6th US – CHINA
Electric Vehicles and Battery Technology WORKSHOP
第六届美中电动汽车和电池技术研讨会

August 22 – 24, 2012
2012年 8月22-24日

SPONSORED BY (主办):
US Department of Energy
美国能源部

China Ministry of Science and Technology
中国科技部

HOSTED BY (承办):
University of Massachusetts Boston
麻省州立大学波士顿分校

Argonne National Laboratory
阿岗国家实验室

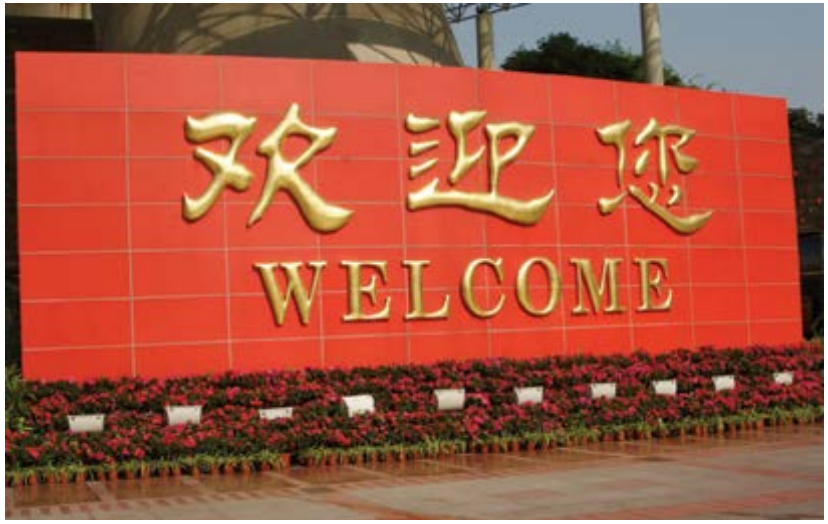
U.S. DEPARTMENT OF ENERGY

中华人民共和国科学技术部
Ministry of Science and Technology of the People's Republic of China

UMASS BOSTON

Argonne NATIONAL LABORATORY

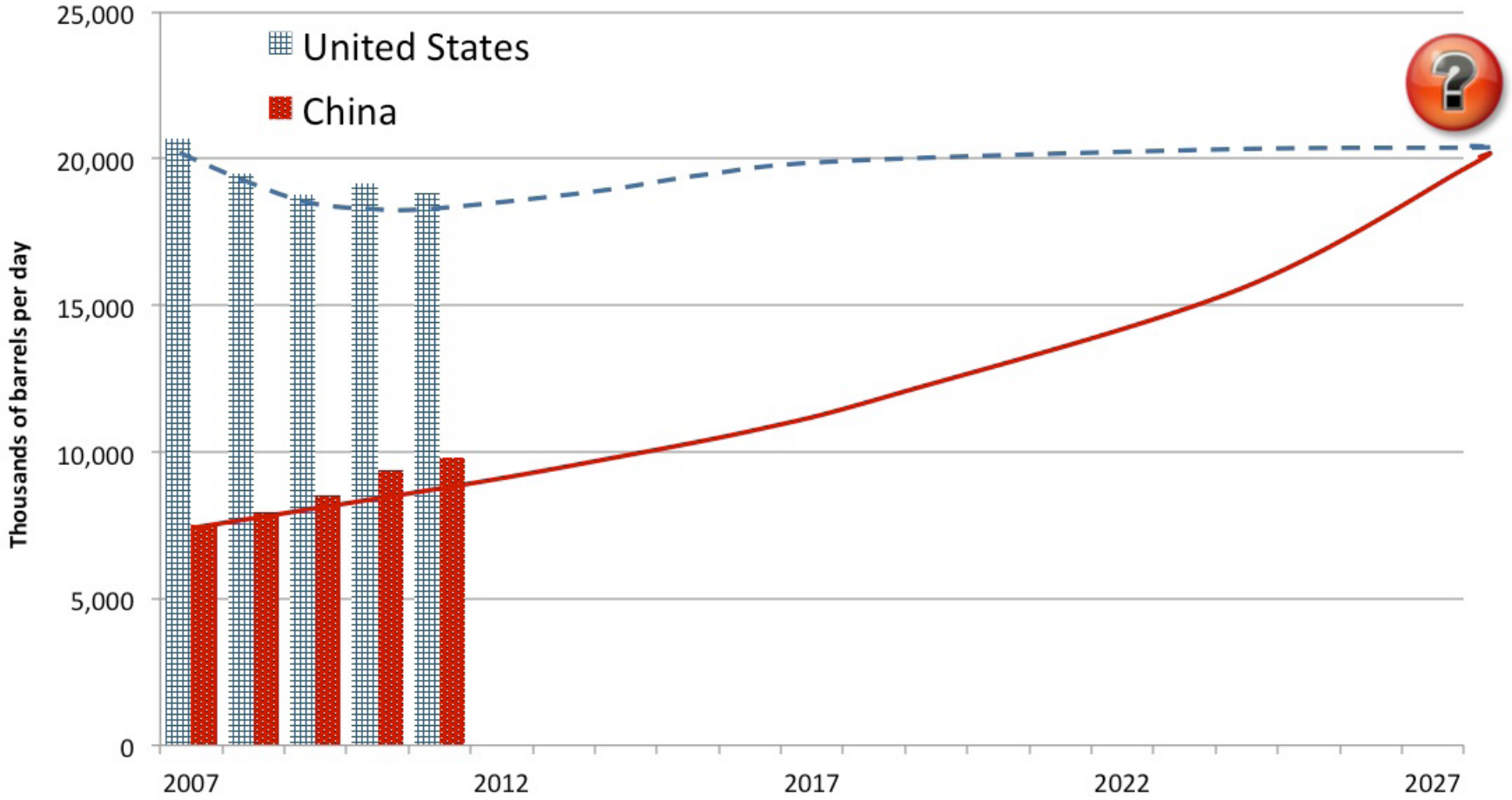

Aerial View of UMass Boston
麻省大学波士顿分校俯视图


欢迎您
WELCOME


UMass Campus Center
麻省大学波士顿分校 会议中心

Daily Petroleum Consumption 原油日消耗量

Vehicle sales drive the number of vehicles on the road, which drives oil use. The US and China are the world's two largest vehicle markets and petroleum consumers.



