Diversity Recruitment
Break-out Session at 2015 Large Scale Facilities Workshop

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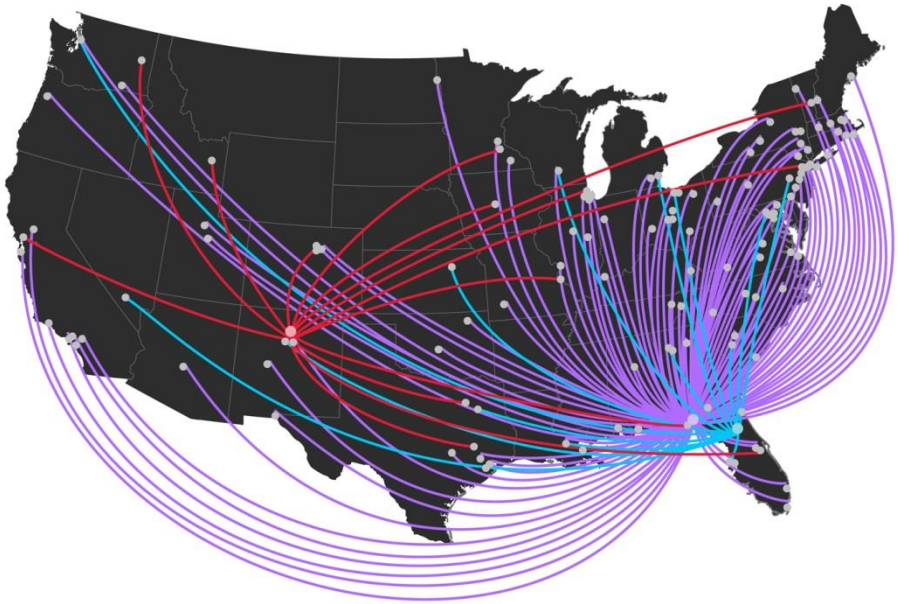
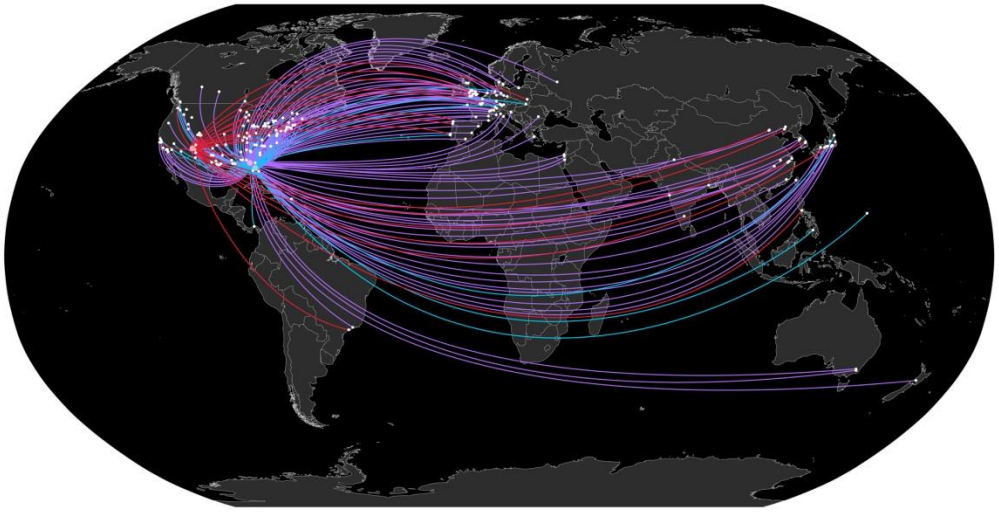
Presentation Overview

1. Background on the National High Magnetic Field Laboratory (Magnet Lab)
2. Information on the Magnet Lab User Programs
3. Information on historical diversity programs at the lab (2004-2014)
4. External and Internal Review of these programs
5. Current Plans based on research-based best practices
6. Group activities

