



# Graduate Student Symposium 2009

Department of Chemical Engineering, Princeton University

## *Program Schedule, October 16<sup>th</sup>, 2009*

8:00 AM	<b>Registration and Breakfast</b>	Friend Center 113
8:50 AM	<b>Welcome</b> <i>Professor Richard Register, Department Chair</i>	Friend Center 008
9:00 AM	<b>Session I Presentations</b> <i>Varun Kumar: Polymeric Nanoparticles for Therapeutics ...</i> <i>Rose Ndong: Effects of Polymer Matrix Molecular Weight On ...</i> <i>Jacob Tarver: Polyelectrochromism in Polymer Acid Doped ...</i> <i>Sheng Li: Ordered Structure with Large Periodicity in ...</i>	Friend Center 008
10:20 AM	<b>Break</b>	Friend Center 113
10:40 AM	<b>Keynote Speaker from Industry</b> <i>Dr. Marian Gindy *08, Merck &amp; Co., Inc.</i>	Friend Center 008
11:00 AM	<b>Session II Presentations</b> <i>Shuyang Pan: Multifunctional Graphene – Silicone Elastomer ...</i> <i>Linda Jan: Guided Colloidal Crystallization in a Galvanic ...</i> <i>Robert Batten: Phase Behavior of Colloidal Superballs: Shape ...</i>	Friend Center 008
12:00 PM	<b>Lunch</b>	Friend Center 113
1:00 PM	<b>Keynote Speaker from Academia</b> <i>Professor Stanislav Shvartsman, Princeton University</i>	Friend Center 008
1:40 PM	<b>Session III Presentations</b> <i>Yoosik Kim: Enzyme Substrate Competition in a Developing ...</i> <i>Meghan Bellows: Discovery of Entry Inhibitors for HIV-1 ...</i>	Friend Center 008
2:20 PM	<b>Poster Session</b>	Friend Center 113
3:20 PM	<b>Session IV Presentations</b> <i>Ashwin Subramani: Selecting High Quality Structures from ...</i> <i>Santiago Romero-Vargas Castrillon: Influence of Confinement ...</i> <i>Samantha Sanders: Surfactant Models: Can We Match ...</i> <i>Justin Spaeth: Self-Assembly of Hybrid Nanoparticles: ...</i>	Friend Center 008
4:40 PM	<b>Concluding Remarks</b> <i>Professor Stanislav Shvartsman, Director of Graduate Studies</i>	Friend Center 008
4:50 PM	<b>Social Hour</b>	Friend Center 113



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## *List of talks*

### SESSION I (9:00–10:20 AM)

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|---------------------|--|
| <b>Varun Kumar</b>  | Polymeric Nanoparticles for Therapeutics Delivery: Analysis of Drug Phase Behavior Using Fluorescent Probes    |
| <b>Rose Ndong</b>   | Effects of Polymer Matrix Molecular Weight on Rheological Properties of PDMS-grafted Alumina Filled PDMS Melts |
| <b>Jacob Tarver</b> | Polyelectrochromism in Polymer Acid Doped Polyaniline  |
| <b>Sheng Li</b>     | Ordered Structure with Large Periodicity in Polydisperse Ethylene- $\alpha$ -Olefin Block Copolymers           |

### SESSION II (11:00 AM–12:00 PM)

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|----------------------|---|
| <b>Shuyang Pan</b>   | Multifunctional Graphene-Silicone Elastomer Nanocomposite                         |
| <b>Linda Jan</b>     | Guided Colloidal Crystallization in a Galvanic Micro-Reactor                      |
| <b>Robert Batten</b> | Phase Behavior of Colloidal Superballs: Shape Interpolation from Spheres to Cubes |

### SESSION III (1:40–2:20 PM)

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|--------------------------|---|
| <b>Yoosik Kim</b>        | Enzyme Substrate Competition in a Developing Embryo   |
| <b>Meghan L. Bellows</b> | Discovery of Entry Inhibitors for HIV-1: Predictions via a Novel De Novo Protein Design Framework and Experimental Validation |

### SESSION IV (3:20–4:40 PM)

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|--|--|
| <b>Ashwin Subramani</b>                  | Selecting High Quality Structures from Diverse Conformational Ensembles  |
| <b>Santiago Romero-Vargas Castrillon</b> | Influence of Confinement Length Scale on the Dynamics of a Nanoscopic Water Film                               |
| <b>Samantha Sanders</b>                  | Surfactant Models: Can We Match Experiment?  |
| <b>Justin R. Spaeth</b>                  | Self-Assembly of Hybrid Nanoparticles: Investigating Concentration Effects Using Dissipative Particle Dynamics |



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## *List of poster presentations*

### **POSTER SESSION (2:20 PM)**

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<b>Diya M. Abdeljabbar</b>	A Single Genomic Copy of an Engineered Methionyl-tRNA Synthetase Enables Robust Incorporation of Azidonorleucine into Recombinant Proteins in <i>E. coli</i>
<b>May J. Cheah</b>	Transverse Water Transport in PEM Fuel Cells: Evidence Against Electro-Osmotic Drag
<b>Sebastian Chialvo</b>	Constitutive Modeling of Dense Granular Flows
<b>Suzanne M. D'Addio</b>	A Novel Method for Drying Nanoparticles and the Energetics of Protected Peptide Nanoparticle Assembly
<b>Keith Gallow</b>	Synthesis and Characterization of Gradient Copolymers with Prespecified Composition Profiles
<b>William Holloway</b>	Fluid-Particle Drag in Inertial Polydisperse Gas-Solid Suspensions
<b>Stephanie S. Lee</b>	Tuning the Open Circuit Potential in Bulk-Heterojunction Organic Photovoltaics Through Solvent-Vapor Annealing of the Active Layer
<b>Yang Liu</b>	Low Temperature Fluid-Phase Behavior of ST2 Water
<b>Ruther Misener</b>	Modeling and Globally Optimizing Large-Scale Pooling Problems with Environmental Constraints
<b>Sonia Naidu</b>	Investigation of Surface Treatment of Calcite with Hydroxylapatite for Protection Against Acid Degradation
<b>He Wang</b>	Elucidating Vertical Phase Separation in Active Layers of Organic Solar Cells via Near-Edge X-ray Absorption Fine Structure Spectroscopy
<b>Siyan Zhang</b>	Affinity Maturation of Apoptotic Proteins
<b>Qiao Zhao</b>	Mechanical Properties of Nafion: Effects of Temperature and Solvent Activity



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### *Travel and parking information*

Princeton University is located in central New Jersey approximately 50 miles southwest of New York City and 45 miles northeast of Philadelphia, and is easily reached by plane, train, bus, or car. Directions for each of these modes are provided below.

Attached is a map of the Princeton University campus, which highlights important locations for Graduate Student Symposium 2009. An electronic version of this map is also available in PDF format at our website (<http://www.princeton.edu/~chemical/gss/>) The symposium will occur at the Friend Center on Princeton's campus, with the talks in Friend 008, and registration, lunch and the poster presentations in the Friend convocation room (Friend 113). The Friend Center is indicated in red on the map.

