



FY2019 Nuclear Physics Workforce Survey

Office of Nuclear Physics

This report conveys the results of the October 2019 survey of scientific workforce in the Department of Energy, Nuclear Physics (NP) program. The same procedure as in previous years was used. People were counted in the categories of permanent Ph.D. staff, temporary Ph.D. staff, Ph.D. staff not supported by DOE, DOE-supported graduate students, and graduate students not supported by DOE. Counts of Ph.D.s awarded were also collected. In all cases, people were asked to self-define whether they were primarily doing experimental or theoretical work. Persons who receive support from the National Science Foundation are not included in this survey.

On October 1, 2019, the survey shows that 2,626 supported and non-supported scientists and students were associated with the program. Of this number DOE supported 884 permanent Ph.D. staff, 404 temporary Ph.D. staff, and 614 graduate students. Not supported directly by DOE but associated with the program were an additional 210 Ph.D. staff and 514 graduate students.

Summaries of the numerical data for the years 1996 through 2019 are provided as well as separate summary data for the national laboratories and universities, and statistics on the Ph.D.s awarded. Out of the 614 graduate students supported 108 graduate students were awarded Ph.D.s in 2019.

Brenda May



Results of Nuclear Physics Workforce Surveys

DOE Supported Workforce Data

Workforce Counts on October 1st

SUMMARY OF LABORATORIES & UNIVERSITIES																								
Both Experimental and Theory																								
	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Permanent Staff	689	682	689	690	676	683	702	727	746	742	699	724	733	779	871	873	872	813	833	844	839	807	804	884
Temporary Staff	346	360	380	394	363	362	364	410	403	388	344	341	365	364	423	434	411	381	360	344	365	376	379	404
Graduate Students	423	422	415	404	408	408	442	457	473	509	486	472	493	516	538	550	546	517	518	522	530	539	555	614
TOTAL	1458	1464	1484	1488	1447	1453	1508	1594	1622	1639	1529	1537	1591	1659	1832	1857	1829	1711	1711	1710	1734	1722	1738	1902
Ph.D.s Awarded	96	97	100	95	87	67	100	79	66	80	92	69	89	85	90	86	104	117	72	86	102	105	88	108
Experimental																								
	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Permanent Staff	536	538	547	551	542	536	554	577	586	582	555	557	574	607	690	677	678	632	662	670	672	637	635	700
Temporary Staff	263	280	299	298	286	287	277	319	308	295	266	256	266	254	311	314	315	292	269	254	280	274	277	305
Graduate Students	321	323	323	319	320	319	338	354	361	394	375	348	364	382	400	403	390	364	385	389	404	398	423	462
TOTAL	1120	1141	1169	1168	1148	1142	1169	1250	1255	1271	1196	1161	1204	1243	1401	1394	1383	1288	1316	1313	1356	1309	1335	1467
Ph.D.s Awarded	71	66	67	70	56	48	67	63	45	51	68	48	62	54	63	57	75	75	49	61	67	67	63	86
Theory																								
	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Permanent Staff	153	144	142	139	134	147	148	150	160	160	144	167	159	172	181	196	194	181	171	174	167	170	169	184
Temporary Staff	83	80	81	96	77	75	87	91	95	93	78	85	99	110	112	120	96	89	91	90	85	102	102	99
Graduate Students	102	99	92	85	88	89	104	103	112	115	111	124	129	134	138	147	156	153	133	133	126	141	132	152
TOTAL	338	323	315	320	299	311	339	344	367	368	333	376	387	416	431	463	446	423	395	397	378	413	435	435
Ph.D.s Awarded	25	31	33	25	31	19	33	16	21	29	24	21	27	31	27	29	29	42	23	25	35	38	25	22

