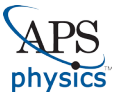
CCP2014

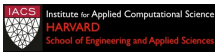
XXVI IUPAP Conference on Computational Physics
August 11-14 • Boston, USA

Program and Information

BOSTON
UNIVERSITY

Sponsors of CCP2014





Welcome to CCP2014

Dear Participants,

It is my great pleasure to welcome you to the XXVI IUPAP Conference on Computational Physics and to Boston University.

The CCP series marks the start of its second quarter-century by returning to Boston, the city of its inception. The 1989 conference led to an annual Physics Computing conference, which in 1997 was renamed the CCP. The organizers understood the need for a broad meeting where researchers working on computational methods and applications in different areas of physics could come together and discuss progress, opportunities and challenges of common interest.

Today, computational research continues to gain in importance and hardly any field of science can progress successfully without some aspect of computation or large-scale data processing. There are now many specialized meetings focusing on different branches of computational physics, but there is also a role for a broad meeting series such as CCP, where researchers can be informed and inspired to adapt methods across fields. Such a conference also sends a message to the scientific community and funding agencies that research investments in computational methods and hardware can deeply impact many different areas.

In organizing CCP2014, we have strived for both breadth and depth. Accessible plenary sessions showcase progress and challenges in different areas of computational physics and enabling technologies. In the more specialized parallel oral and poster sessions there are opportunities to reach deeper into various disciplines, but I hope and believe that these sessions will also attract participants engaged in research outside the immediate topics presented. This way the meeting can achieve its goal of facilitating communication and collaboration across subfields.

On behalf of the Local Organization Committee, the Program Committee, and the International Advisory Board, I thank you for attending CCP2014 and look forward to an exciting meeting.

Anders Sandvik, Chair of CCP2014

Organization

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Harvey Gould *(Clark University)*
Alex Hansen *(NTU, Trondheim, Norway)*
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Mei-Yin Chou *(Georgia Institute of Technology; Academia Sinica, Taiwan)*
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Malcolm Stocks *(Oak Ridge National Lab)*
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Fluid dynamics, turbulence, nano-fluidics, magnetohydrodynamics

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Novel hardware and software paradigms

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Mark Jarrell *(Louisiana State University)*
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Computational physics education

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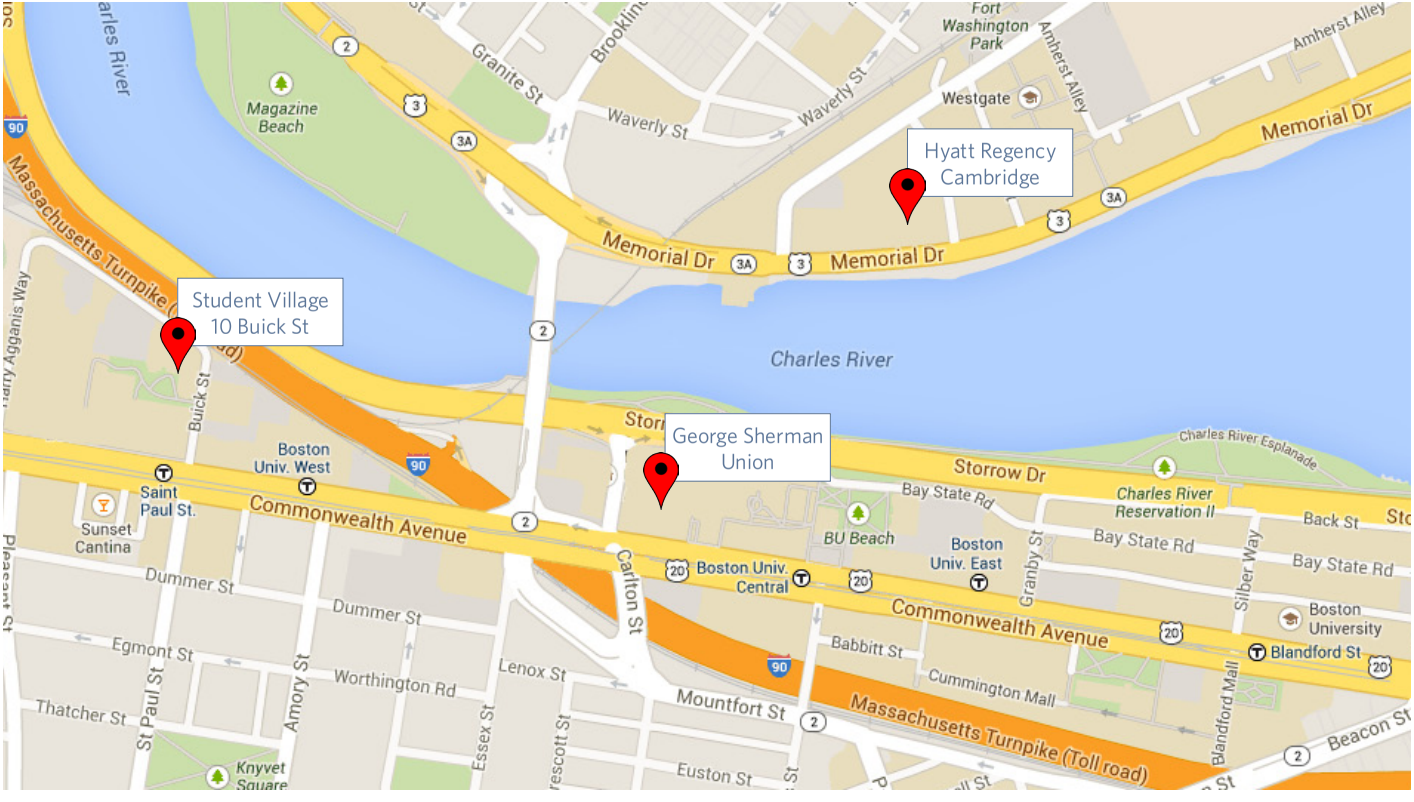
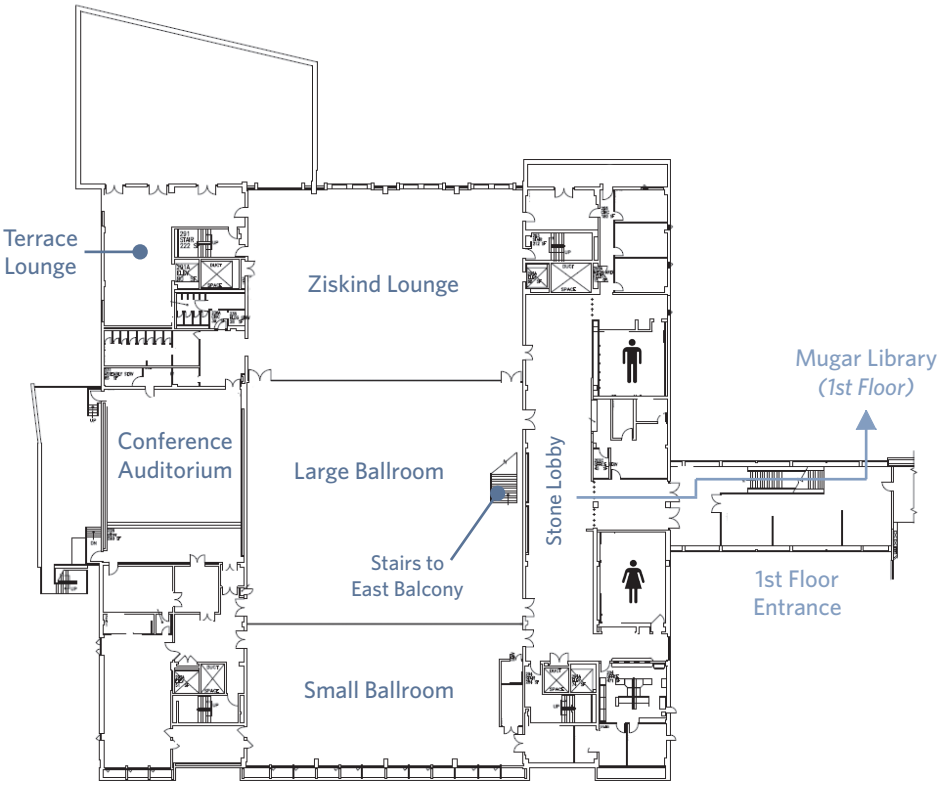
CCP2014 venue: Boston University George Sherman Union



George Sherman Union (GSU)
775 Commonwealth Avenue
Second Floor



The East Balcony is accessible from inside the Large Ballroom. Go up the stairs at the back of the ballroom; the room will be on your right.

The Terrace Lounge and Conference Auditorium are through the Ziskind Lounge.

Mugar 205 is located in Mugar library. From the conference venue (Stone Lobby), go down the stairs, continue ahead on the first floor, then take a left into Mugar Library. There will be a staircase/elevator on your right. Go up to the second floor and take a right. Mugar 205 will be at the end of the hall.

Program Overview

Morning

	Sunday	Monday	Tuesday	Wednesday	Thursday
7:30		Registration			
7:45					
8:00					
8:15					
8:30			Plenary *Danskin*	Plenary *Katzgraber*	Parallel Sessions
8:45					
9:00		Welcome			
9:15		Plenary *Succi*	Plenary *Schulz*	Plenary *Young*	
9:30					
9:45					
10:00		Break	Break	Break	
10:15					Break
10:30		Plenary *Okamoto*	Plenary *Sterling*	Plenary *Rothlisberger*	Plenary *Louie*
10:45					
11:00					
11:15		Plenary *Trivedi*	Plenary *Sexton*	Plenary *Granger*	Plenary *White*
11:30					
11:45					
12:00		Lunch	Lunch	Lunch	Lunch
12:15					
12:30					
12:45					
13:00					
13:15					

Session and Event Locations

Plenary sessions are located in the Large Ballroom.
The **poster session** is located in the Small Ballroom, Large Ballroom, and Ziskind Lounge.
Breaks are located in the Ziskind Lounge.

The **Welcome Reception** is located in the Ziskind Lounge.
The **Banquet** is located in the Trustee Center (1 Silber Way, 9th floor, Ballroom).

