and have someone contact the Administrative Coordinator, Ms. Charles on her cell at (508) 797-7919 as an emergency contact. If possible, go to the UMass Memorial Hospital University Campus Emergency Room.

Guidelines for Disability Documentation

These guidelines are designed to assist in preparing documentation of a disability to help determine the appropriate accommodation. Please forward documentation that meets these guidelines to Dr. Deborah DeMarco and Dr. James Fain prior to arrival.

Documentation must be provided by a clinician qualified to diagnose in the appropriate area of specialization and come from the provider directly to Dr. DeMarco and Dr. Fain.

- Documentation must be on letterhead, typed, dated, and have an original signature.
- Documentation is based on a current evaluation (usually within three years) and historical documents.
- Documentation must include:
 1. A description of the functional limitations resulting from the disability.
 2. A description of current treatments and assistive devices and technologies with estimated effectiveness in ameliorating the impact of the disability.
 3. Clear support of the direct link to and need for the requested accommodation(s).

Detailed information is found at; <https://www.umassmed.edu/ada>

UMMS Email and Internet

Trainees will be given a UMMS email account and internet access. Trainees will also be part of a Summer Research Trainee list added to the UMMS global directory. Trainees are expected to check their UMMS emails DAILY for program announcements and updates. Other email addresses will not be used to communicate with trainees during the program.

Packages and Mail

Program Trainees are responsible for shipping all personal items to and from Worcester. Packages received before May 26, 2019 will be taken to the residence hall on the day of check in. All mail should be addressed to the Trainee as shown below. Otherwise, mail delivery cannot be guaranteed. Please terminate mail to UMMS as of July 30, 2019.

Trainee's name
C/o Ms. Linhelle Charles
University of Massachusetts Medical School
55 Lake Avenue North, Room S3-104
Worcester, MA 01655-0002

Trainees will be notified by email when a package or mail is received. Packages and mail can be picked up in the office of Outreach Programs S3-104.

Housing Information



Housing Check In

Trainees will be randomly assigned to suite and roommates. Limited single person bedrooms within a suite are available on a first come, first served basis. To **guarantee** a single room, submit a check payable to "UMass Medical School, Office of Outreach Programs" for \$600 for a single person supplement with the required program paperwork. Otherwise, housing is free.

Housing is provided at Worcester State University Residence Hall - Wasylean Hall, 486 Chandler Street, Worcester, MA, 01602. Check in is scheduled for Sunday, May 26, 2019 from 12:00 pm to 4:00 pm. Room assignments will be given at that time. Program staff will be at Wasylean Hall during check in. Trainees arriving after 4:00 pm should contact WSU Campus Police at (508) 929-8044 for residence hall access.

To contact Ms. Charles outside of regular school hours call (508) 797-7919.

WSU Identification card

The Worcester State University One Card is your identification card issued at dorm check in and used to access the residence hall door, fitness center, library, computer lab and used for the laundry machines.

Directions to Worcester State University are available by visiting

<http://www.worcester.edu/Directions/>

The residence hall is air-conditioned. Bedrooms are furnished with beds, chairs, desks, built in closets and window shades. Each bedroom has a live cable outlet, and one in the common area. Each floor contains shared study lounges and television lounges.

All suites have a kitchen (refrigerator, stove and sink), two bathrooms and a furnished common area. Trainees are responsible for preparing their own meals. Kitchen smoke alarms are very sensitive! WSU cafeteria is closed during the summer. **There is no food service/cafeteria available.**

Personal Items to bring

- Alarm clock
- Desk reading lamp
- Clothes hangers
- Towels, face clothes, hand towels
- Beach towel and water shoes (required for beach outings)
- Bed linens (twin extra-long) including blankets and pillows
- Toiletries: toothbrush, shampoo, soap, shower sandals, etc.
- Cooking utensils to prepare meal: pots, pans, spoons, forks, dishes, bowls etc.
- Optional: radio/stereo, laptop computer, cell phones, small television, small microwave

WSU Maintenance Reporting

For non-emergency situations, you can email ResLife@worcester.edu with your concerns and carbon copy the UMMS Administrative Coordinator on all work orders submitted.

Maintenance is on call 24 hours a day including weekends, and holidays. Maintenance should be contacted after 5:00 p.m. weekdays and weekends for emergency situations only. They can be reached for emergencies (power outage, overflowing toilet, etc.) by calling WSU Campus Police at (508) 929-8044.

Facilities

WSU Sheehan Hall Cardio Room hours	Mon-Fri 800 pm-10:00 pm -Weekends: 6:00 pm-9:00 pm
WSU Library hours	Mon-Fri 8:00 am-9:30 pm
WSU Computer Lab in Learning Resource Center hours	Mon-Thurs 8:00 am-9:00 pm

Laundry

Laundry facilities are located on the first floor of Wasylean Hall. The WSU ID/One Cards are used for the laundry machines. The cost is \$1.50 per load. OneCard instructions will be in the packet from WSU. Trainees can add money to the OneCard for laundry through the WSU website below or by using the machine on the ground floor of the Student Center next to the food court.

OneCard Website: <http://www.worcester.edu/onecard/>

Be considerate of others and remove your clothing promptly. WSU is not responsible for articles left unattended or stolen. WSU is not responsible for items stained due to water problems in the residence halls. If Trainees encounter a problem with a washer or dryer please contact the Office of Residence Life and Housing during regular business hours M-F between 9 am and 5 pm at (508) 929-8074.

Internet

Free wireless internet and computer jacks are available. Access and passwords will be assigned at housing check in.

Housing Security and Guidelines

The focus of WSU Campus Police is the safety and security of the WSU community. Safety is everyone's responsibility and Trainees are encouraged to report any suspicious activity. WSU Campus Police cannot be everywhere at the same time. Security is provided 24 hours a day by a full-time staff of 16 sworn officers and three residence hall lobby security officers. WSU Campus Police enforce the rules and regulations of WSU along with both State and federal laws.

In case of emergency, call WSU Campus Police (508) 929-8911.

WSU Campus Police **require** everyone to carry their WSU ID badge on campus at all times. The card will also give access to the security doors to each suite. This card is not to be used by anyone but the individual to whom it is assigned. WSU has security cameras throughout the residence halls for student safety. **Call Campus Police at (508) 929-8044 to unlock the door if you are locked out of your room. You must have an ID for verification of identity.**

- Campus Police/residence hall lobby security officers can ask for ID and search bags and back packs.
- **No alcohol** is allowed on campus.
- WSU is a smoke free campus.
- WSU Campus Police and UMMS Administrative Coordinator have full access to all residence hall rooms.
- "Spot" visits will be conducted in the residence hall.