Results of Nuclear Physics Workforce Surveys

DOE Supported Workforce Data

Workforce Counts on October 1st

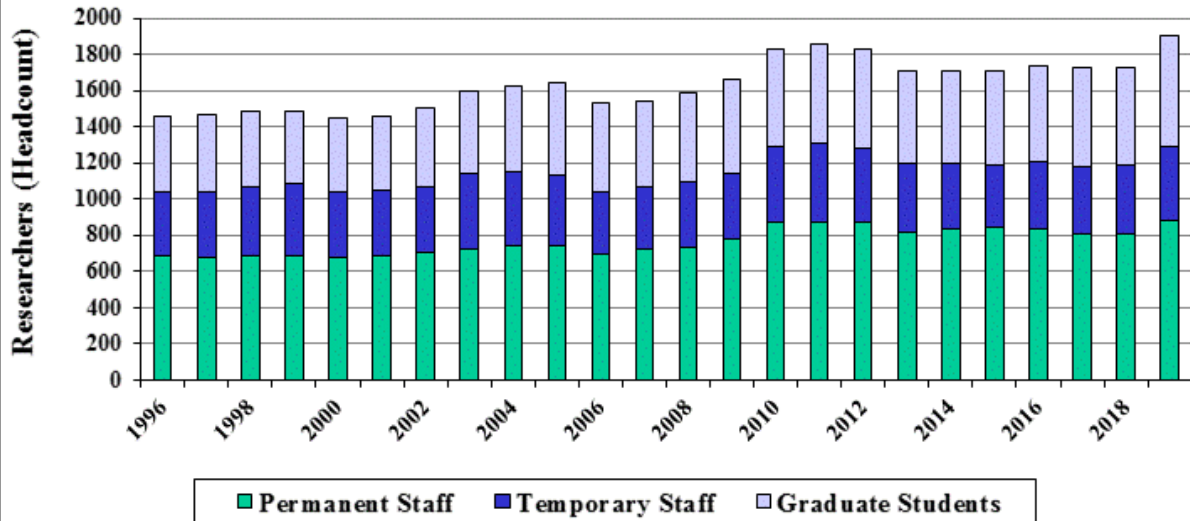
SUMMARY OF UNIVERSITIES																								
Both Experimental and Theory																								
	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Permanent Staff	368	364	369	363	359	367	364	358	362	363	339	342	346	362	372	395	401	375	389	402	419	394	382	426
Temporary Staff	212	217	233	231	223	225	227	238	228	217	207	207	215	217	244	252	231	241	232	222	222	240	239	240
Graduate Students	361	359	336	342	355	353	385	380	405	421	389	394	409	431	441	449	462	437	440	455	471	465	478	528
TOTAL	941	940	938	936	937	945	976	976	995	1001	935	943	970	1010	1057	1096	1094	1053	1061	1079	1112	1099	1099	1194
Ph.D.s Awarded	86	88	85	95	87	67	100	79	66	80	92	69	89	85	90	86	104	117	72	86	102	105	88	108
Experimental																								
	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Permanent Staff	258	258	263	261	256	255	253	254	255	258	247	239	244	252	264	275	279	256	279	293	309	289	276	311
Temporary Staff	153	160	175	169	165	170	166	171	169	165	163	159	158	152	176	183	173	182	173	167	173	177	177	184
Graduate Students	264	265	253	264	271	271	284	284	301	314	291	283	294	310	314	320	314	298	315	331	354	342	356	389
TOTAL	675	683	691	694	692	696	703	709	725	737	701	681	696	714	754	778	766	736	767	791	836	808	809	884
Ph.D.s Awarded	62	60	55	70	56	48	67	63	45	51	68	48	62	54	63	57	75	75	49	61	67	67	63	86
Theory																								
	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Permanent Staff	110	106	106	102	103	112	111	104	107	105	92	103	102	110	108	120	122	119	110	109	110	105	106	115
Temporary Staff	59	57	58	62	58	55	61	67	59	52	44	48	57	65	68	69	58	59	59	55	49	63	62	56
Graduate Students	97	94	83	78	84	82	101	96	104	107	98	111	115	121	127	129	148	139	125	124	117	123	122	139
TOTAL	266	257	247	242	245	249	273	267	270	264	234	262	274	296	303	318	328	317	294	288	276	291	290	310
Ph.D.s Awarded	24	28	30	25	31	19	33	16	21	29	24	21	27	31	27	29	29	42	23	25	35	38	25	22



