

# APS 2004 Membership Survey

**Final Report**  
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## *Executive Summary*

The 2004 APS Membership Survey was conducted by the Statistical Research Center (SRC) at the American Institute of Physics (AIP) under the careful guidance of Trish Lettieri and Judy Franz. This was the latest study of the APS membership, a series which began in 1990. The survey asked respondents to provide information that would help the APS better serve the professional needs of the membership.

## *Highlights*

- Almost all respondents (92%) are APS members because the APS keeps them informed about physics research and activities in the physics community. A high number of respondents are APS members because the Society serves the needs of the physics community.
- The top four reasons why respondents joined APS are to keep in touch with the community of physicists, to keep in touch with developments in the field, to support the physics community and to receive Physics Today. The top four reasons for continuing membership is identical (in order) to the top four reasons for joining. A large majority of APS members continue to highly value Physics Today as part of their APS membership benefits.
- About 4 out of 5 Junior members know about the APS Job Center. Over half of the Junior members highly value APS Career Services. However, only 17% of Junior members continue to be APS members primarily because of career guidance and employment help.
- The majority of members teaching at Four-Year Colleges joined APS to receive Physics Today. They are more likely to join for Physics Today than those teaching in universities are.
- Most APS members, especially those teaching in universities, feel the APS should give high priority to investigating federal funding of science and the public perception of science. These two issues were not asked in the previous survey.
- In the 2001 survey, energy production and use and environmental issues related to physics were the issues urged by the most members for APS to investigate. They continue to be high priority issues in this survey. Most members working in industry cited that the APS should give high priority to investigating energy production and use. More respondents urge the APS to give high priority towards continuing their work in informing policy decision makers about physics than any other public affairs, education or outreach efforts.
- The APS Job Center on the APS website and the grassroots lobbying efforts for federal funding are the most well-known APS programs and services. Nearly 3 out of 4 members report that they know about these APS programs and services. However, with the APS Job Center only introduced a couple of months, respondents could be confusing the APS Job Center and AIP job resources.
- The majority of non-industry APS members highly value their opportunity to contribute their papers or their students' papers at APS meetings. Other than to highly value Physics Today,

members working in industry are less likely than those in other workplaces to highly value any specific APS benefit or service.

- About 2 out of 5 members indicate that they have had sufficient opportunities to influence APS priorities and activities.

## ***Methodology and Report Content***

The survey was conducted entirely electronically. Approximately three out of seven (~5000) U.S. resident APS members with Email addresses, and who were regular or junior members, were randomly selected to receive an Email invitation to participate in this survey. The questionnaire was shorter than in previous studies.

The first mailing was sent on March 30, 2004. A second mailing to those who did not respond to the first mailing was sent on April 14, 2004. A third mailing went out April 26, 2004. The final tally of respondents was over 3000 or 61%.

The following data represent the responses of U.S. regular and junior members. All other membership types, such as students, senior and life, and members living abroad were not represented in this study.

The report is divided into several sections. The first section, Assessment Questions, summarizes the reasons why members join the APS and continue their membership, how they value benefits and services, their awareness of APS programs, and the priority that they think APS should place upon a variety of issues. The data appear in tabular form sorted by place of employment. The second section summarizes the demographics of the respondents by place of employment. The third section, Appendix Tables, contains the same tables as in the first section, but sorted by professional self-identification. The fourth section sorts the verbatim comments into several aspects of the APS.

If you wish to request more data from this survey, please send your questions and comments to Raymond Y. Chu at [rchu@aip.org](mailto:rchu@aip.org) or 301-209-3069.

## Assessment Questions

**Table 1. Member agreement with the following statements by selected employment sectors, 2004**

	Ind %	FFR&DC %	Govt %	Univ %	4YC %	All %
I am an APS member primarily because the Society keeps me informed about physics research and activities in the physics community.	95	93	90	90	94	92
I am an APS member primarily because the Society serves the needs of the physics community (e.g. lobbying, improving education, and bringing the importance and excitement of physics to the general public).	79	85	81	85	82	82
I am an APS member primarily because the Society provides direct member benefits (e.g. reduced journal prices and meeting fees, the directory, and group insurance programs).	51	39	44	55	59	50
I have sufficient opportunities to influence APS priorities and activities.	34	44	34	42	42	39
Total respondents	582	394	312	1324	147	2943

Footnote: Respondents were asked to rate how strongly they agree or disagree with these statements on a scale from 1 to 4, where 1 is “Strongly disagree”, 2 is “Somewhat disagree”, 3 is “Somewhat agree”, and 4 is “Strongly agree”. The percentages in this table represent those who chose 3 or 4. A small percentage of those who had no opinion were considered to have little agreement with the various statements. There were respondents who worked in places that were not listed in this table, but have been included in the “All” column.

- For the following tables, the columns are defined according to the following:

Ind – Respondents working in industry, consulting firms, small companies, professional practices, or are self-employed  
 FFR&DC – Respondents working in Federally-Funded Research and Development Centers  
 Govt – Respondents working in government  
 Univ – Respondents working in universities  
 4YC – Respondents working in four-year colleges

- Almost all APS members continue membership because the APS keeps them informed about physics research and activities in the physics community. A high number of respondents are APS members because they support the benefits and services that the Society provides for the physics community.
- About 2 out of 5 members indicate that they have had sufficient opportunities to influence APS priorities and activities. It is unclear whether the other members believe that they do not have the opportunity to influence APS activities or that they are uninterested in pursuing such opportunities.
- About 2 out of 3 Junior members are members primarily because of direct member benefits.

**Table 2. Members who find the following APS benefits and services very valuable by selected employment sectors, 2004**

	<b>Ind</b>	<b>FFR&amp;DC</b>	<b>Govt</b>	<b>Univ</b>	<b>4YC</b>	<b>All</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Physics Today	77	78	76	77	79	77
Opportunity to contribute paper at APS meetings	25	55	53	66	62	53
APS News	39	46	36	43	48	42
APS journals (online) at greatly reduced cost	37	33	36	47	43	41
Division, Topical Group, Section and / or Forum Membership	26	41	31	41	35	36
Member registration fees at APS meetings	17	33	31	49	48	37
Career services	29	26	30	36	43	33
APS Membership Directory	29	37	31	37	29	34
Fellowship and awards	15	28	29	34	14	27
APS journals (hard copy) at greatly reduced cost	16	14	18	20	23	18
APS group (life) & auto insurance program	21	12	15	11	15	14
Email alias / forwarding service	10	8	8	9	6	9
Total respondents	585	397	312	1332	147	2958

Footnote: Respondents were asked to rate how valuable to them are various APS benefits and services on a scale from 1 to 5, where 1 is “Not at all valuable”, 3 is “Moderately valuable”, and 5 is “Extremely valuable”. The percentages in this table represent those who chose 4 or 5. A small percentage of those who had no opinion were considered to have little value for the various APS benefits and services. There were respondents who worked in places that were not listed in this table, but have been included in the “All” column.

- A large majority of APS members continue to highly value Physics Today as part of their APS membership benefits.
- The majority of non-industry APS members highly value their opportunity to contribute their or their students’ papers at APS meetings.
- About 6% did not highly value any of the listed APS member benefits and services. The majority of those members indicated that they continue APS membership either to support the physics community, keep in touch with community of physicists, or to keep in touch of developments in the field.
- Other than to highly value Physics Today, members working in industry are less likely to highly value any other APS benefit or service.
- Over half of the Junior members highly value APS Career Services.
- Several respondents wrote-in comments indicating an obligation to join “...as a physicist...I have never considered life without APS membership”.

**Table 3. Members who cited the following reasons why they joined APS by selected employment sectors, 2004**

	<b>Ind %</b>	<b>FFR&amp;DC %</b>	<b>Govt %</b>	<b>Univ %</b>	<b>4YC %</b>	<b>All %</b>
Keep in touch with community of physicists	46	43	40	43	45	43
Keep in touch with developments in the field	54	40	41	35	45	42
Support the physics community	39	43	40	41	41	41
Receive Physics Today	46	40	38	36	52	40
Desire to submit abstracts for APS meetings	21	37	36	38	35	33
APS meetings registration at reduced rates	15	28	27	33	29	27
Professor, employer, or colleague recommended I join	22	18	19	17	22	19
Journal subscriptions at reduced rates	17	10	12	15	16	15
Division, Topical Group, Section, or Forum participation	11	16	13	14	13	13
Low dues for students and recent graduates	11	9	11	12	11	11
Career guidance or employment help	12	7	10	6	7	8
Eligibility for possible fellowship	1	3	3	3	1	2
Total respondents	584	403	314	1348	148	2982

Footnote: Respondents were allowed to choose the three most important factors. On average, respondents chose 2.9 reasons. There were respondents who worked in places that were not listed in this table, but have been included in the "All" column.

- The top four reasons why respondents joined APS are to keep in touch with the community of physicists, to receive Physics Today, to support the physics community and to keep in touch with developments in the field.
- The majority of members teaching at Four-Year colleges joined to receive Physics Today. They were more likely to join for Physics Today than those teaching in universities are.
- Nearly half of the junior members joined APS for the reduced registration rates to APS meetings and to submit abstracts for those meetings. Over a quarter of junior members joined for the low dues for recent graduates.
- The majority of engineers and chemists joined APS to keep in touch with developments in the field.
- Nearly a third of the chemists joined APS for journal subscriptions at reduced rates.
- A quarter of the Junior members joined APS for the low dues for students and recent graduates.

**Table 4. Members who cited the following reasons why they continue to be APS members by selected employment sectors, 2004**

	<b>Ind</b>	<b>FFR&amp;DC</b>	<b>Govt</b>	<b>Univ</b>	<b>4YC</b>	<b>All</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Keep in touch with developments in the field	68	51	51	47	50	53
Keep in touch with community of physicists	55	53	48	49	57	51
Support the physics community	50	53	51	49	50	50
Receive Physics Today	52	47	44	40	48	44
Ability to submit abstracts for APS meetings	10	30	31	35	32	28
APS meetings registration at reduced rates	8	20	21	30	30	22
Division, Topical Group, Section, or Forum participation	13	21	17	17	20	17
Journal subscriptions at reduced rates	13	4	7	9	14	9
Career guidance or employment help	8	4	6	5	6	6
APS insurance programs	11	5	4	2	7	5
Eligibility for possible fellowship	1	2	4	4	1	3
Total respondents	580	403	311	1345	146	2969

Footnote: Respondents were allowed to choose the three most important factors. On average, respondents chose 2.9 reasons. There were respondents who worked in places that were not listed in this table, but have been included in the “All” column.

- The top four reasons for continuing membership are identical (in order) to the top four reasons for joining.
- About 92% of respondents cited at least one of the top four reasons for continuing their APS membership.
- About 17% of Junior members continue to be APS members primarily because of career guidance and employment help.



**Table 5. Member awareness of the following APS programs and services by selected employment sectors, 2004**

	<b>Ind</b>	<b>FFR&amp;DC</b>	<b>Govt</b>	<b>Univ</b>	<b>4YC</b>	<b>All</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
APS Job Center (on the APS website)	70	71	73	78	88	76
Grassroots lobbying efforts (for federal funding)	68	79	74	71	73	72
Physical Review Focus (making research articles more accessible)	44	57	51	63	61	56
Efforts to Promote Human Rights	52	59	49	50	48	51
High School Teachers Days at APS meetings	39	50	42	40	47	42
Minority Scholarship Program	39	39	36	41	55	41
Physics Central (website for the public)	33	33	36	42	52	39
Public Service Awards (to those in government who promote science)	42	42	35	37	32	39
Speakers lists of Women and Minorities in Physics	23	25	30	37	68	33
PhysTEC (improving education of prospective physics teachers)	30	31	30	33	43	33
Speakers lists of Industrial and Applied Physicists	30	22	27	33	53	31
Library Outreach Program (provide journals to libraries in dollar poor countries)	30	32	28	29	22	30
E-mail forwarding service	33	26	27	26	22	28
Site visits to investigate institutional climate for women	18	21	25	28	40	25
Matching Membership Program (subsidize member dues in dollar poor countries)	26	25	21	23	19	24
Total respondents	584	403	313	1336	148	2969

Footnote: Respondents were asked to rate their knowledge or awareness of the APS programs or services on a scale from 1 to 5, where 1 is “Never heard of program”, 3 is “Aware”, and 5 is “Know it well”. The percentages in this table represent those who chose 3, 4, or 5. A very small percentage of those who had no opinion were considered to be unaware of the program. There were respondents who worked in places that were not listed in this table, but have been included in the “All” column.

- The APS Job Center on the APS website and the grassroots lobbying efforts for federal funding are the most well-known APS programs and services. Nearly 3 out of 4 members know about these APS programs and services. Since the APS Job Center has only recently been available to members, it is unlikely that this many people would be aware of it. It is unclear if respondents are confusing the APS Job Center with the AIP job website.
- An overwhelming percentage (83%) of junior members know about the APS Job Center.
- Over half of the APS members know about Physical Review Focus and APS efforts to promote human rights.
- The majority of members teaching in Four-Year colleges know about the speaker lists and the minority scholarship program. They are more likely to know about the lists than are those teaching at universities.

**Table 6. Members who state that the APS should give high priority towards investigating and responding to the following public affairs, education and outreach issues by selected employment sectors, 2004**

	<b>Ind</b>	<b>FFR&amp;DC</b>	<b>Govt</b>	<b>Univ</b>	<b>4YC</b>	<b>All</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Federal funding for science	75	86	84	90	88	85
Public perception of science	74	83	81	86	88	82
Energy production and use	83	79	81	77	78	79
Environmental issues related to physics	72	66	69	75	74	72
National security / arms control	60	61	58	56	57	58
Emerging interdisciplinary research initiatives	60	47	58	61	61	58
Ethics issues in scientific research	54	57	58	54	58	55
The future of the national laboratories	46	72	64	55	67	57
The changing role of research in industry	53	44	51	46	42	48
The interaction between universities and industry	50	34	42	46	37	44
Physics and health	44	36	42	47	48	44
National missile defense	40	45	42	38	41	40
Early and mid-career issues	32	37	39	39	41	38
Total respondents	584	399	313	1327	147	2954

Footnote: Respondents were asked to rate the priority the APS should give towards investigating and responding to various public affairs, education and outreach issues on a scale from 1 to 5, where 1 is “Drop activity”, 3 is “Moderate priority”, and 5 is “Highest priority”. The percentages in this table represent those who chose 4 or 5. A small percentage of those who had no opinion were considered to have a low priority rating of the activity. There were respondents who worked in places that were not listed in this table, but have been included in the “All” column.