Common Areas

Trainees are expected to keep the interior of the suites/rooms clean and sanitary at all times. Trash is to be removed from suites and bedrooms on a regular basis. Each floor of Wasylean Hall contains trash rooms. Trash bags, toilet paper, broom and a vacuum are provided in the supply closet on each floor. Contact Kristen Nelson (508) 929-8124 (Office) should the closet need to be restocked or opened.

Expectations

- Suitemates will determine their "Ten Commandments" of living together. All suitemates are expected to abide by the document.
- Shared kitchens/bathrooms/common sitting areas must be kept clean at all times.
- Dirty dishes should never be left in the sink overnight.
- Refrigerator space is shared with suitemates. Food should not be left in the refrigerator longer than five days.

Guests

- Guests must leave the residence hall by 10:00 pm.
- NO OVERNIGHT guests are permitted.

Zip Car Transportation

If you have a Zip Car account, there are two cars available for use right outside of the Wasylean Hall.

Housing Checkout

Housing checkout is on Saturday, August 3, 2019 between the hours of 10:00 am - 1:00 pm. There will be a formal walk thru with a WSU representative. Make sure to remove food from the refrigerator. All keys should either be returned to the Program Coordinator or WSU representative (Campus Police). **Trainees will be charged \$136 for lost or unreturned keys.** If an additional night's stay is required, Ms. Charles must be notified by July 19, 2019. Feel free to contact Ms. Charles for further information or clarification at (508) 856-2444.

Social Events

Past Trainees have organized trips to many of the local New England attractions. Visit these websites for more information.

- <http://www.visit-massachusetts.com/state/>
- <https://www.tripsavvy.com/new-englands-best-free-attractions-4058547>

Movie/Potluck Nights in the WSU Seven Hills Lounge

Please take advantage of the nights that have been reserved for Trainees on the first floor lounge of the residence hall. It will be up to the Trainees as a group to organize and clean up after the events.

- Time : 6:00 PM-11:00 PM
- Dates: June 7, June 14, June 21, June 28, July 5, July 12, July 19, July 26, 2019

Bus Transportation

Trainees will be bused to/from WSU Wasylean Hall to UMMS and to/from UMMS to WSU. Bus transportation will be provided M-F only. The scheduled bus times are as follows:

- 8:15 am pick up at Wasylean Hall parking lot, arrival at UMMS approximately 8:45 am.
- 6:30pm pick up at UMMS in front of the Lazare Research Building.
- If the bus is missed, the Trainee is responsible for his/her own transportation.

Trainees who find it necessary to stay in their assigned labs later than scheduled bus transportation or weekends will have transportation arranged by their lab hosts.

Parking at WSU and UMMS

WSU parking tags will be given at no charge to Trainees who have cars at the housing check in. Do not park in restricted spaces (Handicap or Police assigned spaces).

UMMS campus parking is in the Plantation Street Parking Garage. There is a onetime fee of \$80 for parking. Shuttle buses run every 7 to 10 minutes from the garage to the Third Road shuttle drop off, weekdays from 5:30 am to 9:00 pm. Trainees with parking tags are allowed to park on campus lots after 5:00 pm M-F and any time on weekends and holidays. Students who choose to drive **MUST** arrive on time.

First Day of the Program

Plan to arrive at the UMMS University Campus on Tuesday, May 28, 2019 at 8:45 am. Bus pickup at Wasylean Hall is at 8:15 am. Orientation will be in the Faculty Conference Room (S1-342) located on the right as you enter the main school lobby. Continental breakfast and lunch will be provided. Orientation will begin promptly at 9:00 am.

Required Scheduled Events

Attendance at all events listed on the program schedule is mandatory.

- Absence from any scheduled event due to illness should be reported *immediately* by email or phone to the Lab Host and Administrative Coordinator, Ms. Charles.
- Scheduling conflicts with lab activities must be pre-approved by the Administrative Coordinator.
- Trainees excused early from their lab are still required to be on campus working on their scientific paper or poster in the UMMS library or the Office of Outreach Programs (S3-104).
- Trainees are required to be here for the full day unless they receive written permission and must be pre-approved by Administrative Coordinator. No requests should be made to the Lab Host to leave early or take time off.

Weekend Reporting Guidelines

Trainees leaving the residence hall overnight or for the weekend are strongly encouraged to notify the Administrative Coordinator, Ms. Charles. Send an email with information on departure (date and time) and expected return (date and time).

Incident Reports

Any personal incidents or injuries should be reported immediately to the Administrative Coordinator or Directors. A formal report will be filed and reviewed by the Program Directors.

Poster Session

The Poster Session is for the UMMS community to view and is open to the general public on August 1, 2019 in the New Medical School Lobby on the first floor of the Medical School Building. Posters will be judged on August 1, 2019 from 1:00 pm - 4:00 pm. Trainees are required to be present at their poster during the entire session. Business attire is required for both the Poster Session and Closing Ceremony/Luncheon.

Closing Ceremony and Luncheon

The Closing Ceremony is open to all and is scheduled for August 2, 2019 starting at 10:00 am in the Albert Sherman Center Auditorium AS2-2102. The luncheon begins at approximately 11:30 am in the Albert Sherman Center Multi-Purpose Room AS1-2130. Invite family, friends and laboratory co-workers to attend.

Program Evaluations and Surveys

Halfway through the program Lab Hosts will be asked to fill out an evaluation for each Trainee. This information will be shared with the Trainee. A summative/final evaluation of each Trainee will be done at the end of the program by Group Leaders, Lab Hosts and the Program Staff. All Trainee evaluations will contribute to letters of recommendation.

During the last week of the program Trainees are asked to complete an online anonymous program evaluation. The link will be sent to each Trainee. The data gathered from the program evaluation helps to improve the program.