Program Overview

Afternoon/Evening

	Sunday	Monday	Tuesday	Wednesday	Thursday
13:30	Registration	Parallel Sessions	Parallel Sessions	Parallel Sessions	Plenary *Del Debbio*
13:45					
14:00					
14:15					Plenary *Dave*
14:30					
14:45					
15:00					Closing
15:15		Break	Break	Break	
15:30					
15:45		Parallel Sessions	Parallel Sessions	Parallel Sessions	
16:00					
16:15					
16:30					
16:45					
17:00					
17:15					
17:30	Welcome Reception	Poster Session			
17:45					
18:00					
18:15					
18:30			Banquet Reception 18:30-19:00 Dinner 19:00-21:00		
18:45					
19:00					
19:15					
19:30					
19:45					
20:00					
20:15					
20:30					
20:45					

Overview of Parallel Sessions

Monday, Parallel Sessions 1, 13:30-15:15				
Auditorium	Small Ballroom	Terrace Lounge	East Balcony	Mugar 205
Materials Science	**Soft Matter**	**Fluid Dynamics**	**Quantum Many-Body**	
Monday, Parallel Sessions 2, 15:45-17:30				
Auditorium	Small Ballroom	Terrace Lounge	East Balcony	Mugar 205
Soft Matter	**Statistical Physics**	**Fluid Dynamics**	**Computing Paradigms**	

Tuesday, Parallel Sessions 1, 13:30-15:15				
Auditorium	Small Ballroom	Terrace Lounge	East Balcony	Mugar 205
Soft Matter	**Statistical Physics**	**General**	**Quantum Many-Body**	**Lattice Field Theory**
Tuesday, Parallel Sessions 2, 15:45-17:30				
Auditorium	Small Ballroom	Terrace Lounge	East Balcony	Mugar 205
Materials Science	**Statistical Physics**	**Education**	**Computing Paradigms**	**Lattice Field Theory**

Wednesday, Parallel Sessions 1, 13:30-15:15				
Auditorium	Small Ballroom	Terrace Lounge	East Balcony	Mugar 205
Materials Science	**Statistical Physics**	**Astrophysics**	**Quantum Many-Body**	
Wednesday, Parallel Sessions 2, 15:45-17:30				
Auditorium	Small Ballroom	Terrace Lounge	East Balcony	Mugar 205
Materials Science	**Computing Paradigms**	**Quantum Computing**	**Education**	

Thursday, Parallel Sessions, 8:30-10:15				
Auditorium	Small Ballroom	Terrace Lounge	East Balcony	Mugar 205
Materials Science	**Soft Matter**	**Lattice Field Theory**	**Astrophysics**	

Daily Schedules

Session Locations

Plenary sessions are located in the Large Ballroom.
The **poster session** is located in the Small Ballroom, Large Ballroom, and Ziskind Lounge.
Breaks are located in the Ziskind Lounge.

Monday, August 11

7:30-9:00	**Registration**
9:00-9:15	**Welcome** Anders Sandvik, *Chair of CCP2014* Robert Brown, *President of Boston University* Alex Hansen, *Chair of IUPAP's C20 Commission*
9:15-10:00	**Plenary Session: Computational Physics 1** *Chair: Anders Sandvik* **Sauro Succi**, *IAC-CNR (Italy)* Lattice Boltzmann simulations of complex flows across scales: turbulence, soft-glasses and quark-gluon plasmas
10:00-10:30	Break
10:30-11:15 11:15-12:00	**Plenary Session: Computational Physics 2** *Chair: David Coker* **Yuko Okamoto**, *Nagoya University (Japan)* Enhanced configurational sampling methods for spin systems and biomolecular systems **Nandini Trivedi**, *Ohio State University (USA)* Topology and Correlations driving new materials, phases and phenomena
12:00-13:30	Lunch
13:30-15:15	**Parallel Sessions 1** Materials Science and Nanoscience 1, *Conference Auditorium* Soft Matter and Biological Physics 1, *Small Ballroom* Fluid Dynamics 1, *Terrace Lounge* Quantum Many-Body Physics 1, *East Balcony*
15:15-15:45	Break
15:45-17:30	**Parallel Sessions 2** Soft Matter and Biological Physics 2, *Conference Auditorium* Statistical Physics 1, *Small Ballroom* Fluid Dynamics 2, *Terrace Lounge* Novel Computing Paradigms 1, *East Balcony*
17:30-19:30	**Poster Session**

Monday, Parallel Sessions 1

Materials Science and Nanoscience 1	
Location: Conference Auditorium	Chairperson: Markus Eisenbach
13:30-14:00	**Invited Talk: Luca Ghiringhelli**, *Fritz Haber Institute of the Max Planck Society (Germany)*, Big Data of Materials Science - Critical Role of the Descriptor
14:00-14:30	**Invited Talk: Lin-lin Wang**, *Ames Laboratory (USA)*, Computational Modeling of Transition-Metal Alloyed Nanoparticles in Working Condition
14:30-14:45	**Hossein Mosallaei**, *Northeastern University (USA)*, Novel Materials Enabled with Core-Shell Dielectric-Plasmonic Particles
14:45-15:00	**Theodore Einstein**, *Physics & CMTC, University of Maryland (USA)*, Characterizing Capture Zone Distributions (CZD) in Island Growth on Surfaces: Simulations Confront Experiments
15:00-15:15	**Vlad Sokhan**, *National Physical Laboratory (UK)*, Electronically coarse-grained simulations in materials science

Soft Matter and Biological Physics 1	
Location: Small Ballroom	Chairperson: Joerg Rottler
13:30-14:00	**Invited Talk: Mark Robbins**, *Johns Hopkins University (USA),* Welding and healing of polymer interfaces: Strength from entanglements
14:00-14:30	**Invited Talk: Marcus Mueller**, *Georg-August-Universität, Institute for Theoretical Physics (Germany),* Studying the kinetics of copolymer self-assembly
14:30-14:45	**Alexander Wagner**, *North Dakota State University (USA),* Towards a computational modeling of structure formation in colloidal drying
14:45-15:00	**Chandan Dasgupta**, *Indian Institute of Science,* Complex Rheology of Nematogenic Fluids: Connection to Elastic Turbulence
15:00-15:15	**Lampros Mountrakis**, *University of Amsterdam (Netherlands),* Looking into the transport of blood cells in flows without walls

Fluid Dynamics 1	
Location: Terrace Lounge	Chairperson: Emily Ryan
13:30-14:00	**Invited Talk: Monika Nitsche**, *University of New Mexico (USA),* Vortex Shedding and Low Order Models
14:00-14:30	**Invited Talk: George Karniadakis**, *Brown University (USA),* Microscopic theory of Brownian motion: Effects of memory and confinement
14:30-14:45	**Alex Hansen**, *Norwegian University of Science and Technology,* A Monte Carlo Algorithm for Immiscible Two-Phase Flow in Porous Media
14:45-15:00	**Junxue Ren**, *Wright State University (USA),* PIC Algorithm with Multiple Poisson Equation Solves during One time Step
15:00-15:15	**Nils Moschuering**, *LMU Munich (Germany),* Adaptive-Particle-Refinement for PIC Simulations

Quantum Many-Body Physics 1	
Location: East Balcony	Chairperson: Nikolai Prokofiev
13:30-14:00	**Invited Talk: Ribhu Kaul**, *University of Kentucky (USA)*, Deconfined quantum criticality in SU(N) magnets
14:00-14:30	**Invited Talk: Boris Svistunov,** *University of Massachusetts, Amherst (USA)*, Diagrammatic Monte Carlo for Fermionic and Fermionized Systems
14:30-14:45	**George Batrouni**, *Institut Non-Linéaire de Nice, University of Nice (France)*, Competition between the Haldane insulator, superfluid and supersolid phases in the one-dimensional Bosonic Hubbard Model
14:45-15:00	**Karine Piacentini Coelho da Costa**, *University of Massachusetts, Amherst (USA); University of Sao Paulo (Brazil)*, Critical Exponents of the Superfluid-Bose-Glass Transition in Three Dimensions
15:00-15:15	**Yu-cheng Lin**, *National Chengchi University (Taiwan)*, Neel to valence-bond-solid phase transitions in correlated valence-bond states

Monday, Parallel Sessions 2

Soft Matter and Biological Physics 2	
Location: Conference Auditorium	Chairperson: Celeste Sagui
15:45-16:15	**Invited Talk: Ivet Bahar**, *University of Pittsburgh (USA),* Structure-Encoded Dynamics of Proteins: Learning from Network Models and Experiments
16:15-16:45	**Invited Talk: Normand Mousseau**, *Université de Montréal (Canada),* Computational challenges for the study of amyloid processes
16:45-17:00	**Ming-chya Wu**, *National Central University (Taiwan),* Correlated vibrations in ion-pair dynamics in mechanoactivation identifies functional domains of force-dependent titin kinase
17:00-17:15	**Christopher Roland**, *North Carolina State University (USA),* Investigating rare events with nonequilibrium work measurements: transition and reaction rates

Statistical Physics 1: Networks	
Location: Small Ballroom	Chairperson: Jonathan Machta
15:45-16:15	**Invited Talk: Mark Newman**, *University of Michigan (USA),* Large-scale structure in networks
16:15-16:45	**Invited Talk: Lenka Zdeborova**, *CEA Saclay and CNRS (France),* Module detection in networks: phase transitions and optimal algorithms
16:45-17:00	**Florent Krzakala**, *Ecole Normale Superieure (France),* Belief-Propagation Guided Monte-Carlo Sampling
17:00-17:15	**Lev Shchur**, *Landau Institute for Theoretical Physics (Russia),* Relation of Parallel Discrete Event Simulations algorithms with the physical models
17:15-17:30	**Bruce Boghosian**, *Tufts University (USA),* Asset exchange and the origin of Pareto's Law of wealth distribution