- Most APS members, especially those teaching in universities, feel the APS should give high priority to investigating federal funding of science and the public perception of science. These two issues were not asked in the previous survey.
- In 2001, energy production and use and environmental issues related to physics were the issues urged by the most members for APS to investigate. They continue to be high priority issues in this survey. Most members working in industry cited that the APS should give high priority to investigating energy production and use.
- Early and mid-career issues continue to be cited by the least number of respondents as high priority items for APS to investigate.

**Table 7. Members who state that the APS should give high priority towards continuing and enlarging the following public affairs, education and outreach efforts by selected employment sectors, 2004**

	<b>Ind</b>	<b>FFR&amp;DC</b>	<b>Govt</b>	<b>Univ</b>	<b>4YC</b>	<b>All</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Inform policy decision makers about physics	82	90	88	88	93	87
Educate the public about physics	74	85	78	85	87	82
Lobby for increased funding for physics	62	76	73	83	76	76
Improve education for prospective physics teachers	76	67	70	73	86	73
Improve pre-college physics / math education	76	67	70	73	86	73
Improve undergraduate physics education	65	62	61	67	83	66
Facilitate members' interactions with policy decision-makers	54	66	62	64	51	61
Improve graduate physics education	55	56	56	61	62	58
Reduce the barriers for success for women and minorities in physics	45	50	48	57	63	52
Promote international cooperation / opportunities in physics	42	47	44	53	42	48
Monitor human rights of physicists internationally	31	34	32	37	25	34
Total respondents	583	397	311	1323	147	2945

Footnote: Respondents were asked to rate the priority the APS should give towards continuing and enlarging various public affairs, education and outreach issues on a scale from 1 to 5, where 1 is “Drop activity”, 3 is “Moderate priority”, and 5 is “Highest priority”. The percentages in this table represent those who chose 4 or 5. A small percentage of those who had no opinion were considered to have a low priority rating of the activity. There were respondents who worked in places that were not listed in this table, but have been included in the “All” column.

- More respondents urge the APS to give high priority towards continuing to inform policy decision makers about physics than any other public affairs, education or outreach efforts.

## Demographics

**Table 8. Professional self-identification by selected employment sectors, 2004**

	Ind %	FFR&DC %	Govt %	Univ %	4YC	UARI %	Other %	All %
Physicist	58	89	78	75	87	85	64	74
Engineer	24	5	10	10	2	5	7	11
Chemist	5	3	5	7	5	-	4	6
Astronomer or Astrophysicist	1	1	2	3	3	2	5	2
Biophysicist	0	1	2	2	1	2	3	2
Other	12	2	4	3	3	7	16	5
Total respondents	580	405	311	1343	148	60	123	2970

Footnote-UARIs are university-affiliated research institutes.

- Respondents working in industry who identified themselves as other were various computer specialists, managers, and other scientists.

**Table 9. Years as APS member by selected employment sectors, 2004**

Years as APS member	Ind %	FFR&DC %	Govt %	Univ %	4YC	UARI %	Other %	All %
0 to 4	13	12	17	18	13	23	20	16
5 to 9	13	12	17	14	10	21	13	14
10 to 14	14	13	18	15	14	13	12	14
15 to 20	12	13	11	12	17	8	11	12
20 to 24	13	14	11	12	20	13	12	13
25 to 29	11	13	9	7	10	5	6	9
30 or more	25	25	19	22	18	16	26	23
Median years as member	18	20	14	15	18	12	15	15
Total respondents	582	401	313	1340	148	61	122	2967

**Table 10. Respondent degree attainment by selected employment sectors, 2004**

	Ind %	FFR&DC %	Govt %	Univ %	4YC	UARI %	Other %	All %
Doctorate or PhD	85	97	93	98	98	90	83	94
Masters	10	1	6	1	2	8	11	4
Bachelors	4	2	1	0	-	-	5	1
Other	1	-	0	0	-	2	2	0
Total respondents	586	403	315	1346	148	61	123	2982

**Table 11. Work activity by selected employment sectors, 2004**

	<b>Ind</b>	<b>FFR&amp;DC</b>	<b>Govt</b>	<b>Univ</b>	<b>4YC</b>	<b>UARI</b>	<b>Other</b>	<b>All</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>		<b>%</b>	<b>%</b>	<b>%</b>
Administration or management	13	14	16	5	3	12	13	9
Applied research, long range	16	25	27	8	1	18	6	14
Applied research, short range	17	8	7	2	-	22	9	7
Basic research	7	43	39	57	2	32	18	39
Computer applications	7	3	3	0	-	7	2	3
Consulting	7	2	2	0	-	2	3	2
Engineering/product development	25	2	4	0	-	3	3	6
Teaching	0	-	0	26	92	2	20	17
Other	7	3	3	1	2	3	28	4
Total respondents	582	402	313	1345	148	60	120	2970

## Appendix Tables

**Table 12. Members who cited the following reasons why they joined APS by professional self-identification, 2004**

	<b>Phys %</b>	<b>Eng %</b>	<b>Chem %</b>	<b>JR %</b>	<b>Other %</b>	<b>All %</b>
Keep in touch with community of physicists	46	38	33	33	48	43
Keep in touch with developments in the field	41	51	50	29	44	42
Receive Physics Today	40	38	46	39	45	41
Support the physics community	45	33	29	25	45	41
Desire to submit abstracts for APS meetings	33	32	22	46	28	33
APS meetings registration at reduced rates	26	23	29	49	18	27
Professor, employer, or colleague recommended I join	19	20	17	18	22	19
Journal subscriptions at reduced rates	15	15	28	5	12	14
Division, Topical Group, Section, or Forum participation	12	20	17	9	16	13
Low dues for students and recent graduates	10	7	9	27	9	11
Career guidance or employment help	8	8	3	14	6	8
Eligibility for possible fellowship	2	4	2	2	2	2
Total respondents	1995	302	153	280	267	2997

Footnote: Respondents were allowed to choose the three most important factors. On average, respondents chose 2.9 reasons.

➤ For the following tables, the columns are defined according to the following:

Phys – Regular members who consider themselves Physicists

Eng – Regular members who are engineers

Chem – Regular members who are chemists

JR – Junior members

Other – Regular members who are not physicists, engineers or chemists

**Table 13. Members who cited the following reasons why they continue to be APS members by professional self-identification, 2004**

	<b>Phys %</b>	<b>Eng %</b>	<b>Chem %</b>	<b>JR %</b>	<b>Other %</b>	<b>All %</b>
Keep in touch with developments in the field	52	61	64	40	58	53
Keep in touch with community of physicists	54	42	45	42	56	51
Support the physics community	54	42	41	29	54	50
Receive Physics Today	43	43	50	48	49	44
Ability to submit abstracts for APS meetings	27	25	20	43	20	28
APS meetings registration at reduced rates	21	20	20	47	14	22
Division, Topical Group, Section, or Forum participation	17	17	20	11	19	17
Journal subscriptions at reduced rates	8	16	11	7	7	9
Career guidance or employment help	5	6	3	17	4	6
APS insurance programs	5	7	5	1	6	5
Eligibility for possible fellowship	3	4	1	4	3	3
Total respondents	1989	299	153	277	266	2984

Footnote: Respondents were allowed to choose the three most important factors. On average, respondents chose 2.9 reasons.

**Table 14. Member awareness of the following APS programs and services by professional self-identification, 2004**

	<b>Phys %</b>	<b>Eng %</b>	<b>Chem %</b>	<b>JR %</b>	<b>Other %</b>	<b>All %</b>
APS Job Center (on the APS website)	79	61	56	83	69	75
Grassroots lobbying efforts (for federal funding)	74	68	71	58	74	72
Physical Review Focus (making research articles more accessible)	59	44	51	64	44	56
Efforts to Promote Human Rights	56	44	50	24	51	51
High School Teachers Days at APS meetings	44	37	33	36	41	42
Minority Scholarship Program	42	37	40	30	41	40
Physics Central (website for the public)	41	34	27	40	38	39
Public Service Awards (to those in government who promote science)	39	42	43	29	37	39
Speakers lists of Women and Minorities in Physics	36	24	22	24	29	32
PhysTEC (improving education of prospective physics teachers)	35	33	26	24	30	32
Speakers lists of Industrial and Applied Physicists	34	24	21	22	27	31
Library Outreach Program (provide journals to libraries in dollar poor countries)	31	26	29	18	31	29
E-mail forwarding service	28	30	17	35	25	28
Site visits to investigate institutional climate for women	27	15	20	25	22	25
Matching Membership Program (subsidize member dues in dollar poor countries)	25	23	21	16	24	24
Total respondents	1996	303	153	278	269	2999

Footnote: Respondents were asked to rate their knowledge or awareness of the APS programs or services on a scale from 1 to 5, where 1 is “Never heard of program”, 3 is “Aware”, and 5 is “Know it well”. The percentages in this table represent those who chose 3, 4, or 5. A very small percentage of those who had no opinion were considered to be unaware of the program.



**Table 15. Members who state that the APS should give high priority towards investigating and responding to the following public affairs, education and outreach issues by professional self-identification, 2004**

	<b>Phys %</b>	<b>Eng %</b>	<b>Chem %</b>	<b>JR %</b>	<b>Other %</b>	<b>All %</b>
Federal funding for science	86	79	82	85	83	85
Public perception of science	83	78	84	78	83	82
Energy production and use	78	82	78	79	80	79
Environmental issues related to physics	72	68	72	76	72	72
National security / arms control	60	57	56	40	60	58
Emerging interdisciplinary research initiatives	56	58	59	66	59	57
The future of the national laboratories	60	48	50	55	48	57
Ethics issues in scientific research	55	52	55	56	57	55
The changing role of research in industry	48	51	42	48	41	48
The interaction between universities and industry	44	48	46	48	34	44
Physics and health	43	45	40	50	43	44
National missile defense	43	34	40	26	39	40
Early and mid-career issues	37	32	31	54	34	37
Total respondents	1992	302	151	275	268	2988

Footnote: Respondents were asked to rate the priority the APS should give towards investigating and responding to various public affairs, education and outreach issues on a scale from 1 to 5, where 1 is “Drop activity”, 3 is “Moderate priority”, and 5 is “Highest priority”. The percentages in this table represent those who chose 4 or 5. A small percentage of those who had no opinion were considered to have a low priority rating of the activity.

**Table 16. Members who state that the APS should give high priority towards continuing and enlarging the following public affairs, education and outreach efforts by professional self-identification, 2004**

	<b>Phys</b>	<b>Eng</b>	<b>Chem</b>	<b>JR</b>	<b>Other</b>	<b>All</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Inform policy decision makers about physics	88	83	85	83	82	87
Educate the public about physics	84	75	82	77	78	82
Lobby for increased funding for physics	79	62	61	80	68	76
Improve education for prospective physics teachers	74	71	75	68	71	73
Improve pre-college physics / math education	72	73	74	68	73	72
Improve undergraduate physics education	68	60	59	62	65	66
Facilitate members' interactions with policy decision-makers	63	57	56	56	58	61
Improve graduate physics education	60	56	51	56	53	58
Reduce the barriers for success for women and minorities in physics	54	41	55	51	54	52
Promote international cooperation / opportunities in physics	48	40	43	58	47	48
Monitor human rights of physicists internationally	35	25	33	35	34	34
Total respondents	1982	301	150	276	266	2975

Footnote: Respondents were asked to rate the priority the APS should give towards continuing and enlarging various public affairs, education and outreach issues on a scale from 1 to 5, where 1 is “Drop activity”, 3 is “Moderate priority”, and 5 is “Highest priority”. The percentages in this table represent those who chose 4 or 5. A small percentage of those who had no opinion were considered to have a low priority rating of the activity.

**Table 17. Members who find the following APS benefits and services very valuable by professional self-identification, 2004**

	<b>Phys</b>	<b>Eng</b>	<b>Chem</b>	<b>JR</b>	<b>Other</b>	<b>All</b>
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Physics Today	80	68	76	74	73	77
Opportunity for you or your students to contribute a paper at APS meetings	55	44	44	72	38	53
APS News	45	37	35	36	37	42
APS journals (online) at greatly reduced cost	43	37	39	42	27	41
Member registration fees at APS meetings	37	36	32	60	25	37
Division, Topical Group, Section and / or Forum Membership	39	36	30	28	34	36
APS Membership Directory	38	26	21	24	32	34
Career services	33	20	16	57	22	32
Fellowship and awards	28	25	23	30	20	27
APS journals (hard copy) at greatly reduced cost	19	21	19	14	15	18
APS group (life) & auto insurance program	14	13	10	13	14	14
Email alias / forwarding service	8	8	9	12	6	9
Total respondents	1984	301	151	275	266	2977

Footnote: Respondents were asked to rate how valuable to them are various APS benefits and services on a scale from 1 to 5, where 1 is "Not at all valuable", 3 is "Moderately valuable", and 5 is "Extremely valuable". The percentages in this table represent those who chose 4 or 5. A small percentage of those who had no opinion were considered to have little value for the various APS benefits and services.

**Table 18. Member agreement with the following statements by professional self-identification, 2004**

	<b>Phys %</b>	<b>Eng %</b>	<b>Chem %</b>	<b>JR %</b>	<b>Other %</b>	<b>All %</b>
I am an APS member primarily because the Society keeps me informed about physics research and activities in the physics community.	92	90	91	86	93	91
I am an APS member primarily because the Society serves the needs of the physics community (e.g. lobbying, improving education, and bringing the importance and excitement of physics to the general public).	86	73	68	76	78	82
I am an APS member primarily because the Society provides direct member benefits (e.g. reduced journal prices and meeting fees, the directory, and group insurance programs).	50	51	47	66	40	50
I have sufficient opportunities to influence APS priorities and activities.	41	33	38	32	41	39
Total respondents	1977	300	148	276	265	2966

Footnote: Respondents were asked to rate how strongly they agree or disagree with these statements on a scale from 1 to 4, where 1 is “Strongly disagree”, 2 is “Somewhat disagree”, 3 is “Somewhat agree”, and 4 is “Strongly agree”. The percentages in this table represent those who chose 3 or 4. A small percentage of those who had no opinion were considered to have little agreement with the various statements.

