

Minutes of the DFD Executive Committee Meeting – Nov. 19, 2005

Hilton Chicago, Marquette Room – 4:00 PM

Attendees: Paul Steen, Werner Dahm, John Kim, Howard Stone, Jerry Gollub, Bob Behringer, Harry Swinney, Sandra Troian, Lex Smits, Ellen Longmire, Rich Lueptow, Ken, Kiger, Steve Pope, Pat McMurtry, John Foss, Minami Yoda. Tony Ladd, Gary Leal, Sharath Girimaji, and Leo Kadanoff (from APS).

Action items:

- Chair should make sure that the Nominating Committee checks that all nominees are members of the DFD.
- It was agreed that Howard Stone, Steve Pope and Jerry Gollub would revise the draft USNCTAM Draft Report.
- Tony Ladd was asked to complete a final proposed budget for the 2006 DFD meeting. The completion date for the budget is to be agreed upon with Howard Stone.
- Howard Stone is to pass unused mini-symposia topics to Steve Pope and Tony Ladd. Tony is to ask the membership for mini-symposia proposals.
- Rich Lueptow is encouraged to complete the meeting planning guide he is working on and pass it on to the Executive Committee and organizers of upcoming meetings.
- At spring teleconference, continue discussion on whether or not to give printed copies of the meeting bulletin to all attendees at coming meetings. Publications committee is to lead the discussion.
- Steve Pope is to begin searching for a location for the 2009 Meeting.

Opening Remarks - Jerry Gollub

The by-laws are still in the APS approval process. The by-laws are still essentially in the form we voted on. A few minor revisions were requested by APS and have been made.

Election of new members of the Executive Committee - Jim Wallace:

- The DFD election was held this fall using the APS election website. The new members of the committee are:

Lex Smits, Vice Chair
Paul Steen, Member at Large
Minami Yoda, Member at Large

- This year, 37% of the DFD membership voted. Last year, 39% voted. Jim pointed out that there are more members this year.
- Jim mentioned that one of the original nominees was not a member of the DFD. This was noticed before the election and the nominee was replaced. It was decided that the chair should inform the nominating committee of this requirement.

Report on the 2005 Annual Meeting - Rich Lueptow

- Last year there were 1300 attendees. This year there were 1609.
- There were 16 exhibitors this year. This is less than the number at last year's meeting.
- The budget for the meeting is about \$440,000. This is the biggest budget in the history of the DFD meeting.
- Six thousand brochures were sent out to advertise the meeting. This may be one reason for the high attendance.
- An outreach program was developed for local area high school teachers.
- The number of international attendees might be as high as 300, up from 240 at last year's meeting.

Discussion of USNCTAM Draft Report - Jerry Gollub

- USNCTAM will issue the report on our behalf. The report will be used in lobbying efforts so it should describe the importance of present and future research in fluid mechanics in an attractive way that is accessible to congressional staff (non experts). It should be representative of the field but not exceedingly long (less than 8 pages).
- A draft of this document was distributed to the committee before the meeting.
- There was a long discussion of how the draft document might be improved. The comments were centered around more carefully directing the document to the intended audience, congressional staffers. The following is a list of many of the ideas presented by various committee members.
 - We should be careful not to use jargon.
 - We should concentrate on what we could do if we have funding in the future.
 - We should call attention to the importance and possibilities of the field.
 - We should make sure the tone of our report is in line with the tone of the entire national committee report.
 - We should make sure the pictures are eye-catching to entice the staffers to read the report.
 - We should strive to make the document uncomplicated and point to how we can contribute to the country in several areas: Economy, health, military, etc.
 - We should go over important future problems. Say what we have done about important problems in the past and what we could do about future problems. We should concentrate on widely recognized problems that we will face in the future: global warming, transportation, energy, etc.
 - We should use language that will persuade the staffers to continue reading the document. We should make it apparent that there is something in it for them.
- It was agreed that Howard Stone, Steve Pope and Jerry Gollub would revise the current document. It will have a longer introduction that states things in terms of national priorities. The remainder will be organized to support the introduction. There will be less technical detail and better images. It will end with a summary to reinforce the important points.

Leo Kadanoff, APS Vice-President Elect

- Dr. Kadanoff pointed out that given the current direction of government funding we should expect future cuts in basic science. He said that APS is continuing to work on its outreach programs. However, he said he expects cuts independent of what we do. Cuts might be in specific programs; scientists might need to switch fields to accommodate current national needs.
- We are encouraged to communicate with APS and make suggestions to improve their interaction with and service to the Division.