ITEMS PROHIBITED IN RESIDENCE HALLS

- candles, incense, incendiary devices such as fireworks and flammable materials/ liquids
- refrigerators larger than 3.2 cubic feet (Energy Star, no more than 2 per room)
- upholstered furniture
- satellite dish
- electric blankets • space heaters
- heat generating water vaporizers and humidifiers
- cinderblocks
- heating and cooking appliances such as toaster ovens, hotplates, hotpots, heating coil, rice cookers, crock pots, etc.
- mercury thermometers
- dart boards, darts
- shot glasses of any kind
- barbells, dumbbells over 25 pounds
- pets – the only exception are fish in a 10 gallon or less tank
- drums/drum set • air conditioners • halogen lights/lamps/bulbs
- weapons such as firearms/ammunition, bow and arrows, martial art devices, knives, paintball guns/accessories, swords, gun safes, hunting paraphernalia etc.
- fog lamps/machines
- black lights
- large speakers/subwoofers

Violation of this policy will result in judicial action and removal of the item. If you have any questions about prohibited items, please contact the Office of Residence Life and Housing at 508-929-8074.

Worcester State University Area Information

Supermarkets

Big Y Foods (508) 793-9011
100 Mayfield St, Worcester, MA 01602

Price Chopper (508) 798-5178
221 Park Ave, Worcester, MA 01609

Shaw's (508) 755-5808
112 Gold Star Blvd, Worcester, MA 01606

Stop and Shop (508) 853-8791
545 Lincoln St, Worcester, MA 01605

Price Rite (508) 797-6213
542 Southbridge St, Worcester, MA 01610

Pharmacies

CVS (508) 792-3866
283 Park Avenue, Worcester, MA 01609

Rite Aid (508) 754-5348
393 Chandler St, Worcester, MA 01602

Walgreens (508) 767-1732
320 Park Ave, Worcester, MA 01609

Transportation

Commuter Rail (617) 222-3200
Union Station, 2 Washington Square
Worcester, MA 01604
<http://www.mbta.com>

Peter Pan Bus Lines (800) 343-9999
Union Station, 2 Washington Sq. Ste 3
Worcester, MA 01604
<http://peterpanbus.com/>

Red Cab (508) 792-9999
<http://www.worcester-redcab.com>

Worcester City Bus – WRTA (508) 791-WRTA (9784)
Bus stop in front of WSU on Chandler Street
<http://www.therta.com/>

Yellow Cab (508) 754-3211
<http://www.yellowcabworchester.com/>

Restaurants

Websites:

<http://www.massmenus.com/Worcester.htm>
<http://tasteworcester.com>

Applebee's (508) 363-3032
632 Park Ave, Worcester, MA 01603

Boynton Family Restaurant (508) 756-5432
117 Highland St, Worcester, MA 01609

Burger King (508) 852-8111
711 W. Boylston Street, Worcester, MA 01606

Chop House 111 (Steak) (508) 799-4111
111 Shrewsbury St, Worcester, MA 01604

Denny's (508) 852-8448
494 Lincoln St, Worcester, MA 01605

Dino's Restaurant (Italian) (508) 753-9978
13 Lord St, Worcester, MA 01604

El Basha (Middle Eastern)
424 Belmont St, Worcester, MA 01604 (508) 797-0884
256 Park Ave, Worcester, MA 01609 (508) 795-0222

EVO (508) 459-4240
234 Chandler St, Worcester, MA 01609

Fatima's African Café (508) 762-9797
43 West Boylston Street, Worcester, MA 01605

Five Guys (508) 425-3185
20-7 Boston Turnpike, Shrewsbury, MA 01545

Golden Pizza (508) 752-8907
210 Chandler St, Worcester, MA 01609

KYOTO Japanese Restaurant (508) 852-5788
535 Lincoln St, Worcester, MA 01605

Nancy Chang's Restaurant (Asian Cuisine) (508) 752-8899
327 Chandler St, Worcester, MA 01602

Ninety Nine (508) 792-9997
11 East Central St, Worcester, MA 01605

Pampas Churrascaria (Brazilian) (508) 757-1070
14 E Central St, Worcester, MA 01605

Pho Dakao (Vietnamese) (508) 756-7555
593 Park Avenue, Worcester, MA 01603

Popeye's (508) 762-9210
622 Park Ave, Worcester, MA 01603

Ruby Tuesday (508) 854-9916
537 Lincoln St, Worcester, MA 01605

Sahara (Middle Eastern)
143 Highland St., Worcester, MA 01609 (508) 798-2181

Sakura Tokyo (Japanese) (508) 792-1078
640 Park Ave, Worcester, MA 01603

Sole Proprietor (Seafood) (508) 798-3474
118 Highland St, Worcester, MA 01609

Texas Roadhouse (508) 853-7266
535 Lincoln St, Worcester, MA 01605

Thai Place (508) 425-3595
50 Boston Turnpike, Shrewsbury, MA 01545

UNO Chicago Grill (508) 421-9300
25 Major Taylor Blvd, Worcester, MA 01608

Take Out/Carry Out

Blue Jeans Pizza (508) 753-3777
270 Park Ave, Worcester, MA 01609

Domino's Pizza (508) 754-2236
396 Park Ave, Worcester, MA 01610

King Chef Chinese (508) 767-0209
205 Chandler St, Worcester, MA 01609

Banks

Bank of America (800) 432-1000
6 Park Ave, Worcester, MA 01605 (508) 752-0167

Citizen's Bank (800) 922-9999
50 Cambridge St, Worcester, MA 01603 (508) 757-0023

TD BankNorth (508) 752-2584
295 Park Ave, Worcester, MA 01609

UMass Five College Credit Union (508) 856-4593
(Will Cash Checks for Program Trainees)
UMass University Campus, Worcester, MA 01655

Churches

Muslim

Worcester Islamic Center *
248 Mountain St E, (508) 852-6100
Worcester, MA 01606
<https://www.wicmasjid.org/>

Anglican/Episcopal

St. Matthew's Episcopal Church
(near Holy Cross and entrance to I-290) *
695 Southbridge Street (508) 755-4433
Worcester MA 01610

St. Luke's Episcopal Church
(walking distance from WSU, straight up May St. to Pleasant St.) *
921 Pleasant Street (508) 756-1990
Worcester, MA 01602
<http://www.stlukesworcester.net/>

Pentecostal Churches

Christian Community Church* (primarily Spanish)
108 Beacon Street (508) 304-6023
Worcester MA 01608
<http://iccworcchurch.org/>

Brazilian Church Assembly God
91 Canterbury St (508) 753-3900
Worcester, MA 01603