Fluid Dynamics 2	
Location: Terrace Lounge	Chairperson: James Adler
15:45-16:15	**Invited Talk: Marc Gerritsma**, *TU Delft (Netherlands),* Structure preserving discretizations for computational physics
16:15-16:45	**Invited Talk: Chun Liu**, *Penn State University (USA),* Energetic Variational Approaches in Complex Fluids
16:45-17:00	**Christopher Amey**, *University of Massachusetts, Amherst (USA),* Persistent Patterns and Mixed Phase Space Dynamics
17:00-17:15	**Blair Perot**, *University of Massachusetts, Amherst (USA),* Numerical Investigation of the Decay Rate of Isotropic Turbulence
17:15-17:30	**Duncan McGregor**, *Oregon State University (USA),* Modelling Arcs in Magnetohydrodynamic Generator Channels

Novel Computing Paradigms 1	
Location: East Balcony	Chairperson: Martin Berzins
15:45-16:15	**Invited Talk: Thomas Cheatham**, *University of Utah (USA),* Molecular dynamics simulation of nucleic acids: Convergence, reproducibility, assessment/validation, and data dissemination enabled by GPUs on XSEDE and Blue Waters
16:15-16:45	**Invited Talk: Ying-jer Kao**, *National Taiwan University*, Uni10: the Universal Tensor Network Library
16:45-17:00	**Joshua Anderson**, *University of Michigan (USA),* Monte Carlo and Molecular Dynamics simulations of soft matter in the GPU era
17:00-17:15	**Jens Glaser**, *University of Michigan (USA),* Strong Scaling of a Molecular Dynamics code on 1000's of GPUs
17:15-17:30	**Hyun Lim**, *South Dakota State University (USA),* A Parallel Implementation of the Time-Decomposition Approach for the time-dependent Dirac Equation

Tuesday, August 12

8:30-9:15 9:15-10:00	**Plenary Session: Enabling Technologies for Computational Science 1** *Chair: Richard Brower* **John Danskin**, *NVIDIA* The Physics of Computation and GPU Architecture **Karl Schulz**, *Intel* Enabling Technology Trends in High Performance Computing
10:00-10:30	Break
10:30-11:15 11:15-12:00	**Plenary Session: Enabling Technologies for Computational Science 2** *Chair: Norbert Attig* **Thomas Sterling**, *CREST, Indiana University (USA)* Computational Physics at Extreme Scale **James Sexton**, *IBM* A Vision for Data Centric Systems
12:00-13:30	Lunch
13:30-15:15	**Parallel Sessions 1** Soft Matter and Biological Physics 3, *Conference Auditorium* Statistical Physics 2, *Small Ballroom* General Computational Physics 1, *Terrace Lounge* Quantum Many-Body Physics 2, *East Balcony* Lattice Field Theory 1, *Mugar 205*
15:15-15:45	Break
15:45-17:30	**Parallel Sessions 2** Materials Science and Nanoscience 2, *Conference Auditorium* Statistical Physics 3, *Small Ballroom* Computational Physics Education 1, *Terrace Lounge* Novel Computing Paradigms 2, *East Balcony* Lattice Field Theory 2, *Mugar 205*
18:30-21:00	**Banquet** Dinner speech: Claudio Rebbi, *Boston University (USA)* The early days of the Division of Computational Physics

Tuesday, Parallel Sessions 1

Soft Matter and Biological Physics 3	
Location: Conference Auditorium	Chairperson: Marcus Mueller
13:30-14:00	**Invited Talk: Marina Guenza**, *University of Oregon (USA),* A coarse-graining method that preserves the free energy, structural correlations, and thermodynamic state of polymer melts from the atomistic to the mesoscale
14:00-14:30	**Invited Talk: Celeste Sagui**, *North Carolina State University (USA),* Free energy methods for biomolecular simulations
14:30-14:45	**Thomas Salez,** *(CNRS / ESPCI),* A direct quantitative measure of surface mobility in a glassy polymer
14:45-15:00	**Xizhong An**, *Northeastern University (China)*, MPFEM modeling and mechanism analysis on the compaction of binary granular system
15:00-15:15	**Guangjie Shi**, *University of Georgia (USA),* Protein Folding of the HOP Model: A Parallel Wang-Landau Study

Tuesday, Parallel Sessions 1, continued

Statistical Physics 2: Jamming, Hard Spheres	
Location: Small Ballroom	Chairperson: Alex Hansen
13:30-14:00	**Invited Talk: Werner Krauth**, *ENS Paris (France),* Rejection-free, Irreversible, and Infinitesimal Monte Carlo Algorithms and Melting in two dimensions
14:00-14:30	**Invited Talk: Salvatore Torquato**, *Princeton University (USA),* New Algorithm to Generate Jammed Sphere Packings
14:30-14:45	**Masaharu Isobe**, *Nagoya Institute of Technology (Japan),* Nucleation of Hard Spheres in local Monte Carlo, Event-Chain Monte Carlo, and Molecular Dynamics
14:45-15:00	**Chandan Dasgupta**, *Indian Institute of Science,* Short-time relaxation in glass-forming liquids from dynamics in a meta-basin of the potential energy landscape
15:00-15:15	**Ronald Dickman**, *Universidade Federal de Minas Gerais (Brazil),* Inconsistencies in steady state thermodynamics

General Computational Physics 1	
Location: Terrace Lounge	Chairperson: Jan Tobochnik
13:30-13:45	**Panos Argyrakis**, *University of Thessaloniki (Greece),* Network of the FP7 collaboration projects
13:45-14:00	**Larry Engelhardt**, *Francis Marion University (USA),* Quantum spin simulations made simple
14:00-14:15	**Guiping Zhang**, *Renmin University of China,* Effects of contact and strain on electronic transport properties of graphene: exact and renormalized transfer matrix method
14:15-14:30	**Zine El Abidine Chaoui**, *University of Setif (Algeria),* An optimized analytic model for charged particle transport in water
14:30-14:45	**Nikita Kirnosov**, *University of Arizona (USA),* Non-BO calculations of rovibrational states of systems with Coulomb interactions using explicitly correlated all-particle Gaussian functions
14:45-15:00	**Mitsuyoshi Tomiya**, *Seikei University (Japan),* Scar State on Time-evolving Wavepacket
15:00-15:15	**Joan Adler**, *Technion (Israel),* Efficient simulated annealing of segmented telescopes by invoking their analogy with SOS models

Quantum Many-Body Physics 2	
Location: East Balcony	Chairperson: Chisa Hotta
13:30-14:00	**Invited Talk: Federico Becca**, *National Council for Research (CNR) and SISSA (Italy),* Variational wave functions for strongly-correlated models
14:00-14:30	**Invited Talk: Philippe Corboz**, *Institute for Theoretical Physics, University of Amsterdam (Netherlands),* Recent progress in simulating strongly correlated systems with tensor network methods
14:30-14:45	**Roger Melko**, *University of Waterloo (Canada),* Quantum Kagome Ice
14:45-15:00	**Wenan Guo**, *Beijing Normal University (China),* Novel quantum glass of bosons in a random potential in two dimensions
15:00-15:15	**Thomas Lang**, *Boston University (USA),* Mott Transitions of Correlated Fermions from SU(2) to SU(N)

Lattice Field Theory 1	
Location: Mugar 205	Chairperson: Claudio Rebbi
13:30-14:00	**Invited Talk: Taku Izubuchi**, *RIKEN BNL Research Center (USA),* TBD
14:00-14:30	**Invited Talk: Aida El-Khadra**, *University of Illinois (USA),* Lattice QCD and Quark Flavor Physics
14:30-14:45	**Steven Gottlieb**, *Indiana University (USA),* Electromagnetic effects of the light hadron spectrum
14:45-15:00	**Oliver Witzel**, *Boston University (USA),* Lattice-QCD determination of B-meson decay constants and semileptonic form factors
15:00-15:15	**Stefan Krieg**, *Forschungszentrum Juelich (Germany),* From quarks to hadrons and back: spectral and bulk properties of strongly interacting matter from Lattice QCD

Tuesday, Parallel Sessions 2

Materials Science and Nanoscience 2	
Location: Conference Auditorium	Chairperson: Theodore L Einstein
15:45-16:15	**Invited Talk: Hsin Lin**, *Graphene Research Centre and Department of Physics, National University of Singapore,* Topological Crystalline Insulators: A New Phase of Quantum Matter
16:15-16:30	**Zenan Qi**, *Boston University (USA),* Strain Engineering of Graphene Hexagon and Nanobubbles
16:30-16:45	**Vladimir Stegailov**, *JIHT RAS (Russia),* Graphite melting: atomistic kinetics resolves long-standing controversy
16:45-17:00	**Jenni Portman**, *Michigan State University (USA),* Evidence of stacking disorder induced gap opening in the ground state of 1T-TaS2
17:00-17:15	**Hiroaki Nakamura**, *National Institute for Fusion Science (Japan),* A Binary-Collision-Approximation Simulation Study on the Dependence of Noble Gas Absorption upon Crystal Orientation of Tungsten
17:15-17:30	**Abdiravuf Dzhurakhalov**, *University of Antwerp (Belgium),* Computer simulation of the interaction of ringlike carbon clusters with nanographene

Tuesday, Parallel Sessions 2, continued

Statistical Physics 3: Spin Models	
Location: Small Ballroom	Chairperson: Lev Shchur
15:45-16:15	**Invited Talk: Youjin Deng**, *University of Science & Technology of China*, Universal amplitudes in the canonical ensemble
16:15-16:30	**Pablo Serna**, *University of Murcia (Spain),* Loop models with crossings
16:30-16:45	**Robert Swendsen**, *Carnegie Mellon University (USA),* Solving the inverse Ising model with multi-spin interactions
16:45-17:00	**Wolfhard Janke**, *University of Leipzig (Germany),* Non-Standard Finite-Size Scaling at First-Order Phase Transition
17:00-17:15	**Edyta Malolepsza**, *Boston University (USA),* Generalized ensemble method applied to study systems with strong first order transition
17:15-17:30	**Patrick Malsom**, *University of Cincinnati (USA),* The limitations of the Onsager-Machlup functional