The MagLab User Program

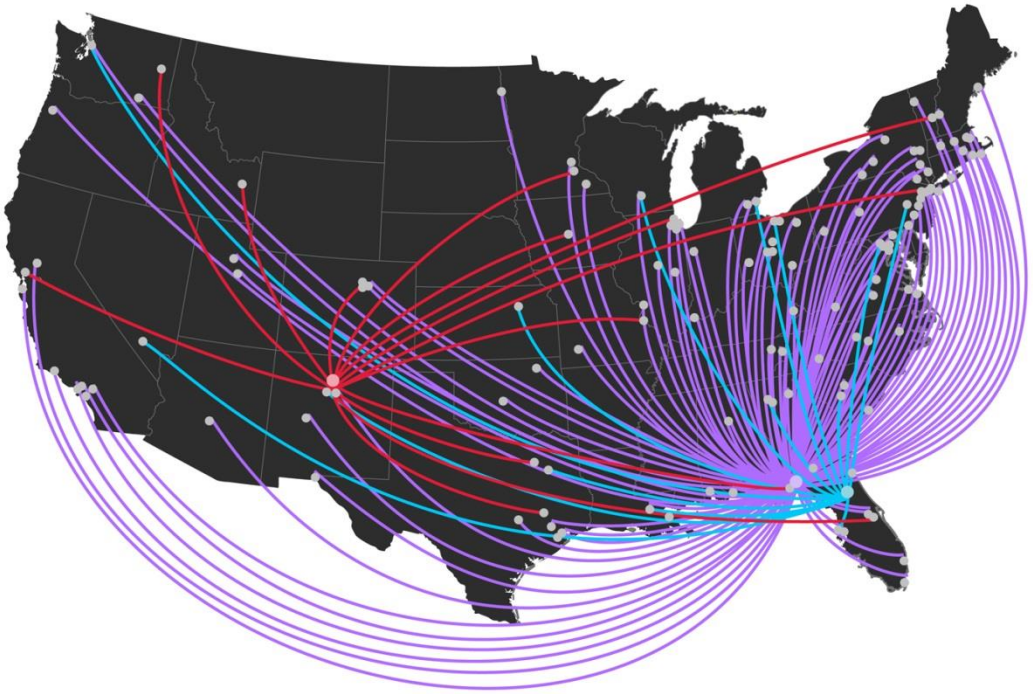


In 2014, the MagLab hosted experiments by more than 1442 users from 199 institutions across the United States…



…and a total of 331 institutions throughout the world.

The MagLab User Program



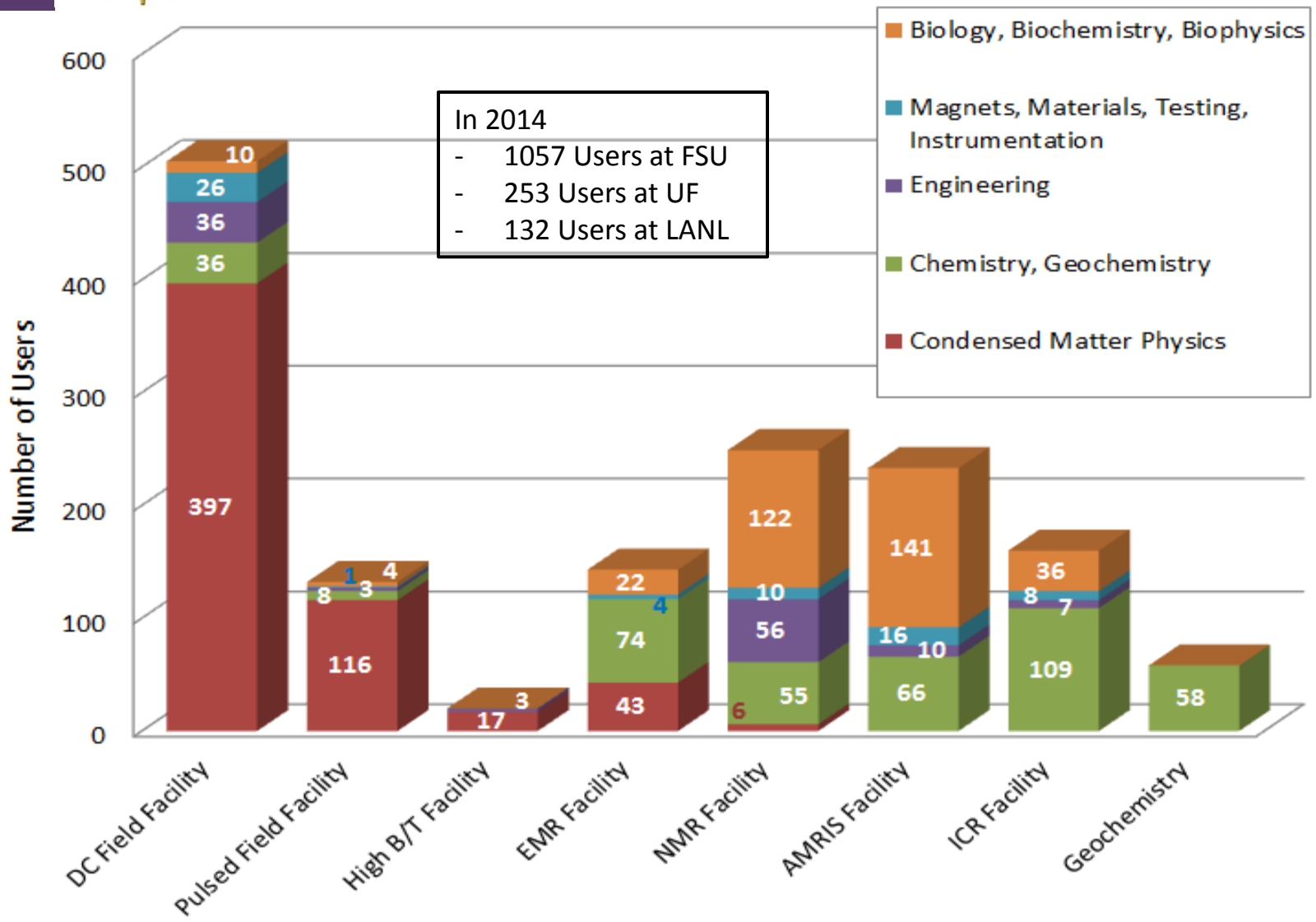
MagLab users publish about 440 refereed publications annually:

2009-2013 Publications

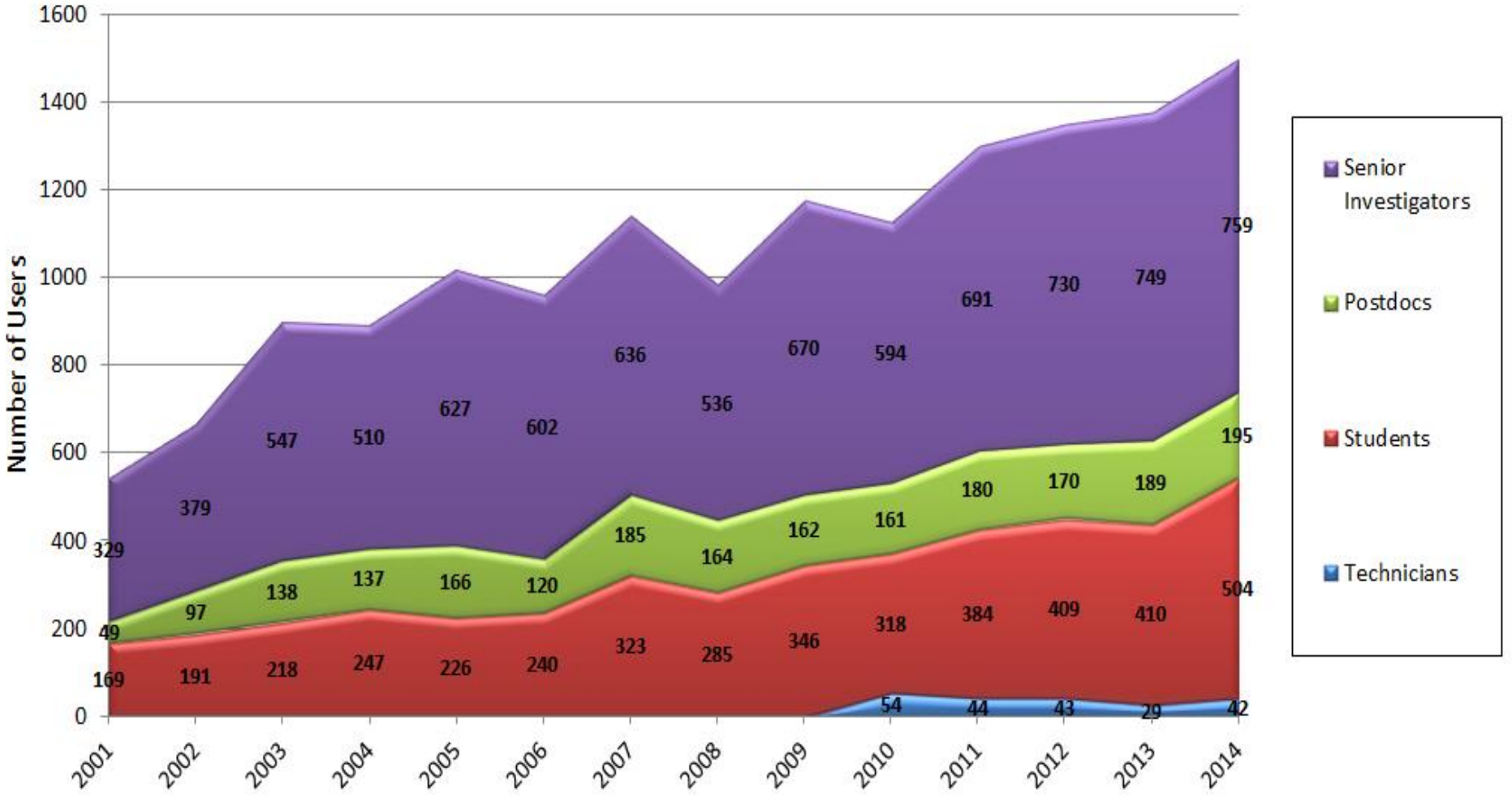
2200	**Total Publications**	
28	***PNAS***	***(>5/yr)***
63	***Nature Journals***	***(>12/yr)***
147	***Physical Review Letters***	***(>29/yr)***
318	***Physical Review B***	***(>63/yr)***
47	***PRB (Rapid Comm)***	***(>9/yr)***
59	***J Amer Chem Soc***	***(>11/yr)***