Mt. Olive Pentecostal Church ...is a lively southern-style Pentecostal church. It is a healthy church and a ...
60 Highland St. (508) 753-0950
Worcester, MA 01609

Grace Community Church of God In Christ
67 Vernon St (508) 755-8221
Worcester, MA 01610

United Methodist

Wesley United Methodist Church *
114 Main St (508) 799-4191
Worcester, MA 01608

Covenant-St. Andrew's United Methodist Church (predominantly Black) *
24 Hamilton St (508) 755-2321
Worcester, MA 01604

Korean United Methodist Church
114 Main St (508) 799-4488
Worcester, MA 01608

Baptist

First Baptist Church of Worcester *
111 Park Ave (508) 755-6143
Worcester, MA 01609

John Street Baptist Church
(traditional Black Baptist church) *
Worcester, MA 01606 (508) 753-4991

SDA

Pleasant Street Church of Seventh Day Adventist (predominantly Black)
370 Pleasant St (508) 797-5009
Worcester, MA 01609

Seventh-Day Adventist Church
2 Airport Drive (508) 752-4783
Worcester, MA 01602

Buddhists

Boundless Way Temple *
An Affiliate of Boundless Way Zen
1030 Pleasant Street
Worcester, MA 01602
<https://worcesterzen.org/>

Society of Friends

Worcester Friends Meeting *
901 Pleasant Street (508) 754-3887
Worcester, MA 01602
<http://worcesterfriendsmeeting.org/>

Jewish

Temple Emmanuel (Union for Reform Judaism) *
661 Salisbury Street (508) 755-1257
Worcester, MA 01609
<https://emanuelsinai.org/>

Movie Theatres

Blackstone Valley 14 (on bus route) (508) 865-7184
The Shoppes at Blackstone Valley (800) 315-4000
70 Worcester Providence Turnpike
Millbury, MA 01527

Showcase Cinemas Worcester (on bus route) (800) 315-4000
135 Brooks St, Worcester, MA 01606

West Boylston Cinema (on bus route) (508) 835-8888
101 West Boylston Street, West Boylston, MA 01583

Shopping

Auburn Mall (508) 832-6000
385 Southbridge St, Auburn, MA 01501

Greendale Mall (508) 856-9401
7 Neponset St, Worcester, MA 01606

Solomon Pond Mall (508) 303-0204
601 Donald Lynch Blvd, Marlborough, MA 01752

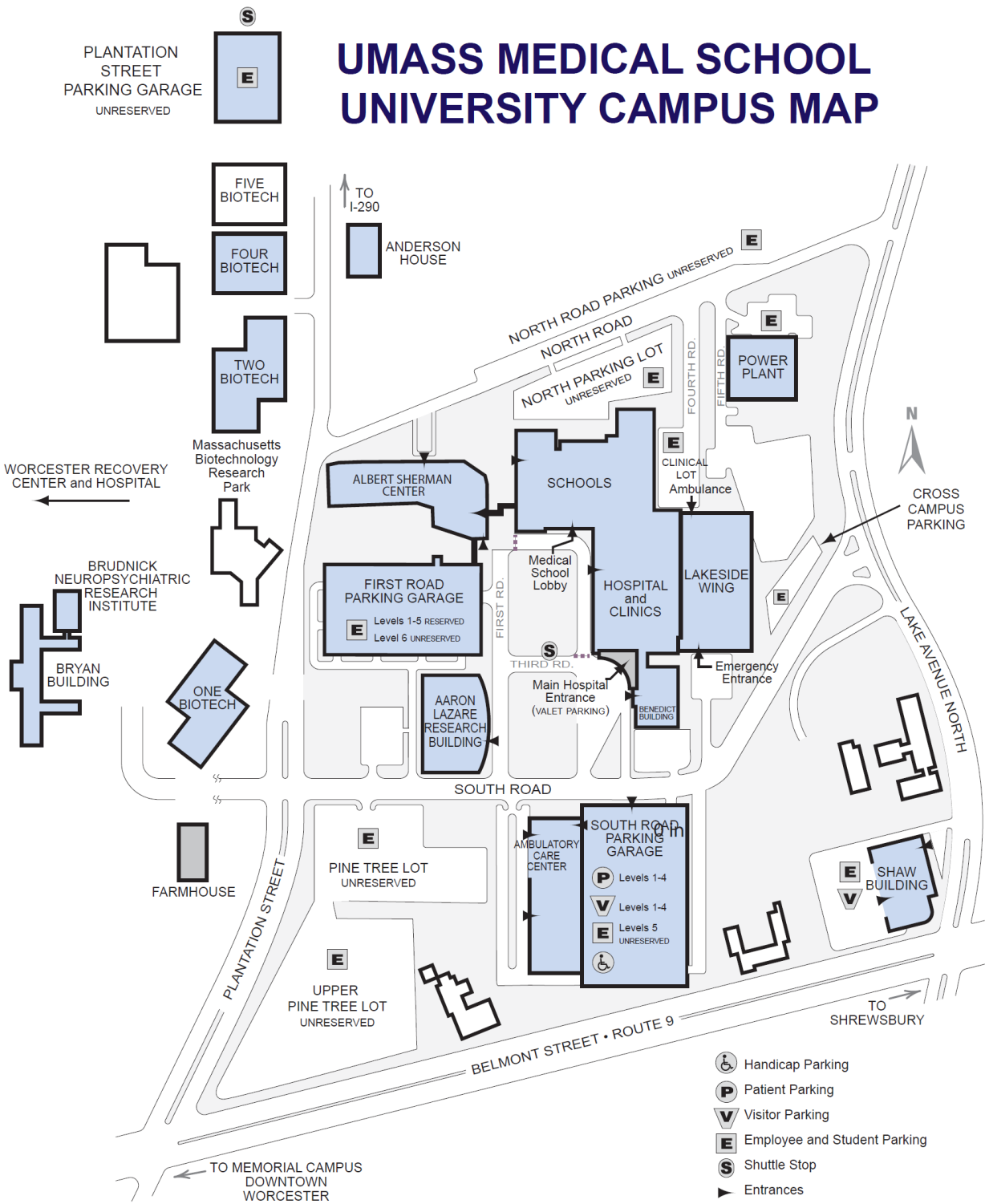
Target (508) 852-3094
529 Lincoln Street, Worcester, MA 01605

The Shoppes at Blackstone Valley (508) 853-4000
70 Worcester Providence Turnpike
Millbury, MA 01527