Computational Physics Education 1	
Location: Terrace Lounge	Chairperson: Wolfgang Christian
15:45-16:15	**Invited Talk: Ruth Chabay**, *North Carolina State University (USA),* Computation and Conceptual Understanding in Introductory Physics
16:15-16:45	**Invited Talk: Francisco Esquembre**, *Universidad de Murcia (Spain),* Facilitating programming computational physics simulations for tablets
16:45-17:15	**Invited Talk: Beate Schmittmann**, *Iowa State University (USA),* K-12 outreach and student recruitment with computational science
17:15-17:30	**Jan Tobochnik**, *Kalamazoo College (USA),* The Computational Physics Section of the American Journal of Physics

Novel Computing Paradigms 2	
Location: East Balcony	Chairperson: Thomas Cheatham
15:45-16:15	**Invited Talk: Martin Berzins**, *University of Utah (USA),* Multiscale and Multiphysics Computations on Presnt and Future Architectures
16:15-16:45	**Invited Talk: Erik Schnetter**, *Perimeter Institute (Canada),* Automated Code Generation for Solving PDEs on Modern HPC Architectures
16:45-17:00	**Xavier Saez**, *Barcelona Supercomputing Center (Spain),* First experience with Particle-in-cell Plasma Physics code on ARM-based HPC systems
17:00-17:15	**Elise de Doncker**, *Western Michigan University (USA),* Scalable Software for Multivariate Integration on Hybrid Platforms
17:15-17:30	**Yasunari Zempo**, *Hosei University (Japan),* Real-Time and Real-Space Program Tuned in K-Computer

Lattice Field Theory 2	
Location: Mugar 205	Chairperson: Richard Brower
15:45-16:15	**Invited Talk: John Negele**, *Massachusetts Institute of Technology (USA),* Understanding the Structure of Nucleons using Lattice QCD
16:15-16:45	**Invited Talk: William Detmold**, *MIT (USA)*, Dark Nuclei
16:45-17:00	**Sergey Syritsyn**, *RIKEN BNL Research Center (USA),* Nucleon Structure on a Lattice at the Physical Point
17:00-17:15	**Venkitesh Ayyar**, *Duke University (USA),* Semimetal-Insulator transition without a fermion bilinear condensate

Wednesday, August 13

8:30-9:15 9:15-10:00	**Plenary Session: Computational Physics 3** *Chair: Wolfhard Janke* **Helmut Katzgraber**, *Texas A&M University (USA)* Four decades of frustration in spin-glass physics: Advances and applications **A. Peter Young**, *University of California, Santa Cruz (USA)* Numerical Studies of the Quantum Adiabatic Algorithm
10:00-10:30	Break
10:30-11:15 11:15-12:00	**Plenary Session: Computational Physics 4** *Chair: David Campbell* **Ursula Rothlisberger**, *Ecole Polytechnique Federale de Lausanne (Switzerland)* Mixed Quantum Mechanical/Molecular Mechanical (QM/MM) Simulations of Biological Systems: From Understanding to Control **Brian Granger**, *California Polytechnic State University (USA)* Open source tools for exploratory and reproducible computational physics
12:00-13:30	Lunch
13:30-15:15	**Parallel Sessions 1** Materials Science and Nanoscience 3, *Conference Auditorium* Statistical Physics 4, *Small Ballroom* Astrophysics 1, *Terrace Lounge* Quantum Many-Body Physics 3, *East Balcony*
15:15-15:45	Break
15:45-17:30	**Parallel Sessions 2** Materials Science and Nanoscience 4, *Conference Auditorium* Novel Computing Paradigms 3, *Small Ballroom* Quantum Computing 1, *Terrace Lounge* Computational Physics Education 2, *East Balcony*

Wednesday, Parallel Sessions 1

Materials Science and Nanoscience 3	
Location: Conference Auditorium	Chairperson: Volodymyr Turkowski
13:30-14:00	**Invited Talk: Caterina Cocchi**, *Humboldt-Universität zu Berlin (Germany),* From Molecules to Organic Crystals: Optical Excitations from First Principles
14:00-14:15	**Rodion Belosludov**, *IMR, Tohoku University (Japan),* Computation Modelling of Thermodynamic Properties of Nanoporous Materials toward Gas Storage and Separation
14:15-14:30	**Stephanie Valleau**, *Harvard University (USA),* Electromagnetic study of the chlorosome antenna complex of Chlorobaculum tepidum
14:30-14:45	**Huan Tran**, *University of Connecticut (USA),* Designing Organotin Polymers For Energy Storage Applications
14:45-15:00	**Sahar Sharifzadeh**, *Boston University (USA),* Understanding the Photophysical Properties of Organic Polycrystalline Films
15:00-15:15	**Ilnur Saitov**, *Joint Institute for High Temperatures (Russia),* First principle calculation of shocked xenon reflectivity

Statistical Physics 4: Spin Models	
Location: Small Ballroom	Chairperson: Wolfhard Janke
13:30-14:00	**Invited Talk: Koji Hukushima**, *University of Tokyo (Japan),* Equilibrium-state simulations of some (spin) glass models in finite dimensions
14:00-14:15	**Wenlong Wang**, *University of Massachusetts, Amherst (USA),* Population annealing Monte Carlo: An effective simulation for spin glasses
14:15-14:30	**Tasrief Surungan**, *Hasanuddin University (Indonesia),* Spin glass behavior of the antiferromagnetic Heisenberg model on scale free network
14:30-14:45	**Elmar Bittner**, *ITP, Heidelberg University (Germany),* MuCa vs WL: A tight race
14:45-15:00	**Alexandra Valentim**, *Universidade Federal do Paraná (Brazil),* Exploring Replica-Exchange Wang-Landau sampling in higher-dimensional parameter space
15:00-15:15	**Raul Toral**, *Institute for Cross-Disciplinary Physics and Complex Systems (Spain),* Weighted-ensemble Brownian dynamics simulation: Sampling of rare events in non-equilibrium systems

Astrophysics 1: Cosmology and Galaxy Formation	
Location: Terrace Lounge	Chairperson: Romeel Davé
13:30-14:00	**Invited Talk: Mike Boylan-Kolchin**, *University of Maryland (USA),* The Local Universe as a Dark Matter Laboratory
14:00-14:30	**Invited Talk: Claude-andre Faucher-Giguere**, *Northwestern/CIERA (USA),* The Universe on a computer: Cosmological simulations of galaxy formation
14:30-14:45	**Claudio Gheller**, *CSCS (Switzerland),* Numerical cosmology on the GPU with Enzo and Ramses
14:45-15:00	**Robert Hohlfeld**, *Boston University (USA),* Instability of Counterrotating Flow in an Astrophysical Disk
15:00-15:15	**Ke-jung Chen**, *University of California, Santa Cruz (USA),* Cosmic Impact of the First Binaries

Quantum Many-Body Physics 3	
Location: East Balcony	Chairperson: Adrian Feiguin
13:30-14:00	**Invited Talk: Tao Xiang**, *Institute of Physics, Chinese Academy of Sciences (China),* Renormalization of quantum many-body systems by the projected entangled simplex states
14:00-14:30	**Invited Talk: Corinna Kollath**, *University of Bonn (Germany),* Spreading of correlations in strongly correlated (dissipative) quantum gases
14:30-14:45	**Chisa Hotta**, *University of Tokyo (Japan),* Grand canonical analysis in one and two dimension: A route to measuring bulk properties in an applied field
14:45-15:00	**Adrian Del Maestro**, *University of Vermont (USA),* A quantum Monte Carlo method to compute entanglement entropies of interacting bosons in the spatial continuum
15:00-15:15	**Edwin Stoudenmire**, *Perimeter Institute (Canada),* Corner Contributions to Entanglement Entropy in Critical Systems

Wednesday, Parallel Sessions 2

Materials Science and Nanoscience 4	
Location: Conference Auditorium	Chairperson: Lin-lin Wang
15:45-16:15	**Invited Talk: Volodymyr Turkowski**, *University of Central Florida (USA),* Development and application of DFT+DMFT and TDDFT+DMFT techniques for nanosystems
16:15-16:30	**Kenichi Asano**, *Osaka University (Japan),* Trions and Biexcitons in Semiconducting Single-Wall Carbon Nanotubes
16:30-16:45	**Georgios Tritsaris**, *Harvard University (USA),* On the possibility of photocatalytic water splitting on rutile TiO2(110): a theoretical study
16:45-17:00	**David A. Strubbe**, *Massachusetts Institute of Technology (USA),* Photoisomerization dynamics of solar thermal fuels with TDDFT excited-state forces
17:00-17:15	**Iskakova Kulpash**, *Kazakh National Pedagogical University (Kazakhstan),* The modeling of the energy levels GaAs
17:15-17:30	**Bin Hwang**, *Michigan State University (USA),* Effective transient states for nonequilibrium systems under ultrafast control pulses

Wednesday, Parallel Sessions 2, continued

Novel Computing Paradigms 3	
Location: Small Ballroom	Chairperson: Ying-Jer Kao
15:45-16:15	**Invited Talk: Norbert Attig**, *Julich Supercomputing Centre (Germany),* The Path to Exascale: A European Perspective
16:15-16:45	**Invited Talk: Lars Korsterke**, *Texas Advanced Computing Center (USA),* Heterogeneous computing. What is it and do we need it?
16:45-17:00	**Feng Chen**, *Brown University (USA),* GPU Spectral Method and Stable Parareal Method for Large-scale Computational Science
17:00-17:15	**Patrick Dreher**, *North Carolina State University (USA),* Proof of Concept Implementation of a Cloud Computing Infrastructure within a Supercomputer Architecture
17:15-17:30	**Charles Still**, *Lawrence Livermore National Laboratory (USA),* Estimating the Impact of Future Advanced Architectures on ASC Multiphysics Codes

Quantum Computing 1	
Location: Terrace Lounge	Chairperson: Edward Farhi
15:45-16:15	**Invited Talk: David Clader**, *Johns Hopkins University (USA),* Preconditioned quantum linear system algorithm
16:15-16:45	**Invited Talk: Bryan Clark**, *University of Illinois at Urbana Champaign (USA)*, The cost of simulating quantum mechanics on a quantum computer
16:45-17:15	**Invited Talk: Boixo Sergio**, *Google (USA),* Experiments with the DWave prototype
17:15-17:30	**Jonathan Moussa**, *Sandia National Labs (USA),* Maximum entropy quantum simulation
17:30-17:45	**Debasish Banerjee**, *ITP, Uni Bern (Switzerland),* Measurement driven quantum dynamics