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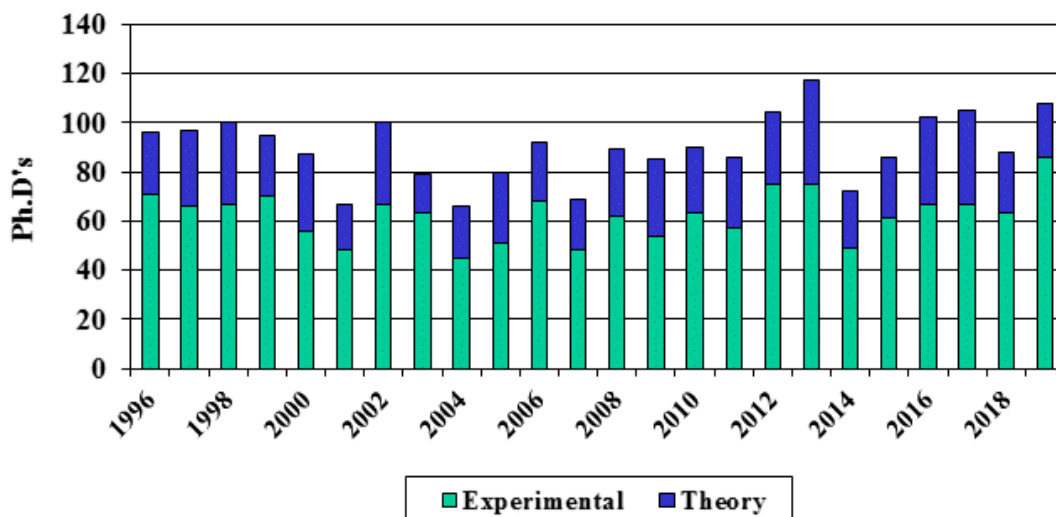
DOE Support Workforce

Laboratories and Universities



FY2019 Nuclear Physics Workforce Survey

Ph.D.s Awarded





FY2019 Nuclear Physics Workforce Survey

Statistics on Ph.D.s Awarded

*Data Collected Since 2004

- **Average Number of Years to Obtain a PhD**
 - 5.7 Years (Average Based on 1497 data points)
- **% U.S. Citizen** 53.8% (% Based on 1435 data points)
- **Males/Females:** 81.2% / 18.8% (% Based on 1497 datapoints)
- **Race:** (% Based on 1432 data points)
 - **White:** 67.0% **Asian:** 27.2% **Black or African American:** 2.0%
 - **Hispanic or Latino:** 3.4%
 - **Native Hawaiian and Other Pacific Islander:** 0.2%
 - **American Indian and Alaska Native:** 0.2%
 - **Some Other Race:** 0.0%

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Statistics on Ph.D.s Awarded

*Data Collected Since 2004

- **Initial Career Location: USA / Non-USA / Undecided:**
 - 78.6% / 15.5% / 5.9% (% Based on 1499 data points)
- **Initial Career Path:** (% Based on 1499 data points)
 - **Applied Research/ National:** 2.3%
 - **Business or Non-Nuclear:** 12.2%
 - **Medical School/Hospital:** 1.8%
 - **NP Basic Research / National Laboratory:** 15.0%
 - **NP Basic Research/ University:** 33.4%
 - **NP Teacher / Professor:** 4.4%
 - **Other Teacher / Professor:** 5.7%
 - **Other Basic Research / National Laboratory:** 1.8%
 - **Other Basic Research / University:** 6.9%
 - **Research / Nuclear Industry:** 4.7%
 - **Non-Profit:** 0.1%
 - **Other:** 2.7%
 - **Undecided:** 9.0%