2014 MagLab Users by Discipline for Each Facility

as of 2/3/2015



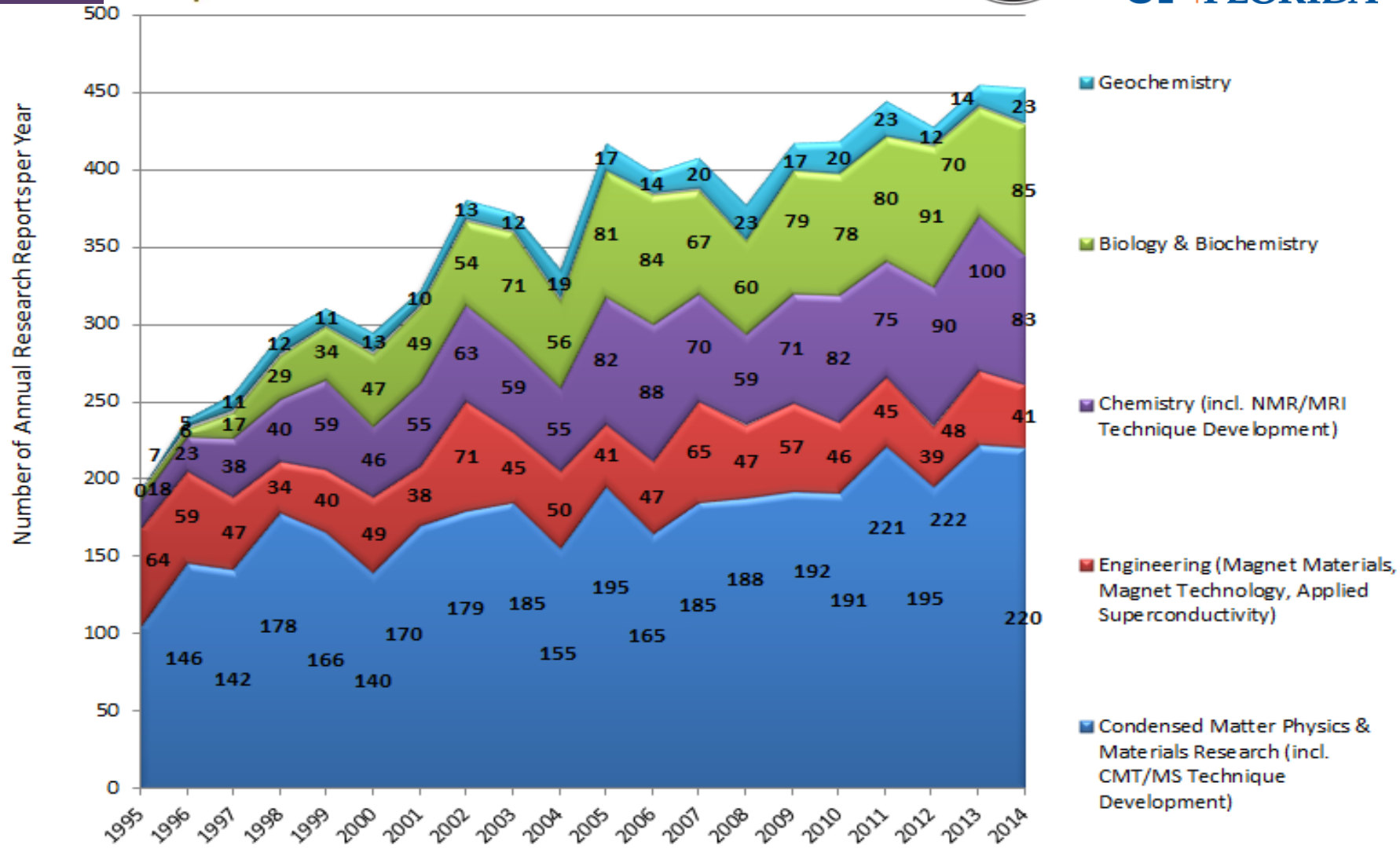
Magnet Lab User Profile
2001-2014
as of 2/3/2015