Computational Physics Education 2	
Location: East Balcony	Chairperson: Harvey Gould
15:45-16:15	**Invited Talk: Spencer Wheaton**, *University of Cape Town (South Africa),* Infusing Computational Physics throughout the Undergraduate Curriculum
16:15-16:45	**Invited Talk: Shobhana Narasimhan**, *Jawaharlal Nehru Centre for Advanced Scientific Research (India),* Teaching Density Functional Theory through Experiential Learning: Examples from the Developing World
16:45-17:00	**Wolfgang Christian**, *Davidson College (USA),* Parallel Programming Using Easy Java Simulations
17:00-17:15	**Rachele Dominguez**, *Randolph-Macon College (USA),* The role of computational physics in the liberal arts curriculum
17:15-17:30	**Werner Krauth**, *ENS Paris (France),* Statistical Mechanics: Algorithms and Computations - A High-Level Massive Open Online Course (2014)

Thursday, August 14

8:30-10:15	**Parallel Sessions** Materials Science and Nanoscience 5, *Conference Auditorium* Soft Matter and Biological Physics 4, *Small Ballroom* Lattice Field Theory 3, *Terrace Lounge* Astrophysics 2, *East Balcony*
10:15-10:30	Break
10:30-11:15 11:15-12:00	**Plenary Session: Computational Physics 5** *Chair: Arun Bansil* **Steven Louie**, *University of California, Berkeley; Lawrence Berkeley National Lab (USA)* GW-based Methods for ab initio Studies of Electronic Excited-State Phenomena in Condensed Matter **Steven White**, *University of California, Irvine (USA)* Solving frustrated magnetic systems with the density matrix renormalization group
12:00-13:30	Lunch
13:30-14:15 14:15-15:00	**Plenary Session: Computational Physics 6** *Chair: Claudio Rebbi* **Luigi Del Debbio**, *University of Edinburgh (UK)* Recent progress in simulations of gauge theories on the lattice: QCD at the physical point and new strongly-interacting dynamics beyond the Standard Model **Romeel Davé**, *University of the Western Cape (South Africa)* Simulations of Galaxy Formation
15:00-15:15	**Closing**

Thursday, Parallel Sessions 1

Materials Science and Nanoscience 5	
Location: Conference Auditorium	Chairperson: Hsin Lin
8:30-9:00	**Invited Talk: Markus Eisenbach**, *Oak Ridge National Laboratory (USA),* Magnetic Materials at finite Temperatures: thermodynamics and combined spin and molecular dynamics derived from first principles calculations
9:00-9:15	**Van An Dinh**, *Osaka University (Japan),* Origin of ferromagnetism in GaMnAs: A hybrid density functional study
9:15-9:30	**Tiago de Campos**, *Universidade de São Paulo (Brazil),* Diagonalization of very large dense electronic structure matrices: an out-of-core iterative method
9:30-9:45	**Qiao-neng Guo**, *Zhengzhou University (China),* Temperature dependence of tensile properties of nano-Cu films: Molecular dynamics simulation
9:45-10:00	**Xavier Andrade**, *Harvard University (USA),* Application of compressed sensing to electronic structure simulations

Soft Matter and Biological Physics 4	
Location: Small Ballroom	Chairperson: Alfredo Alexander-Katz
8:30-8:45	**Shanadeen Begay**, *Boston University (USA),* The Thermodynamics and Structure of Methionine Enkephalin using the Statistical Temperature Molecular Dynamics-CHARMM algorithm
8:45-9:00	**Xizhong An**, *Northeastern University (China),* Radical Tessellation and Microstructure Characterization of Binary and Ternary Hard Sphere Crystals
9:00-9:15	**Zhenlu Cui**, *Fayetteville State University (USA),* Mesoscale structures and Rheology of Active Liquid Crystals
9:15-9:30	**Amandeep Sangha**, *UT/ORNL Center for Molecular Biophysics (USA),* Lignin polymerization in plant cell walls: Monolignol binding, oxidation and radical coupling reactions
9:30-9:45	**Nikolaos Papadimitriou**, *National Center for Scientific Research "Demokritos" (Greece),* Study of Ceramide Bilayers with Molecular Dynamics Simulations
9:45-10:00	**Sunita Negi**, *University of Delhi (India),* Probing temperature dependent conformation change of Calmodulin protein using Molecular Dynamics simulations
10:00-10:15	**Christopher Cooper**, *Boston University (USA),* Implicit-solvent model using Python and GPUs for proteins interacting with charged surfaces

Lattice Field Theory 3	
Location: Terrace Lounge	Chairperson: Anna Hasenfratz
8:30-9:00	**Invited Talk: Simon Catterall**, *Syracuse University (USA),* Supersymmetry on a lattice
9:00-9:30	**Invited Talk: Frithjof Karsch**, *Brookhaven National Laboratory (USA),* Conserved charge fluctuations in strong interaction matter
9:30-9:45	**Evan Weinberg**, *Boston University (USA),* Targeting the Conformal Window: Measuring the 0++ Scalar
9:45-10:00	**Rajamani Narayanan**, *Florida International University (USA),* Polyakov loops in two dimensional QCD

Astrophysics 2: Compact Objects and Gravitational Waves	
Location: East Balcony	Chairperson: TBD
8:30-9:00	**Invited Talk: Christian David Ott**, *Caltech (USA),* Petascale Simulations of Core-Collapse Supernovae
9:00-9:30	**Invited Talk: Deirdre Shoemaker**, *Georgia Tech (USA),* Numerical Relativity and Gravitational Waves
9:30-9:45	**Hyun Lim**, *South Dakota State University (USA),* A Time Parallalizable Numerical Approach for the Semilinear Wave Equation
9:45-10:00	**R K Chhajlani**, *Vikram University (India),* Self-gravitational Instability in Interstellar Molecular Clouds with polarized dust and neutral collisions

Poster Session
Monday, 17:30-19:30

1	Statistical Physics (Ziskind Lounge)
1	**Lukas Einkemmer**, *University of Innsbruck (Austria),* A Hamiltonian splitting for the Vlasov-Maxwell system
2	**Adriana Gomes Dickman**, *Pontifícia Universidade Católica de Minas Gerais (Brazil),* Simulation of an epidemic model with vector transmission
3	**Lucila Alvarez Zuzek**, *IFIMAR-CONICET (Argentina),* Theory and simulations of Epidemics in partially overlapped Multiplex Networks
4	**Sitangshu Bikas Santra**, *Indian Institute of Technology Guwahati,* Random rotational sandpile model: Crossover from rotational to stochastic universality class
5	**Amin Najafi**, *Islamic Azad University (Iran),* The study of Binder Cumulant's behavior in two-dimensional anisotropic of Ising models with foreign-neighbor interactions by SAPBC method
6	**Gonzalo Suarez**, *IFIMAR-CONICET (Argentina),* Transport with hard-core interaction in a chain of asymmetric cavities.
7	**Ronald Dickman**, *Universidade Federal de Minas Gerais (Brazil),* Intrinsic convergence properties of entropic sampling algorithms
8	**Zhenjiu Wang**, *Beijing Normal University (China),* Phase transitions in A nonlinear XY model with symmetry-breaking field in two dimensions
9	**Manabu Hasegawa**, *University of Tsukuba (Japan),* Functionality limit of classical simulated annealing
10	**Henio Rego**, *CPS/Boston University and IFMA (USA),* Percolation-Like Complexity in a 2 Dimensional Long Range SIR O-Lattice Model
11	**Antonina Fedorova; Michael Zeitlin**, *IPME RAS (Russia),* Pattern Formation: From Local Hidden Symmetries to Global Dynamics
12	**Atsunari Katsuki**, *Nihon University (Japan)*, Numerical simulation of dune morphology deformed by multiple flow conditions
13	**Altan Allawala**, *Brown University (USA),* Equal-time PDF of the stochastically forced Lorenz-63 attractor using a Fokker-Planck description
14	**Zheng Zhu; Andrew Ochoa**, *Texas A&M University (USA),* Efficient sampling of ground-state configurations for quasi-two-dimensional Ising spin glasses
15	**Nagendra Panduranga**, *Boston University (USA),* k-Core percolation in interdependent networks
16	**Na Xu**, *Boston University (USA),* Dynamics of 2D Ising Model in linearly varying magnetic field
17	**Bolun Chen**, *Boston College (USA),* Scaling of spiking neural network for mammalian olfaction
18	**Alejandro Lage Castellanos**, *Universidad de la Habana (Cuba),* Bayesian inference of epidemics on networks via Belief Propagation
19	**Alejandro Lage Castellanos**, *Universidad de la Habana (Cuba),* Region graph approximations to free energy in finite dimensional spin glasses.