Princeton University visitor parking is in Lot 21, colored blue on the map. Princeton operates a shuttle between Lot 21 and campus, which runs every fifteen minutes. The Tiger Transit East Line stops on Olden St. directly in front of the Friend Center. A map containing the shuttle routes and the East Line timetable is attached and is also available online.

Alternatively, symposium attendees may utilize on-street parking closer to the symposium, although such parking is limited. There are a number of metered street spaces on Prospect and Olden streets, which are highlighted in yellow on the map. Generally these spaces remain available until around 10:00am and cost from \$0.40 - 0.30 (in change) per hour.

#### **MASS TRANSIT**

##### **Bus Service**

The Suburban Transit Corporation, (732) 249-1100, runs regularly scheduled bus service from the New York Port Authority Bus Terminal (8th Avenue and West 41st Street) to Nassau Street and the front gates of the campus. Buses to Princeton leave the Port Authority every half hour. During most of the day, buses to New York City leave from the main gate of the campus every half hour (five minutes after and 25 minutes before each hour). Travel time is approximately 90 minutes. Round-trip fare between New York City and Princeton is approximately \$24.

##### **Trains**

Trains to Princeton Junction leave New York City's Penn Station and Philadelphia's 30th Street Station regularly.

From New York City, take the New Jersey Transit Northeast Corridor line to Princeton Junction and change for Princeton (see "The Dinky" below). A round-trip fare, including the transfer to Princeton, is approximately \$23.

Amtrak, (800) 872-7245, also schedules regular stops at Princeton Junction, but its service is



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more limited. The fare to New York is \$30 one way; the fare to Philadelphia is \$25 one way.

From Philadelphia, take SEPTA to Trenton, New Jersey. Then take New Jersey Transit to Princeton Junction and change for Princeton (see “The Dinky” below). A round-trip fare is approximately \$23.

### **The Dinky**

This two-car train shuttle service, known locally as the “Dinky,” takes five minutes between Princeton Junction and the campus and costs \$2.25 each way. The Dinky does not meet every train, so be sure to consult a current schedule when making travel plans.

**From the Dinky to Friend Center:** It is about a 15-minute scenic walk across campus from the Dinky to Friend Center. Please see the attached map; the easiest path is indicated by a dashed green line. At the Friend Center, registration and breakfast will take place in the Convocation Room 113. Alternatively, you can take the Tiger Transit West Extension Line from the Dinky to the Friend Center. Attached are a shuttle route map and a shuttle schedule for the West Extension Line. The shuttle runs every 30 minutes.

### **Airports & Shuttle Service**

Newark Liberty International Airport is the most convenient airport to Princeton. Shuttle service is available between Princeton and Newark Airport. The one-way fare is \$30 (\$25 with student ID) per person via Olympic Airporter, (800) 385-4000. Buses travel from Newark Airport to the Pennsylvania Railroad Station in Newark and the Port Authority Bus Terminal in New York City. An AirTrain monorail links Newark Airport to a station on the NJ Transit and Amtrak rail lines for train service to Princeton Junction (\$14).

There is no direct shuttle service to or from the Philadelphia International Airport. It is possible to take a SEPTA train from the airport to the Philadelphia 30th Street Station, transfer to another SEPTA train to the Trenton (NJ) station, and then transfer to a NJ Transit Northeast Corridor line northbound train to Princeton Junction.

Olympic Airporter also provides shuttle service from New York’s Kennedy Airport; the one-way fare is \$53 (\$48 with student ID). For details about transportation from New York’s LaGuardia Airport, consult your travel agent.

In addition, private arrangements may be made for transportation to/from all regional airports through the following companies: A-1 Limousine, (800) 678-2154 or (609) 951-0070 outside the U.S., and Concorde Limousine, (888) 426-2673; or by contacting your travel agent.

### **BY CAR**

**From the West or Midwest:** In New Jersey, drive EAST on Interstate 78 until you reach Highway 206. Turn SOUTH and follow 206 SOUTH into Princeton. (206 South becomes Bayard Lane.) You will reach a three-way intersection of Bayard Lane, Nassau Street, and 206 South; turn left onto Nassau Street, which is NJ Route 27. Go through three traffic lights (University



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Place, Witherspoon Street, Washington Road), and turn right at the fourth light (Olden Street). As you pass William Street, the Friend Center will be on your right and the Engineering Quadrangle on your left. To reach parking lot 21, continue straight on Olden Street until it ends at a stop sign. Make a left on Prospect Street. Take the next right on Fitzrandolph. Follow Fitzrandolph down, past Western Way, and you will see a large parking lot on your right.

**From southern and eastern New Jersey:** Follow the New Jersey Turnpike North to Exit 8 - Hightstown. Turn left onto Highway 33 after exiting the turnpike and follow signs for Route 571. Continue for approximately 12 miles on Route 571 until you reach the intersection with US Route 1. Continue straight on 571 across US 1. Once you cross the intersection, Route 571 becomes Washington Road. From this point, see “From US 1 and Washington Road” below.

**From the North:** Follow the New Jersey Turnpike south to Exit 9 - New Brunswick. After the toll booth (use a booth on the far right), turn right onto the ramp to Highway 18 north. Soon after, turn into the left-hand fork of the road, staying in the right lane (you will see a Bennigan's restaurant ahead and to your right as you bear left). You will immediately bear right for an obscured exit to US 1 south, Trenton. These three turns occur in rapid succession. Follow US 1 about 18 miles to the exit at Route 571 (Washington Road). Turn right and follow Washington Road (Route 571). From this point, see “From US 1 and Washington Road” below.

**From Philadelphia, Delaware, Maryland, etc.:** Follow either Interstates 95 North or 295 North into New Jersey (these two highways merge into each other at the US 1 exit). Take exit 67 for US Route 1 North towards Princeton/New Brunswick. Stay on US 1 for approximately 5 miles, passing several shopping centers along the way. Take the Alexander Road exit, and make a left at the light at the end of the ramp. Proceed on Alexander Road for 1.2 miles and make a right at the light onto Faculty Road. Go straight through the traffic circle, and the next light will be the intersection with Washington Road. To reach parking lot 21 from this point, proceed through the light on Faculty Road for 0.4 miles, and make a left on Fitzrandolph. You will see a large parking lot on your left. To instead continue to the Friend Center area (for on-street parking), make a left on Washington and then a right at the second light onto Prospect Street. Friend Center is located on Olden Street, which is approximately a quarter of a mile down Prospect.

**From US 1 and Washington Road (Route 571):** These directions begin as if you have just made a right/gone straight on Washington Road when coming from US Route 1 North/Washington Road East. Continue on Washington Road across a bridge. To reach parking lot 21 from this point, make a right on Faculty Road at the traffic light right after the bridge. Continue on Faculty Road and make a left on Fitzrandolph. You will see a large parking lot on your left. To instead continue to the Friend Center area from Washington Road (for on-street parking), go straight through the light after the bridge, and make a right at the next light onto Prospect Street. Friend Center is located on Olden Street, which approximately a quarter of a mile down Prospect on the left.