Sam's Club (508) 852-7717
1 Tobias Boland Way, Worcester, MA 01606

Super Wal-Mart (on bus route) (774) 314-3157
25 Tobias Boland Way (off Route 146)
Worcester, MA 01606

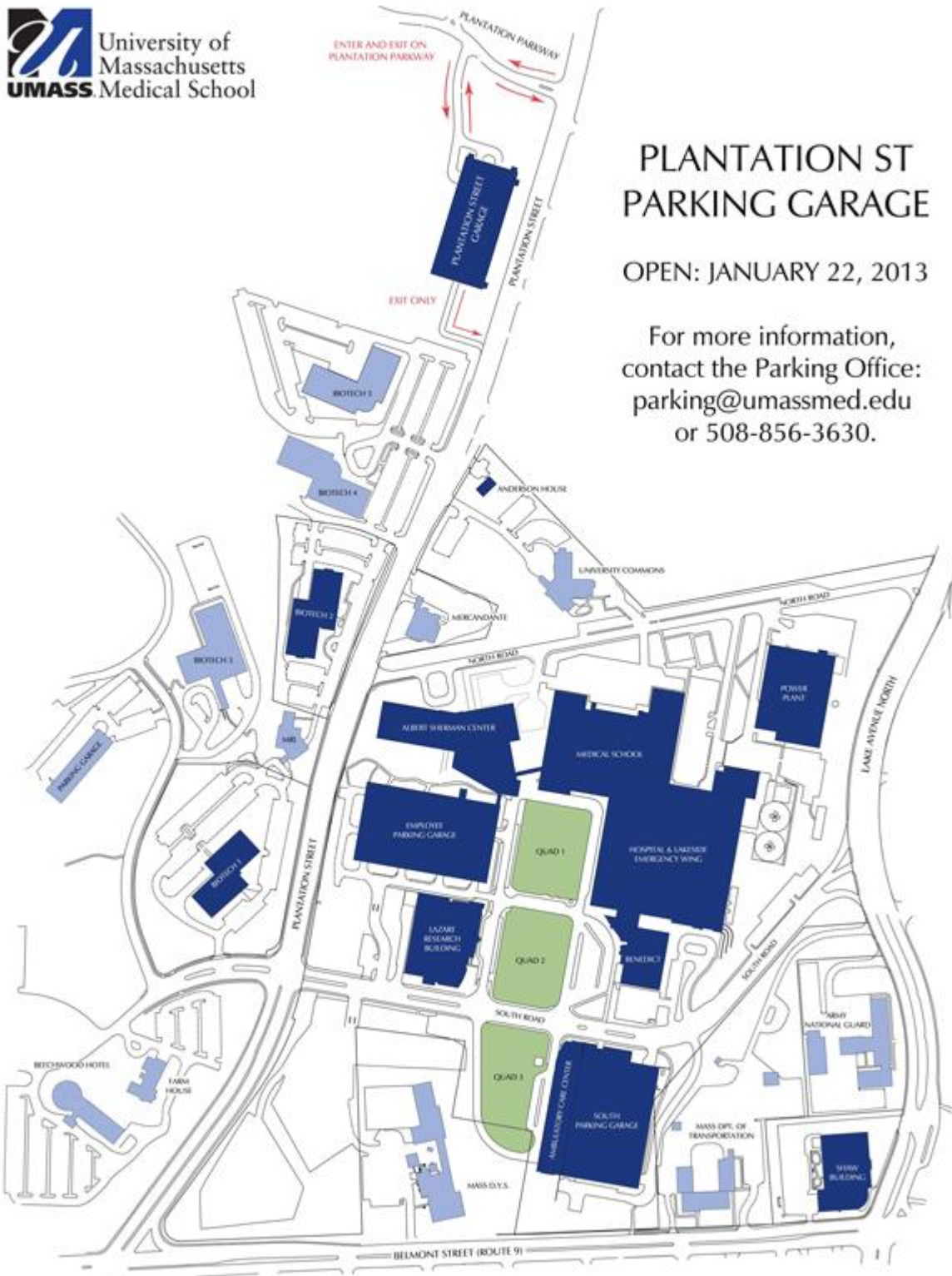
UMASS MEDICAL SCHOOL UNIVERSITY CAMPUS MAP



PLANTATION ST PARKING GARAGE

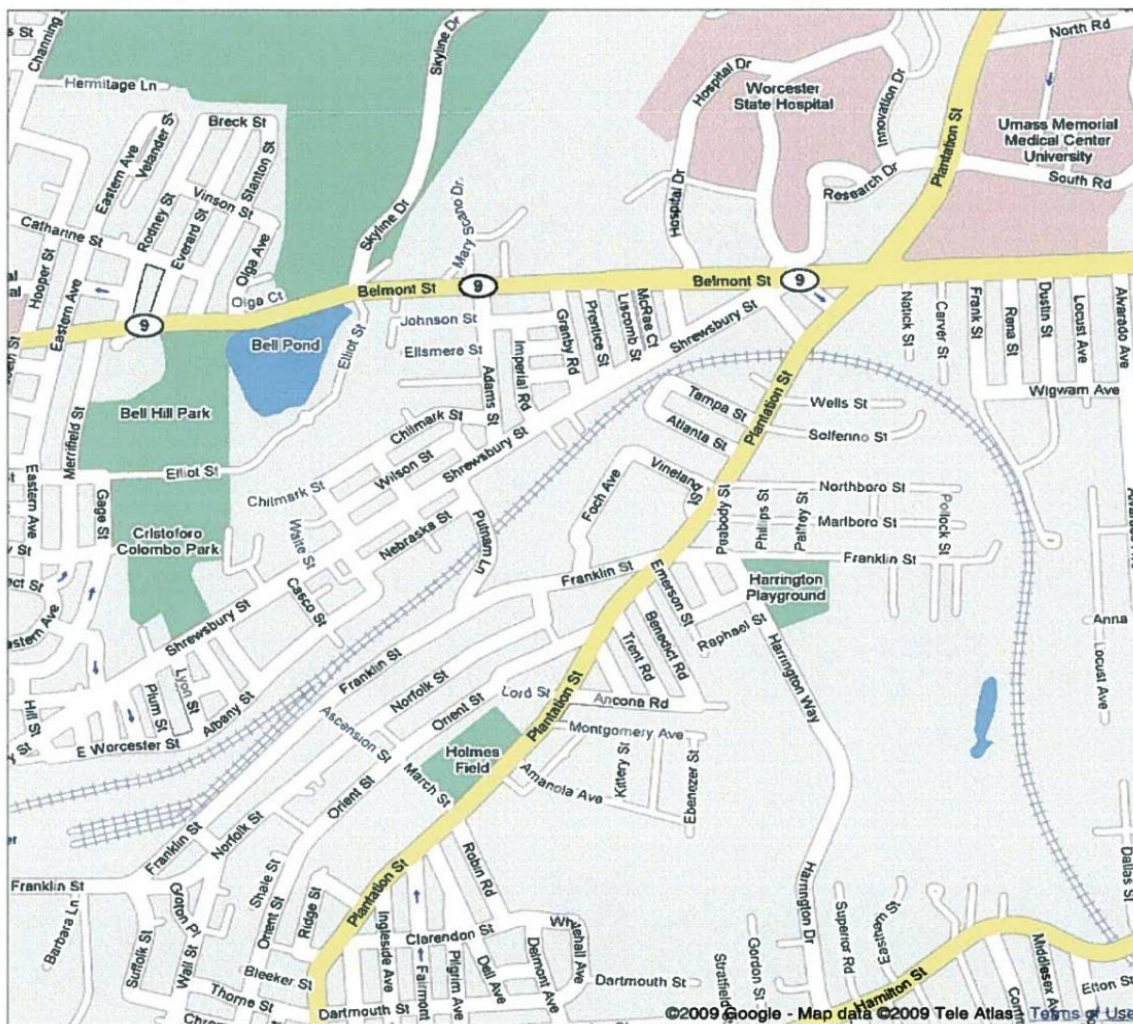
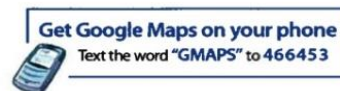
OPEN: JANUARY 22, 2013