2	Soft Matter and Biological Physics (Ziskind Lounge)
1	**Shourjya Sanyal**, *University College Dublin (Ireland),* Simulations On The Designing Rationale of FRET Based Uni-Molecular Probes
2	**Amid Ranjkesh Siahkal**, *University of Maribor (Slovenia),* Computer simulation of domain patterns in randomly perturbed Nematic liquid crystal
3	**Emine Deniz Tekin**, *University of Turkish Aeronautical Association (Turkey),* Molecular Dynamics Simulation of Self-Assembled Peptite-Amphiphiles
4	**Freddie Salsbury**, *Wake Forest University (USA),* All-atom GPU-enabled simulations of therapuetic nucleic acids and their effects on DNA-binding proteins
5	**Julio Rocha**, *UFMG (Brazil),* Identifying transitions in finite systems by means of partition function zeros and microcanonical inflection-point analysis: A comparison for elastic flexible polymers
6	**Danh-Tai Hoang**, *Asia Pacific Center for Theoretical Physics (Korea),* Conserved rule for pancreatic islet organization
7	**Muhammad Anwar**, *University of Luxembourg*, Crystallization mechanism in melts of short polymer chains
8	**Sarra Douah**, *Université des Sciences et de la Technologie d'Oran (Algeria)*, Partition function zeros for semi-flexible homopolymers
9	**Shuhei Kawamoto**, *Temple University (USA),* Free energy analysis of membrane fusion
10	**Abdiravuf Dzhurakhalov**, *University of Antwerp (Belgium),* Monte Carlo parameterization in the VirtualLeaf framework
11	**Rui Travasso**, *University of Coimbra (Portugal),* Validity of the contact order-rate correlation in the folding of small, single domain proteins: A Monte Carlo simulation
12	**Busara Pattanasiri**, *University of Georgia (USA),* Effect of surface attractive strength on structural transitions of a confined HP lattice protein
13	**N. Atamas**, *National Kyiv Taras Shevchenko University (Ukraine),* Study of ionic liquids+aromatic mono-substituted benzene strongly diluted solutions by molecular dynamics at t = 400k
14	**Amir Azadi**, *University of Massachusetts Amherst (USA),* Emergent structure of multi-dislocation ground states in curved crystals
15	**Kang Liu**, *Boston University (USA),* Physiologic Networks: Topological and Functional Transitions
16	**Ronny Bartsch**, *Boston University (USA),* Phase Synchronization and co-existing forms of non-linear coupling between physiologic systems
17	**Kristina Streu**, *Boston College (USA),* Stability of stapled p53 peptides bound to MDM2
18	**Johannes Bock**, *University Leipzig ITP (Germany),* Semi-flexible polymers in disordered media
19	**Alemayehu Mengesha Cherkos**, *Instituto Superioro Tecnico (Portugal),* Effect of viscosity on Propagation of MHD Waves in Astrophysical Plasma
20	**Sumantra Sarkar**, *Brandeis University (USA),* Shear Induced Rigidity in Athermal Solids
21	**Yoelvis Orozco-Gonzalez**, *BGSU/USP (USA),* Implementation of the free energy gradient to the geometry optimization of molecular systems in complex environments
22	**Md Zulfikar Ali**, *Clark University (USA),* In silico evolution of biochemical networks

3	Materials Science and Nanoscience (Small Ballroom)
1	**Victoria Mazalova**, *Southern Federal University (Russia),* The combined XANES and DFT approach for study of nanomaterials.
2	**Edwin Mapasha**, *University of Pretoria (South Africa),* Van der Waals Density Functional Study Of LIthium on Bilayer Graphene
3	**Sergei Zakharchenko**, *Moscow Institute of Physics and Technology (Russia),* Algorithm of Shaping Multple-beam Bragg's Acousto-optic Diffraction Laser Field Into 1D and 2D Patterns
4	**Seiki Saito**, *Kushiro National College of Technology (Japan),* Study on Hydrogen Plasma - Carbon Material Interaction by Molecular Simulation in Submicron Scale
5	**Yang Han**, *Nanjing University (China),* Electronic and Magnetic Properties of One and Two Dimensional Monolayer MoS2 with Sulfur Line Defect
6	**Esam Abdul-Hafidh**, *Royal Commission (Saudi Arabia),* Modulus of Spherical Palladium Nanoparticles by Chen-Mobius Lattice Inversion Method
7	**Alexander Popov**, *Lomonosov Moscow State University (Russia),* Multiscale simulation of thermal disruption in resistance switching process in amorphous carbon
8	**Yasunari Zempo**, *Hosei University (Japan),* Development of the SSPH Method for Real-Space Electronic Structure Calculation
9	**Andrey Baranov**, *Moscow Institute of Physics and Technology (Russia),* Eigen Frequency Piezoelectric Resonance Modes in Terms of Longitudinal Temperature Gradient Stimulated by Second Harmonic Generation
10	**Stylianos Karozis**, *National Center for Scientific Research "Demokritos" (Greece),* A non-stochastic computational approach for the determination of the surface area of microporous solids
11	**Tom Underwood**, *University of Edinburgh (UK),* Which crystal structure? Lattice-switch Monte Carlo can tell you
12	**Zenan Qi**, *Boston University (USA),* Highly Ductile Graphene Kirigami
13	**George Lithoxoos**, *National Center for Scientific Research "Demokritos" (Greece),* Determination of partial charges in inorganic-organic clusters based on DFT calculations
14	**Katsuhiko Higuchi**, *Hiroshima University (Japan),* Electronic structure calculations for materials immersed in a uniform magnetic field via the relativistic tight-binding approximation method
15	**Grigory Kolesov**, *Harvard University (USA),* Methoxy photo-dissociation on TiO2 surface: ab initio excited-state dynamics
16	**Nicolas Sawaya**, *Harvard University (USA),* Computational Design of Excitonic Structures with DNA: Beyond Förster Resonance Energy Transfer
17	**Khellil Bouamama**, *University Setif 1 (Algeria),* Ab-initio calculation of the structural and elastic properties of ternary metal nitrides TaxMo1-xN and TaxW1-xN
18	**Nikolaos Papadimitriou**, *National Center for Scientific Research "Demokritos" (Greece),* Evaluation of the Efficiency of Clathrate Hydrates in Storing Energy Gases
19	**Asanka Weerasinghe**, *University of Massachusetts Amherst (USA),* Multiphonon Raman scattering in monolayer WSe2
20	**Seyedeh Nazanin Khatami**, *University of Massachusetts Amherst (USA),* Optimizing Si1−xGexSi1−yGey Superlattices for Thermoelectric Efficiency by Minimizing thermal Conductivity
21	**Sanjay Kumar Singh**, *Jiwaji University (India),* Investigation of high pressure phase transition and electronic properties of Lutetium Nitride

3	*Materials Science and Nanoscience, continued*
22	**Genri Norman**, *JIHT RAS (Russia),* On the difference and similarity between plasma-plasma and liquid-liquid first-order phase transitions
23	**Rabab Zahira**, *University of Agriculture Faisalabad (Pakistan),* Co-precipitation synthesis, physical and magnetic properties of manganese ferrite powder
24	**Lin-Lin Wang**, *Ames Laboratory (USA),* High-throughput Screening of Doped MnBi for Better Permanent Magnets
25	**Berk Onat**, *Harvard University (USA),* Artificial Neural Networks for Representation of Potential Energy Surface of Li-Si Alloys
26	**Farzaneh Shayeganfar**, *Ecole Polytechnique de Montreal (Canada),* Electronic Properties of Self-Assembled Trimesic Acid on Graphene
27	**Sholeh Alaei**, *METU (Turkey),* Study of Structural, Electronic and Magnetic Properties of (Fe2O3) n Clusters Using Density Functional Theory
28	**Angelo Ziletti**, *Boston University (USA),* Exciton transport and charge separation in artificial light harvesting systems: merging quantum non-adiabatic dynamics with electronic structure theory
29	**Ali Khaledi Nasab**, *Ohio University (USA),* Localization of Envelop Functions in InAs/GaAs Dome-Shaped Quantum Dots
30	**Ali Khaledi Nasab**, *Ohio University (USA),* Shape-dependent Properties of InAs/GaAs Quantum Dots in Presence and Absences of Wetting Layer
31	**Xukun Xiang**, *Michigan State University (USA),* Atomistic simulation of systems driven through phase transitions by hot electron distributions
32	**Nick Materise**, *Northeastern University (USA),* Evaluation of Periodic Green's Functions on Graphics Processing Units
33	**Aram Shirinyan**, *Kiev University and National Academy of Science (Ukraine),* The nanophase diagrams of thin films based on molecular static simulations and the size effect
34	**Guiping Zhang**, *Renmin University of China*, Effects of Strain on Electronic Transport Property of Graphene Nanoribbons between metallic contacts

4	Fluid Dynamics (Small Ballroom)
1	**Yao Shi**, *Northwestern Polytechnical University (China),* Numerical Simulation of Cavitation Characteristics for Pump-jet Propeller
2	**Guang Pan**, *Northwestern Polytechnical University (China),* Numerical Simulation of Drag and Flow Noise Property on Structure for Carrier of Multi-loads AUV
3	**Aydogan Ozdamar**, *Ege University (Turkey),* Computational Investigation of Flow Control by Means of Tubercules on Darrieus Wind Turbine Blades
4	**Lev Barash**, *Landau Institute for Theoretical Physics (Russia),* Dependence of the fluid convection in an evaporating sessile droplet on the properties of the substrate
5	**Jinwang Tan**, *Boston University (USA),* Modeling the growth and morphology of dendrites in Lithium air batteries
6	**Ilias Tolias**, *National Center of Scientific Research (Greece),* CFD simulation of hydrogen deflagration in a vented room
7	**William Lane**, *Boston University (USA),* Efficient simulations of heated gas-particle flows with immersed horizontal cylinders

4	*Fluid Dynamics, continued*
8	**Shreyas Mandre**, *Brown University (USA),* A reduced model for vortex shedding from a body using matched asymptotics