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*Local lodging*

IN TOWN (within walking distance)

**Bed and Breakfast of Princeton (1)**

Address: Houses on campus  
No one night reservation.  
Phone: 609-924-3189  
Fax: 609-921-6271  
Email: ddot@compuserve.com  
Number of rooms: 5

**Nassau Inn, Palmer Square (2)**

Phone: 609-921-7500  
Fax: 609-921-9385  
Number of rooms: 216  
Web Page: <http://www.nassauinn.com>  
Restaurant: Yes

**Peacock Inn (3)**

Address: 20 Bayard Lane  
Phone: 609-924-1707  
Fax: 609-924-0788  
Number of rooms: 17  
Restaurant: Yes

US ROUTE 1 NORTH

**Marriott Hotel at Forrestal (4)**

Address: 100 College Road East  
Phone: 609-452-7800  
Fax: 609-452-7883  
Number or rooms: 290  
Web page: <http://www.marriott.com>  
Distance from campus: 5 miles  
Restaurant: Homestate Café, Barley's Pub

**Marriott Courtyard (5)**

Address: 3815 US1  
Phone: 800-321-2211/609-716-9100  
Fax: 609-716-8745  
Number or rooms: 154  
Web page: <http://www.courtyard.com>  
Distance from campus: 2 miles  
Restaurant: Ruby Tuesday

**Westin at Forrestal (6)**

Address: 201 Village Boulevard  
Phone: 609-452-7900  
Fax: 609-452-1223  
Number or rooms: 294  
Distance from campus: 5 miles  
Web page: <http://www.starwoodhotels.com>  
Restaurant: Parallel 40

**Double Tree (7)**

Address: 4355 US Rt. 1  
Phone: 609-452-2400  
Fax: 609-452-2494  
Number or rooms: 241  
Web page: <http://www.doubletree.com>  
Distance from campus: 5 miles  
Restaurant: On The Bone





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## US ROUTE 1 SOUTH

### Amerisuites (9)

Address: 3565 US Route 1  
Phone: 609-720-0200  
Fax: 609-720-0201  
Distance from campus: 4 miles  
Web Page: <http://www.amerisuites.com>  
Restaurant: Nearby

### Hyatt Regency (10)

Address: 102 Carnegie Center  
Phone: 609-987-1234  
Fax: 609-987-2584  
Distance from campus: 1.5 miles  
Web Page: <http://www.hyatt.com>  
Restaurant: Yes

### McIntosh Inn (11)

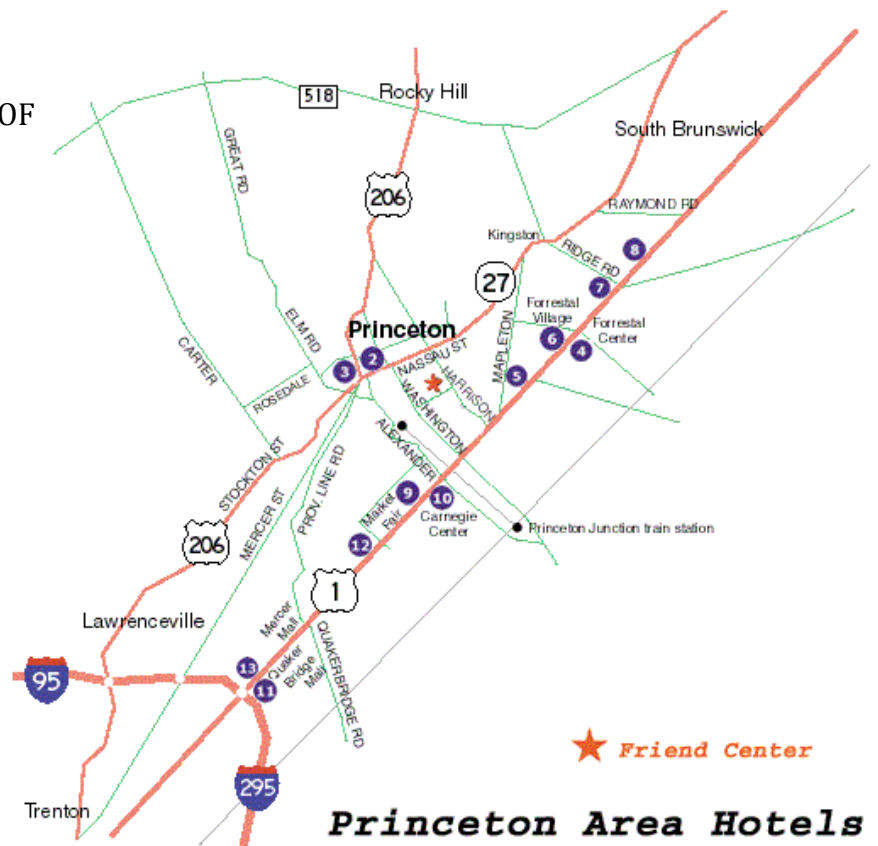
Address: 3270 US Route 1 North  
Phone: 609-896-3700/1-800-244-2775  
Fax: 609-896-2544  
Distance from campus: 4 miles  
Web Page: <http://www.micintoshinn.com>  
Restaurant: Nearby

### Palmer Inn (Clarion Hotel) (12)

Address: 3499 Route 1 South  
Phone: 609-452-2500  
Fax: 609-452-1371  
Distance from campus: 3 miles  
Web Page: <http://www.clarionhotel.com>  
Restaurant: Princeton Diner

### Red Roof Inn at Princeton (13)

Address: 3203 Brunswick Pike  
Phone: 609-896-3388/1-800-RED-ROOF  
Fax: 609-896-4919  
Distance from campus: 8.5 miles  
Web Page: <http://www.redroof.com>  
Restaurant: Nearby







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## *Local restaurants*

### DOWNTOWN PRINCETON

**Ajihei** (Japanese, \$\$\$) 11 Chambers Street  
**Alchemist and Barrister** (American, \$\$\$)  
28 Witherspoon  
**Annex** (American, \$\$) 128½ Nassau  
**Bucks County** (coffeehouse, \$), Palmer Square  
**Conte's Bar** (pizza, \$) 339 Witherspoon  
**Ferry House** (American, \$\$\$) 32 Witherspoon  
**Halo Pub** (ice cream, \$) 9 Hulfish  
**Iano's** (Pizza, \$) 86 Nassau  
**Ichiban** (Japanese, \$\$) 66 Witherspoon  
**J. B. Winberie's** (American, \$) Palmer Square  
**Karen's Chinese** (Chinese, \$\$) 36  
Witherspoon  
**Lahiere's** (French, \$\$\$) 7 Witherspoon  
**Masala Grill** (Indian, \$\$) 15 Chambers  
**Massimo's** (Pizza, \$) 124 Nassau  
**Mediterra** (Mediterranean, \$\$\$) 29 Hulfish  
**Nassau Inn** (American, \$\$\$) Palmer Square  
**Olive's** (sandwiches, \$) 22 Witherspoon  
**Panera** (sandwiches, \$) 13 Nassau  
**PJ's Pancake House** (breakfast, \$\$) 154  
Nassau  
**Sakura Express** (Japanese, \$) 43 Witherspoon  
**Small World** (coffeehouse, \$) 14 Witherspoon  
**Soonja's** (Japanese, \$\$) 242 Alexander  
**Starbucks Coffee** (coffeehouse, \$) 100 Nassau  
**Thomas Sweet** (ice cream, \$) 183 Nassau  
**Teresa's Café** (Italian, \$\$) 21 Palmer Square  
East  
**Triumph Brewing** (American, \$\$) 138 Nassau