Source: Historical data - US Energy Information Administration (http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=5&pid=5&aid=2).
来源：美国能源信息管理局

FACT SHEET: US-China Electric Vehicles Initiative

November 17, 2009

Today, President Barack Obama and President Hu Jintao announced the launch of a US-China Electric Vehicles Initiative. The two leaders emphasized their countries' strong shared interest in accelerating the deployment of electric vehicles in order to reduce oil dependence, cut greenhouse gas emissions and promote economic growth. Activities under the initiative will include:

- Joint standards development. The two countries will explore development of joint product and testing standards for electric vehicles. This will include common design standards for plugs to be used in electric vehicles, as well as common test protocols for batteries and other devices. Each country currently has extensive literature and data on its own standards. Making this information mutually available and working towards common standards can help facilitate rapid deployment of electric vehicles in both countries.
- Joint demonstrations. The Initiative will link more than a dozen cities with electric vehicle demonstration programs in both countries. Paired cities will collect and share data on charging patterns, driving experiences, grid integration, consumer preferences and other topics. The demonstrations will help facilitate large-scale introduction of this technology.
- Joint technical roadmap. A US-China task force will create a multi-year roadmap to identify R&D needs as well as issues related to the manufacture, introduction and use of electric vehicles. The roadmap will be made widely available to assist not just US and Chinese developers, but also the global automotive industry. It will be updated regularly to reflect advances in technology and the evolution of the marketplace.
- Public awareness and engagement. The United States and China will develop and disseminate materials to improve public understanding of electric vehicle technologies. Building on the success of the first-even US-China Electric Vehicles Forum in September 2009, the United States and China will sponsor the event annually, alternating between the two countries. The Forum will bring together key stakeholders in both countries to share information on best practices and identify new areas for collaboration.

情况说明书：美国-中国电动汽车合作草案

2009年11月17日

今天，奥巴马总统和胡锦涛主席宣布了美中电动汽车合作草案。 两位国家领导人强调了彼此在加速电动汽车发展以减少对石油的依赖，减少温室气体排放，和刺激经济发展等方面的共同兴趣。草案所包括内容如下：

- 联合的标准制定。两个国家将共同发展电动汽车的通用产品和测试标准。这将包括可充电式电动汽车插头的通用设计标准，以及电池和其他相关设备的通用测试程序。每个国家目前都有很多关于自己标准的文档和数据。互相共享这些信息，并且建立统一标准将极大地加速电动汽车在两个国家的发展。

- 联合的展示。草案将两个国家的十多个城市的电动汽车展示项目联系起来。配对的城市将收集并共享关于充电规律，驾驶经验，电网整合，消费者偏好等方面的数据。联合展示将有效促进电动汽车的大规模市场引进”。

- 联合的技术发展规划。美中将联合制定关于未来几年电动汽车研究、制造、市场引入和使用的发展规划。 这个发展规划将被允许广泛使用，不仅中美两国，全球的汽车产业都可以从中受益。发展规划还将定期更新以反映市场动向和技术革新。

- 公众意识和参与。 美国和中国将共同宣传相关信息以促进公众的对电动汽车技术的认识。基于2009年9月第一届美中电动汽车论坛的成功举行，美中两国将每年轮流举办该研讨会。研讨会将聚集两个国家的主要相关人员来分享最佳的实践信息和确定新的合作领域。

Bus Schedule 交通车时间表

UMass Transit Bus
麻省大学交通车

THURSDAY, AUGUST 23 星期四，8月23日

- Buses leave from Doubletree Hotel at 8:45 am to Campus Center
- 交通车早8点45从Doubletree酒店出发去会议中心
- Buses leave Campus Center at 5:30 pm to Doubletree Hotel
- 交通车晚5点30从会议中心出发去Doubletree酒店