## *Verbatim Comments*

### **VERBATIM COMMENTS ABOUT MEMBERSHIP AND WHY MEMBERS RENEW**

A physicist is what I am. I guess we're talking about brand loyalty here, but that is why I renew my membership each year.

Affiliation with APS makes me professionally happy, in all respects which are fully listed in the above sections of this review.

After two degrees in physics, I subsequently obtained three degrees in other disciplines (operations research, systems and cybernetics) because I could find no suitable job in physics. My current technical focus is on intelligent systems and robotics, in my own company, and I am a professor in the field of technology management. I maintain APS membership primarily to support the physics community - and for nostalgic reasons.

Although I am not very active in APS, and my job is more oriented to engineering research than physics, I greatly appreciate the contact with the physics community that APS provides for me.

Although I write about the computational sciences, of which physics is only one, APS membership is invaluable because it gives me greater awareness of new developments and helps me put my work in context.

APS has been a large influence on my career (over 40years) and continues to provide a valuable service.

APS membership has been helpful and important to me.

APS plays a very important role in keeping me (a physicist in a two man department in a small liberal arts college) connected with the greater physics community.

At the age of 70 and after over 40 years of membership it would be nice to be honored as a life member ala the IEEE. Throughout the years the APS has published outstanding information on all aspects of physics. I applaud your efforts.

Because the MRS publishes "reviewed" presentations, and has its largest meeting very convenient to me, and has more sessions directly in my interest, it has replaced the APS as my "primary" professional society. I maintain APS membership because I sometimes want to go to APS meetings (rarely as travel more expensive) and mostly because the cost of membership plus insurance life premium still lower than any other plan I could obtain.

Currently I work as a Software Engineer for a major defense contractor. Physics is a major passion of mine, and has been so since I was a child. Eventually I would like to transition my career into Physics, at least as professor. However, I have gained valuable skills working as an Engineer for the past 8 years. Surely my experience can be applied to research that relies heavily on computer simulation. I joined APS 3 years ago to keep my eye on any opportunities that may suite may skills, experience, and interest.

excellent service

Happy with APS services.

I am a fellow, and am active in DAMOP and the few-body topical group. I cannot imagine being a physicist and not belonging to the APS. The central journals of our field (particularly their electronic availability), the

organization of Divisional and National meetings, and the Washington presence of the APS are all central services and benefits that the community receives from the APS. I think those three categories of activities at the APS form the majority of its reason for being, and our reason for being part of it.

I am a househusband now, with two small children. The APS keeps me connected, however tenuously, with the practice of physics, and contributes to my remaining shreds of sanity.

I am a member as a matter of converging interests rather than a one likely to use the additional services you provide to physicists. I will never get a job as a physicist or be likely to ever attend meetings as my interests are not convergent with an particular division, etc. APS is a bit too liberal for my taste politically, and has too many problems with minority and women to suit me. But I love the material and the perspective I get from my knowledge and like to keep current in several areas of physics, so...

I am a member of AAPT and was a member of AVS and AAAS. I am too busy with my projects and classes to devote much attention to organizations at this time.

I am a member of APS because it would not occur to me to not be a member. So it was hard to decide on my reason(s). But like a good scout, I checked something.

I am a member of the computational physics subdivision. I find it totally irrelevant to me and divorced from the mainline areas of computational physics. I intend to let my membership lapse.

I am a member primarily because I think of myself as a physicist. I don't really take advantage of any of the opportunities the APS offers.

I am a polymer materials scientist, so I straddle the world of physics & chemistry, with a little more leaning toward physics (my specialty is mechanics of polymer materials and rheology). I like to read PT to see what is going on in other "hard" physics areas. I have had minimal contact with the academic world of physics in my own career in industry, but I want to continue to support the national organization that represents all physicists. Keep up the good work! PS Darn, I wish I had gotten my PhD in physics then I'd be a "real physicist". So part of my continued involvement with APS is "P-envy".

I am a relatively new member, having spent most of my career as a member of the Amer Astron Soc and SPIE. When the nature of my research changed permanently, I quit them and joined APS, but I have not become active.

I am a retired physicist who still maintains an association with NIST.

I am a theoretical chemist, so I belong to both ACS and APS. I wish the American Chemical Society was even half as well organized. I am at a small institution. A major concern here is continued affordable access to electronic journals, especially the archived issues. Second to that but still important is society support for professional activities.

I am also a member of ACS. In comparison, APS is a very poor professional society. There are really no real benefits. Physics Today can be had from OSA, so the only reason to be a member of APS is for reduced conference rates, but unfortunately, the rates are really not reduced much. Student rates should be zero for conferences.

I am also a member of the German and European Physical Societies, and in comparison the APS hosts the best meetings, while I find the monthly publication of the EPS intellectually more stimulating. The German Physical Society earns a strong 'also ran', but I would not drop that membership because of the ties it provides with my country of origin.

I am pleased with the APS programs, particularly the quality of the Phys. Rev. and Physics Today.

I am pretty much out of the field these days, but I do enjoy keeping up, to a small degree, with research findings.

I am primarily interested in keeping somewhat up-to-date with new developments in Physics.

I am retired and still consider myself an active member who participates in research and contributes to physics and physics education. There should be a program or division for members in good standing for a number of years, possibly 40, who should be appointed Senior Fellows of the society.

I am working for a small start up company right now doing chemistry and just cancelled my APS membership because paying the full (and not the graduate) rate is too much for just being a member without participating at meetings etc. I think the ACS membership and getting the chemical engineering news is a much better deal ...

I believe the APS is an exemplary professional organization and I am proud to be a member. APS's role in publishing and providing meetings for the dissemination of physics, and the promotion of physics for the benefit of the general public, is its primary mission. Serving other interests of its membership (e.g. insurance) should remain secondary.

I belong to APS because I feel the need to be part of a professional society and APS most closely matches my scientific interests. My training was in engineering, but my interest is not in engineering. After many years of associating with physicists I know that they are very narrow-minded about their profession, especially when it comes to welcoming engineers. But still, I need to belong to a general physical science professional society and have chosen APS.

I didn't complete the survey basically I did not renew my membership. I discontinued my membership because I receive Physics Today through an affiliated organization (AGU), APS does not cover my current interests or profession, and the dues are too high to remain a member when I know I am not going to use the services.

I have never attended an APS meeting. I do read and publish in some APS/AIP journals. In comparison with the American Chemical Society (of which I'm also a member), the APS is more clearly an advocate for its members, possibly because there is no monied "physics industry" as there is a chemical industry. On the other hand, the ACS magazine is more of a trade journal, with extensive industry and employment surveys (for example).

I feel more allied with the AAS than the APS, but I strongly support the work of the APS.

Specifically, Physics Today, the conferences and the journals, APS news, allow me to keep informed about research and activities.

I have enjoyed my five years of subscription with APS. I am proud to be a member of the APS because of the benefits I receive and the meetings and programs it provides to all members.

I have morphed into a Cryobiologist, so my main societies now are the Society for Cryobiology and the Biophysical Society. I publish in Journals such as Cryobiology and Biology of Reproduction. I support APS for general good and because of my Physics roots. I am a closet astronomer and so, for instance, will be attending the OSAPS meeting at Ohio University next month. I support AAAS for Science Mag. and general good.

I hope my answers are not too strange. I am not a professional scientist. I did not complete college, and have no degree. I always did well in physics in High School (Senior year) and my first year of college. My second year did not go well, and I left college to work after my second year. I first heard of APS from Robert Park, who gave a talk before the National Capital Area Sceptics. I joined in 2002 after finding the reduced rate (\$50) offer on your website. This is my third year, but I may not be able to continue membership past 2004. Thank you.

I joined APS for physics community, but now I keep my membership only for the life insurance, since I have transferred fields.

I joined APS when I was a research physicist, but now I am a community college teacher and as such I wonder if I should continue my APS membership.

I remain primarily because of inertia. I find that I am far more interested in the benefits I get from my AAPT membership, and lately I've been considering dropping my APS membership. (I teach at a community college, which I notice did not even get its own category on your employer list.)

I really think APS is working well and I'd like to see other organization use the APS as a model.

I joined for the opportunity of discussion of different physical problem with my colleagues.

I spend little time thinking about why I belong to the APS. It is the professional society for my profession, of course I belong. That said I regard the APS March Meeting, Physics Today and the 'Inside the Beltway' part of the APS news as valuable and interesting. I also found the employment adds in Physics Today to be vital to my job search.

I think of myself as a physicist, even in retirement. So I have never considered life without APS membership.

I think the APS is doing an excellent job in serving the physics community and in pursuing its goal of advancing physics for the benefit of humankind.

I think the most important thing to keep people in the APS is that the membership fees are appropriate to where you are in your career. I think the APS does done a good job with this. I joined as a student, which was cheap, in order to go to the March Meetings, as did many of my friends.

I thought people only join the APS to get discounts for the meetings. The decision to hold the meeting in Canada meant a lot of international students and post docs could not make it (on account of US foreign policy which looks only to get worse), therefore I did not renew my subscription.

I value my APS membership highly. Budgetary considerations at my home institution mean I attend the Biophysical Society meetings rather than the March meeting. I regret this, but it is not something the APS can affect.

I was trained as a physicist, and practiced the craft for much of my career. Most of my work is now management, but I do manage physicists as well as other disciplines. The APS is my link with a professional technical society, and I like to maintain that link.

I work in space plasma physics. This subject is virtually unrepresented by the APS. After years of membership, I grow less aware of why I should maintain my membership. It is clear you are more concerned with lobbying for the giant science projects and less for support of small science overall. Space physics is given a back seat to fusion research. I'm not sure I will stay a member if things don't change.

I work in the software sector on instrumentation for the biotechnology industry. APS membership allows me to keep informed about what is happening in the physics community. It would be very difficult to do so otherwise.

In general I think APS does a good job in serving the Physics community. Now that I am working in industry rather than academia, my perspective is different than when I first joined APS. My father, Harvey Casson has been a member of APS for about 50 years, so he also influenced my to join.

In the past it is where I presented my work. Now it is the ANS.



It is an honor to be a member of the APS.

It's not clear how one goes about improving one's member status from Member to Senior Member to Fellow in the APS. Clear guidelines should be available on the web, and the process should be relatively painless in terms of paperwork. 'Promotion' is a good way to retain and improve membership.

Keep up the good work.

My current affiliation with a government funded lab diminishes the importance of APS's benefits because my employer-provided benefits are very good. If I leave this employer, the importance of APS-provided benefits could increase significantly.

My current responsibilities are not within the main stream of physics so many of the APS attributes may not be very applicable to me.

My membership doesn't do much for me since I moved from academia to industry. I am a member through inertia because I think of myself as a physicist.

Primary affiliation is now with AAS.

Proud to be an APS member.

Overall, I'm a member in APS for obvious reasons -- I'm a physics professor who regularly attends APS meetings, of course I am a member of the most important US professional society related to physics. It's not really because of Physics Today or reduced meeting prices or any one thing in particular, although of course these are nice benefits.

I am offended by the high dues. I am offended that many members were allowed to avoid the high dues with a cheap lifetime membership just prior to the hike-in-dues. In my opinion that benefit should be rescinded.

I wish there would be some reduction in membership fees for members belonging to more than one AIP society. For example, if Physics Today is received from another membership.

I'm not very active in the APS right now--I'm primarily a software engineer, trying to stay in touch with the physics community. My long term goal is to return to research, and so I try to stay on top of developments in the field. For me personally, Physics Today is very useful. I find I don't have the time to even peruse Phys Rev Letters that much.

Reduced meeting and subscription fees are valuable, not "group insurance" or other such benefits directly related to physics.

Should considerably reduce the membership dues paid by members themselves (without the compensation from their employers), rather than institutions.

Having to keep track of my APS Membership Number is about the most annoying thing on the planet. There has to be a better way to identify me so when I need it (EG to register for meetings on the APS site) I don't have to find it.

Thank you, APS, for all your support. I love being a member.

The American Physical Society is a wonderful society to enrich the scientific community and it's minds. But it's information is dry and bland, and does a very poor job reaching out to the general masses who know nothing of

science and its importance for progress and survival. As a graphic designer, and creator of the arts, my view of the world melded with science is a different one, and the information the society provides for the tools are far from creative, and will not grow and reach its potential heights unless the "masses" can learn, understand, and participate. I will not be rejoining the APS for that reason. Thank you.

The APS has become remote from my interests. I find Physics Today timid in style. The physics community might as well be located on a different planet because it has so little to do with my career and interests.

The APS is one of several technical societies to which I belong and it is a very important one to me because of its technical activities. In particular, the March Meeting is very important. Publication activities are important, but the reduced subscription prices are not--I get the journals through my library. Physics Today I get from another affiliation as well. Certainly, this magazine is not worth the dues at APS. Also, not getting Physics Today wouldn't reduce dues. I think that APS is important and will continue to do many things that I don't think it can have a very big impact by doing simply because it is too small. But, I also think sometimes organizations need to do these things to maintain internal cohesiveness and identity for its membership. So overall I am pleased with the APS and what it tries to do for the physics community in particular and science in general.

The APS operates the journals of record in PHYSICS and organizes national meetings---that's why I am a member. Also it is my professional society, presumably looking after the needs of physicists and promoting the field. I go to my divisional meeting (DNP) every year but I rarely get to go to the 'New York' and 'Washington' meetings, or the equivalent because there are so many topical international meetings which didn't exist 40 years ago.

The main benefit of being an APS member is that one is in touch with other physicists on a professional basis.

The Member directory should list all members, not just those who are employed by colleges, universities and research laboratories.

There is no space to write in an answer for question #14. However, if there were I would write that I am an APS member primarily because of the fora (Education, History of Physics, Physics and Society).

While my career has 'left' physics, my heart remains. The APS gives me a way of retaining my association with the field. I only wish I could understand Physics Today. (PhD Harvard '75)

I would drop promotional items, especially deals on credit cards. In my opinion, APS should keep its distance from such activities.

## VERBATIM COMMENTS ABOUT LOBBYING, POLITICS AND PUBLIC POLICY

We should do more to promote Physics as a career choice. Phys Rev Focus should spend less time promoting hollow "Gee-Wizz" physics features and tackle the hard (and much more important) job of promoting real physics to the public.

APS has done a good job in the area of Missile defense. It should get involved more in energy related issues. Promote a Manhattan Project like program to get the US off of the use of fossil fuels.