5	Quantum Many-Body Physics (Large Ballroom)
1	**Ying Tang**, *Boston University (USA),* Monte Carlo studies of spinon deconfinement in two dimensions
2	**Zhi Wang**, *Sun Yat-sen Univerisity (China),* Rectification effect in Majorana fermion SQUID
3	**Adam Iaizzi**, *Boston University (USA),* 1D Valence Bond Solids in a Magnetic Field
4	**Zhao Liu**, *Princeton University (USA),* Matrix-Product-State Algorithm for Finite Fractional Quantum Hall Systems
5	**Nils Blümer**, *Gutenberg University Mainz (Germany),* Tunable nanomagnetism in moderately cold fermions on optical lattices
6	**Nils Blümer**, *Gutenberg University Mainz (Germany),* Fate of the false Mott-Hubbard transition in two dimensions
7	**Cheng-Wei Liu**, *Boston University (USA),* Imaginary-time quench quantum Monte Carlo algorithm and its applications to spin-glass transitions
8	**Edgar Josué Landinez Borda**, *Universidad Estadual de Campinas (Brazil),* Mechanical Properties of Solid Helium 4 by Path-Integral Monte Carlo Calculations
9	**William Putikka**, *Ohio State University (USA),* Entropy and Thermopower in the 2D t-J Model
10	**Hidemaro Suwa**, *University of Tokyo (Japan),* Gap Estimation and Level Spectroscopy for Quantum Spin Systems by Monte Carlo Method
11	**Masahiko Higuchi**, *Hiroshima University (Japan),* Validity of the kinetic energy functional based on the coupling-constant expression in the pair-density functional theory
12	**Kyle Robertson**, *University of Vermont (USA),* Monte Carlo Simulation of Superfluid Helium-4 in Mesoporous Silica
13	**Krissia de Zawadzki**, *Universidade de São Paulo (Brazil),* Alternative numerical renormalization-group method to compute magnetic relaxation rates in dilute magnetic alloys
14	**Mohammad Soltanieh-ha,** *Northeastern University (USA),* Interplay of charge, spin and lattice degrees of freedom on the spectral properties of the one-dimensional Hubbard-Holstein model
15	**Shainen Davidson**, *Boston University (USA),* SU(3) classical representation of quantum dynamics of interacting spins
16	**Thomas Lang**, *Boston University (USA),* Dynamic scaling from non-equilibrium quenching of correlated Dirac fermions
17	**Alberto Nocera**, *Northeastern University (USA),* Pairing and nanoscale phase separation in Bose-Fermi mixtures
18	**Daoxin Yao**, *Sun Yat-sen Univerisity (China),* Quantum Monte Carlo study of Disordered Spin Systems
19	**Chia-Min Chung**, *National Tsin Hua University (Taiwan),* Entanglement spectroscopy using quantum Monte Carlo

5	*Quantum Many-Body Physics, continued*
20	**Hitesh Changlani**, *University of Illnois at Urbana-Champaign (USA),* Stochastically Projecting Tensor Networks
21	**Michael Zeitlin; Antonina Fedorova**, *IPME RAS (Russia),* Quantum Mechanics: Beyond Gaussians
22	**Phillip Weinberg**, *Boston University (USA),* Using Local Updates to Evaluate Real Time Dynamics of Manybody Lattice Models
23	**Hui Shao**, *Beijing Normal University (China),* Topological properties of valence-bond-solid states of the JQ3 model
24	**Lu Liu**, *Beijing Normal University (China),* The effects of bond-disorder in the two-dimensional JQ_3 model

8	**Astrophysics and Space Plasma Physics (Small Ballroom)**
1	**Ke-Jung Chen**, *UCSC (USA),* Supernovae at the Cosmic Dawn
2	**Pramod Kumar Purohit**, *National Institute of Technical Teachers' Training & Research (India),* Evaluation of geomagnetic storms effects on the GPS derived total electron content (tec)
3	**Pramod Kumar Purohit**, *National Institute of Technical Teachers' Training & Research (India),* The statistical investigation of amplitude Scintillations at Indian high latitude Station Maitri, Antarctica
4	**Carlos Arturo Soto-Campos**, *Autonomous University of Hidalgo State (Mexico),* An alternative model to cold dark matter for galactic rotation curves
5	**Juan Hinojosa**, *Texas A&M University (USA),* The Surface Gravitational Expression of an Upwelling Thermal Mantle Plume: A Computational Model

9	**Computational Physics Education (Ziskind Lounge)**
1	**Felix Garcia-Clemente**, *University of Murcia (Spain),* EjsS: A JavaScript library which makes computational-physics education simpler
2	**Samuel Castle**, *Davidson College (USA),* A Parallel Computational Model of Orbiting N-Body Clusters
3	**Jay Wang**, *University of Massachusetts Dartmouth (USA),* Computational physics with meshfree methods
4	**Hartmut Ruhl**, *LMU (Germany),* An effective PIC-solver for radiation reaction of electrons and radiation

10	Novel Computing Paradigms (Small Ballroom)
1	**Kewei Du**, *Institute of Software,* Heterogeneous Beam Dynamic Simulations for Linear Accelerator
2	**Yun-Da Hsieh**, *National Taiwan University*, Implementation of the Universal Tensor Network Library on GPU using Cuda
3	**Andrew Pochinsky**, *MIT (USA),* Data parallel scientific programming with Qlua

11	General Computational Physics (Small Ballroom)
1	**Brian Burrows**, *Staffordshire University (UK),* Confined Systems
2	**Mitsuki Toogoshi**, *Hosei University (Japan),* Maximum Entropy Method for Optical Spectrum Analysis of Real-Time TDDFT
3	**Ronald White**, *James Cook University (Australia),* A method for the accelerated numerical solution of fractional diffusion equations
4	**Ronald White**, *James Cook University (Australia),* The application of pseudo-spectral methods to low-energy positron transport gases
5	**Arman Kussainov**, *al-Farabi National University (Kazakhstan),* Neutron monitor data analysis through quantum transformation operator's eigenvalue statistics
6	**Sul-Ah Ahn**, *KISTI (Korea),* Research Activity in High Performance Computational Physics: Co-authorship Network Analysis
7	**Henio Rego**, *CPS/Boston University and IFMA (USA),* When a Text is Translated Does the Complexity of Its Vocabulary Change? Translations and Target Readerships

Exhibitors

The following publishers will present exhibits at CCP2014:

- AIP Publishing
- Cambridge University Press
- Elsevier
- IOP Publishing

The exhibits are located in Ziskind Lounge and will be open Monday-Wednesday.

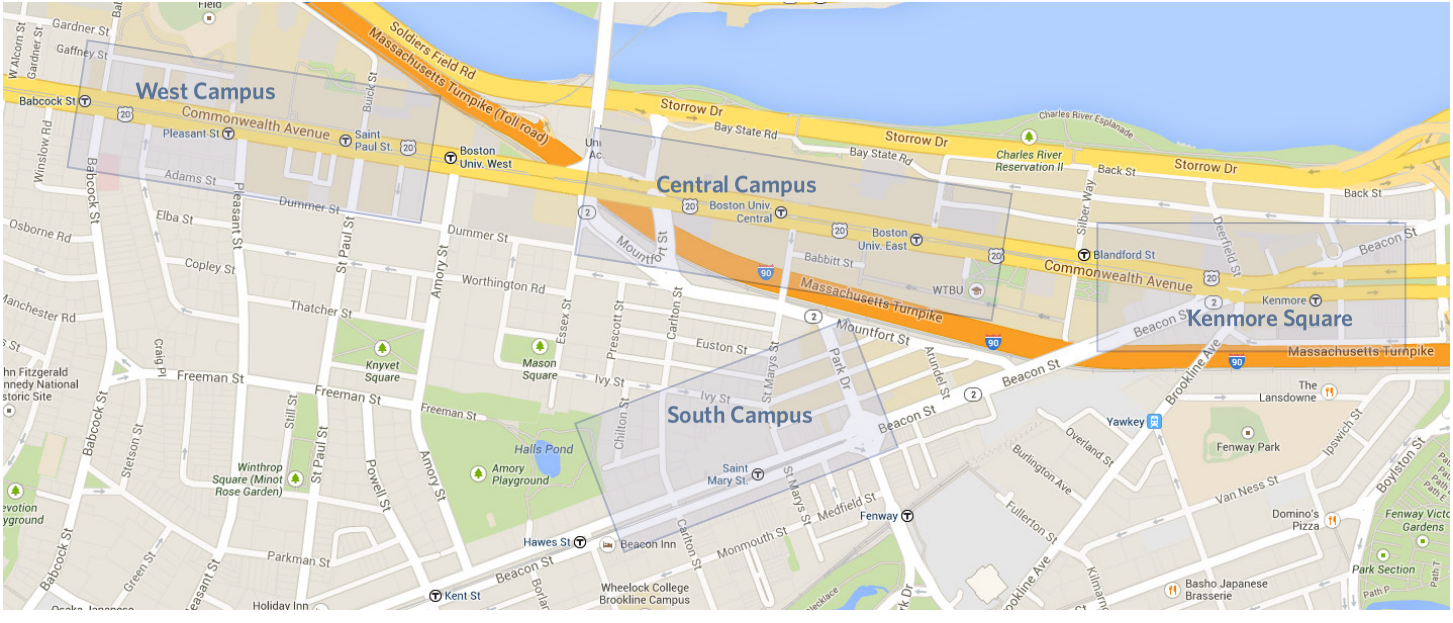
Food Court

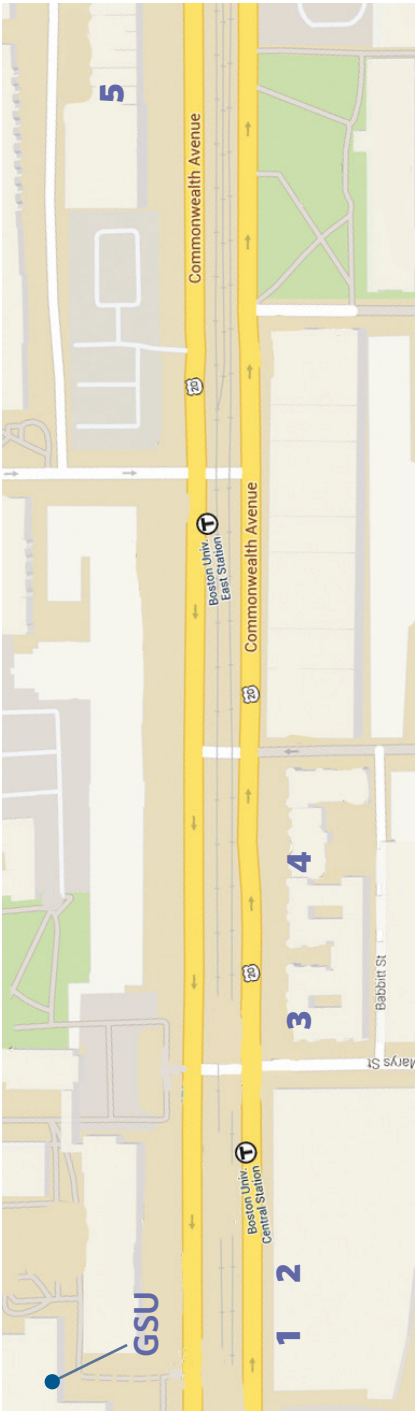
There is a food court with many options on the first floor of the GSU, down the stairs from the conference venue. Please note that many of these restaurants only accept cash.