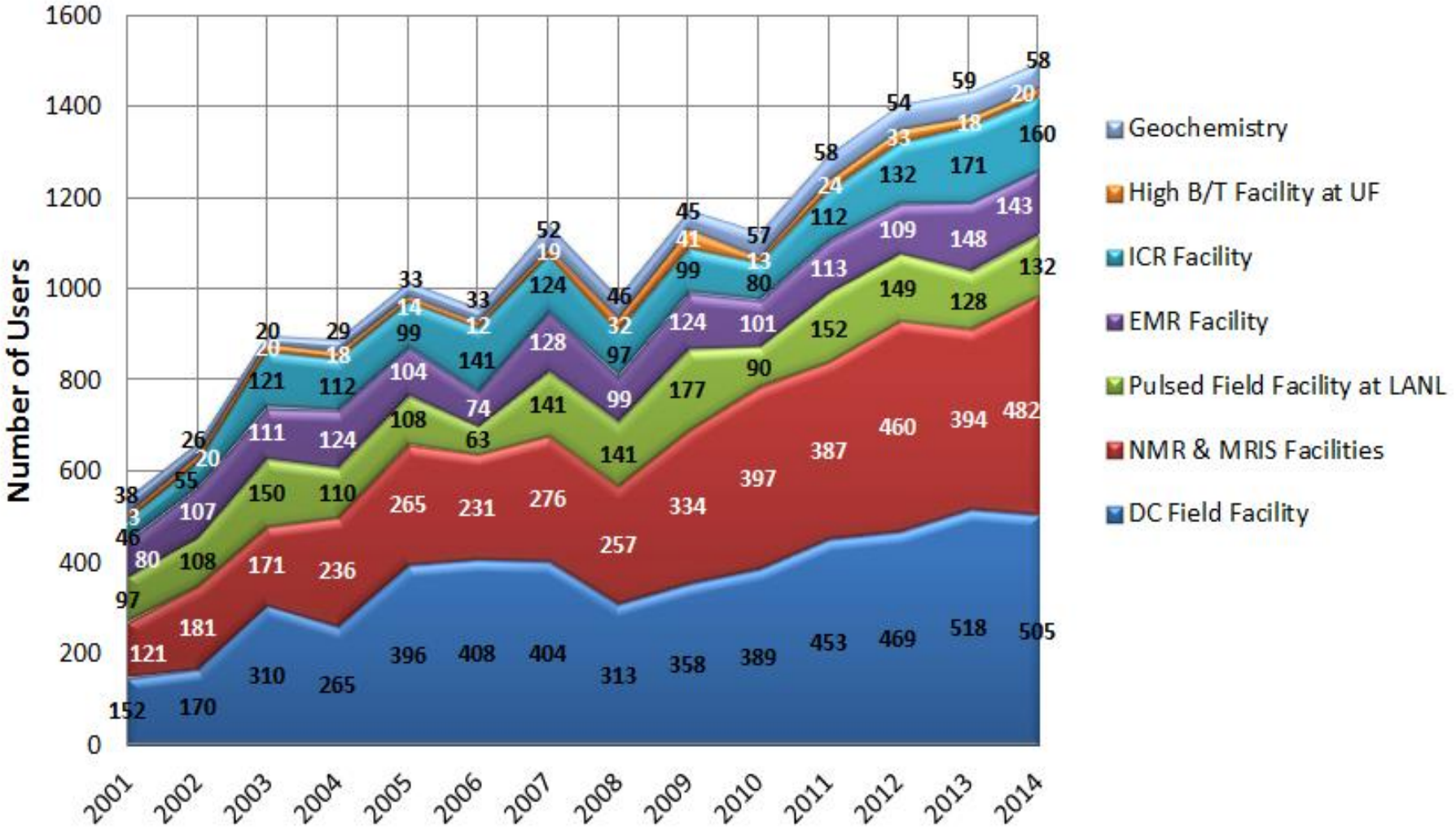
Hosting ~ 1500 Users annually: 51% senior investigators, 13% postdocs, 34% students