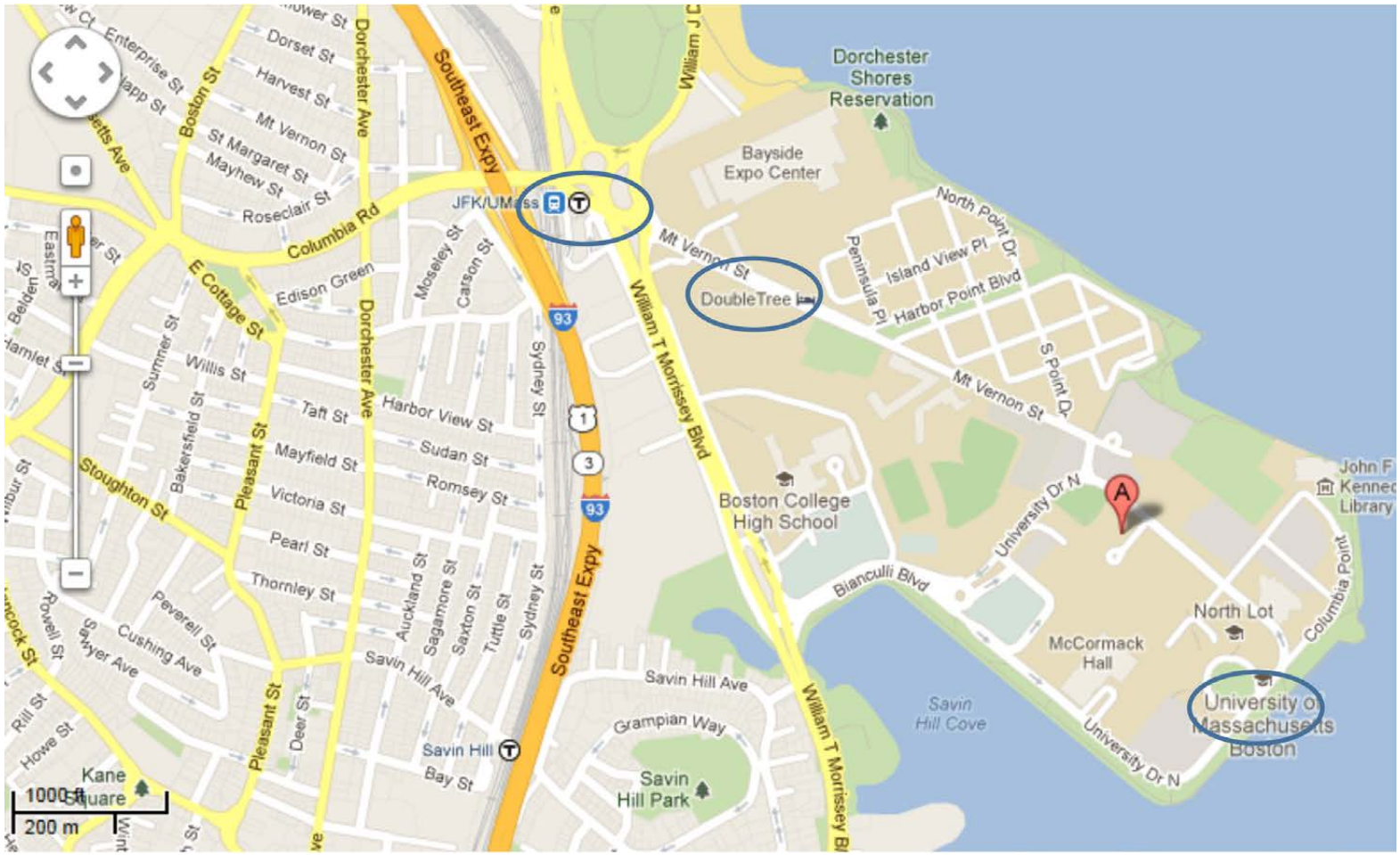
THURSDAY, AUGUST 23 (DINNER) 星期四，8月23日 （晚宴）

- Buses leave from Doubletree Hotel at 6:00 pm to UMass Club for dinner
- 交通车晚6点从Doubletree酒店出发去麻省大学俱乐部参加晚宴
- Buses leave UMass Club at 8:30 pm for Doubletree Hotel
- 交通车晚8点半从麻省大学俱乐部出发去Doubletree酒店

FRIDAY, AUGUST 24 星期五，8月24日

- Buses leave from Doubletree Hotel at 8:45 am to Campus Center
- 交通车早8点45从Doubletree酒店出发去会议中心
- Buses leave Campus Center at 2:00 pm to Doubletree Hotel;
  a van will be available for those who wish to leave the Campus Center earlier.
- 交通车下午2点从会议中心出发去Doubletree酒店;
  同时提供一辆面包车给需要早些离开会议中心的与会者

Map to Hotel and Red line "T" station
校园，饭店，地铁站（红线）地图



The walking distance between the Doubletree Hotel and the JFK/UMass T Station is two blocks. There is a free shuttle bus between the T Station and the Umass Boston Campus Center (meeting location), leaving every 10 minutes.

Doubletree酒店和**JFK/UMass**地铁站之间有两个街区的步行距离。免费通勤巴士运行于地铁站和麻省大学波士顿分校会议中心（开会地点），每10分钟一趟。