For more information,
contact the Parking Office:
parking@umassmed.edu
or 508-856-3630.





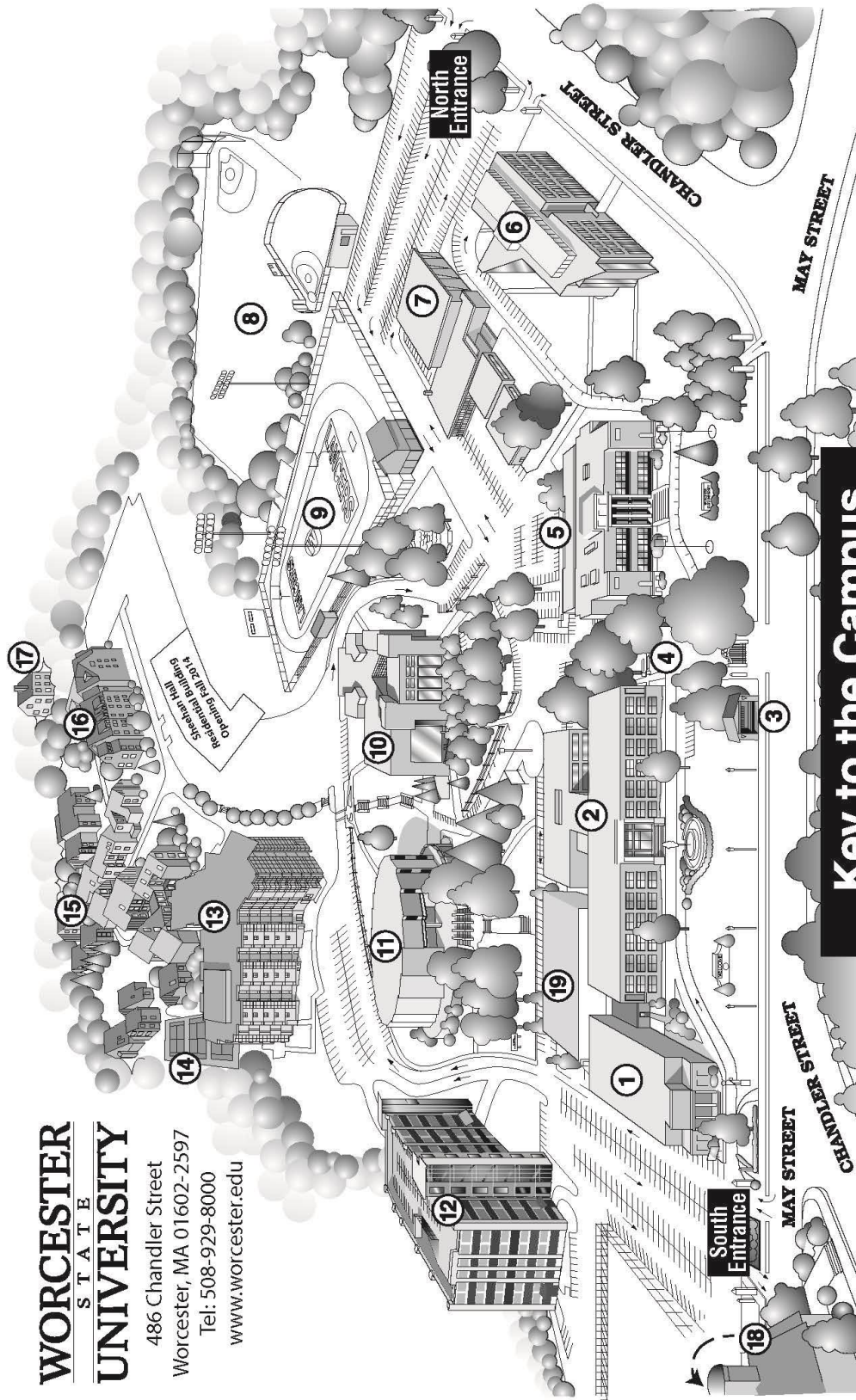
Address **Worcester, MA**



<http://maps.google.com/maps?hl=en&q=maps+of+worcester,ma&ie=UTF8&split=0&gl=u...> 5/14/2009