Hosting ~ 350 Principal Investigators annually, approximately 25% are new every year

Magnet Lab User Research Activity
2001-2014
as of 2/5/2015



MagLab Users by Facility
2001-2014
as of 2/3/2015



MagLab's Diversity Action Plan's beginnings

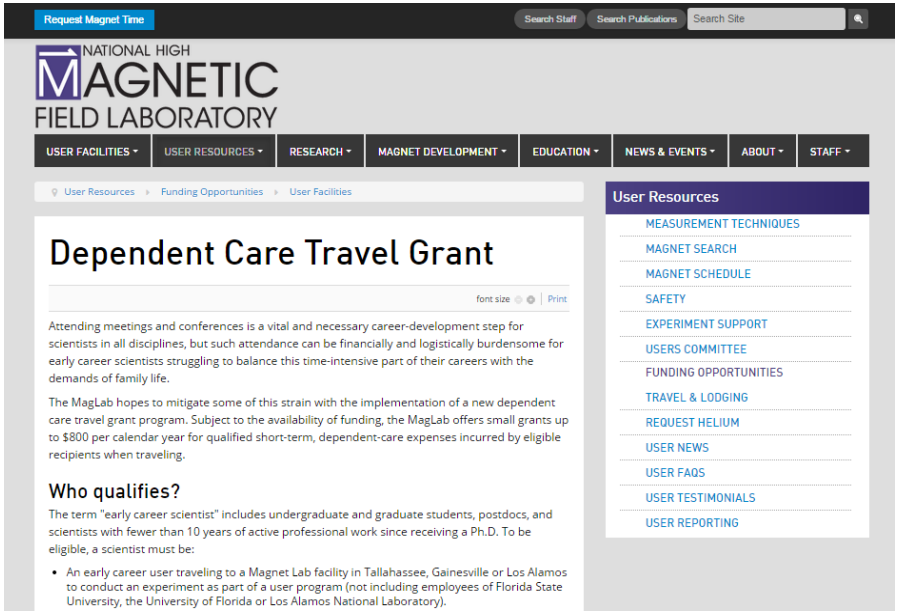
In 2004, the NHMFL started its Diversity Committee and its Diversity Action Plan.

The Diversity Action Plan has five action items:

1. Building diversity permanence into the MagLab scientific population.
2. Developing and cultivating individually-crafted early career opportunities for members of underrepresented groups at the undergraduate level and above.
3. Aiming educational outreach for K-12 and the general public to broad and diverse groups.
4. Maintaining awareness among MagLab staff and user programs that Diversity Matters.
5. Maintaining frequent external guidance and review of MagLab diversity issues.