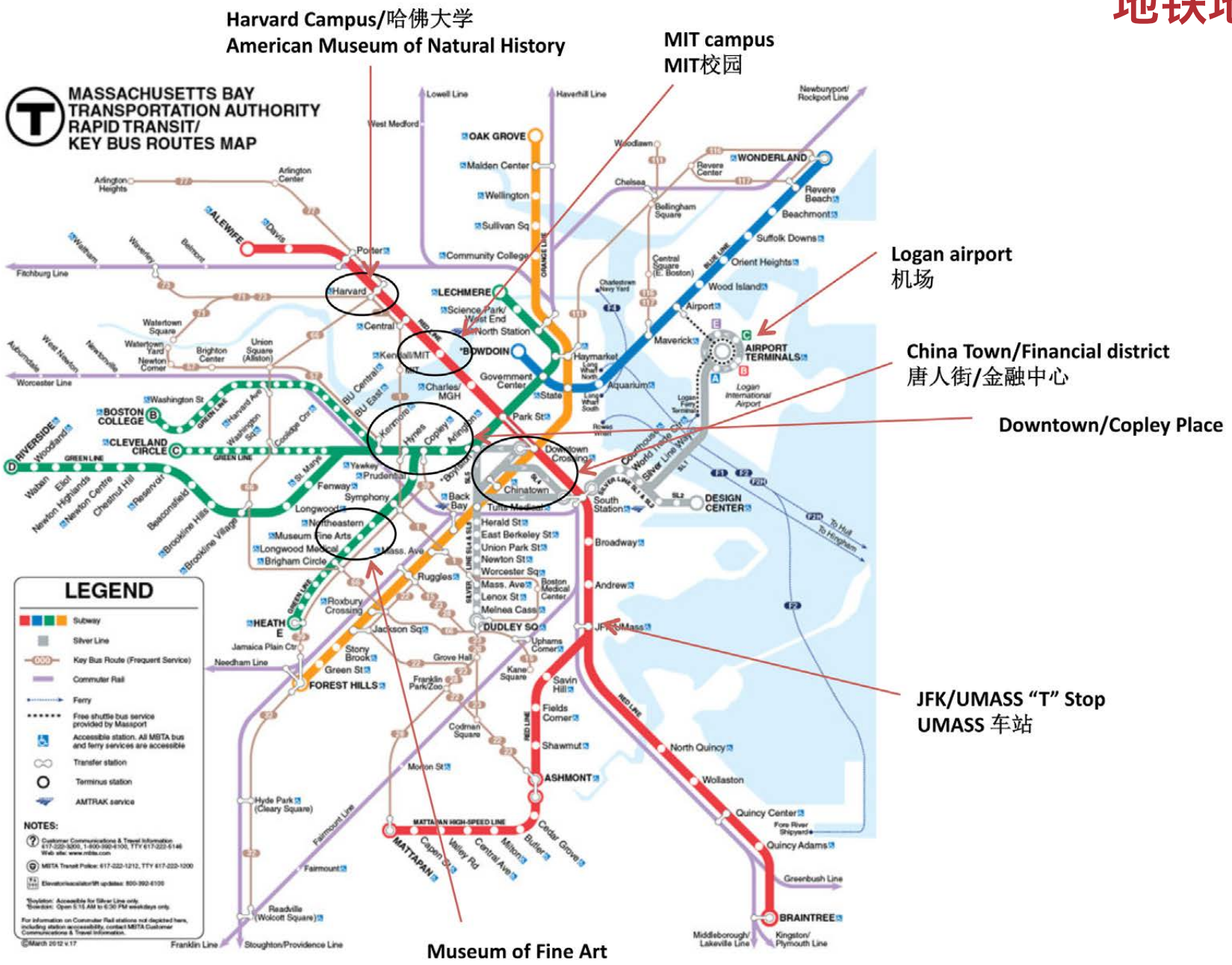
Campus Map
校园地图

Parking

Bus Stop and Ballrooms on the 3rd Floor 交通车站，会场在3楼

Venture Development Center Wheatley Hall
3rd Floor， 22号招待会场

Map of Boston Public Transportation
地铁地图



Notes 备注

Notes 备注

Session 1: Plenary 开幕式

Thursday, August 23 | Ballrooms A&B

星期四, 8月23号 | 会议室A&B

Session Chairmen: 会议主席	UNITED STATES 美国	CHINA 中国
	Dave Howell US Department of Energy **Dave Howell,** 美国能源部	**WU Feng** Beijing Institute of Technology 吴锋, 北京理工大学

9:00 – 9:10 | **UMass Boston Welcoming Remarks 麻省大学波士顿分校欢迎词**

- Dr. Keith Motley, University of Massachusetts Boston, Chancellor
  Keith Motley, 麻省大学波士顿分校,校长

9:10 – 9:30 | **Update on US DOE Electric Drive Vehicle R&D and Deployment Activities**
美国能源部电动汽车研发和展示活动更新

- Dave Howell, US Department of Energy
  Dave Howell, 美国能源部

9:30 – 9:50 | **China-US Cooperation and Exchanges in Basic Research on Secondary Batteries and Energy Materials**
中美关于二次电池及相关能源材料基础研究的合作与交流

- WU Feng, Beijing Institute of Technology
  吴锋, 北京理工大学

9:50 – 10:10 | **An Update on the US-China Bi-lateral EVI Agreement 美中双边EVI协议**

- Larry Johnson, Argonne National Laboratory
  Larry Johnson, 阿岗国家实验室

10:10 – 10:30 | **The EV Everywhere Challenge: Setting the Technical Targets 美国电动汽车普及计划: 设立技术目标**

- Jake Ward, US Department of Energy
  Jake Ward, 美国能源部

| Break 茶歇

Notes 备注

Session 2A: Beyond Li-Ion 新电源

Thursday, August 23 | Ballroom A
星期四, 8月23号 | 会议室A

Session Chairmen: 会议主席	UNITED STATES 美国	CHINA 中国
	Dave Howell US Department of Energy	**WU Feng** Beijing Institute of Technology
	Dave Howell, 美国能源部	吴锋, 北京理工大学

10:50 – 11:10 | Lishen Battery Technologies for Electric Vehicles 力神电池和电池技术

- HOU Xiaohe, Lishen
  侯小贺， 天津力神

11:10 – 11:30 | Overview: Beyond Li-ion Research in the US 下一代电池展望

- Tien Duong, US Department of Energy
  Tien Duong, 美国能源部

11:30 – 11:50 | Advanced Li-air Batteries 锂空气电池

- Yang Shao-Horn, Massachusetts Institute of Technology
  Yang Shao-Horn, 麻省理工

11:50 – 12:10 | Air Electrode Design and Preparation for Li-air Battery Applications 锂空气电池中空气电极的设计和制备

- MA Zifeng, Shanghai Jiaotong University
  马紫峰, 上海交大

12:10 – 12:30 | Overcoming the Obstacles for Rechargeable Li-air Batteries 克服锂空气电池设计中的障碍

- Deyang Qu, University of Massachusetts Boston
  Deyang Qu, 麻省大学波士顿分校

12:30 – 1:30 | Lunch 午餐

Notes 备注

Session 2B: Demonstrations and Standards 展示和标准

Thursday, August 23 | Ballroom B
星期四, 8月23号 | 会议室B

Session Chairmen: 会议主席	UNITED STATES 美国	CHINA 中国
	Keith Hardy Argonne National Laboratory	**Ll Jianqiu** Tsinghua University
	Keith Hardy, 阿岗国家实验室	李建秋, 清华大学

10:50 – 11:15 | Update on China's Demonstrations of New Energy Vehicles 中国新能源汽车展示的现状