APS is strongly mistaken if it tries to become a lobbying organization. Its strength is that it can promote the education of the public in general which is where the power resides for the future and physics.

APS is too involved in politics and social movements.

APS needs to avoid the bias it frequently shows in arms control issues (among others), and open its review committees to the non-standard cast of "professional committee members" -- we're becoming too elitist and our credibility is declining with the public.

APS needs to carefully evaluate and create a dialog for its membership on the topics of Govt Policies of Defense Policy, Foreign Policy, & Security Policy: I am concerned The BUSH ADMIN. have gotten the US into WAR solely for future OIL supply. This is not a rational policy, history has not been kind to nations and the nations' peoples when their leaders have used propaganda, deceit & autocratic tactics to promote invasion & conquest as a means to obtain resources and establish a sphere of influence. WE, as members of APS, need to have forums and open evaluations on policy topics, the cost and lost columns to education, research, applications of technology are enormous, APS can at least do spread sheet analyses and write articles like the missile defense analysis to put the issue on an economic-social-political policy merit metric versus emotional, polarizing, discourse path.

APS should be politically neutral. I perceive that the APS has a radically liberal bias that will ultimately destroy public confidence in the objectivity of physics and indeed, in science as a whole. (And I, myself, am a liberal.)

Citizen interest and understanding of science and how scientists in general, physics in particular, reach conclusions based on experimental design, data and analysis is at a historic low. We are losing the battle between science and barbarism, rational conclusion vs. polemical assertion. The APS needs to stand up and make itself known and visible and vital.

Either I skim past it in the Physics Today, or not much is written about how physics research gets funded, who the lobbyists are, what physicists are contributing information to members of Congress, and who Marburger gets in touch with when he wants information. Essentially, how are physics related information and research needs disseminated to public servants/decision making bodies. I wouldn't mind know more about this.

From here out West, it looks like the APS has a bad case of Beltway Syndrome, where you look to the government to solve all our problems. Your studies on arms and peace also seem to be founded on several unstated assumptions from the Cold War Era that have been demonstrably false for over a decade. No amount of good physics can compensate for this deficiency. It is no wonder the government often ignores your advice.

Get out of the Missile Defense business as the key to those technologies are all classified and since APS can not publish classified information even physicists can be lead astray when they don't have all the "right" information. Let's focus on physics education and better salaries for faculty. Like the church we are more effective the closer we are to the physicists themselves and their issues in educating future physicists.

Greatly appreciate the APS taking positions on issues from an objective scientific point of view. In nearly all such cases APS reflects what I think about such issues and it that sense APS voices my opinion, because it is an opinion based on scientific facts and not simply arguments, which have a non scientific base.

I am a 41-year-old chemical physicist and technologist who has belonged to the APS since graduate school at Caltech. I am dismayed and disappointed at the very obvious left-of-center bias that permeates the editorial judgment of "APS News," and to a lesser extent "Physics Today." This political bias is no doubt reflective of the APS leadership as a whole. When it shows, there is a very dismissive attitude toward many main-stream, rational, sane, conservative views that are held by the majority of thinking people in this country, including scientists! The implicit assumption behind the brazenness of injecting your left-of-center bias is that there are none who seriously disagree with you or who are on the "other side" in your readership. In this I assure you that you are quite wrong, and that your arrogance toward those who hold alternative views to yours does not go unnoticed.

I am a member of DFD which is my greatest interest. We face a crisis in Energy (including the climate) which will change the world of our children in dramatic ways. This really needs attention by all. Water is not far behind.

I am concerned with what seems to be an increase in the politicizing of the APS News. It is important to provide scientific insight into the issues involved in current political questions. It is even useful to provide editorial space for those involved in the process (as is often done on the last page). However, recent issues have included implied endorsements of a particular party and criticisms of the other without any scientific basis. It is important that the APS provide political input as an "honest broker" in scientific issues, rather than becoming a forum for a political agenda.

I believe that the APS should speak out strongly and loudly on issues related to national policy, research funding and bogus science.

I would also caution the Society to, in general, focus its energy on education, improving the research climate, and other activities that are "a-political". There are plenty of physicists who are politically motivated on arms control and missile defense, most of the time adopting a left-leaning viewpoint, which may or may not be representative of the majority of physicists. The issue here is that the Society does not have the resources to become a political body and should steer clear of such activities.

I don't expect the APS to do much more than it is doing. I put high priority in APS using its clout to educate the public and Congress, and to actually lobby. The President has a voodoo view of science driven by his Faith Based philosophy and Congress is our only hope to counter this.

I find it strange that the physical societies would be entering a fight about biological evolution. It seems that if we are not experts in a field we would not enter a cat fight to help declare that a theory is a fact. Lets stick to trying to understand the universe with an open mind and let the facts rather than politics dictate our pronouncements.

I recently returned from the AIAA Air and Space conference in Washington, DC. One of the activities was "congressional visits day", where AIAA members from various states were given the opportunity to meet with congressional staffers from their districts to talk about issues important to the AIAA (e.g., funding for NASA aeronautics, the Hubble space telescope, DOD basic R&D funding, base closures, etc.). This seemed to be worthwhile does the APS do this?

I strongly disagree with the political lobbying done by the APS. Each spring, around "mark-up" time, the APS sends panicky emails pleading with the membership to lobby Congress to increase funding for one or another federal agency. I oppose the APS management's efforts to enlist the membership in the management's political agenda.

I think the APS is excellent overall. But I am dismayed by the way it is so necessary to tread so carefully politically nowadays. Someone needs to say when the emperor has no clothes and I think it is really sad the way Physics Today has been infected by US Government paranoia and so many contemporary articles focus on ways of killing everybody non-American quicker and deader. More bad global PR for the US. What is the Heisenberg point at which global and humanitarian necessities and good balance the need to get that next bit of US government research budget?

I wish APS will organize the following activities: organize workshops by top scholars with brilliant minds to decide on and recommend the most important (i.e., of most significant national interest) research topics in physics for the next 10-20 years. Physicists can have a larger impact on our society if we not only conduct fundamental research but also solve problems of critical national interest. Promote new research fields that would make significant contributions to national security, national defense and world peace.

I would like APS members to be able to vote on APS position statements, with at least two-thirds of voting members affirming the statement before it is adopted and publicized.

I would like for APS to be strictly non-partisan. I would like for APS to restrict its pronouncements and news to areas in which physicists possess competence.

In a perfect world my answers would have been different. It is a shame that the APS must take responsibility to lobby for funding for science, to keep our leaders in Washington informed of the importance of science to the well being and future of the country (What are my taxes paying for??? I thought that would be their and their staff's job? I thought it was their job to do what is right and necessary for the well being of the country?) It is a shame that the APS cannot just concentrate on promoting and dispensing physics between scientists, to the public, and schools.

In my contacts with policymakers in Congress, I have been repeatedly told that the APS is an ineffective lobbying organization compared to other scientific and professional groups. This needs to be addressed by finding out what others do and doing it. I think the organization needs to reduce its involvement in certain political issues which, while important, are of no interest to younger members. We have enough work to do to keep the field alive.

In my lifetime the physics community has evolved from a group of people with a genuine interest in understanding the nature of the universe into a group of people whose main motivation is obtaining money from the federal government. This change has been supported by universities who see physics primarily as a source of overhead dollars.

It is beneficial to have such a society for Physics community who can influence the government policy making decisions and general outreach.

It is essential that the Society be apolitical, providing objective advice and commentary on major national and international issues where our expertise can contribute to a solution. When it digresses into loosely defined social 'causes' it can lose its way, blurring its role as a scientific enterprise.

It's important to me that the APS be seen as an institution above politics. The APS needs to weigh in on big issues like missile defense, nuclear weapons, and energy options to help bring some realism to the debate. The role of the physicist in such discussions is to say what is and isn't physically possible. Others can worry about the cost or social ramifications.

Like a lot of so-called professional societies APS must balance its roles as scientific, labor union, technical lobbyist, and political lobbyist organizations. So far it hasn't done all that well.

Many of the items that appear in APS print form such as cartoons and editorials demonstrate intolerance for Jewish and Christian thought, while letters received from members indicate a membership that is not entirely hostile to those groups of people. Why the hostility to a large portion of your membership? Also, many members at Federal Laboratories cannot lobby the government for your "cause-du-jour." Why not place more emphasis on educating as well as you can where ever you are, with tools available.

My general opinion is that the AIP and APS strike a reasonably good balance with respect to member benefits. I particularly appreciate the efforts to provide unbiased, scientifically accurate information for policy makers and the general public.

No doubt extremely naive, but if physics has value to the government, why is it necessary to peddle it like tobacco? I am old now, and times have changed. It appears that the main reason the govt supported physics was the cold war. If that is what physics is good for, the hell with it.

Over all, I am happy with APS programs. The addition of "Industrial Physicist" is a very welcome change. I have felt at times that APS should play a greater effort in communicating the role of physics education and research to the general public. Some remarks (without much thought) are: - Partner with Discovery Channel, PBS, NPR ... - Get physicists who write well interested in writing an occasional editorial in major news papers. - Go an extra step to get news channels interested in new physics discoveries - The article "This Month in Physics History" published in the APS News is very well written, and advertises the contribution of physics. Can you try to publish this in other media (Nature, Science, NY Times, SF Chronicle, NPR ...)

Physicists have strong influences on the government and the policy making processes. APS has the responsibility to continue to use its influence and to take a firm stand on various issues.

Physics is less and less a vibrant part of the fabric of US culture, of public debate, and of US societal thought processes. It is vital to the future of our civilization that physics's intellectual rigor, curiosity, skepticism, and integrity be an integral part of US society. Therefore, our own conduct and interactions with the non-physics community must be above reproach, vibrant, generous, committed, participating in the public's education, and motivating to younger generations. This should be the highest mission of the APS. If we fail to execute on this, there will be no need to worry about funding, about meetings and publications, about how to enhance the functionment of the physics community, or how to be effective with policy makers, because there will be no physics left to speak about in the US.

There seems to be a perpetual funding crunch. My intuition is that the number of academic PIs applying for funding has increased, just as the number of PIs employed by large industrial labs has decreased. I don't know the answer. APS should promote increases in government and industrial funding but it's not right if all the increases go to a few small groups that already have a lot of money.

Right now it seems that most important thing for physics community is to educate the public and policy makers so that the government will increase the funding to physics researches for the benefit of human beings in different aspects of our lives.

Physics has been a leader in setting trends in academia. However, due to public perception and meager resources, it is becoming a difficult discipline to excel. Even established physicists like me feel depressed and helpless at times. Feel free to contact me. Alok Kumar Department of Physics State University of New York Oswego, NY 13126.

Since the demise of the Congressional Office of Technology Assessment (OTA), policy makers are in need of credible, non-partisan analyses of technical issues relevant to a range of public policy issues. By producing APS reports such as the recent one on Boost Phase Missile Defense, APS can kill two birds with one stone: it can provide valuable input to the policy process and--with proper outreach--help bring the importance of physics to the wider public.

The actions and priorities of our government in Washington are so profoundly screwed up that I cannot begin to rank the many tasks that face the APS today. We need more of everything. But having said that, I agree with the distinguished physicist who recently said that energy production is the single most important technology issue facing our society, with far-reaching implications for all aspects of our domestic and international economic, environmental, and political situation. We should treat it accordingly. I would like to see the APS take the lead on this issue, in a high-profile campaign to awaken our national leaders to this issue and its implications.

The APS gives the appearance of involvement in partisan party politics. This is a policy with which I strongly disagree.

The APS must offer bipartisan advice and avoid being confused with, for example, UCS and other (highly) partisan organizations, in the public mind. Your questionnaire should have separated arms control from national security. These are only the same to a particular set of activist practitioners. We are not living in the 1970s! Answering 'Strongly Agree' would in my mind be, by some, interpreted as support for a particular world view of highly talented APS members (and mostly wrong on arms control). You had no mention of terrorism, visas, and international collaborations. BTW, the aps is helpful in getting visas for people--at least it tries to be. Thanks! That is an important helpful activity.

The APS should keep its hands out of social activism other than to vigorously condemn it at every opportunity. If you think any aspect of life is difficult and expensive now, just wait until you see the resultant Hell and expense when it is easy and free by social activist fiat. "If you want to live like Republicans you must vote for Democrats!" Tell it to the fish that no longer breed in the de facto sterilized Grand Banks.

The APS should take strong positions against unacceptable hazards to the biosphere. The Brookhaven Labs, for example, is jeopardizing the entire biosphere in one full swoop with its RHIC experiments. See, Martin Rees "Our Final Our"(2003).

The APS, for the cause of influencing public policy, should focus on only one or two issues putting all its resources into promoting those issues, if necessary, over a long period of time. (e.g. Energy and/or Space)

The lack of coordination between the APS and AAS over responding to the cancellation of Hubble SM4 was shameful. The APS should have endorsed the AAS statement. The statement that the APS put out instead was extremely weak and whitewashed the truth, which was not that O'Keefe "did not get enough info" but rather that he had all the info he needed and ignored the advice. Please, PLEASE listen to your sister societies and their members who also happen to be APS members!

I also like that the organization is tough-minded and issues timely reports that are well-respected. I tend to find the lobbying activities for funding to be distasteful since they are so self-interested. On the other hand, no one else can speak out for physics funding as well as the membership of the APS.

The one aspect of this survey that many of the questions fail to reveal is the extremely political nature of their motivations and possible implementations. The physics community should stay out of politics because it does it so poorly. Issues like K-12 education and the environment are so politically charged that I'm afraid the APS only ends up being used by individuals and groups who are much more adept at playing political games and that more often than not have agendas that are actually counter to the long term best interests of the APS and the nation as a whole.

The single most important task the APS needs to accomplish is to learn how to use its authority to influence public policy.

The society provides many useful functions but it should not take a stand on or become embroiled in national social issues that are unrelated to physics. It has done this at times in the past and caused considerable division among the organization's members who line up on both sides of these issues, generating controversy unrelated to our field. Let's stick to physics. There are other forums for us to express our views on social issues.

There is too much political commentary. Also, the publications whine about lack of funding from government, when they should stress that people with physics degrees are smart enough to make their own way.

This survey confirms my impression that APS is aware of its responsibilities to inform and lead opinion about professional obligations and interests.

We live in a time when science is severely misused by an arrogant and secretive administration in Washington. The APS is one of the few knowledge-based organizations with the power to challenge nonsense, such as missile defense, as it should indeed be challenged.