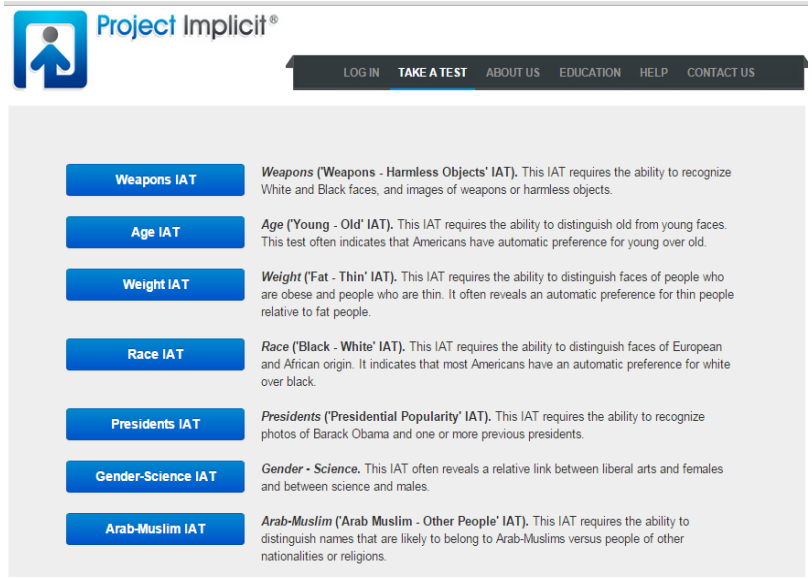
History of MagLab's Diversity Efforts

- In 2006, Diversity budget was increased from $50,000 to $150,000 per year
- College Outreach-Workforce Initiative (CO-WIN) funds travel for MagLab faculty to visit Minority Serving Institutions
- Bridge support for graduate students and postdocs
- a Dependent Care Travel Grant Program



MagLab's Historical Diversity Efforts

- 2008: a member of the diversity committee serve on all faculty hiring committees.
- 2010: Users Summer School and a Winter Theory School, wherein graduate students and postdocs come to the lab for lectures and training on the newest techniques and ideas occurring at the lab.
- 2011: Faculty Recruitment for Excellence and Diversity (FRED). This training is required for all individuals who participate in hiring committees.
- Participants take the Implicit Bias test that identifies implicit bias that they may have related to Gender and Science: https://implicit.harvard.edu/implicit/selectatest.html



Comparison to National Statistics by Gender (Part I)
MagLab, Los Alamos, Nationally and University Faculty

Categories	Total N	Male		Female	
		%	n	%	n
US Residents 2012 (U.S. Population)	313,914,040	51%	154,492,067	49%	159,421,973
FSU Students (UG and Grad) Fall 2014	41,477	45%	18,669	55%	22,808
Magnet Lab Faculty* Historical (2000 - 2014)	425	87%	368	13%	57
Magnet Lab Faculty* 2014	216	89%	193	11%	23
Los Alamos National Laboratory (SE**) 2014	291	87%	253	13%	38
Scientists and Engineers Employed U.S. 2010	2,486,000	77%	1,903,000	23%	584,000
Biological/life scientist	597,000	52%	309,000	48%	288,000
Physical scientist	320,000	70%	225,000	30%	96,000
Engineering occupations	1,569,000	87%	1,369,000	13%	200,000
Scientists and Engineers Employed with PhDs U.S.	675,000	69%	468,000	31%	208,000
Biological/life scientist	189,000	62%	117,000	38%	72,000
Physical scientist	105,000	81%	86,000	19%	20,000
Physicist/astronomer	18,000	89%	16,000	11%	2,000
Engineering occupations	112,000	88%	99,000	12%	13,000
Physics Faculty 2012	####	86%	####	14%	####
Chemistry Faculty 2013	####	82%	####	18%	####

*Magnet Lab Scientists and Tenure Affiliates non-management.

**LANL simply reports as Scientist or engineer no degree level

Comparison to National Statistics by Gender (Part II)