### NEAR THE ENGINEERING QUAD

(within short walking distance from Friend  
Center/Computer Science)

**Ajihei Too** (Japanese, \$\$\$) 235B Nassau  
**Blue Point Grille** (seafood, \$\$\$) 258 Nassau  
**Hoagie Haven** (subs, \$) 242 Nassau  
**George's** (subs, \$) 244 Nassau  
**Ivy Garden** (Chinese, \$\$) 238 Nassau  
**Kalluri Corner** (Indian, \$\$) 235 Nassau  
**Old World Pizza** (pizza, \$) 242 ½ Nassau  
**Thai Village** (Thai, \$\$) 235 Nassau  
**Tiger Noodles** (Chinese, \$) 260 Nassau  
**Tomo Sushi** (Japanese, \$\$) 236 Nassau

### ELSEWHERE IN PRINCETON

**Pizza Star** (pizza, \$) Princeton Shopping  
Center  
**Great Wall** (Chinese, \$\$) Princeton Shopping  
Center  
**Main St.** (bistro, \$\$\$) Princeton Shopping  
Center  
**Mexican Village** (Mexican, \$\$) 42 Leigh  
Avenue

### RELEVANT WEBSITES

<http://www.princeton dining.com/>  
<http://princetoninfo.com/diningdir.html>  
<http://www.nj.com/dining/>  
<http://www.packetonline.com>

Downtown Princeton

Friend Center

Computer Science

Train Station (Dinky)

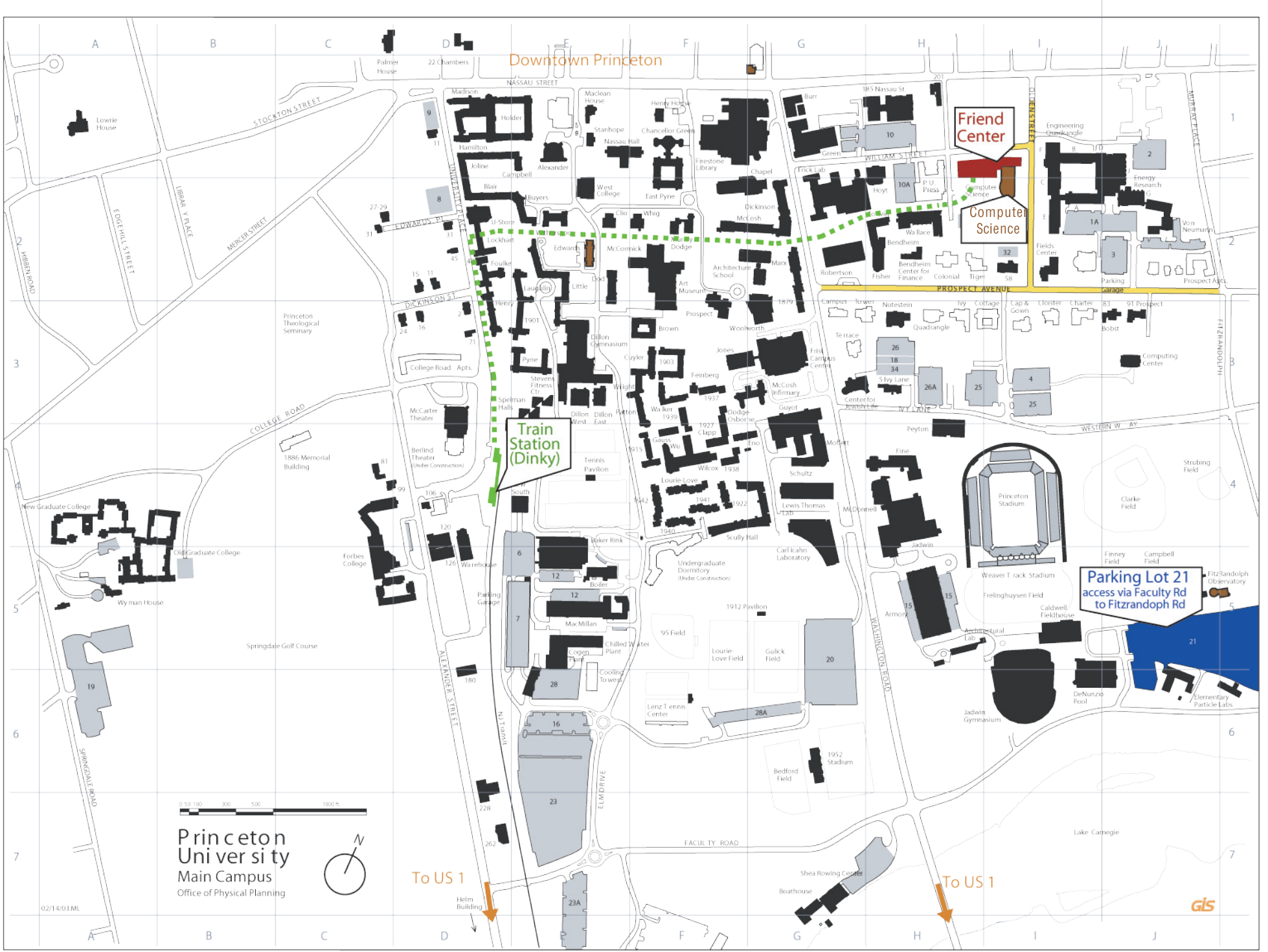
Parking Lot 21 access via Faculty Rd to Fitzrandolph Rd