Nearby Restaurants

There are also many restaurants on or near BU, which are listed on the following pages. The restaurants are arranged into 4 general areas: Central Campus, South Campus, West Campus and Kenmore Square; these areas are shown on the map on the opposite page. Listings include walking time from the GSU.

Restaurant Areas





Central Campus

1 **Nud Pob** $
Thai
738 Commonwealth Ave (2 min)

2 **Pavement Coffee House** $
Coffee, sandwiches
736 Commonwealth Ave (2 min)

3 **Beijing Café** $
Chinese
728 Commonwealth Ave (3 min)

4 **University Grill & Pizza** $
American, pizza
712 Commonwealth Ave (4 min)

5 **Noodle St** $
Asian
627 Commonwealth Ave (7 min)

South Campus

1 **Mei Mei** $
Asian
506 Park Dr (7 min)

2 **Crispy Crepes Café** $
Mediterranean
512 Park Dr (7 min)

3 **Gyu-Kaku** $$
Japanese BBQ
1002 Beacon St (8 min)

4 **Sichuan Gourmet** $
Chinese
1004 Beacon St (8 min)

5 **Japonaise Café** $
Pastries, sandwiches
1020 Beacon St (9 min)

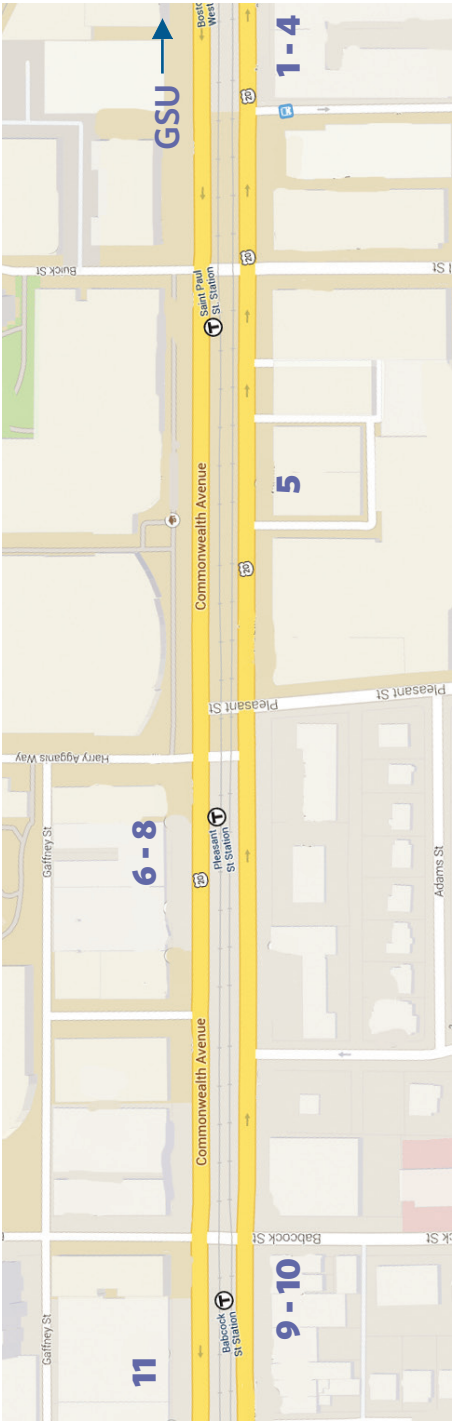
6 **Whole Foods Market** $
Sandwiches, salad bar, prepared food
1026 Beacon St (9 min)

7 **Temptations Café** $
Sandwiches, salads
1038 Beacon St (9 min)

8 **Sol Azteca** $$ (*dinner only*)
Mexican
914 Beacon St (9 min)

9 **The Elephant Walk** $$$
French-Cambodian
900 Beacon St (9 min)

10 **Audubon Boston** $$
American
838 Beacon St (11 min)



West Campus

1 **Boston House of Pizza** $$
Pizza
173 Amory St (6 min)

2 **Chipotle** $
Mexican
876 Commonwealth Ave (7 min)

3 **Otto** $$
Pizza
888 Commonwealth Ave (7 min)

4 **Panera** $
Sandwiches, salads
888 Commonwealth Ave (7 min)

5 **Sunset Cantina** $$
Mexican
916 Commonwealth Ave (11 min)

6 **Raising Cane's** $
Fast Food, chicken
949 Commonwealth Ave (11 min)

7 **Blue State Coffee** $
Coffee, sandwiches
957 Commonwealth Ave (11 min)

8 **BurgerFi** $
Burgers
961 Commonwealth Ave (11 min)

9 **T. Anthony's** $
Pizza, Italian
1016 Commonwealth Ave (14 min)

10 **Angora Café** $
Sandwiches, vegan
1024 Commonwealth Ave (14 min)

11 **Brown Sugar Café** $$
Thai
1033 Commonwealth Ave (15 min)

Kenmore Square

1 **Scoozi** $$
American, sandwiches, pizza
580 Commonwealth Ave (10 min)

2 **Pizzeria UNO** $$
American, Pizza
645 Beacon St (13 min)

3 **Qdoba** $
Mexican
540 Commonwealth Ave (13 min)

4 **Bertucci's** $$
Italian
533 Commonwealth Ave (14 min)

5 **Bruegger's Bagels** $
Bagels
644 Beacon St (14 min)

6 **Fin's** $$
Japanese, sushi
636 Beacon St (14 min)

7 **Thai Dish** $
Thai
636 Beacon St (14 min)

8 **Uburger** $
Burgers
636 Beacon St (14 min)

9 **Boston Beer Works** $$
American, pub
61 Brookline Ave (15 min)

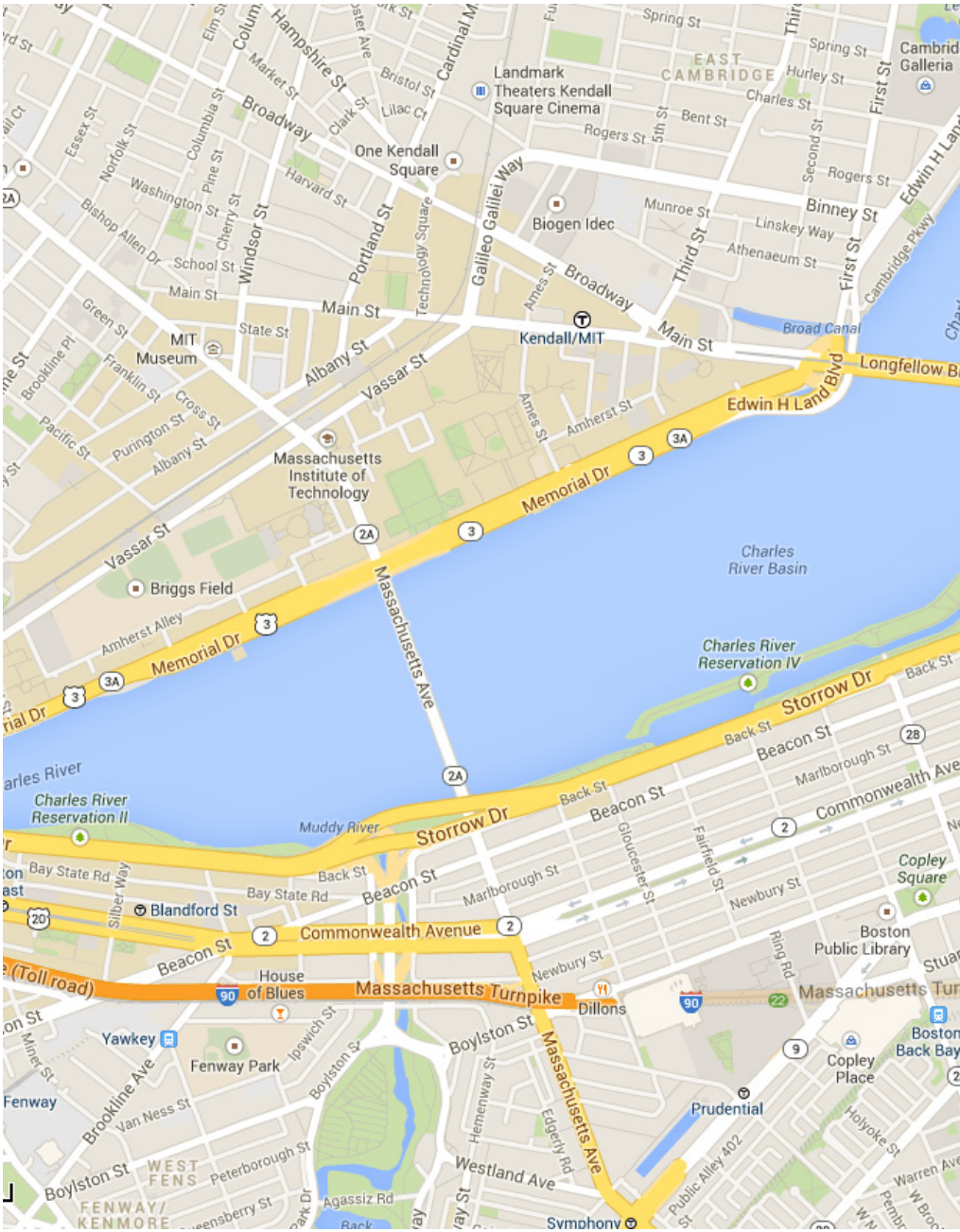
10 **Eastern Standard** $$$
American, French
528 Commonwealth Ave (15 min)

11 **Island Creek Oyster Bar** $$$
American, seafood
500 Commonwealth Ave (15 min)

12 **Café 472** $
Sandwiches, frozen yogurt
472 Commonwealth Ave (16 min)

13 **India Quality** $$
Indian
484 Commonwealth Ave (16 min)

Map of Boston



Map of Boston