MagLab, Los Alamos, and Universities: Faculty, Postdocs, Grad Students

Categories	Total N	Male		Female	
		%	n	%	n
US Residents 2012 (U.S. Population)	313,914,040	51%	154,492,067	49%	159,421,973
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Magnet Lab Faculty* 2014	216	89%	193	11%	23
Los Alamos National Laboratory (SE**) 2014	291	87%	253	13%	38
Magnet Lab Postdocs Historical (2000 - 2014)	**306**	**77%**	**235**	**23%**	**71**
Magnet Lab Postdocs 2014	**58**	**69%**	**40**	**31%**	**18**
S & E Postdocs at Academic Institutions U.S. 2010	**39,969**	**65%**	**26,156**	**35%**	**13,813**
Biological sciences	21,537	57%	12,185	43%	9,352
Earth, atmospheric, and ocean sciences	1,760	66%	1,158	34%	602
Physical sciences	7,703	79%	6,092	21%	1,611
Engineering	6,956	79%	5,529	21%	1,427
Magnet Lab Graduate Students Historical (2000 - 2014)	**625**	**69%**	**430**	**31%**	**195**
Magnet Lab Graduate 2014	**175**	**68%**	**119**	**32%**	**56**
S & E Graduate Students U.S. 2010	**297,251**	**64%**	**190,908**	**36%**	**106,343**
Biological sciences	74,928	43%	32,357	57%	42,571
Earth, atmospheric, and ocean sciences	15,655	54%	8,455	46%	7,200
Physical sciences	38,973	67%	26,147	33%	12,826
Engineering	149,241	77%	114,788	23%	34,453

Evaluation of Diversity Efforts (Internal and External)

- 2013:
  - Climate survey conducted by the American Physical Society
  - Recruitment & Retention subcommittee of the FSU-wide Diversity and Inclusion Council prepared a Recruitment and Retention Recommendations Report for university-wide implementation.
- 2014:
  - Center for Integrating Research and Learning took over the diversity efforts at the lab which included the following products
    - Lab's historical diversity efforts;
    - Comparative survey of diversity efforts of DOE labs and the MagLab;
    - Recommendations from the APS Climate survey and plans for the future;
    - A description of research based best practices as identified by ADVANCE grant awardees and the National Research Council's 2011 Report on URMs.
  - Research shows that STEM persistence is affected by climate issues within certain disciplines that prevent URMs from feeling like they belong or from even entering the field (Moss-Racusin et al., 2012; Williams & Ceci, 2015).

Best Practices

To address these climate issues researchers who study persistence issues recommend:

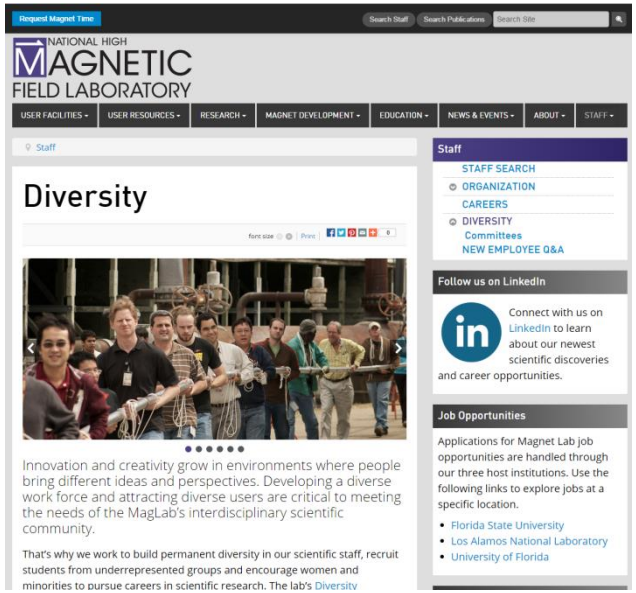
- mentoring programs;
- networking for URM faculty, postdocs, and graduate students;
- climate surveys;
- setting metrics for recruitment and advancement;
- family-friendly and work/life balance policies;
- supervisor training;
- professional development;
- diversity training and resources for all staff;
- early feedback on promotion;
- leadership training;
- research and travel grants.

Current Plans based on research-based best practices

Mission statement: *The Magnet Lab is committed to increasing diversity in the STEM workforce at the Magnet Lab and throughout the nation through our outreach, education, and mentoring programs.*

Five Parts of New Diversity Plan:

1. Outreach
2. Recruitment and Hiring
3. Retention and Advancement
4. Career-long mentoring
5. External Guidance and Advice



Activity

1. Individually, write down a current diversity issue that you are facing with users and staff? (5 – 10 minutes)
- What have you tried to address this diversity issue?
- Where have you sought advice?
- What role has NSF had (if any) in this issue?

2. Now form small groups. Share your individual issues and brainstorm ideas for improvement. One person from each group will share the summary of issues and ideas with the entire group. (20-30 minutes)

3. Entire group discussion. Review of small group results.
- Final discussion point: As NSF Large Scale Facilities, what are the top issues affecting NSF Large Scale Facilities' abilities to improve the diversity of our workforce? And what could NSF do to help us with these?