You have become far too liberal. Science, not politics, not human rights, not gender, not race, not minority issues... should be the focus of the APS.... especially since you tend to crusade for these liberal causes like a Ted Kennedy or a Jessie Jackson.



## VERBATIM COMMENTS ABOUT MEETINGS

How come my outstanding suggestions for Symposia for the March Meeting have been consistently ignored?

I disagree with charging late registration fees to attend APS meetings (like March meeting). I disagree with very aggressive soliciting of "writing to Congress" campaign at Montreal meeting. Why "tag" those that had written?

APS meetings (general and unit) provide an opportunity for students to present their research orally which is not available in most topical meetings, which emphasize invited talks and comprehensive reviews.

APS meetings are inordinately expensive compared to other societies. Lower cost meetings in less-expensive cities might draw more participants (esp students.)

APS needs to be more accommodating in its organization of the March meeting. Symposia organizers frequently face significant administrative hurdles. In particular, I would encourage a change in the policy regarding the number of invited talks per session (more, please), the strict time limitations on contributed talks (10 minutes is too brief for an appropriate presentation of significant results, and it discourages senior scientists who potentially have much to contribute to symposia from attending). Finally, the virtual absence of breaks during and between sessions is unacceptable. The obvious result of this is that talks scheduled near lunch time are very poorly attended. Most of the audience has been attending talks continuously for 4-5 hours by then and must finally take a break, even if the talks are of interest.

APS should not hold meetings in foreign countries.

APS would do well to study how other organizations such as the IEEE and MRS run their technical meetings. I have been to many of these, and find them much better run and more useful than March meetings. The latter have a horde of students giving two-bit unreviewed papers, unlike the IEEE and MRS.

Conferences are too expensive.

Currently I am an assistant professor in the undergraduate university (University of North Florida). I have been APS member since 1998. During my six years of membership I have experienced a substantial increase of the APS meetings registration fee. Because of my teaching duties I can attend not more than two - three days of the meeting. However there is no way I can get any discount on the registration fee. The travel budget in my university is about \$700/person, year. This is clearly not sufficient to attend the meeting. I sincerely hope APS can provide discounted fee for the representatives of the undergraduate schools. This would definitely increase number of faculty from undergraduate schools participating in the APS meetings.

Fees are very high for what one receives in benefits. Reduced conference fees are useless for me, since the conference fee can be covered by my employer, but not my membership. Therefore I pay membership so that my employer pays less for me in conference fee. I don't gain anything. Can one invert this? Can one say one gets a lower membership fee (a refund or a credit on next year's membership fee) if one attends a conference? This would motivate me to go to a conference while also getting the benefits of paying for my membership.

For several years, APS meetings have suffered from speakers not showing up for their talks EVEN ON THE FIRST DAY OF THE MEETING. It would be nice if the meetings were slightly restructured so that it would be easier for speakers to cancel their talks in advance so that the participants make the best use of their time.

I appreciate joint meetings between some divisions of the APS and other societies. I find that APS is a better run organization than the societies whose meetings I like to attend.

I found the "Opportunities in Biology for Physicists" conference extremely useful.

I think registration fees for the March meeting are getting way out of hand. I believe soon some members will stop attending the meetings due to high cost.

I think the APS organization of meetings was not sufficiently (or directly) emphasized as a communication path.

In addition to regular APS meetings, I have enjoyed my participation in the APS Unit Convocations - interactions with APS leaders, lobbying activities, etc. The active, specialized APS Units are vital in providing more specialized service to members.

In my opinion the APS March Meeting started getting too large with too many simultaneous sessions. Reducing the number of oral presentations by moving talks to (vastly underpopulated) poster sessions may provide some help.

My interaction with the APS has been fairly minimal during recent past, so I do not have much to add. One potential benefit that I would be interested in concerns reducing registration costs for international particle accelerator conferences ("PAC"), especially those held outside the U.S. (or North America). For example, it would be useful if APS membership would help in obtaining reduced registration fees at the European PAC (EPAC). Perhaps more efforts to have mutually recognized memberships between the APS and international (i.e. non-US) physics organizations and societies could eventually lead to reduced registration fees at all physics conferences.

Opportunities to hear presented physics and engineering topics through local Washington DC area APS and IEEE organizations is very important to me. Keep this up!

I would suggest that most members consider the APS meetings as the most important reason to be a member. The meetings offer the opportunity to participate in the development of science through the presentations and discussions and through networking with colleagues. While holding the registration to a reasonable cost is appreciated, the quality of the meetings is absolutely the most critical aspect. The APS should never lose focus on the meetings - it is indeed the quality of the meetings that brings us back year after year. The format for APS meetings has been relatively unchanged for years. The APS should probably review this carefully and examine approaches to improve its meetings. For instance, many researchers find more opportunities at the Materials Research Society meetings. In reading this membership survey, I am very concerned that the APS leadership is focusing too much attention on aspects other than the meetings.

reduced registration fee

I like the ideas of meetings like the "opportunities in biology", but such meetings need to be broadened to include senior members who might want to explore new areas.

Survey of those attending very large, e.g., March, meeting to assess arrangements for those meetings. Meeting areas tend to be too large for this meeting and this makes it difficult to meet locate people you want to meet.

The APS committee that plans national meetings needs to re-consider their meeting format. I just finished organizing & chairing an APS Focus Session at Montreal. Our meeting had great physics but was miserably organized. We were required to have 30 min invited talks followed by several 10 min talks. Typical sessions started at 08:00 & went until 17:00 each night. This is a terrible format because there is simply no time for reflection/discussion. This style of meeting is so bad that I will probably never take part in such a conf.

The fees for APS conferences have reached a level that is unsustainable for even mid-sized groups and prevents the exchange of ideas in the community. I can no longer afford to send more than one or two group members to APS meetings. This defeats the main purpose of my being an APS member

The organization appears to be too rigid. For example, not allowing any open discussion on moving the APS Fluids Meeting from the Thanksgiving weekend.

The practice to assign "supplemental talk" at this year's March meeting did not work at all for me and my students. I strongly suggest to drop it. If there are too many submissions, call it a poster or reject the abstract.

The registration fee for the APS meeting is too high. We should think about it seriously.

The time allotted to contributed papers at APS meetings is too short. Normally it is not enough time for any questions. Also, too many parallel sessions at the meeting. The meetings are good place for meeting fellow scientists. Students particularly get very little opportunity to interact with scientists.

Very bad March meeting No chairs in many sessions or no show of the assigned chairs. It indicates bad organization of the meeting.

March meeting should be more interdisciplinary.

## VERBATIM COMMENTS ABOUT JOURNALS

The APS should work with publishers to bring down the cost of journal publications, both off- and on-line.

As an independent research scientist, I greatly appreciate the benefits of low-cost online journal access. Also, the online Biophysics Division Newsletter is very valuable to me.

As editor of the Virtual Journal of Applications of Superconductivity, I receive complimentary online subscriptions from AIP/APS to PRB, PRL, JAP, APL, Nature, Science, and many other journals, which I can access using my home DSL line. These subscriptions are extremely valuable to me. If I did not serve as editor, I would have to spend much more time in my university office.

As I already indicated in the questionnaire, the obligatory 'complimentary' subscriptions should be dropped and membership fees decreased.

My library subscribes to all APS journals of interest. For this reason, I do not personally subscribe. However, it would be great to be able to use the online version (which the library does not have) for free as a member with an affiliation to a subscribing library. This would not reduce APS revenue, but make my life a lot easier.

Comment about reduced journal rates: Obviously, the journals are extremely valuable, but since my institution has a site-wide subscription, the rates offered to me as a member don't matter.

For me the most important service APS provides is as the publisher of The Physical Review journals. The reduced rates are not relevant in my case because I use an institutional subscription.

I also view membership as a way to support physics through the Society's publication of exemplary journals.

I am very impressed with the great role the APS played in making papers of its associated journal available to the community easily. This alone is a reason from me to remain a member of APS.

I disagree that journal subscription fees and article fees are inexpensive as implied by the phrasing "reduce rates". Many years ago I had to cease subscribing to journals because of their cost.

I enjoy reviewing papers for Phys Rev and PRL. I like to publish in Phys Rev E -- they do a nice job.

I recently moved from industry to academia - while in industry the reduced price of research journals was very important, at the university I have free access and need not purchase journals on my own expense.

I think the access to your journals stinks! As an APS member I should be granted broad on-line search and access privileges to APS journals without mercenary fees being assessed. You are stifling the spread of knowledge! You are not acting in the best interest of advancing science!

I would like to see for a nominal fee on-line access to all APS journals for one's personal use. I guess that the issue at hand is what is a nominal fee.

I would much like better access (e.g., e-access) to APS journals - in as much as our school is very small (~1500 students) without physics majors, so that we have somewhat meager journal resources.

IEEE has an online service where an individual for \$30 a month can download up to 25 pdf files from ANY journal or conference proceedings. Such an APS service would be very valuable.

Improve quality of writing and of editors at PRL and PRD.

One of the top sci. societies in the world, which goes with certain ethical responsibilities. (The Soc. fulfills these today, but needs to keep it that way.) The APS peer reviewed journals are the core of the society. These are high quality and low subscription journals, and we should keep them that way. This requires efforts not only from the society, but from members as authors and reviewers.

Our journal, the various parts of "Physical Review" and "Physical Review Letter," suffer from structural and systemic problems of unfairness.

Overall, I am quite disappointed by APS. I maintain membership only for purpose of keeping it listed on my resume. Beyond that, the membership has been useless. Hard copy APS journal prices for members are still exorbitant. Hence I subscribe to none. (On the other hand, I subscribe to half a dozen IEEE journals because their prices and content are reasonable.)

Allow members to access journals on-line at a minimal cost. It can only promote physics literacy--a high priority for the APS. Right now, physics research is becoming a affluent person affair (or a rich university affair). Our university cannot even afford to subscribe physics journals and we are definitely one of the top universities in America (SUNY).

The APS should play a larger role in setting up and enforcing guidelines for peer review. The recently reviewed APS guidelines are not followed by virtually 100% of the authors who publish in Physical Review publications.

The journals are among the best in the world, and are readily accessible. The meetings are among the best in the world, are well organized, and are reasonably priced. Complaints: As a career, Physics is often over-run with personal politics. APS should remain neutral, or should suppress this tendency, but it doesn't. Here's one example relating to Phys Rev Focus. PI 1 and PI 2 both publish PRLs, and both submit self-nominations for Focus. PI 1 is chosen and not PI 2. The Focus story is picked up by the national media and a small article appears in a newspaper. PI 1 uses these clips in his merit review and gets a promotion. PI 2 does not get a promotion. Two years later, the work of PI 1 has received a few citations, but the PRL of PI 2 has received 50 citations. It turns out that PI 1 had neglected some key references, and his work wasn't really original. The work of PI 2 sparked a lot of interest. The editors of Focus didn't know any better, but their decisions had significant effects on the lives of PIs 1 and 2. In the real world, the fact that PI 2's publication was cited at a rate of 25 citations per year was not relevant to his merit review. But the existence of press clippings was relevant for the merit review of PI 1. In my opinion, Phys Rev Focus should be dropped. Here's another example: the journal peer review process is not perfect, but in the last few years it seems to be getting worse. I've received reviews that I believed were arbitrary and not logical, but they were used to block publication. I've written reviews that I thought were thoughtful and articulate, and the Editor has ignored the review and published the paper anyway. On several occasions, the authors were never asked to respond to the critique. Clearly there is a double standard among Editors, and some author groups are given favorable treatment.

Cornell and other universities made some news proposing to publish their own work to avoid the costs of outside publication (principally to a couple for-profit journals). Although APS is "conflicted" as it publishes several journals, this is a discussion that physicists should have in their professional society. What can we do to stop publishing in journals that charge exorbitant fees to share our work with others? Or do these journals fill an important hole left by AIP/APS journals?

Providing thoroughly reviewed journals at price accessible for most libraries is absolutely crucial. If we were left up to Elsevier & friends, journal would soon be an Elitist affair, while journal quality would go down. We need highest-quality peer-reviewed work in medium trusted by everyone, as affordable as possible.

I should also note that high quality journals (Phys Rev and PRL) are very important for the physics community. I suspect that most researchers now receive these journals through our library rather than personal subscriptions. The APS and AIP journals are the second key aspect of the society beyond the meetings.

Retired members should have free access to on-line journals.

How come PRL can call in the "man in the street" to reject my stellar PRLs?

APS has ethical guidelines for authors. It would be nice if the APS instituted ethical guidelines for editors. I have seen editors overrule referees recommendations for reasons that are in violation of guidelines for accepting papers (e.g. "so much work has been devoted to the investigation". So what if the investigation contains errors that are clearly identifiable?

The top priority for APS should remain the publication of the top physics journals in the world at reasonable cost, including their broad online accessibility.

Since I have full access to APS and most other journals through institutional subscriptions, I do not use that aspect of APS membership.

Something must be done regarding the publishing problem. Most work that is published these days is garbage, and there is a lot of garbage to go through to find worthwhile work. This is going to hurt good science. Emphasis has to be placed on quality and not quantity.

The APS Journal publishing process needs to work better. Delays in the review process are often excessive. The society should be on the forefront of scientific publishing. This would mean advanced use of the electronic media. E.g. incorporation of animation or other dynamic display modalities. There are many exciting possibilities available but one must abandon the "paper" journal mind set. (The APS electronic journals are just the old paper journals reproduced on the screen to a large extent.)

The Journal-pricing membership benefit would matter if I did not already have access through my institution.

The research publication activities of the APS are by far the most important to me. The opportunity to submit and to easily access research results is crucial.

The various journal subscriptions are not critical for me as my institution has subscriptions.

There needs to be a better means for retirees to have access to the journal in their field. while I worked at IBM I had very good access. However since retiring it is tough. Access on the internet would help.

To me the hardcore technical journals APS publishes, Physical Review, Physical Review Letters, are the most essential service APS provides. Everything else takes a back seat.

Unfortunately, APS seems to be following ACS and becoming greedier about access to their journals and more interested in "social issues" than in their members. The limits that you put on access to your journals (for members who are paying for the subscription) are ridiculous. I do not know how much longer I will be a member of APS, probably not long.

Should work harder to provide access to Physics journals to institutions in poor countries.