WORCESTER STATE UNIVERSITY

486 Chandler Street
Worcester, MA 01602-2597
Tel: 508-929-8000
www.worcester.edu

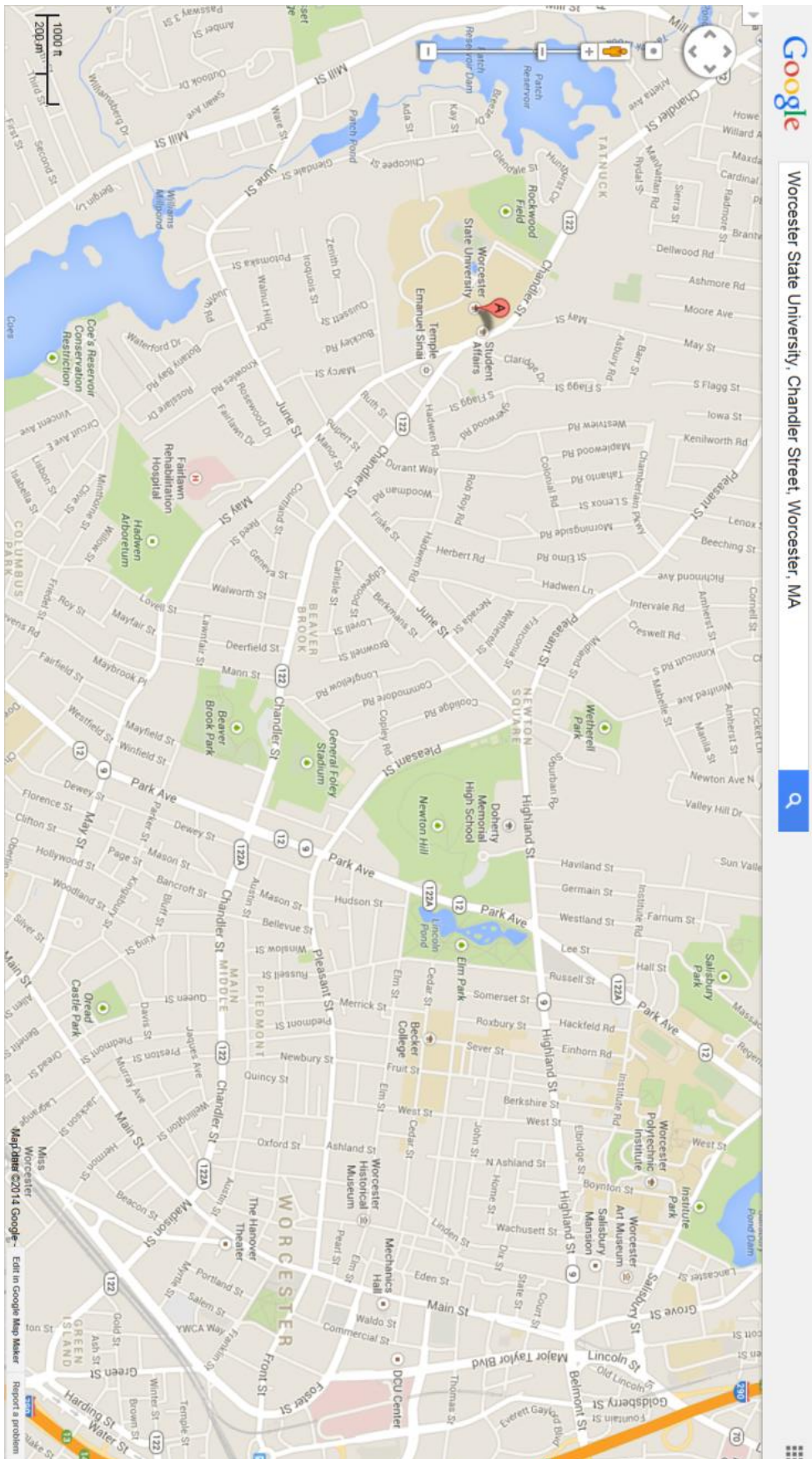


Key to the Campus

- | | | | |
|---|--------------------------------------|---------------------------------------|---------------------------------------|
| (1) Auditorium | (5) Shaughnessy Administration Bldg. | (10) Student Center | (15) Chandler Village |
| (2) Sullivan Academic Center | (6) Ghosh Sci/Tech Center | (11) Learning Resource Center-Library | (16) Dowden Hall |
| (3) Bus Shelter | (7) Gymnasium | (12) Parking Garage | (17) Campus Ministry |
| (4) Consortium/Craft Center & Airport Shuttle | (8) Rockwood Field | (13) Wasylean Hall | (18) May Street Building |
| | (9) Coughlin Athletic Field | (14) Tennis Courts | (19) Athletic Offices/Health Services |

7-2013

WSU Area Map





Life in Worcester

Worcester, New England's second largest city, has all the resources one needs to enjoy a comfortable and interesting life during graduate study.

Among the city's treasures are the Worcester Art Museum, displaying world-class collections spanning 50 centuries and the Ecotarium, a regional resource for learning about the natural world.

For entertainment, Worcester boasts the beautifully restored Hanover Theatre for the Performing Arts with Broadway tours, nationally recognized performers, and family shows gracing the stage; the historic and acoustically superior Mechanics Hall, site of classical music and opera performances; and the DCU Center, one of the country's most successful arenas for top-draw rock concerts, sports and family entertainment events.

For sports enthusiasts, Worcester is the home to minor league baseball, Worcester Tornadoes, and hockey, Worcester Sharks, in addition to the athletic teams of several area colleges.

A wide variety of ethnic restaurants satisfy every taste in Worcester, as do eclectic cafes (Worcester has more diners per capita than any other place in New England) and nightclubs featuring live music. The Shrewsbury Street area and the Canal District are two locations within the city most widely-noted for their assortment of fine dining.

For the outdoor enthusiast, central Massachusetts has much to offer with over 30 state parks, forests, recreation areas, trails, reservoirs and reservations; including Wachusett Mountain State Reservation which offers hiking, biking, skiing and snowboarding for all abilities.

In addition, Worcester's central location within New England makes it ideal for visits to nearby attractions, including Cape Cod, a 90-minute drive southeast; Newport, Rhode Island, a 75-minute drive south; and Boston, a 45-minute drive east. The majestic mountains and pristine lakes of Maine, New Hampshire and Vermont are also nearby and accessible for day trips.