- Ll Jianqiu, Tsinghua University
  李建秋, 清华大学

11:15 – 11:40 | Update on the US and Los Angeles EV and PHEV Demonstrations 美国及洛杉矶EV及PHEV展示的现状

- Jim Francfort , Idaho National Laboratory
  Jim Francfort , 爱德厚国家实验室

11:40 – 12:05 | Update on the Jiading International Electric Vehicle Demonstration Zone 嘉定国际电动车展示区的现状

- DING Xiaohua, Shanghai International Auto City
  丁晓华，上海国际汽车城

12:05 – 12:30 | The Implications of NEVs for China's Battery Industry Development 中国电池工业发展对新能源汽车的影响

- LIU Xianghai, China Automotive Technology and Research Center
  刘翔海, 中国汽车技术研究中心

12:30 – 1:30 | Lunch 午餐

Notes 备注

Session 3A: Beyond Li-Ion 新电源

Thursday, August 23 | Ballroom A

星期四, 8月23号 | 会议室A

Session Chairmen: 会议主席	UNITED STATES 美国	CHINA 中国
	Khal Amine Argonne National Laboratory **Khal Amine, 阿岗国家实验室**	**QIU Xinping** Tsinghua University 邱新平, 清华大学

1:30 – 1:50 | **Li-O_2 – Just a Dream or Future Reality? 锂-氧气电池-是梦想还是未来的现实**

- Nenad Markovic, Argonne National Laboratory
  Nenad Markovic， 阿岗国家实验室

1:50 – 2:10 | **Nano-Structured Materials for High Performance Electrode: $LiFePO_4$ and P Composite**
高性能电极的纳米结构材料：$LiFePO_4$ 和 P复合材料

- HE Xiangming, Tsinghua University
  何向明，清华大学

2:10 – 2:30 | **All Solid Li-S Batteries 全固态锂-硫电池**

- Chengdu Liang, Oak Ridge National Laboratory
  Chengdu Liang, 橡树岭国家实验室

2:30 – 2:50 | **Composite Anode Materials for Li-ion Batteries 锂离子电池的阴极复合材料**

- KANG Feiyu, Tsinghua University
  康飞宇, 清华大学

2:50 – 3:10 | **Development of Rechargeable Lithium Metal Batteries 二次金属锂电池的进展**

- Jason Zhang, Pacific Northwest National Laboratory
  Jason Zhang, 太平洋西北国家实验室

| Break 茶歇

Notes 备注

Session 3B: Demonstrations and Standards 展示和标准

Thursday, August 23 | Ballroom B

星期四, 8月23号 | 会议室B

Session Chairmen: 会议主席	UNITED STATES 美国	CHINA 中国
	Keith Hardy Argonne National Laboratory **Keith Hardy,** 阿岗国家实验室	**Ll Jianqiu** Tsinghua University 李建秋, 清华大学

1:30 – 1:55 | **ANSI Summary of US-China Exchange on EV Standardization** ANSI关于美中电动车标准化的交流的概要

- Jim McCabe, American National Standards Institute
  Jim McCabe, 美国国家标准协会

1:55 – 2:20 | **Progress in National EV Standards Development in China** 中国国家电动车标准制定的进展

- LIU Xianghai, China Automotive Technology and Research Center
  刘翔海, 中国汽车技术研究中心

2:20 – 2:45 | **Status of CAERI's Development of EV Standards for SEVIA** CAERI为SEVIA制定电动车标准的近况

- ZHAO Jingwei, China Automotive Engineering Institute
  赵静炜，中国汽车工程研究院

2:45 – 3:10 | **Progress in Battery Swapping and the Demonstrations in China** 电池替换以及在中国的展示之进展

- HUA Jianfeng, Tsinghua University
  华剑峰, 清华大学

| Break 茶歇

Notes 备注

Session 4A: Testing and Safety 测试及安全

Thursday, August 23 | Ballroom A
星期四, 8月23号 | 会议室A

Session Chairmen: 会议主席	UNITED STATES 美国	CHINA 中国
	Deyang Qu UMass Boston **Deyang Qu, 麻省大学波士顿分校**	**HE Xiangming** Tsinghua University **何向明，清华大学**

3:30 – 3:50 | Novel Electrode Materials Based on the Concept of Multi-Electron Reactions
基于多电子反应的新型电极材料
- WU Chuan, Beijing Institute of Technology
  吴川，北京理工大学

3:50 – 4:10 | NiZn Technology and Its Applications in Start-Stop Micro-Hybrid 镍锌技术以及其在微混电动车上的应用
- DENG Zhongyi, PowerGenix
  邓中一，能杰电源

4:10 – 4:30 | A Roadmap of Advanced Cathode/Electrolyte Materials for Electric Vehicles
供电动车使用的先进的阳极/电解质材料的发展蓝图
- Joseph DiCarlo, BASF
  Joseph DiCarlo, 巴斯夫

4:30 – 4:50 | Testing & Evaluation of Traction Battery for EVs 电动车使用的动力电池的测试及评估
- WANG Feng, China Automotive Technology and Research Center
  王芳, 中国汽车技术研究中心

4:50 – 5:10 | A Comparison of US and Chinese EV Battery Testing Protocols 美中电动车用电池测试方案之比较
- David Robertson, Argonne National Laboratory
  David Robertson, 阿岗国家实验室

Notes 备注

Session 4B: Demonstrations and Standards 展示和标准

Thursday, August 23 | Ballroom B
星期四, 8月23号 | 会议室B

Session Chairmen: 会议主席	UNITED STATES 美国	CHINA 中国
	Keith Hardy Argonne National Laboratory	**Ll Jianqiu** Tsinghua University
	Keith Hardy, 阿岗国家实验室	李建秋, 清华大学