Princeton University  
Office of Physical Planning



To US 1

To US 1



# Princeton University

Admission: undergraduate, West College, E2; graduate, Nassau Hall, E1  
 Alumni Council, Maclean House, E1  
 Architecture, School of, G2  
 Art Museum, F2  
 Athletic event ticket office, Jadwin Gym, I6  
 Auditoriums: Betts, School of Architecture, G2; Dodds, Robertson Hall, G2; Helm, 50 McCosh Hall, G2; Richardson, Alexander Hall, E1; Taplin, Fine Hall, H4; Wood, 10 McCosh Hall, G2  
 Bookstore, Princeton University Store, D2  
 Bus tickets, newsstand kiosk, Palmer Square, E1  
 Career Services, 201 Nassau St., H1  
 Center for Human Values, Louis Marx Hall, G2  
 Community and State Affairs, Nassau Hall, E1  
*Daily Princetonian*, 48 University Place, D2  
 Dean: of Admission, West College, E2; of the Chapel, Murray-Dodge Hall, F2; of the College, West College, E2; of the Faculty, Nassau Hall, E1; of the Graduate School, Nassau Hall, E1; of Undergraduate Students, Nassau Hall, E1  
 Employment, Human Resources, New South, E4  
 Engineering and Applied Science, School of, I1  
 Exhibits: Art Museum, F2; Firestone Library, F1; Mudd Library, I2  
 Fields Center for Equality and Cultural Understanding, 86 Olden St., I2  
 Financial aid, undergraduate, West College, E2  
 Food, phones, restrooms: Frist Campus Center, G3  
 Gardens, Prospect, F3  
 Gymnasiums: Dillon, E3; Jadwin, I6  
 Housing Office, Macmillan Building, E5  
 Infirmary, McCosh Health Center, G3  
 Information: Orange Key Guide Service, Frist Campus Center, G3; Public Safety, Stanhope Hall, E1; Communications Office, 22 Chambers St., D1  
 International Center, Frist Campus Center, G3  
 Jewish Life, Center for, G3  
 Library, Firestone, F1  
 Limousine (to Newark Airport), Nassau Inn, Palmer Square, E1  
 Lost and found, Public Safety, Stanhope Hall, E1  
 Parking: visitor, garage, lot 7, E5 (campus shuttle stop); parking information, Public Safety, Stanhope Hall, E1  
 President, Nassau Hall, E1  
*Princeton Alumni Weekly*, 194 Nassau St., H1  
 Princeton Materials Institute, Bowen Hall, I2  
*Princeton Weekly Bulletin* (and calendar of events), Communications Office, 22 Chamber St., D1  
 Prospect House (and Gardens), F2  
 Provost, Nassau Hall, E1  
 Registrar, West College, E2  
 Restrooms: Frist Campus Center, G3; Stanhope Hall, E1; West College, E2  
 Security, Public Safety, Stanhope Hall, E1  
 Student Life Office, Nassau Hall, F1  
 Snack bar, Frist Campus Center, G3  
 Taxi, Nassau St., E1  
 Teacher Preparation, Program in, 41 William St., H2  
 Telephones: Frist Campus Center, G3; Nassau Street, E1; Stanhope Hall, E1  
 Theatre: Intime, Murray-Dodge Hall, F2; McCarter, D4  
 Tours, Orange Key Guide Service, Frist Campus Center, G3  
 Train station (Dinky), D4  
 Treasurer, New South, E4  
 Women's Center, Frist Campus Center, G3  
 Woodrow Wilson School of Public and International Affairs, Robertson Hall, G2  
 Princeton University operator: 609-258-3000  
 Emergency: 911

## Building Directory

Aaron Burr Hall, G1	Campbell Hall, E1	Engineering Quadrangle, I1-2	Jadwin Gynamsium, I6	Nassau Street-201, H1	Robertson Hall, G2
Alexander Hall, E1	Carl Icahn Laboratory, G4	E-Quad Expansion, J1	Jadwin Hall, H4	New South Building, E4	Schultz Lab, G4
Alexander Street-99, C4	Chancellor Green, F1	Eno Hall, F4	Jewish Life, Center for, G3	1901-Laughlin Hall, E3	Scully Hall, F4
Alexander Street-106, D4	Chapel, F2	Feinberg Hall, F3	Joline Hall, D1	1903 Hall, F3	71 University Place, D3
Alexander Street-120, D4	Chilled Water Plant, E5	Fields Center for Equality and Cultural Understanding, I2	Jones Hall, F3	1912 Pavilion, G5	Shea Rowing Center, G1
Alexander Street-126, D5	Clio Hall, E2	Fine Hall, H4	Joseph Henry House, F1	1915 Hall, F4	Spelman Halls, E3
Alexander Street-180, D6	Cogeneration Plant, E5	Firestone Library, F1	Lenz Tennis Center, F6	1922 Hall, F4	Springdale Golf Club, C4
Alexander Street-262, D7	College Road Apts., D3	Fisher Hall, H2	Lewis Thomas Lab, G4	1927-Clapp Hall, F4	Stanhope Hall, E1
Architectural Lab, H5	Computer Science, I2	Fitzrandolph Observatory, J5	Little Hall, E2	1937 Hall, F3	Stevens Fitness Center, E3
Architecture School, G2	Computing Center, J3	Forbes College Addition, D5	Lockhart Hall, D2	1938 Hall, F4	Tennis Pavilion, E4
Armory, H5	Cooling Towers, E6	Forbes College Main, C5	Lourie-Love Hall, F4	1939 Hall, F3	Train Station (Dinky), D4
Art Museum, F2	Corwin Hall, H2	Foulke Hall, D2	MacLean House, E1	1940 Hall, F4	22 Chambers St., D1
Baker Rink, E5	Cuyler Hall, F3	48 University Place, D2	MacMillan Building, E5	1941 Hall, F4	201 Nassau St., H1
Bendheim Finance Center, H2	Denunzio Pool, I6	Frick Chemistry Lab, G2	Madison Hall, D1	1942 Hall, F4	University Store, D2
Bendheim Hall, H2	Dickinson Hall, G2	Friend Center, H1	Marx Hall, G2	1952 Stadium, G6	Von Neumann Hall, J2
Blair Hall, D2	Dickinson Street-2, D3	Frist Campus Center, G3	McCarter Theatre, D4	Notestein Hall, H3	Walker Hall, F3
Boathouse, G7	Dillon Gynasium, E3	Gauss Hall, F4	McCormick Hall, F2	Palmer House, C1	Wallace Hall, H2
Bobst Hall, J3	Dod Hall, E2	Graduate College-Old, B5	McCosh Hall, G2	Parking Garage (Campus), E5	Warehouse, D4
Boiler House, E5	Dodge Hall, F2	Graduate College-New, A4	McCosh Infirmary, G3	Parking Garage (Prospect), J2	West College, E2
Bowen Hall, I2	Dodge-Osborn Hall, F3	Green Hall, G1	McDonnell Hall, H4	Patton Hall, F3	Whig Hall, F2
Brown Hall, F3	East Pyne, F2	Guyot Hall, G3	Moffett Lab, G4	Peyton Hall, H4	Wilcox Hall, F4
Buyers Hall, E2	Edwards Hall, E2	Hamilton Hall, D1	Mudd Library, I2	Princeton Stadium, I4	Witherspoon Hall, E2
Caldwell Fieldhouse, I5	1879 Hall, G2	Henry Hall, D3	Murray Hall, F2	Princeton University Press, H2	Woolworth Music Center, G3
	Elementary Particle Lab, J6	Holder Hall, E1	Nassau Hall, E1	Prospect Avenue-91, J3	Wu Hall, F4
	Elm Club, I2	Hoyt Chemical Lab, H1	Nassau Street-185, H1	Prospect House, F3	Wyman House, A5



### TIGER LINE

7 am-8 am; 11:30 am-5 pm

- Lawrence Apts.
- Hibben-Magie
- South Campus
- Woodrow Wilson
- Friend Center
- Friend Center
- Fisher Hall
- Frist/Guyot
- South Campus
- Hibben-Magie
- Lawrence Apts.

8 am-11:30 am

5 pm-7 pm

EXPRESS SERVICE (PEAK HOURS)

Contents of this map are subject to change.