Worcester History & Firsts

- Worcester, Massachusetts was host to the *first* national Women's Rights Convention in 1850.
- The launching of the *first* liquid fuel rocket took place in Worcester, led by "the father of modern rocketry," Robert Goddard (also a graduate of WPI).
- Worcester's Jesse Burkett Little League Allstars became the *first* team from Central Massachusetts to ever qualify for the Little League World Series in August 2002 - capturing the hearts of the city and indeed the entire Commonwealth in the process.
- The *first* radio station to play a Beatles song in the United States was WORC in Worcester.
- The *first* woman to serve in a President's cabinet was Frances Perkins of Worcester, Franklin Delano Roosevelt's Secretary of Labor.
- The *first* Bible and the *first* dictionary printed in the United States were in the 18th century, by Worcester's Isaiah Thomas, who also printed the largest newspaper of the time, the Massachusetts Spy.
- In 1847, the *first* commercial valentine was mass produced in Worcester by Esther Howland.
- The *first* ballpoint pen and the *first* typewriter were invented in Worcester, Massachusetts – a state known for its exceptional writers.
- Worcester is the home of the second oldest *First Night* celebration.

Index	Page
<u>ADA</u>	8
Guidelines for Disability Documentation	
<u>Healthcare and Emergency Contact</u>	
Health Insurance	8
<u>Housing Information</u>	
Housing Check In	9
Housing Security and Guidelines	10
Housing Check Out	11
<u>Miscellaneous</u>	
Packages and Mail	8
Social Events	11
UMMS Email and Internet	8
<u>Program Specifics</u>	
Closing Ceremony and Luncheon	12
First Day of the Program	12
Incident Reports	12
Poster Session	12
Program Description	7
Program Dress Code	7
Program Schedule	4
Program Evaluations and Surveys	12
Required Scheduled Events	12
Travel Guidelines	7
Weekend Reporting Guidelines	12
<u>Transportation and Parking</u>	
Bus Transportation	11
UMMS Campus Map	17
UMMS Plantation St Parking Garage and Shuttle	18
WSU Campus Map	20
<u>Worcester State University Area Information</u>	13
<u>Life in Worcester</u>	22

UMMS undergrad research program puts ‘best and brightest’ students in the lab

Program culminates with Aug. 5 awards ceremony

By Sandra Gray

UMass Medical School Communications

August 05, 2016



Sergio Nunez Baez (center) is pictured with principal investigator Jeffrey Nickerson, PhD, and Teresita Padilla-Benavides, PhD.



Solange Fine Amedetowou (left), with Aroian lab faculty member Yan Hu, PhD.



Andreas Bergmann, PhD (right) hosted college student Heather Nelson (center) in his lab under the supervision of postdoctoral associate Alicia Shields, PhD (left).

The 25 college students in the Summer Undergraduate Research Program have spent the past 10 weeks conducting sophisticated research with distinguished principal investigators at UMass Medical School. Whether planning to become physicians, biomedical scientists or something not yet undecided, their immersive and challenging hands-on experiences will help shape their upcoming career decisions.

“If you had given me the option to create my perfect summer experience, it wouldn’t have been as great as this!” said Sergio Nunez Baez, a rising senior at the University of Puerto Rico who has been working in the lab of Jeffrey Nickerson, PhD, professor of cell & developmental biology, and plans to go to medical school after graduation. “There are not many role models for scientists in Puerto Rico, so my time here has completely solidified my belief that I can succeed as a neurosurgeon and scientist.”

The summer program is designed to diversify the pool of biomedical researchers by providing structured, hands-on laboratory research experiences to undergraduate students, especially those from backgrounds under-represented in the field, or who are economically or educationally disadvantaged. Funding is provided by either the National Institutes of Health or the UMMS Office of Research.

Nunez Baez has learned that he can function as part of a scientific team; mastered sophisticated three-dimensional microscopy skills; and tested a new experimental approach to understanding mRNA export from a cell’s nucleus to cytoplasm, a process that is regulated by an important signal transduction pathway in cancer.

“It’s hard to know what science is until you actually do it,” said Dr. Nickerson. He said he had a summer job in a biochemistry lab as an undergrad majoring in psychology and it was a life-changing experience. He went on to earn his doctorate in that same lab.

"We pick the best and the brightest students and bring them here in order to recruit them into research," he said.

Solange Fine Amedetowou, also planning to head to medical school when she graduates from the State University of New York at Potsdam, was challenged to advance the knowledge of parasitic intestinal worms in the laboratory of Raffi Aroian, PhD, professor of molecular medicine. Working closely with Yan Hu, PhD, research assistant professor of molecular medicine, in Dr. Aroian's lab, Amedetowou especially appreciated the program's intensity and structure.

"Dr. Aroian likes to challenge students with independent projects," said Dr. Hu. "Our focus is on what they learn, not necessarily what they do."

"I was uncomfortable the first three weeks," Amedetowou admitted, "but now I'm more confident and mature. I learned research requires a lot of patience, and that you have to sit back and think about how what you've learned contributes to the next step."

Minnesotan Heather Nelson, who changed majors and is extending her undergraduate studies at Winona State University in order to incorporate scientific research with teaching, has made inroads in understanding a genetic pathway in fruit flies that could be a target for therapy to suppress abnormal cell growth like that which occurs in human cancers. She has been mentored by Andreas Bergmann, PhD, professor of molecular, cell & cancer biology, and postdoctoral associate Alicia Shields, PhD. "I came to science late and needed an experience like this one," said Nelson, who plans to take a year to conduct further research before continuing to graduate school. "I have been happy to see outstanding collaboration in the lab, and have loved interacting with the scientists."

Nunez Baez, Amedetowou, Nelson and classmates were selected from more than 1,800 applicants from colleges and universities throughout the continental United States, Alaska, Hawaii, Guam, Puerto Rico and the U.S. Virgin Islands.

"What this amazing group of young people has accomplished in 10 short weeks is guaranteed to impress," said Deborah Harmon Hines, PhD, professor of cell & developmental biology, vice provost for school services and principal investigator for the Summer Undergraduate Research Program.

On Thursday, Aug. 4 the undergraduate researchers showcased the fruits of their labors with posters presentations in the old medical school lobby. The program closes on Friday, Aug. 5, with an awards ceremony and keynote speech from UMMS physician-scientist John Sullivan, MD, professor of pediatrics and molecular medicine.

Dr. Sullivan led the UMMS team that helped discover the drug nevirapine, which is widely used today to prevent mother-to-infant transmission of HIV at birth. A pioneering HIV researcher, he is an exemplary role model for today's college students who will become tomorrow's biomedical researchers.