3:35 – 4:00 | Status of National EV Standards Development in the US 美国国家电动汽车标准的发展近况

- Peter Byk, SAE International
  Peter Byk, 国际汽车工程协会

4:00 – 4:25 | Standardizing Vehicle Dyno Test Methodology for BEVs and PHEVs
针对纯电动汽车和插电式电动汽车功率测试方法的标准化

- Mike Duoba, Argonne National Laboratory
  Mike Duoba, 阿岗国家实验室

4:25 – 4:50 | Electric-Drive Vehicle Testing at CAERI 在CAERI进行的电驱动车辆测试

- ZHANG Hao, China Automotive Engineering Institute
  张浩, 中国汽车工程研究院

Notes 备注

Special Dinner Event 特别晚宴

Thursday, August 23 | The University of Massachusetts Club

星期四，8月23号 | 麻省大学俱乐部餐厅

- Buses leave from Doubletree Hotel at 6 pm to UMass Club
  交通车晚6点从Doubletree酒店出发去麻省大学俱乐部
- Dinner from 6:30 to 8:30 pm
  晚宴时间为6点半到8点半
- Buses leave from UMass Club at 8:30 pm to Doubletree Hotel
  交通车晚8点半从麻省大学俱乐部出发回Doubletree酒店

◄**View from UMass Club Dining Room**
从麻省大学俱乐部餐厅向外看

Notes 备注

Session 5A: Testing and Safety 测试及安全

Friday, August 24 | Ballroom A
星期五, 8月24号 | 会议室A

Session Chairmen: 会议主席	UNITED STATES 美国	CHINA 中国
	Yang Shao-Horn Massachusetts Institute of Technology	**MA Zifeng** Shanghai Jiatong University
	Yang Shao-Horn, 麻省理工	马紫峰, 上海交通大学

9:00 – 9:20 | Electrical Energy Storage with High Energy Density Flow Batteries 高比能量流动式电池

- Yet Ming Chiang, Massachusetts Institute of Technology
  Yet Ming Chiang，麻省理工

9:20 – 9:40 | Rechargeable Energy Storage System Safety 可充式能量储存系统的安全

- Alvaro Masias, Ford Motor Company
  Alvaro Masias，福特汽车公司

9:40 – 10:00 | Model of Energy Balance for Li-ion Batteries 锂离子电池的能量平衡模型

- **Qiu Xinping** , Tsinghua University
  邱新平, 清华大学

10:00 – 10:20 | An XAS Characterization and DFT Calculation Guided Materials Discovery of Conductive Polymer Binders for High Capacity Si Anode Electrode
利用XAS表征和DFT计算来指导高容量硅阴极中的导电高分子粘合剂的发现

- Gao Liu, Lawrence Berkeley National Laboratory
  Gao Liu，劳伦斯伯克利国家实验室

10:20 – 10:40 | Battery Recycling: How to Make It Happen 电池的再循环：如何使之发生

- Linda Gaines, Argonne National Laboratory
  Linda Gaines, 阿岗国家实验室

10:40 – 11:00 | Variation of Li-Ion Battery Package 锂离子电池包装的变量

- LU Languang, Tsinghua University
  卢兰光, 清华大学

Notes 备注

Session 5B: Demonstrations and Standards 展示和标准

Friday, August 24 | Ballroom B

星期五, 8月24号 | 会议室B

Session Chairmen: 会议主席	UNITED STATES 美国	CHINA 中国
	Keith Hardy Argonne National Laboratory **Keith Hardy,** 阿岗国家实验室	**Ll Jianqiu** Tsinghua University 李建秋, 清华大学

9:00 – 9:30 | **Open Forum: Observations on the Prior Day's Presentations** 前日分组会议总结

9:30 – 9:50 | **Discussion: Next Steps in Vehicle Demonstrations** 讨论整车演示的下一步计划

9:50 – 10:10 | **Discussion: Next Steps in Standardization** 讨论标准制定的下一步计划

10:10 – 10:30 | **Discussion: Next Steps in Vehicle Testing** 讨论整车测试的下一步计划

10:30 – 11:00 | **Preparation of a Summary** 总结

| Break 茶歇

Notes 备注

Session 6: Group Discussion and Next Steps 分组讨论和下一步

Friday, August 24 | Ballrooms A&B

星期五, 8月24号 | 会议室A&B

Session Chairman: **Dave Howell**, US Department of Energy
会议主席 **Dave Howell, 美国能源部**