### WEST EXTENSION/WEST LINE

7 am-7 pm

- PTS Apts.
- MarketFair
- 701 Carnegie Ctr.
- Helm Bldg.
- Princeton Stn.
- PTS Campus
- Grad. College
- Univ./Edwards
- Palmer Square
- Nassau/Tulane
- Nassau/Charlton
- Friend Center
- Fisher Hall
- PTS Campus
- Grad. College
- Princeton Stn.
- 701 Carnegie Ctr.

7 pm-10 pm

WEST LINE

### 701 Carnegie Center, PTS Apartments, MarketFair

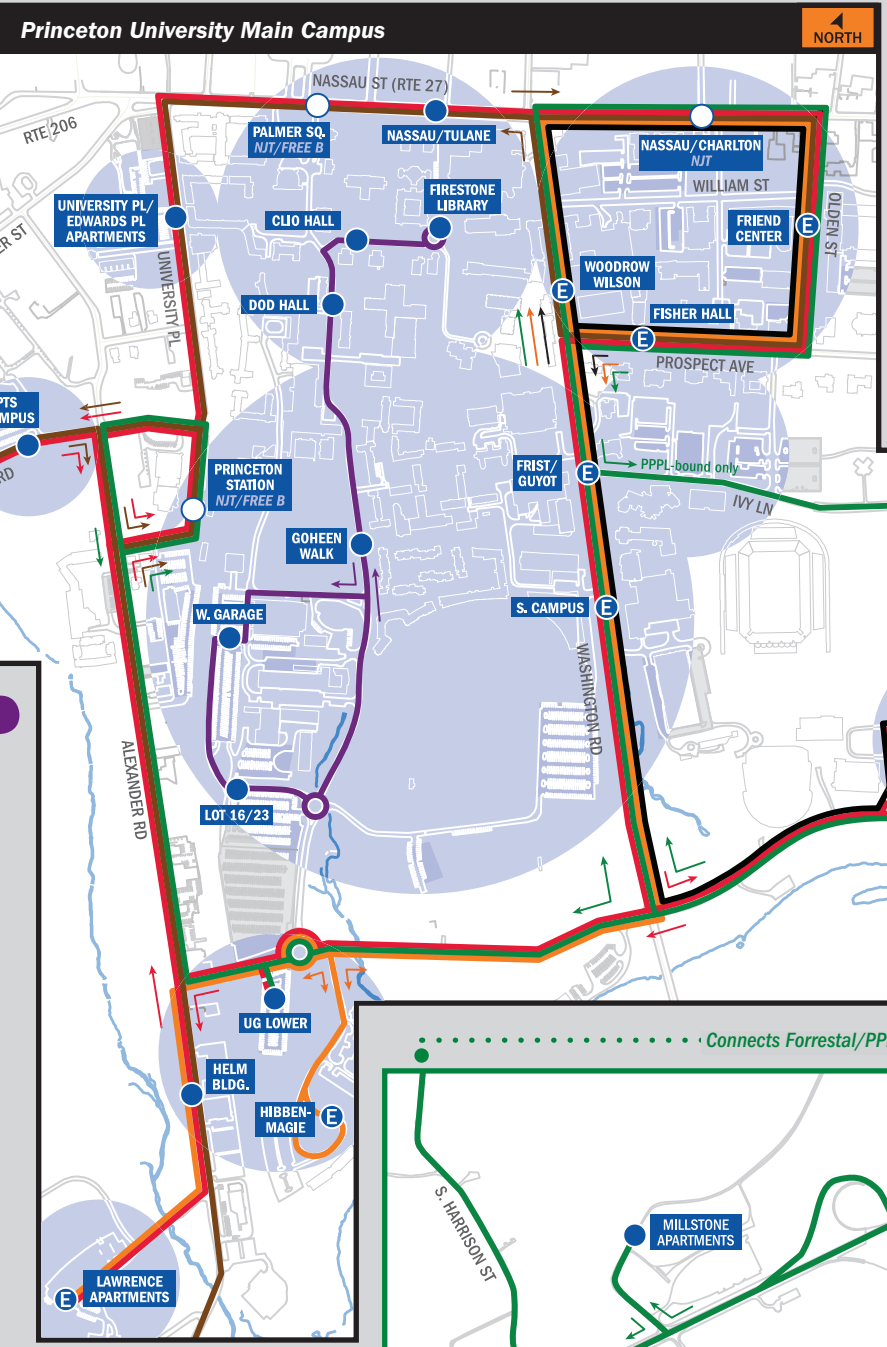
PTS APARTMENTS

MARKETFAIR

701 CARNEGIE CTR. OIT & Office of VP for Finance & Treasurer

## Tiger Transit

2009-2010 TRANSIT ROUTES



### CENTRAL LINE

5 am-9 pm

- Firestone Library
- West Garage
- Lot 16/23
- Goheen Walk
- Dod Hall
- Clio Hall

### FORRESTAL/PPPL LINE

8 am-8 pm

- PPPL
- Forrestal AOS (PPPL-bound only)
- Millstone Apts. (P. Stn-bound only)
- Dean Mathey
- South Campus (P. Stn-bound only)
- Frist/Guyot (P. Stn-bound only)
- Friend Center (P. Stn-bound only)
- Fisher Hall (P. Stn-bound only)
- Frist/Guyot
- South Campus
- UG Lower (PPPL-bound only)
- Princeton Station

Connects Forrestal/PPPL to Main Campus

Fall 2009

### CAMPUS CIRCULATOR

7 pm-1 am

- Lawrence Apartments
- Helm Building
- Princeton Station
- Graduate College
- Univ. Pl/Edwards Pl. Apts.
- Palmer Square
- Nassau/Tulane
- Nassau/Charlton
- Friend Center
- Fisher Hall
- Frist/Guyot
- South Campus
- Lot 21 (on request)
- Butler Apartments
- Hibben-Magie
- UG Lower (on request)

### EAST LINE

5 am-7 pm

- Butler Apartments
- Lot 21
- South Campus
- Frist/Guyot
- Woodrow Wilson
- Nassau/Charlton
- Friend Center
- Fisher Hall
- Frist/Guyot
- South Campus
- Lot 21

# PRINCETON UNIVERSITY **TIGERTRANSIT**

**TigerTransit** is Princeton University's transportation system that operates on a fixed route schedule during the academic year providing safe, convenient, and reliable transportation throughout the Princeton campus and surrounding community.

TigerTransit offers service with stops at academic and administrative buildings; faculty, staff, graduate, and undergraduate student housing; Nassau Street; and the Forrestal Campus and Princeton Plasma Physics Laboratory.

Other services include connections to NJ Transit and the Princeton Borough Free B shuttle, service to MarketFair, and on-demand service seven days a week between 11 pm and 3 am.

The entire TigerTransit fleet is comprised of new low-floor, fully accessible buses that run on B20 biodiesel fuel. Riders will also be able to load bicycles onto a convenient front end bike rack. Each bus is equipped with TigerTracker, a web-based GPS tracking feature that enables riders to track locations of buses on all routes online and by mobile web devices. To track bus locations in real-time, visit [www.princeton.edu/transportation](http://www.princeton.edu/transportation) and click on TigerTracker.