## **VERBATIM COMMENTS ABOUT RELATIVE EMPHASIS ON INDUSTRY, APPLIED RESEARCH, ACADEME, TRADITIONAL PHYSICS SUBFIELDS, AND INTERDISCIPLINARY AREAS**

I have drifted away from Physics-Department-like condensed matter physics toward materials science and find it a more dynamic field with a more balanced mix of fundamental and applied components. While I deeply value the training I received in physics, I am very glad to be using it not just for exploring curiosities of materials, but also demonstrating enough of a mastery of materials physics to create materials that accomplish specific functions.

I think the APS should foster a discussion in the physics community, with the goal of opening physics up to new areas. Two such areas are the implications of atomic, molecular, and condensed matter physics for biology, and the contributions of physics to understanding, predicting, and modifying the environment. I think the tendency of the physics community to place heavy emphasis on traditional, esoteric fields of the discipline are hampering our abilities to contribute to exciting scientific developments, and will eventually diminish the "standard of living" of our discipline.

For several years I was listed in the Speakers, Films and Tours book distributed by SPS and used to plan chapter speakers. Each year I made about 3 visits to campuses to talk to physics clubs (frequently they were return visits), supported by my employer. One year I no longer appeared in the book and it has been virtually impossible to thread through the APS hierarchy and find the right person who can provide me the opportunity to volunteer again as a speaker. These campus visits occasionally provided an incentive to students to apply to my company for summer internships and later for employment (I've met a couple of these students here at work, who remembered my visits). APS should do more to directly solicit those members working in industry to interact with high school and college students. College students in particular only see the professor as role model and are unaware of the opportunities for interesting work in industry.

APS is primarily an organization of academic scientists, and as such primarily serves their interests. One need only look at a list of awards recipients and elections to fellowship to see where APS focuses its attention. One would thereby think that no worthwhile research is done in the industrial or FFRDC (DOE, DOD, etc.) communities.

APS largely serves the needs of research institutions. There is relatively little emphasis on the 4 yr college community. When looking at the cost of membership compared with the benefits, it is unlikely I will remain a member.

APS needs to support more strongly emerging interdisciplinary areas of research at the border of physics and other fields, especially biology and materials science. This can be done through articles in Physics Today and Physical Review focus, as well as through encouraging interdisciplinary symposia at the March meeting.

APS seems to be run by and for the benefit of physicists at large research universities, while AAPT is run by and for high school teachers. This leaves those of us at non-research institutions in limbo.

As an industrial physicist gravitating more and more toward applied science and engineering, my focus has been shifting away from the quasi-academic focus of APS. In recent years, APS represents more of a brotherhood (to me). I am sure the academic physicist still participate but I do not.

Generate mind-set change so there is acceptability of physicists in an engineering environment.

Hard to interface with physicists because I am not in a traditional physics activity. Research survival is now predicated solely on the generation of profit, which indicates that Universities are obsolete as learning centers, fulfilling marketing needs solely. Everyone tries to be the expert and cannot open themselves to vulnerability for their areas of ignorance. Physics has no connection to most people's life experience, because it involves

abstract intellectual activity that is painful. Those with some of those skills pretend to have more skill and power than they actually do as a matter of survival. The efforts of the APS physics community to deal with the extreme issues (nuclear weapons etc) are pushed aside because they are not economically or politically attractive.

I am a physicist who went astray into building high tech businesses early on by choosing a startup instead of a tenured faculty position at the end of my post-doc. But my physics education remains indispensable to who I am and how I think and solve problems. I am also a long-time member of IEEE, and find that IEEE (and its publications, e.g., Spectrum) are more effective than APS. APS' primary focus should be twofold: physics education (with an emphasis on K-12) and communication with the public about the pertinence and role of physics/physics education to other technologies, to industry & commerce, to society. APS -- when it acts as a guild of academics -- does not engage me, nor make me proud to have been trained as a physicist. I remain a member more out of sentimentality and hope than practicality. Sincerely, Leslie Polgar ([polgarleslie@aol.com](mailto:polgarleslie@aol.com))

I am disappointed in the Forum on Industrial and Applied Physics. Sounded like a good idea when it was formed, but I have found no way to participate.

I am in private industry with a company I founded. My activities have been mostly focused on applied research for products. My fellow appointment came from the period of time I worked at a National Laboratory. My responses are based on being in private industry working for a small company I founded.

I am mainly active through FIAP.

I like the APS calendar. Very nicely done! I think the APS has improved greatly during the tenure of Judy Franz! I like seeing the increased emphasis on industrial physics. How about finding a way to create a role for industrial physicists without a publication list in our graduate school faculties? The graduate students need to get exposure to alternatives to academia (undergrads too).

I think APS should continue to increase emphasis on industrial physics. We need to be able to compete in the global market place, to be able to create good jobs and support our economy. The threat of becoming a second rate economy is more significant than the military threats against our country.

I think that you need to look at many physicists that may have B.S. or Masters degrees. The publication Industrial Physicist is a great start.

I think the APS and the physics community as a whole focuses too much on academic rather than industrial physics, and on PhDs over any other degree, almost to the extent that to call yourself a physicist you have to be part of both groups. I'd like to see more involvement with the rest of us.

I was an Engineering Fellow at Xerox Corp for 22 years and was never contacted or had the opportunity to be involved in the APS Industrial Physics connection in any way. It is a sore point with me that so many academic physicists dominate even areas of physics that they have little knowledge about.

I wish the APS would pay much more attention to support of fundamental research activities and people who are still capable of doing real theoretical physics, rather than just paying attention to fashions in research (which has to be done too, of course). My impression from the latest March meeting is very unpleasant: it looks as application/engineering conference, and not too good at that, rather than a meeting of top physics professionals. The invited lectures were from people who in many cases do not really understand fundamental science behind their topics and are concerned primarily with experiment or applications. The only encouraging exception was Abrikosov and Leggett. I will not attend the next March meeting if the theoretical physics community is so poorly served.



I would like to see more of an opportunity for those of us who have gone to applied research-type fields to interact with APS meetings, not just keep our membership for the life insurance benefit.

I'd like to see more attention paid to industrial physics, and the overlap between engineering and physics in this niche.

In my new career, affiliation with APS is decreasingly important, but I am pleased to see that APS is making some changes and responding to the new reality of interdisciplinary research and reduced interest in traditional physics research. But I find that much more valuable work is being done in societies such as IEEE Eng in Medicine and Biology than the APS analogue to it. The physics community has been slow in adapting to the economic changes and shifts in public research interests, but I hope that it will catch up soon.

In my opinion, APS remains primarily controlled by the northeast-west coast axis!

It may be obvious from some of my responses, but I do not see the APS as a terribly worthwhile institution. I feel as a physicist somewhat responsible for outreach so I support the APS, and Physics Today is pretty good too. Somehow the organization seems not overly relevant or influential. It may also be that the organization is dominated by folks with a strong background at the national laboratories. Their interests and concerns seem to me to differ strongly from those of University or Industrial physicists. Perhaps that is fine, right now with the dwindling research money it seems that they will likely represent "small science" research interests poorly compared to "big science." Perhaps you just caught me in a bad mood regarding "national leadership" of physicists, and of the interests of physicists.

It would be great if there is more interaction between APS and other engineering societies for the physicists to explore their horizon and research opportunities in more applied fields in engineering and industry.

Multiple discipline research will become the norm in future. APS should do all it can to promote the understanding of, and the support for, this all-important trend. The day of physicists toiling at their desks to make serious contributions to understanding is passing by. We must be leaders in this transformation, or we will be the followers.

My research has become increasingly multi-disciplinary. In addition to physics, my interactions increasingly involve chemists, materials scientists, biologists, and a variety of engineers. I want to maintain physics context, but my work involves MANY meetings of various types. This is a new role for some in the physics community. Makes APS participation difficult at times.

My research has moved into the dynamics of biological systems. I find that APS is less valuable to me than it once was. I encourage APS to be aware of, and respond to, the revolution that is taking place in biology as physicists and mathematicians take on biological problems. In large part, this is due to increased funding via NIH, but I only rarely hear about APS and NIH in the same sentence. Also: The Society for Neuroscience makes it very easy for members to communicate with their representatives in government through an extensive web-based communication interface (i.e., provides a sample draft letter and sends it automatically). I encourage APS to do something similar, so we may have our voices better heard, and better coordinated, in government.

Over the past several years, my interests and those of the APS have diverged, primarily because I am interested in applied science/engineering vs the academic emphasis of the APS.

Please continue to see physics in a broad way, i.e., include geophysics, astrophysics, biophysics, etc. as part of physics itself.

The APS does a much better job serving the academic community than industry.

The APS seems primarily concerned with the lives, careers, etc. of university members. As an APS member working in a government research laboratory, I frequently feel that I "do not belong" in the APS. Many of us in government research have the ability to influence (to some degree) policies which might directly effect the funding, etc. in universities yet I feel the APS views me (at best) as a some kind of "step child". This doesn't seem productive to me.

The physics profession needs radical rethinking. We need to make the career seem attractive to the public (and students), educate young professionals how to get grants, standardize methods for transferring professionals from dying research areas to active ones. We need to rationalize the production of physicists (more isn't always better). We need to do analysis of successful, average, and sub-average research over 1, 5, 10, and 50 year time scales to determine optimal laboratory management techniques (no doubt complete isolation from modern management techniques is not an entirely unmitigated blessing). The mentoring of young scientists is shamefully variable, with the inner politics of funding agencies and scientific turf-wars often absent from any part of the graduate or post-doctoral experience. If you give me a bit more time, I could probably think up a lot more stuff I'd recommend. Feel free to e-mail me [ws33@nyu.edu](mailto:ws33@nyu.edu).

There are very, very few opportunities for the classic academic tenure-track professor university position today, so it would be nice to focus more in APS publications and meetings on industrial, national lab, and other physics and jobs that are more applied as well.

Unless you are one of the lucky few to land a decent-paying job at a university, the details of your training as a PhD in physics are worthless. General things are more important: work in my present job as a radar engineer leverages off my problem solving abilities, which I learned in obtaining the PhD and subsequent research. Perhaps the physics PhD should be changed to reflect this changing market place for jobs?

While I feel the APS does do good work I think the emphasis appears to be too heavy towards academia and PhD's. There are significant numbers of physicists with MS's and BS's and these groups appear to be basically ignored by the society.

I think it's better to focus on your core mission.

## VERBATIM COMMENTS ABOUT A VARIETY OF ISSUES

Increase the number of dynamic mid-career members (rather than those in their late careers) who will take responsibility for APS programs and activities, including administrative staff positions. Focus APS activities more strongly on a limited number of efforts/programs (for example, 10 or less), and keep members up to date on a regular basis (for example, through a dedicated section in each Physics Today issue). The mission of the APS should not get lost in an increasing number of efforts that appear to deal only with fringe issues. Re-evaluate the emphasis and resources given to programs/services for the benefit of members vs those for the benefit of non-members. Both aspects are important. However, in recent years the balance may have shifted too far toward one end (i.e. that of non-members). Before starting a new program/service, demonstrate to the broad membership that there is an actual need for it, and that the perceived benefits will justify the effort/expense. For instance, statistical information that could be extracted from existing membership data, might be utilized in an objective way to explain new - or to re-evaluate existing (!) - APS activities.

I would like to see general issues like the pressure for publishing, surviving the first few years in academia, funding opportunities for young scientists etc., discussed in APS meetings.

APS and its subdivisions work well. Conference co-sponsorships are successful, especially in laser field. Major opportunities NOT being pursued in bringing experimental side of astronomy toward center of physics.

APS can improve itself when it comes to breaking down "old boys networks." These networks are detrimental to American science by excluding large groups of talented young people from being players in American science.

APS has done a great job in terms meetings/publications and making research in Physics accessible to a larger audience.

APS presents high-minded goals but does not appear to be more than a convenient vehicle for distinguished physicists to humor each other or to make occasional public statements. I doubt if APS has the capability (or interest) to progress toward most of the goals mentioned above. What measures of accountability does APS have to its membership?

APS provides great support in communicating with the Sections, Division, Units, for instance the Texas Section via e-mail, elections, membership.

APS's "international affairs" forums and services have improved but are still too naive and passive to have a serious impact on its members and its mission. Suggestions: 1) APS should do its own active research on the issues (e.g. the State Dept. lied to APS regarding travel rules affecting the Montreal meeting this year, and APS dutifully passed on the misinformation to members in an email. I could not go for reasons APS never recognized or acted upon). 2) APS should speak out louder in the media on human rights issues affecting its members & mission, including the poorly represented minority of non-US citizens. 3) APS has developed a truly global membership and would gain by giving more serious attention to activities of its global membership in the various publications (phys. today, etc). A lot of this work does not lend itself to journal publications but a huge amount can be learned from it (e.g. recent teaching developments in dollar poor societies).

As I get older and busier I have less time to read over the physics materials. I do much of my teaching in astronomy and much of my research in quantum chemistry so my mainstream overlap is somewhat reduced. When I get time during the summer to read say Physics Today I am often located away from my subscription address at a research address. Consequently I don't get to read it very much. I try to get to meetings but my teaching bogs me down too much to get to more than an occasional regional (Ohio Branch) meeting these days.

continue to improve web based activities

Do less social engineering (its subjective and discriminatory), put more emphasis on physics, become more fair to ALL members including male gender and including those not fixed in university work for life. Be more open to identifying careers other than university tenure, which is a big fat joke.

Don't try to be everything to everyone. Focus on what you can do well and drop everything else.

Ever since pas mail got hacked last month, I have been getting lots of SPAM e-mails, whereas I didn't get any before.

I am a Fellow of the Institute of Physics, U.K.. Since this Fellowship recognizes our contributions to physics, there should be a recognition of this status by the APS. i.e. Elected Fellows of one prestigious physics society should be regarded as Fellows of other societies of similar standing.

I belong to the Division of Fluid Dynamics and the "old boy" network is alive and well. The way honors/prizes are awarded is dominated by who know whom. It is not clear that many on the governing body have the community's interest at heart, or only ensuring that they can "enrich" themselves and their friends. That has to change if APS-DFD is not to become wholly irrelevant to its younger members.

I have a strong interest in the History of Physics activities.

I like the APS DFD very much. It is a vital forum for fluid dynamics in the USA and the world.

I think the dollar amount of the APS prizes should be much higher. As a former recipient, I was thrilled to get a prize but the money was really lousy for such a fine thing. The small award amounts lessen both the prestige of the prizes in the public mind and the public perception of how we ourselves value physics research.