11:30 – 12:30 | Discussions and Next Steps 分组讨论和下一步

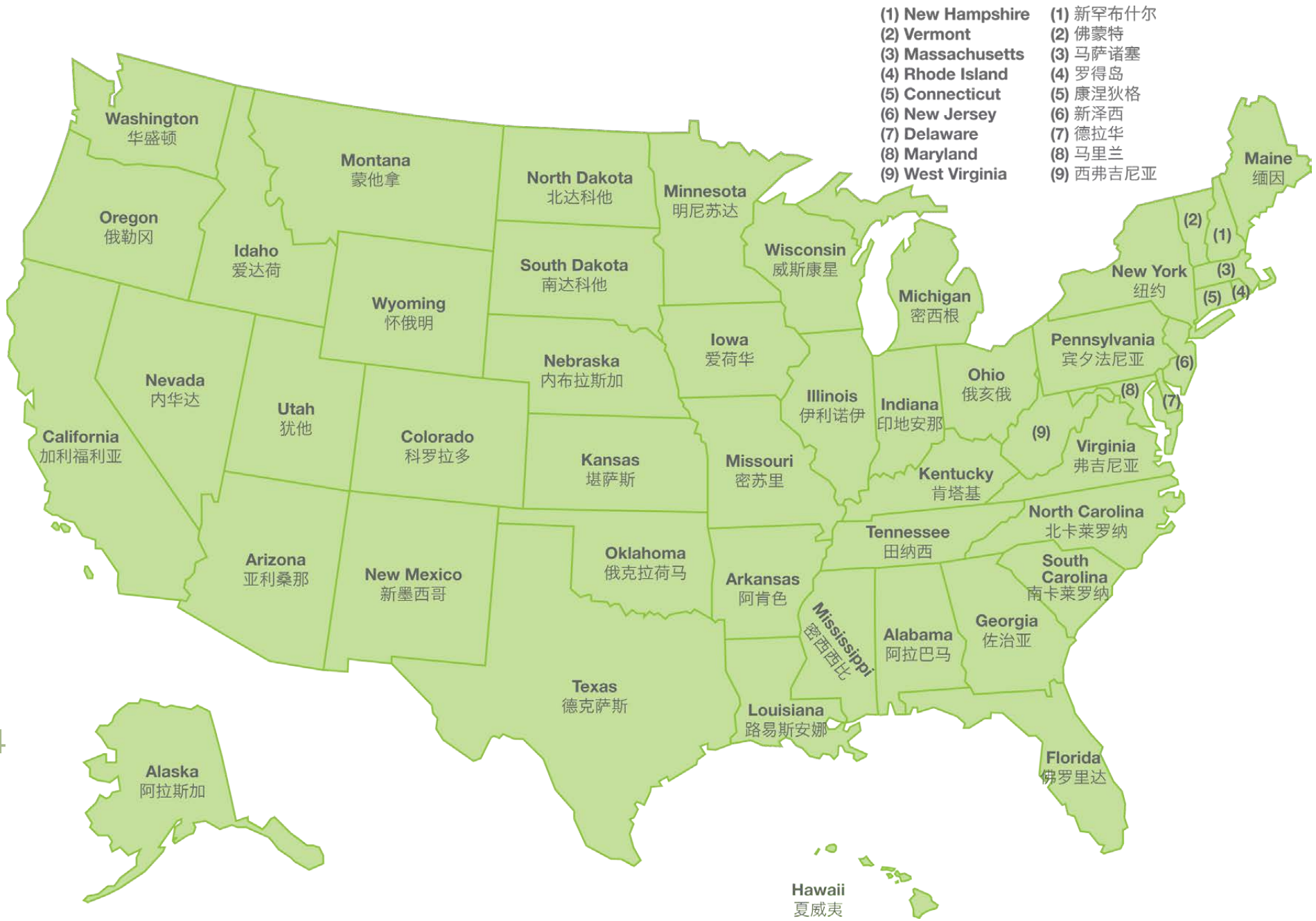
- o Next Steps 下一步计划
- o Potential Areas of Collaborations 可合作领域
- o Next Workshop 下一次会议安排
- o Etc. 其他

