

Report from the 2010 CHE Committee of Visitors

May 3-5, 2010

Findings: Operations

The Chemistry Division is doing an excellent job overall.

We have high praise for the quality work of the Program Officers, staff assistants, Director Luis Echegoyen and Executive Officers Janice Hicks and Katharine Covert.

However, high proposal pressure and low reviewer response are making the workload untenable.

Findings: Operations

The Division is performing very well in:

- Identifying and funding the best science.
- Processing proposals in a timely manner.
- Making appropriate use of ad hoc and panel reviews.
- Operating with a high level of integrity and avoiding conflicts of interest.
- Playing a leadership role in the community.
- Informing the community.
- ARRA funds were used particularly appropriately.

These are impressive accomplishments given the ever increasing volume of proposals and the financial constraints.

Findings: Research Portfolio

Good news:

- The diverse portfolio of CHE-funded projects has led to *high impact* basic science with ramifications in applied areas that are crucial to national priorities.
- Nobel prizes were awarded to CHE grantees Kornberg and Szostak.
- The COV was pleased to note that the CHE budget had increased at a higher than average rate over the past 3 years.

Findings: Research Portfolio

Bad news:

- The CHE budget is still the lowest in MPS.
- Many exceptionally good proposals with exceptionally good PIs are not being funded because of budget constraints.
- **Grant sizes are too small!**
 - Transformational science is difficult with only 1.5 coworkers.
 - Some of the best and brightest do not even apply to NSF for funding but direct their work instead toward applications-oriented agencies that have larger award sizes.

Conclusions:

- CHE funds are leveraged for highly transformative research:
 - PIs use NSF funds for more exploratory, high-risk ideas
 - CHE funds the core of chemistry as well as emerging disciplines
 - Broader impacts are high
 - **Budget for IIAs is too small**
- CHE staff issues:
 - Proposal pressure is up
 - Scientific staff is slightly down
 - **POs are stressed to the limit!**

Recommendations for CHE

1. CHE individual investigator award budgets should grow:
 - As budget grows, priority should be given to increasing IIA budget sizes before expanding the number of investigators supported.
 - Continue to stress the importance of fundamental studies in molecular sciences as a foundation for our nation's economy and security.

Recommendations for CHE

2. Continue to fund Centers for Chemical Innovation that address Grand Challenges with outstanding teams. However, these funds should not detract from the IIA program.
3. Monitor the balance of international and domestic programs. International collaborations and international REU programs grew substantially from 2007-2009. This is appropriate as long as the best science is being funded.
4. Study the success rate for PIs across career stages, including post CAREER, mid-career, and senior.

Recommendations for CHE

5. Urge thorough reviews from ad hoc and panel reviewers. Choose panel members wisely.
6. Continue and improve “PO Comments” for declined proposals. Strive toward “perfection” in making consensus decisions in a timely fashion.
7. Explore additional mechanisms for review (cyberconferencing, etc.) to encourage broader participation from reviewers and more meaningful comments. Such mechanisms might reduce PO workload.
8. Recommend that NSF improve its reviewer database for better searching and tracking of reviewers.

Recommendations for CHE

9. Continue to educate PIs and reviewers about the Broader Impacts criterion. Provide guidance, if possible, on how these two criteria are weighted for different proposal types.
10. Finish an assessment of the impact of the broader impacts criterion on funded work.
11. Inform the community about the realignment of programs in CHE and the opportunities available in new grant mechanisms (EAGER, etc.).

Response to the 2007 COV

- Develop a strategic plan: CHE did this with broad input from the community. Major outcomes:
 - Realignment of programs into 21st Century topics
 - Established goals for organizational excellence
 - Defined areas of critical need.

The COV recommends that the Strategic Directions document continue to be updated and reevaluated. The program realignment should be clearly communicated to the community and periodically reassessed.

Response to the 2007 COV

- Improve feedback to PIs: CHE responded by creating “PO comments” from the review analysis documents. This procedure seems to be working well.
- Demonstrate leadership in broadening participation: CHE has supported workshops on the topics of gender equity, underrepresented populations, and persons with disabilities, and worked toward reflecting the “face of America” in its review and support mechanisms.
- Increase the number of permanent scientific staff members: CHE has increased the permanent:rotator ratio. The division remains understaffed.

Thanks...

The COV members wish to commend the CHE staff for their highly professional organization of meeting materials and very helpful presentations and discussions throughout the process. Special thanks to Acting Executive Officer Katharine Covert.