I think there is need for more fostering cooperation with Latin American partner societies.

I was once nominated for fellowship in APS, but my nomination was obviously not acted upon. I have no idea how the process works, and can only conclude that my colleagues who have become fellows are more highly qualified. I never heard anything one way or the other. I am not particularly zealous to become a fellow the nomination was an act of kindness by a colleague. But maybe the process could include a "Sorry, you didn't qualify" instead of silence.

I wish that there were more money for the Forum on Physics and Society so that it could publish more printed issues. Also, I wish the editing of that journal were better so that the articles were not so turgid.

I'm chairing a nano education & training organization, believe there could be some synergies with HS and outreach efforts that APS is undertaking. Not familiar with efforts, did not have much time to research.

In question (13) I listed group insurance, career services, and email forwarding as "valuable" to me, even though I have yet to use them (but might be grateful for them at some time in the future). Similarly with "Fellowships & Awards".

The nomination process to the Council is obviously stacked in favor of East Coast and West Coast "Ivy" schools. Since you people reading this are the beneficiaries, I despair of you giving a rat's ass about the unfairness.

Participation in APS as a unit officer and a Council member has given me professional development opportunities that have enhanced my career.

Perhaps you're only concerned about member's services, and perhaps this is the wrong forum for this suggestion. If so, then, well, please forward it to someone who might at least read it. I think the APS should produce (or

lobby for the production of) radio advertisements to get the word out to the general public that "physics is good". Many public radio stations would broadcast "physics news" at no charge as a public service. Of course, that still leaves production cost, but I think outside funding for such public dissemination of science could be obtained. "Stardate", produced by UT-Austin's McDonald Observatory, could be the archetype. This program is a good example of how to raise the public's awareness of astronomy and, in turn, places astronomy within a broader cultural perspective. Physics and the community of physicists needs its own "Stardate" and all the benefits that such public announcements would engender. I realize there are other science radio programs, but most are aimed at the dissemination of astrophysical, geophysical, or biological research. This leaves plenty of under-represented research to choose from.

Physics as a community is intrinsically and uncritically convinced of its own worth, but is actually quite weak at understanding, in a balanced way in comparison to other disciplines and priorities, what that worth really is. As a result, it has difficulty in communicating that to others. I also think that physics as a community believes its problem is that others simply do not understand how important physics is, rather than that the physics community should figure out what it can do that is actually most important in the world for it to contribute. APS could contribute some leadership here to get us out of the limitations imposed by our own conceit.

Ethics: the Schoen problem is one manifestation of a broad problem. As a profession, physics is hierarchical, and those at the top have a lot of power. Batlogg liked Schoen and liked getting results Nature and Science liked Bell Labs and there were no operative checks and balances. I don't know what the answer is. Sorry. Enough said.

Press releases and articles are screened to weaken or destroy original theories in favor of established standard models which are clearly inferior or inadequate but favor entrenched university forces. As a result basic physics research is stifled. The basic Hubble space pictures and Mars exploration gives us new knowledge, but theory is unable to contribute properly because of excessive review censorship etc. and lack of support for independent research.

A side note about human rights: I heard from Normand Mousseau that APS was key in helping with the case of Dr. Branislav Djordjevic, a physicist who was having outrageous problems with US immigration. Thank you for helping with his case this is a great thing that the APS was able to help with, and I think that's something that should continue. Overall, APS is doing the right things and I am happy to be a member. Keep up the good work!

Society should make more effort to address the welfare and concerns of physicists.

Thanks for trying to improve the APS!

Thanks to you all. While my most honest response to your questions would mostly be "don't know", I do rate physics as a holy mission -- the most important thing of all after we figure out how humans are to survive in this universe. So, APS is "cosmic", in every sense.

The APS and I assume the associated AIP are all we have as a national organization. Therefore, if you are not doing "all of the above" in items 11. and 12., who will?

I think the awards are useful but the fellowships are a joke nothing but the "old boy" system at work. Look at how often a Nobel Laureate is later awarded with a fellowship!

The APS should concentrate on providing forums for science, and developing the best research available. The Society dilutes its efforts when it addresses social issues without sufficient resources.

The APS should sponsor more outreach programs, but honest outreach. Pictures in magazines and newspapers is the easy part. Leaving a real mark on young students is the difficult part.

I would like the APS to take a stand on how to monitor the integrity of scientific panels, whether they are biased, and when their results are censored. Of late it seems that a lot of the scientific panels on political topics are being influenced by politics. How about an integrity rating?

The Division of Particle and Fields needs to change its attitude on the subject of exotic baryons and allow for discussions at the divisional meetings. Currently, there are no sessions planned at DPF 2004.

The key goal must always remain the maintenance of an honest and free forum for the presentation and critique of research results.

The science community, particularly the physics community, should not depend, as now, too heavily on government funding. For example, today's Internet Stock-Day-Trading provide a time sequence opportunity of doubling money every one to two month period, and the major program trading houses are manned by physicists or astronomers. If APS also owns such a trading house, we can avoid things like the program-canceling activities initiated by the Government, for example, the Superconductor Super-collider cancellation several years ago. A well designed stock day-trading facility can provide APS enough power to become a funding source for NASA projects instead of NASA being the funding source on APS activities. For further technical information, please contact me at 972-841-5583.

This survey confuses what we would like our organization to be doing with what it actually is doing. I am a member because the APS SHOULD serve the physics community not because it DOES do it. A revised survey with - what would you like - followed by how are we doing would be more informative. A concrete example is lobbying in Washington - should we do more? Are our lobbyists the best? Or are we still living in the Eisenhower administration while the rest of Washington is in the 21st century?

Why is it so hard to get on a committee or officer such as for DCMP? It seems that one needs some kind of prestigious track record or glowing nominations. Is there a way to become involved just because one wants to help out or is DCMP not in need of that? I never see a call for help, rather a call for nominations where one needs a distinguished career in order to consider oneself qualified to participate.

Would like to more engaged with APS on political issues when I retire.

## VERBATIM COMMENTS ABOUT BOB PARK

I am offended that Bob Park makes to many anti-NASA interviews in which he is linked to the APS. Due to the nature of his former APS position he should remove himself from such activities to avoid the problem of "wearing more than one hat."

While the What's New articles are interesting and often humorous, Dr. Park commonly expresses his own opinion on a variety of scientific, social, and even religions issues. Since these articles are nominally associated with the APS, in my view these opinions often go too far to be appropriate in this format. For example, his approach to the difficult matter of the debate over "creationism" and "intelligent design" are probably offensive to some readers of these articles who disagree with Dr. Park. He should not be representing the society in this matter.

I find "What's New" somewhat condescending towards religion.

The one time I contacted APS about what I thought was an important issue that required an apology (or at least a clarification) in the Friday "What's News " bulletin I was assured the appropriate individual(s) would be notified. I am sure they were but as far as I could tell no further action was taken.

Your old Liaison to Congress, Professor Parks was a total disservice to Physics in general. He was an old crank, not at all the person you need as a representative. Who do you have now?

## **VERBATIM COMMENTS ABOUT INSURANCE**

I have not found the group insurance programs useful.

Group disability insurance is a very important benefit.

I was recently disappointed with the APS term life insurance policy because I am having to find a new carrier because my term life insurance via APS has dropped to \$150K now that I am 60 years old. I have 4 children, with the younger ones with ages 8, 9 and 13. People are living longer and some of us are having families when we are older because of the career/employment uncertainties inherent in a career in basic research.

Life insurance is very valuable.

Term life insurance early in my career with young children was a very positive benefit.

The APS life insurance program was very beneficial to me until I turned 60 - then it became too expensive.



## VERBATIM COMMENTS ABOUT PHYSICS TODAY, APS NEWS, AND INDUSTRIAL PHYSICIST

Computers in Physics was a very good, useful journal, especially for someone like me, whose physics research involved computer simulation and whose engineering work also used techniques discussed in that journal. The decision to combine publication with the IEEE led to a watered down, useless publication with no relevant technical content and I have dropped my subscription. This was a major blunder, and a decision that was obviously made without consulting the readership or seeking their feedback after changing the journal format.

Can you liven up PHYSICS TODAY?

Don't send me Physics Today or APS News. When I want them, I'll find them. I get far more mail than I can read and get irritated at professional societies who "push" information to me rather than providing it for me to "pull"

I dislike Physics Today and APS News, and wish there were an option to not receive them and save some trees unless APS could produce a journal such as Science. As to print magazines I depend almost entirely on Science magazine for my information about physics (and other science) news. You did not ask about "What's New" and "FYI" which I think are very useful services although I would probably make a few changes here and there.

I enjoy Physics Today, but feel I am a peripheral member.

I have not received Physics Today for about 2 years, despite the fact that I sent my correct address twice.

I like the historical perspectives in Physics Today.

I think Physics Today editors go a very good job, but I believe that it is quite academic and could be updated to encourage non-academics to be attracted. Examples of more broadly written, non clunb like magazines includes AOPA's magazine, IEEE's magazine, and women in Aviation international's newsletter.

I think the "News"'s frequency could be halved with little loss, maybe with a few more pages.

I wish that Physics Today could come in an electronic form my microfiche are no longer usable and I don't want to kill trees.

I work in multi disciplinary areas involving engineering, various branches of physics, chemistry, and even biology. Physics Today and other APS publications provide the opportunity for me to stay abreast of developments I need.

If I could change something, I would fix Physics Today. It is next to useless.

If I would be stranded on an island and could only bring one thing with me to read, it would be Physics Today. It is extremely stimulating and contributed to a great extent to finding my true calling in research even if working on it is still in the future. But one can dream.

I'm eighty, retired and don't really participate anymore in APS activities. Physics Today is invaluable.

Industrial Physicist is far more interesting and informative than Physics Today, which still seems to focus primarily on the narrow field of high-energy physics.

I read an article in Physics Today roughly once every four months. I wish I cared more about standard Physics Today articles. I expect I'm not the right audience, but I don't really like Physics Today.

Of all the professional society publications that I have received (APS, AIAA, ANS, IEEE), Physics Today is by far the best.

Physics News is very well done. Keep up the good work.

Physics Today has improved in the last 4-5 years. However, a lot more is needed there. Most articles deals mainly with concepts and intricacies. They should also deal with possible applications for the general readers. Physics Today should publish articles in the style of American Scientists. Right now, most physicists just toss the magazine after a cursory look. This is not good for the disciplines. Most physics articles in the New York Times do a better job than Physics Today. Physics is so diversified that articles in Physics Today should be written in view of a layperson reader, not conversant with the field.

Physics today is a very uninteresting publication. Reading it never excites me about physics. The writing and content needs to be improved by orders of magnitude.

Physics Today is OK but it probably needs a major make over. Formats like Nature or the MRS Bulletin could (and should) be considered for Physics Today.

Technical Physics Today articles are generally unreadable, even to experts in the field. Please try to emulate Physics World, which does a good job of communicating with the physics community.

The APS should broaden access to all scientists who support physics . For example an increasing number of the Physics Today articles are less accessible than they were ten years ago because too much specialized knowledge is assumed on the part of the author(s). The APS needs to better support all physicists whether they are principle investigators at a major research university or a physics high school teacher. One way is to expand the number of articles, which are accessible to law-makers and the educated lay person so that they understand what we are doing.

Physics Today is not as interesting now as it used to be, but I'm not sure if that's just me. What's New, the AIP's FYI, Physical Review Focus, and the other online email-list services are fantastic (although something like What's New but with an alternate bias/slant might be helpful).

While my basic degrees were in Physics, I have been working in non-Physics research and teaching last 35 years. I keep my membership active mainly because of the Physics Today where I get information on current activities, book reviews and excellent articles.

You should not publish politically motivated articles in your house organ, Physics Today. Some, if not most of us simply don't agree with it.

## VERBATIM COMMENTS ABOUT JOBS OR YOUNGER MEMBERS

I am a physicist looking for a industry or academic position and I could not get any interview after applying to more than 1000 universities and colleges as well as industry. I have a suggestion for the APS to have some sort of supporting Union for physicists to have secure jobs.

Fellowship opportunities must be better advertised. Especially important target audience are the graduate students and postdocs. Large portion of the eligible people realize way too late that they were eligible and their carrier could have been helped.

I am sure that my responses have been affected by the fact that, for the first time in my working life, I have been unable to find gainful employment of any kind in more than a year.

I am unemployed and don't think I will be able to continue membership--it's too expensive. After graduation (MS Aero and Astro Engineering, BS Physics) I never found work in related industries. It seems like my only employment opportunities are in near-minimum wage jobs if I leave my degree off my resume. Yes, and I am a woman. I have no contacts with companies or anyone who could help me find a job. Very depressing.

I have also a suggestion that one of important is to help the physicist to have the right connection for the jobs. I have been out of job since last August and I have been rejected for all the jobs I have been applied. I need the APS to help me and introduce me.

I joined primarily because I thought it would help me get a job.

I would like to see more assistance in career progression and funding opportunities.

The APS does not serve the needs of young graduate student and post-doctoral members adequately. Job fairs should be a part of EVERY APS division meeting. The APS job web sight seems not to have many postings... is it prohibitively expensive to post job announcements? Graduate student and young scientist slots should be made available on all of the governing bodies of the society and all of its divisions.

Career development: In the past 10 years, several industrial labs have chosen to down-size their physical science research efforts. In some cases, the staff scientists were given adequate warning and had time to find new positions. In other cases, staff scientists were released with minimal warning. To my knowledge, staff scientists have little contractual protection. Some agency should intervene, and promote better protection for physicists. Or at least make sure that physicists understand their contracts, and potential vulnerabilities they face.

More emphasis on recruiting Physicists for employment.

The APS can improve their job finding and recruiting efforts. There have been times in the last decade when graduating Ph.D. students had a hard time securing a permanent position. I believe there is still room for improvement in this area for APS. I recently advertised a tenure-track position on the web section and from the response, I wonder how many members utilize this service and how this service compares with other job engine services where individuals have to pay a registration fee.

The APS jobs site is very valuable, but the last time I signed up & paid for the APS job placement, I found it worthless.

The most critical issue facing the physics community may be that of \*long-term employment prospects\* for physicists. How can we, in good conscience, encourage students to study physics if careers are not going to be available? I should like to see the APS devote more attention to this issue.

Work to improve employment prospects for younger members.