12:30 – 1:30 | Lunch 午餐

Notes 备注

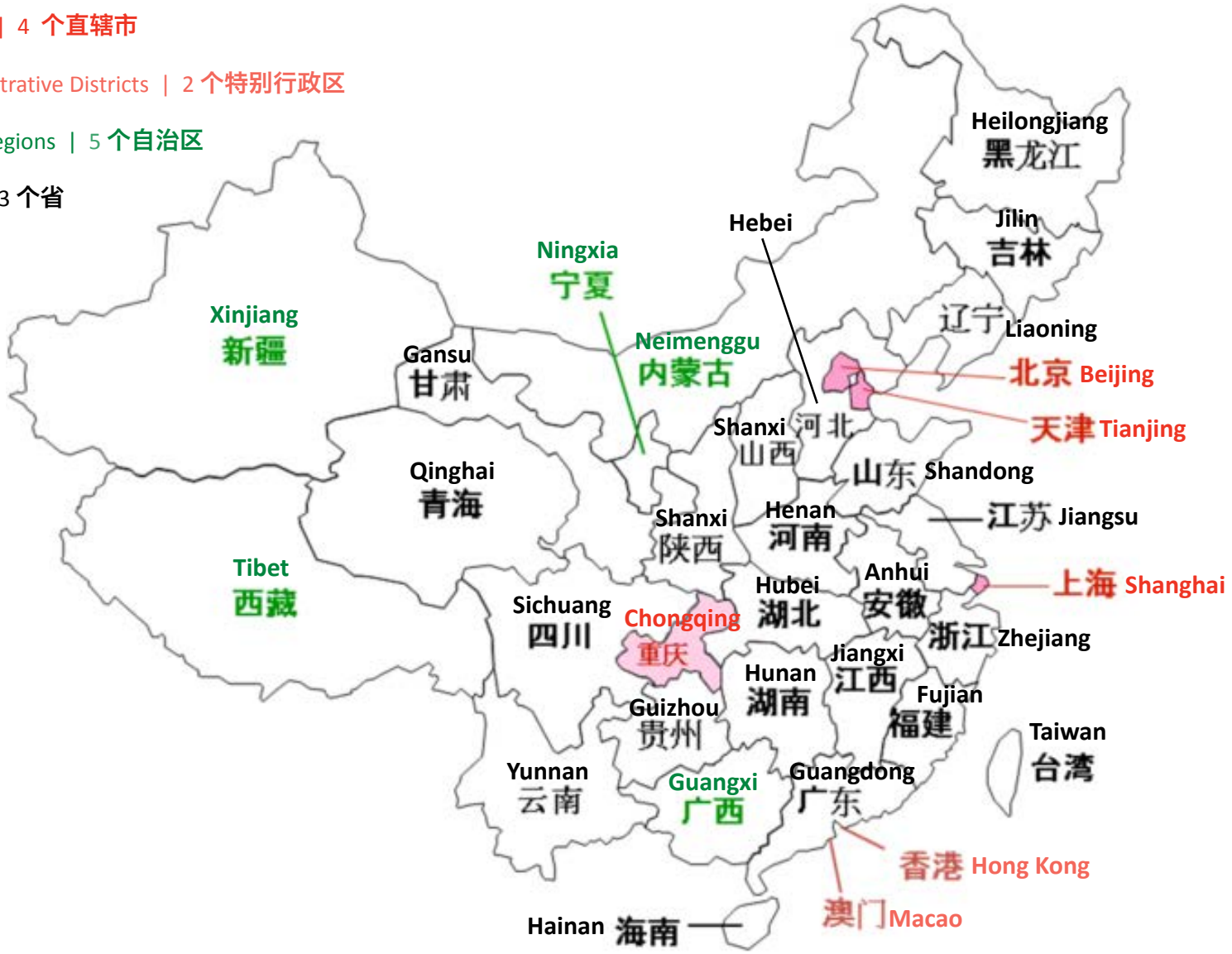
The 50 States in the USA

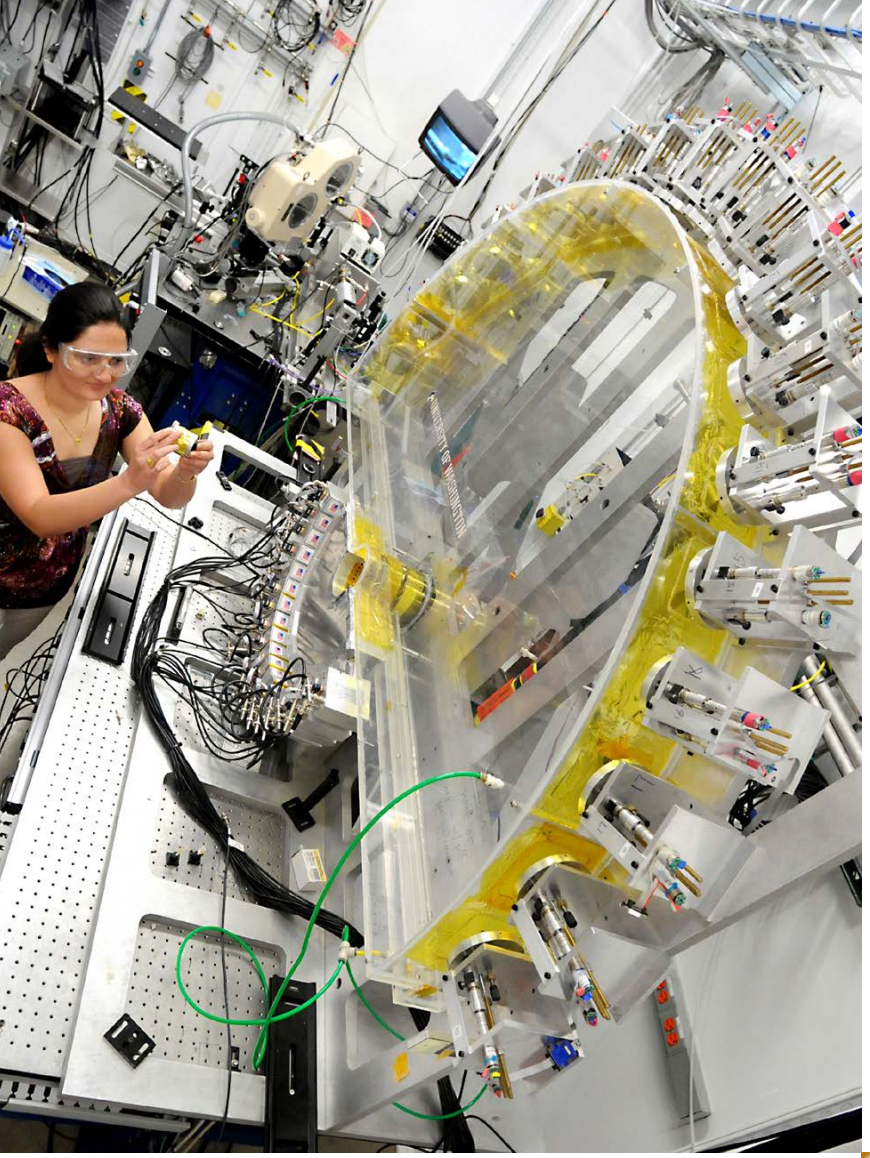
The "Lower 48" plus Alaska and Hawaii



People's Republic of China
中华人民共和国

- 4 Municipalities | 4 个直辖市
- 2 Special Administrative Districts | 2 个特别行政区
- 5 Autonomous Regions | 5 个自治区
- 23 Provinces | 23 个省





▲ Argonne's Advanced Photon Source is helping researchers understand the fundamental mechanisms that limit the performance of batteries.

阿岗国家实验室先进光源设备帮助研究人员发现限制电池性能的基本机制

6th US-China Electric Vehicle and Battery Technology Workshop

August 22-24, 2012 | University of Massachusetts Boston

第六届美国-中国电动汽车和电池技术研讨会

2012年 8月22-24日 | 麻省大学波士顿分校

This high-vacuum ultra-pure drying apparatus was designed and fabricated by UMass Boston students to fast dry battery electrodes used in a non-aqueous electrolyte. The device minimizes the surface contamination from the vapor of pump oil which allows the electrodes to be transferred to the glove box in an inert gas. This enables the maintenance of a pristine electrode surface for the investigation of solid electrolyte interface formation.

这种高真空超纯干燥设备由麻省大学波士顿分校学生设计和制作的。用于快干使用非水电解质的电池电极。该设备最大限度地减少电极在惰性气体手套箱中被转移时来自泵油蒸汽表面的污染。这帮助维护一个纯净的电极表面用于固体电解质界面的形成。▼