## ROUTES & SERVICE HOURS

### West Extension Line | Monday–Friday, 7 am–7 pm West Line | Monday–Friday, 7 pm–10 pm

The **WEST EXTENSION LINE** provides service to the new administrative offices at 701 Carnegie Center, academic buildings, and Nassau Street. The line travels from the Princeton Theological Seminary (PTS) Apartments to the Woodrow Wilson School. Stops include: MarketFair, 701 Carnegie Center, the Helm Building, Princeton Station (Dinky), PTS Campus, Graduate College, University Place/Edwards Place Apartments, Palmer Square, Nassau/Tulane, Nassau/Charlton, Friend Center, and Fisher Hall.

The Princeton Station and Palmer Square stops offer connections to NJ Transit and the Princeton Borough Free B shuttle.

The **WEST LINE** travels from PTS Apartments to the Graduate College with stops at MarketFair, 701 Carnegie Center, Princeton Station, and PTS Campus. The Princeton Station stop offers connections to NJ Transit and the Princeton Borough Free B shuttle.

### East Line | Monday–Friday, 5 am–7 pm

The **EAST LINE** stops at Butler Apartments, Lot 21, South Campus, Frist/Guyot, Woodrow Wilson, Nassau/Charlton, Friend Center, and Fisher Hall. The South Campus and Friend Center stops provide transfers to the Tiger Line. The Nassau/Charlton stop provides a connection to NJ Transit.

**Tiger Transit**



2009–2010  
TRANSIT ROUTES

[www.princeton.edu/transportation](http://www.princeton.edu/transportation)



### Tiger Line | Monday–Friday, 7 am–7 pm

The **TIGER LINE** (7 am–8 am; 11:30 am–5 pm) offers service between Lawrence Apartments and the Friend Center during non-peak hours with stops at Hibben-Magie, South Campus, Woodrow Wilson, Fisher Hall, and Frist/Guyot. Express service is offered to select stops during morning and evening peak hours.

**TIGER LINE AM EXPRESS SERVICE** (8 am–11:30 am) is provided between Lawrence Apartments and Friend Center with stops at Hibben-Magie, South Campus, and Woodrow Wilson.

**TIGER LINE PM EXPRESS** (5 pm–7 pm) will travel back and forth between the Friend Center and Lawrence Apartments with stops at Fisher Hall, Frist/Guyot, South Campus, and Hibben-Magie.

### Campus Circulator | Monday–Friday, 7 pm–1 am

The **CAMPUS CIRCULATOR** provides service to University academic facilities as well as connections to faculty, staff, graduate, and undergraduate housing complexes. Stops include: Lawrence Apartments, Helm Building, Princeton Station, Graduate College, University Place/Edwards Place Apartments, Palmer Square, Nassau/Tulane, Nassau/Charlton, Friend Center, Fisher Hall, Frist/Guyot, South Campus, Lot 21 (on request), Butler Apartments, Hibben-Magie, and UG Lower (on request). The Princeton Station and Palmer Square stops offer connections to NJ Transit and the Princeton Borough Free B shuttle.

### Central Line | Monday–Friday, 5 am–9 pm

The **CENTRAL LINE** travels on Elm Drive between the West Garage and Firestone Library with stops at Lot 16/23, Goheen Walk, Dod Hall, and Clio Hall.

### Forrestal/PPPL Line | Monday–Friday, 8 am–8 pm

The **FORRESTAL/PPPL LINE** provides daily service between the main campus and the Forrestal Campus and Princeton Plasma Physics Laboratory. Stops include: PPPL, Forrestal AOS, Millstone Apartments, Dean Mathey, Fisher Hall, Frist/Guyot, South Campus, UG Lower, and Princeton Station. Princeton Station offers connections to NJ Transit and the Princeton Borough Free B shuttle. The South Campus stop provides transfers to the Tiger Line and East Line.

### On-demand Service | 7 Days a Week, 11 pm–3 am

**ON-DEMAND SERVICE** to campus locations and to Princeton Junction train station after the last connecting train to campus is available daily from 11 pm to 3 am during the academic year. For On-demand Service, call 609.258.7433.



**Transportation & Parking Services**

To learn more about the TigerTransit transportation system, visit the **Transportation & Parking Services website**.

New South, A Level  
609.258.3157 or 609.258.5436 (v) • 609.258.7655 (fx)  
[transportation@princeton.edu](mailto:transportation@princeton.edu) • [www.princeton.edu/transportation](http://www.princeton.edu/transportation)

**Tiger Transit**



2009–2010  
TRANSIT ROUTES  
[www.princeton.edu/transportation](http://www.princeton.edu/transportation)