Physics probably ruined my life. We should not be encouraging young people to go in this direction.

## VERBATIM COMMENTS ABOUT EDUCATION ISSUES

APS should advocate for the US to improve physics education so the US can sustainably produce its own scientists instead of relying on immigration.

Lack of home-grown scientists is a gigantic threat for future brain drain when Asian and Indian economies mature - APS should ally with ACS, MRS, others to reach out at elem and high school levels to excite about sciences.

I believe collaborative programs with AAPT on education issues, especially on ways to bring results of forefront physics into undergrad physics classes, would be beneficial.

I do NOT want the APS involved in pushing constructivist teaching methods in university physics courses. Physics Education Research belongs primarily in Education departments, not Physics departments.

I only know about PhysTEC because my graduate school has an active PhysTEC program.

I think APS should do anything it can to improve high school math and physics education. Undergraduate and (especially) graduate education in the US is fine (except, perhaps, physics for non-science majors).

Help to improve greatly the high school and college education in mathematics and physics. Current students are too weak in these areas and this weakness will affect the quality of our future work force.

I would like APS to make it really easy for physicists to contribute to local education, for an hour a year or a month a year. - database of speakers for each age group - database of tutors - database of classroom helpers/volunteers - database of teacher helpers/instructors I know the problem of sorting out the few physicists who are actually good at it is even worse than taking scientists to DC, although the stakes are not so high!

My answers are somewhat toned down by the fact I am now retired and that I also belong to AGU (main affiliation) and AAPT. Being now mainly concerned with educational outreach, I am aware of the growing gap between the excitement of frontline physics and the way physics is taught and perceived in our public schools. Textbooks are shallow, physics receives too little exposure time, too many teachers are poorly trained (and paid and rewarded, too) and state standards are often mechanical shopping list. APS can and should do more!

So much is happening around the world where the science talent pool of America can be utilized for global welfare. APS must play a bigger role in dealing with such issues. There is little done to improve physics education around the world by APS or AAPT. This must be a very high priority for the APS. A large number of APS members would love to get involved in such activities. A lot more is needed. There are only limited exchange programs with developing countries. Such programs create only a win-win situation for all. There are regional groups of APS members that meet once or twice a year. It would be nice for some high profile member to visit colleges or universities in the area to invigorate other physicists. It becomes a lonely world for many physicists in small towns. They cannot visit national meetings due to high cost involved. Supports for such visits are minimal in academia these days unless the person has a grant.

Present level of outreach to members is admirable. Mix of policy, ethics, and pragmatic (\$) issue advocacy is appropriate. A couple of suggested issues for APS to explore: health of the advisor-advisee relationship in academia (anecdotally, it appears that chasing grants and IPOs has lead many professors astray of their professional responsibility to their junior colleagues a introspective survey/study would be informative).

Promoting physics education at all levels.

Regarding enhancing education (undergraduate, graduate) -- I think these are good goals, but somewhat see my membership in AAPT helping toward those goals. On the other hand I'm a member of the Forum on Education which also helps toward those goals. Anyway, that's why I rated the APS support for those goals lower than other activities, just because I think it's important but not necessarily a key part of the APS.

Some of education priorities above should be job of AAPT, not APS.

Kids, especially in public primary and middle schools, very often do not have teachers that understand or appreciate the most basic physics ideas. We need to find ways to be in the classrooms and/or after school venues to communicate what we love about physics.

APS' efforts in Washington are essential, but I think the most pressing issue impacting the long-term health of the physics community is our very poor general-physics education system. We don't teach our children to appreciate science, just to memorize it. Most schools don't encourage students to enjoy the study of science, they just require it (distribution-requirements classes), but then when students have a genuine interest they end up in weed-out introductory sequences. It's important to the profession that top students have an opportunity to become practicing scientists, but we forget that the rest of the students need to have positive experiences as well or else they will not fully support science when they become voters, industry leaders, policymakers, parents of future students, etc. APS does not have enough resources to reach everyone, but we could certainly help the embattled pre-college and undergraduate teachers more.

An issue not mentioned of extreme importance is the education of US born and foreign students at the graduate level. Visas and job opportunities are restricted for foreign born, especially from "sensitive" countries. US born students are becoming more rare.

When will the APS propose a standardized curriculum and testing for physics undergraduates seniors a la American Chemical Society for chemistry majors?

## VERBATIM COMMENTS ABOUT THE SURVEY

A well formulated survey!

Do these surveys more often and heed them!

Given my age and length of time away from pure physics I am utterly atypical. Including my answers will only add noise to the statistical results of this survey.

Glad to see the APS is conducting such member surveys.

I found myself listing a lot of things are high priority, since many things listed are too important to ignore. Given limited resources, perhaps a better way to conduct this survey would be to force people to choose, for example ask them to list their 5 top priorities.

I doubt such surveys would make ANY impact whatsoever.

I feel like you guys survey me often. That said, I probably learned a bit about the APS by taking this survey.

In questions 11 and 12 I rated everything as "moderate priority" because I feel they are all equally important and didn't want any of the topics to become ignored.

Many of the questions are impossible to answer. I answered nonsense to those.

Menus don't work?

Nice (well thought out) Survey.

Reasonable set of questions, and about the right length. You might want to think about doing this on a semi-regular basis - adjusting the questions to probe various areas of possible interest.

Questions 8 and 9 did not seem to readily accept 3 responses.

Text boxes in this survey do NOT allow space to articulate ones comments. Keep up efforts to "talk with us".

Thank you ! Sorry it took sooo long for me to get to it.

Thank you for the opportunity to provide feedback/input. I look forward to reviewing the survey results when published.

The boxes above for "Other" are too small!

This questionnaire forced unnatural choices.

This questionnaire is too long.

This survey has educated me about your activities. I'll take a closer look. Thank you.

Too long. I got bored before reaching the end. Focus on a few items each year instead of all of them.

This survey has encouraged me to take advantage of APS benefits and programs.

## ***Survey Instruments***

### Survey Invitation Email

Dear Colleague,

The American Physical Society (APS) is conducting a survey of its membership to gather feedback on member services and programs. You are part of a randomly-drawn sample of APS members who has been chosen to receive the 2004 Membership Survey.

The last American Physical Society membership survey was conducted in 2001. The information gathered was extremely useful in helping the APS staff and volunteers develop programs and services to meet the needs and interests of the membership. Now that surveys can be completed electronically, we plan to carry out short surveys on different issues each year rather than ask you to fill out a very long survey every 4 or 5 years.

I urge you to take the 10-15 minutes required to complete this online survey. The responses we receive will be essential in guiding APS's efforts to serve you and the entire physics community better in the upcoming years. If you start the questionnaire but are unable to complete it, please scroll down to the submit button and send your incomplete questionnaire anyway.

Please find the questionnaire at:

<http://www.aip.org/cgi-bin/apsmember.pl?id=>

(If you have trouble accessing this website by clicking on the URL, you should copy and paste the entire URL into your browser address field.)

Be assured that your responses will remain completely confidential. The survey and data analyses are being conducted by the AIP Statistical Research Center. The names of individuals will not be released in any form to the APS.

If you would prefer a paper version of the questionnaire be sent to you or if you have any questions about the survey, please do not hesitate to contact Raymond Y. Chu of AIP at [rchu@aip.org](mailto:rchu@aip.org) or 301-209-3069.

Thank you for participating in this very important effort.

Sincerely,  
Judy R. Franz  
Executive Officer



# 2004 APS Membership Survey

Please respond within two weeks.

1. What is your major professional self-identification? (fill in the circle of your choice)

- Physicist
- Engineer
- Chemist
- Astronomer or Astrophysicist
- Biophysicist
- Other **Please specify:** \_\_\_\_\_

2. Approximately how many years have you been a member of APS? \_\_\_\_\_

3. What is the highest degree you completed?

- Doctorate or PhD
- Masters
- Bachelors
- Other **Please specify:** \_\_\_\_\_

4. In what year did you receive your highest degree? \_\_\_\_\_

5. Which of the following best describes your primary employer?

- Industry (medium or large company)
- Consulting firm, small company or professional practice
- Federally Funded R&D Center (e.g. Argonne, Brookhaven)
- Government research laboratory or agency (e.g., NRL, DOD, NIST)
- University
- 4-Year College
- Other academe
- University Affiliated Research Center or Observatory
- Medical school or Hospital
- Self-employed
- Other **Please specify:** \_\_\_\_\_

**6. What best describes your current *primary work activity* ?**

- Administration or management
- Applied research, long range
- Applied research, short range
- Basic research
- Computer applications
- Consulting
- Engineering or product development
- Teaching
- Other **Please specify:** \_\_\_\_\_

**7. What best describes your current *secondary work activity* ?**

- Administration or management
- Applied research, long range
- Applied research, short range
- Basic research
- Computer applications
- Consulting
- Engineering or product development
- Teaching
- Other **Please specify:** \_\_\_\_\_

**PROGRAMS / BENEFITS**

**8. What factors most influenced your decision to join the APS  
(Check the 3 most important factors) ?**

- Journal subscriptions at reduced rates
- APS meetings registration at reduced rates
- Desire to submit abstracts for APS meetings
- Support the physics community
- Professor, employer, or colleague recommended I join
- Receive Physics Today
- Career guidance or employment help
- Keep in touch with community of physicists
- Keep in touch with developments in the field
- Low dues for students and recent graduates
- Eligibility for possible fellowship
- Division, Topical Group, Section and / or Forum participation
- Other **Please specify:** \_\_\_\_\_

**9. What factors most influence your decision to continue your APS membership (Check the 3 most important factors) ?**

- Journal subscriptions at reduced rates
- APS meetings registration at reduced rates
- Ability to submit abstracts for APS meetings
- Support the physics community
- Keep in touch with community of physicists
- Keep in touch with developments in the field
- Receive Physics Today
- Career guidance or employment help
- APS insurance programs
- Eligibility for possible fellowship
- Division, Topical Group, Section and / or Forum participation
- Other **Please specify:** \_\_\_\_\_

**10. Please rate your knowledge or awareness of the APS programs or services listed below on a scale from 1 to 5.**

	Never heard of program	Aware			Know it well	No opinion
	1	2	3	4	5	
E-mail forwarding service	0	0	0	0	0	0
Grassroots lobbying efforts (for federal funding)	0	0	0	0	0	0
PhysTEC (improving education of prospective physics teachers)	0	0	0	0	0	0
High School Teachers Days at APS meetings	0	0	0	0	0	0
Physics Central (website for the public)	0	0	0	0	0	0
	1	2	3	4	5	
APS Job Center (on the APS website)	0	0	0	0	0	0
Minority Scholarship Program	0	0	0	0	0	0
Site visits to investigate institutional climate for women	0	0	0	0	0	0
Speakers lists of Women and Minorities in Physics	0	0	0	0	0	0
Speakers lists of Industrial and Applied Physicists	0	0	0	0	0	0
	1	2	3	4	5	
Library Outreach Program (provide journals to libraries in dollar poor countries)	0	0	0	0	0	0
Efforts to Promote Human Rights	0	0	0	0	0	0
Matching Membership Program (subsidize member dues in dollar poor countries)	0	0	0	0	0	0
Public Service Awards (to those in government who promote science)	0	0	0	0	0	0
Physical Review Focus (making research articles more accessible)	0	0	0	0	0	0

**11. Please rate the priority the APS should give towards investigating and responding to the public affairs, education, and outreach issues listed below on a scale from 1 to 5.**

	Drop activity		Moderate priority		Highest priority	No opinion
	1	2	3	4	5	
Energy production and use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National security / arms control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
National missile defense	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental issues related to physics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public perception of science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1	2	3	4	5	
Physics and health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Federal funding for science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emerging interdisciplinary research initiatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The future of the national laboratories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The changing role of research in industry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1	2	3	4	5	
Early and mid-career issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ethics issues in scientific research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interaction between universities and industry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other <b>Please specify:</b> _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**12. Please rate the priority the APS should give towards continuing and enlarging the public affairs, education and outreach efforts listed below on a scale from 1 to 5.**

	Drop activity		Moderate priority		Highest priority	No opinion
	1	2	3	4	5	
Lobby for increased funding for physics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inform policy decision makers about physics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educate the public about physics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Facilitate members' interactions with policy decision-makers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve pre-college physics / math education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve education for prospective physics teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1	2	3	4	5	
Improve undergraduate physics education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve graduate physics education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promote international cooperation / opportunities in physics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Monitor human rights of physicists internationally	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduce barriers for success for women and minorities in physics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other <b>Please specify:</b> _____	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**13. Please rate how valuable the APS benefits and services listed below are to you on a scale from 1 to 5.**

	Not at all valuable		Moderately valuable		Extremely valuable	No opinion
	1	2	3	4	5	
APS journals (online) at greatly reduced cost	0	0	0	0	0	0
APS journals (hard copy) at greatly reduced cost	0	0	0	0	0	0
Opportunity for you or your students to contribute paper at APS meetings	0	0	0	0	0	0
Member registration fees at APS meetings	0	0	0	0	0	0
APS Membership Directory	0	0	0	0	0	0
Physics Today	0	0	0	0	0	0
	1	2	3	4	5	
APS News	0	0	0	0	0	0
Division, Topical Group, Section and/or Forum Membership	0	0	0	0	0	0
Fellowship and awards	0	0	0	0	0	0
APS group (life) & auto insurance program	0	0	0	0	0	0
Career services	0	0	0	0	0	0
Email alias / forwarding service	0	0	0	0	0	0

**14. Please rate how strongly you agree or disagree with the statements listed below on a scale from 1 to 4.**

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree	No opinion
	1	2	3	4	
I am an APS member primarily because the Society keeps me informed about physics research and activities in the physics community.	0	0	0	0	0
I am an APS member primarily because the Society provides direct member benefits (e.g. reduced journal prices and meeting fees, the directory, and group insurance programs).	0	0	0	0	0
I am an APS member primarily because the Society serves the needs of the physics community (e.g. lobbying, improving education, and bringing the importance and excitement of physics to the general public).	0	0	0	0	0
I have sufficient opportunities to influence APS priorities and activities.	0	0	0	0	0

**15. Please share any other comments you have about your affiliation with APS, benefits you receive, APS Programs, etc.**

**Thank you for your participation!**

Please return to the American Institute of Physics, c/o Raymond Chu, One Physics Ellipse,  
College Park, MD 20740 or fax to 301-209-0843.