Princeton  **University Services**

**EAST LINE**

Effective 9/17/09

Butler Apartments	Lot 21	Woodrow Wilson	Friend Center	South Campus	Butler Apartments
5:00 AM	5:04 AM	5:09 AM	5:11 AM	5:15 AM	5:20 AM
5:20 AM	5:24 AM	5:29 AM	5:31 AM	5:36 AM	5:40 AM
5:40 AM	5:44 AM	5:49 AM	5:51 AM	5:56 AM	6:00 AM
6:00 AM	6:04 AM	6:09 AM	6:11 AM	6:16 AM	6:20 AM
6:20 AM	6:24 AM	6:29 AM	6:31 AM	6:36 AM	6:40 AM
6:40 AM	6:44 AM	6:49 AM	6:51 AM	6:56 AM	7:00 AM
7:00 AM	7:06 AM	7:13 AM	7:17 AM	7:25 AM	7:30 AM
7:15 AM	7:22 AM	7:29 AM	7:33 AM	7:41 AM	7:45 AM
7:30 AM	7:37 AM	7:44 AM	7:48 AM	7:56 AM	8:00 AM
7:45 AM	7:52 AM	7:59 AM	8:03 AM	8:11 AM	8:15 AM
8:00 AM	8:07 AM	8:14 AM	8:18 AM	8:26 AM	8:30 AM
8:15 AM	8:22 AM	8:29 AM	8:33 AM	8:41 AM	8:45 AM
8:30 AM	8:37 AM	8:44 AM	8:48 AM	8:56 AM	9:00 AM
8:45 AM	8:52 AM	8:59 AM	9:03 AM	9:11 AM	9:15 AM
9:00 AM	9:07 AM	9:14 AM	9:18 AM	9:26 AM	9:30 AM
9:15 AM	9:22 AM	9:29 AM	9:33 AM	9:41 AM	9:45 AM
9:30 AM	9:37 AM	9:44 AM	9:48 AM	9:56 AM	10:00 AM
9:45 AM	9:52 AM	9:59 AM	10:03 AM	10:11 AM	10:15 AM
10:00 AM	10:07 AM	10:14 AM	10:18 AM	10:26 AM	10:30 AM
10:15 AM	10:22 AM	10:29 AM	10:33 AM	10:41 AM	10:45 AM
10:30 AM	10:37 AM	10:44 AM	10:48 AM	10:56 AM	11:00 AM
10:45 AM	10:52 AM	10:59 AM	11:03 AM	11:11 AM	11:15 AM
11:00 AM	11:07 AM	11:14 AM	11:18 AM	11:26 AM	11:30 AM
11:15 AM	11:22 AM	11:29 AM	11:33 AM	11:41 AM	11:45 AM
11:30 AM	11:37 AM	11:44 AM	11:48 AM	11:56 AM	12:00 PM
12:00 PM	12:07 PM	12:14 PM	12:18 PM	12:26 PM	12:30 PM
12:30 PM	12:37 PM	12:44 PM	12:48 PM	12:56 PM	1:00 PM
1:00 PM	1:07 PM	1:14 PM	1:18 PM	1:26 PM	1:30 PM
1:30 PM	1:37 PM	1:44 PM	1:48 PM	1:56 PM	2:00 PM
2:00 PM	2:07 PM	2:14 PM	2:18 PM	2:26 PM	2:30 PM
2:30 PM	2:37 PM	2:44 PM	2:48 PM	2:56 PM	3:00 PM
3:00 PM	3:07 PM	3:14 PM	3:18 PM	3:26 PM	3:30 PM
3:30 PM	3:37 PM	3:44 PM	3:48 PM	3:56 PM	4:00 PM
4:00 PM	4:07 PM	4:14 PM	4:18 PM	4:26 PM	4:30 PM
4:15 PM	4:22 PM	4:29 PM	4:33 PM	4:41 PM	4:45 PM
4:30 PM	4:37 PM	4:44 PM	4:48 PM	4:56 PM	5:00 PM
4:45 PM	4:52 PM	4:59 PM	5:03 PM	5:11 PM	5:15 PM
5:00 PM	5:07 PM	5:14 PM	5:18 PM	5:26 PM	5:30 PM
5:15 PM	5:22 PM	5:29 PM	5:33 PM	5:41 PM	5:45 PM
5:30 PM	5:37 PM	5:44 PM	5:48 PM	5:56 PM	6:00 PM
5:45 PM	5:52 PM	5:59 PM	6:03 PM	6:11 PM	6:15 PM
6:00 PM	6:07 PM	6:14 PM	6:18 PM	6:26 PM	6:30 PM
6:15 PM	6:22 PM	6:29 PM	6:33 PM	6:41 PM	6:45 PM
6:30 PM	6:37 PM	6:44 PM	6:48 PM	6:56 PM	7:00 PM
Butler Apartments	Lot 21	Woodrow Wilson	Friend Center	South Campus	Butler Apartments

Not all stops are on this schedule. The times shown are called timepoints.

To estimate times at other stops, use the closest timepoint as a guide.

**Order of Stops:** Butler Apartments; Lot 21; South Campus; Frist/Guyot; Woodrow Wilson; Nassau/Charlton; Friend Center; Fisher Hall; Frist Guyot; South Campus; Lot 21; Butler Apartments

# WEST LINE EXTENDED

Effective 9/17/09

PTS Apartments West Windsor Campus	Princeton Station	PTS Main Campus and Grad College	Friend Center	Woodrow Wilson	PTS Main Campus and Grad College	PTS Apartments West Windsor Campus
7:00 AM	7:15 AM	7:17 AM	7:24 AM	7:26 AM	7:31 AM	7:50 AM
7:50 AM	8:08 AM	8:11 AM	8:19 AM	8:21 AM	8:27 AM	8:50 AM
8:20 AM	8:38 AM	8:41 AM	8:49 AM	8:51 AM	8:57 AM	9:20 AM
8:50 AM	9:08 AM	9:11 AM	9:19 AM	9:21 AM	9:27 AM	9:50 AM
9:20 AM	9:38 AM	9:41 AM	9:49 AM	9:51 AM	9:57 AM	10:20 AM
9:50 AM	10:08 AM	10:11 AM	10:19 AM	10:21 AM	10:27 AM	10:50 AM
10:20 AM	10:38 AM	10:41 AM	10:49 AM	10:51 AM	10:57 AM	11:20 AM
10:50 AM	11:08 AM	11:11 AM	11:19 AM	11:21 AM	11:27 AM	11:50 AM
11:20 AM	11:38 AM	11:41 AM	11:49 AM	11:51 AM	11:57 AM	12:20 PM
11:50 AM	12:08 PM	12:11 PM	12:19 PM	12:21 PM	12:27 PM	12:50 PM
12:20 PM	12:38 PM	12:41 PM	12:49 PM	12:51 PM	12:57 PM	1:20 PM
12:50 PM	1:08 PM	1:11 PM	1:19 PM	1:21 PM	1:27 PM	1:50 PM
1:20 PM	1:38 PM	1:41 PM	1:49 PM	1:51 PM	1:57 PM	2:20 PM
1:50 PM	2:08 PM	2:11 PM	2:19 PM	2:21 PM	2:27 PM	2:50 PM
2:20 PM	2:38 PM	2:41 PM	2:49 PM	2:51 PM	2:57 PM	3:20 PM
2:50 PM	3:08 PM	3:11 PM	3:19 PM	3:21 PM	3:27 PM	3:50 PM
3:20 PM	3:38 PM	3:41 PM	3:49 PM	3:51 PM	3:57 PM	4:20 PM
3:50 PM	4:08 PM	4:11 PM	4:19 PM	4:21 PM	4:27 PM	4:50 PM
4:20 PM	4:38 PM	4:41 PM	4:49 PM	4:51 PM	4:57 PM	5:20 PM
4:50 PM	5:08 PM	5:11 PM	5:19 PM	5:21 PM	5:27 PM	5:50 PM
5:20 PM	5:38 PM	5:41 PM	5:49 PM	5:51 PM	5:57 PM	6:20 PM
5:50 PM	6:08 PM	6:11 PM	6:19 PM	6:21 PM	6:27 PM	6:50 PM
6:20 PM	6:38 PM	6:41 PM	6:49 PM	6:51 PM	6:57 PM	7:20 PM

**After 7:00**

7:00 PM	7:13 PM	7:14 PM				7:30 PM
7:30 PM	7:43 PM	7:44 PM				8:00 PM
8:00 PM	8:13 PM	8:14 PM				8:30 PM
8:30 PM	8:43 PM	8:44 PM				9:00 PM
9:00 PM	9:13 PM	9:14 PM				9:30 PM
9:30 PM	9:43 PM	9:44 PM				10:00 PM

PTS Apartments West Windsor Campus	Princeton Station	PTS Main Campus and Grad College	Friend Center	Woodrow Wilson	PTS Main Campus and Grad College	PTS Apartments West Windsor Campus
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Not all stops are on this schedule. The times shown are called timepoints.

To estimate times at other stops, use the closest timepoint as a guide.

**Order of Stops:** PTS Apartments; Market Fair; 701 Carnegie Center\*; Helm Building; Princeton Station; PTS Campus; Grad College; University Edwards; Palmer Square; Nassau/Tulane; Nassau/Charlton; Friend Center; Fisher Hall Woodrow Wilson; Palmer Square; PTS Campus; Grad College; Princeton Station; 701 Carnegie Center\*; PTS Apartments

\* 701 Carnegie Center Stops and new schedule begins 11/2/09