2006 Meeting, Tampa - Tony Ladd

- There was a discussion about how many fully committed people are needed to make a meeting work. Jim Wallace said there were five in the 2000 Washington DC meeting. Rich Lueptow said there were 10 for the Chicago meeting.
- Howard Stone reported that the program committee approved the invited speakers list for the 2006 meeting.
- Mini-symposia were discussed. The Executive Committee decided last year to have 2 to 4 mini-symposia at each meeting. Last year we asked for mini-symposia topics suggestions from the membership. We received quite a few. Some of the left over suggestions are being used in the 2006 March meeting. There are still some proposals left and these will be passed on to Tony Ladd. Tony was also considering mini-symposia on education and low temperature flows.
- Tony was asked to pay attention to the size of the meeting rooms. Tony said that at present there are 14 rooms that can accommodate 100 or more people. Some of these rooms can be broken down into smaller rooms.
- The reception will probably be held at the hotel.
- It was decided to budget for 1400 attendees at the Florida meeting.
- Tony and Howard Stone were asked to decide on timing for completion of a final proposed budget.
- It was decided to keep the registration fee the same as the Chicago meeting.
- Rich Lueptow advertised the Chicago meeting by mailing out 6,000 brochures. Tony was asked to make a similar advertising effort.
- Tony said that he might be able to provide funds for 10 to 20 students to travel to the meeting. The committee pointed out that we have a travel assistance program through the External Affairs Committee. Tony was asked to add the money he obtained to the funds of the External Affairs Committee.

2007 Meeting, Salt Lake City -- Patrick McMurty

- Pat would like to know the timeline for meeting planning. Rich Lueptow is making a meeting planning guide for later meetings and will make sure Pat gets a copy.
- A reception on the 23rd floor of the Wells Fargo Building is being considered but this location is not Pat's first choice. He is looking at three other places close to the convention center. He is considering a large fire tornado demonstration.
- There is some concern that there are so many hotels near the convention center that we may not fill our room blocks at the hotels we have contracts with.

2008 Meeting, San Antonio - Sharath Girimaji

- The printed meeting bulletin was discussed. Sharath suggested selling printed bulletins for \$50 to those who want them. Selling a CD was also discussed. It was mentioned that the bulletin is the only permanent record of the presentations at the meeting. Shartha said that the bulletin would still exist; however, it would not be given to all attendees. The cost of the bulletin is \$54,000 for this meeting. It was decided to observe whether or not people used the bulletin during the Chicago meeting and to discuss the topic at future Executive Committee meetings.
- Ways to improve the student experience at the meeting were discussed briefly. It was decided that Sharath should continue to think about this issue.

Program Committee Report – Howard Stone - (Appendix A)

- See appendix D for the committee's report on mini-symposia, invited speakers, the March Meeting, and the US National Committee on Theoretical and Applied Mechanics.

Poster Project – Howard Stone

- Howard discussed and presented three posters produced by him and Tim Wei. The posters are design to promote public interest in fluid mechanics.
 - Fluid Dynamics goes for the Gold
 - Fluid Dynamics Walks on Water
 - Fluid Dynamics Rocks
- The posters were well received by the Executive Committee and Howard and Tim were encouraged to continue with the project.

Fellowship Committee Report – Steve Pope

- There were many applicants due to the proactive work of the committee. Ten Fellows were selected and all were approved by APS. Four are from foreign countries.

Treasurer's Report - Jim Duncan

- APS has lowered the interest rate on our operating and award accounts from 7% to about 6.5%.
- The DFD operating account is in good order as can be seen in the following tables. It should be kept in mind that in the fall of each year our major income and expenses occur so trends from year to year are better observed in the account totals reported in the spring.

Award Accounts

Award	9/30/05	3/31/05	3/31/04
Acrivos	67,736	65,413	64,129
Fluid Dynamics Prize	146,339	141,320	141,704
Laporte	115,758	111,787	104,251
FDP + Laporte	262,098	253,107	245,955

Operating Account

Account	9/30/05	3/31/05	3/31/04	3/31/03
Operating	278,615*	313,682	265,085	281,697

*On 9/30/04 the operating account assets totaled \$256,470.

The American Physical Society recommends that each division's operating account have a balance equal to the typical of cost of one its Annual Meetings. Since the expenses for the DFD meetings are typically about \$300,000, our account balance is within the APS guidelines.

Gallery of Fluid Motion – Jim Duncan

- In past years, the number of entries in the Gallery of Fluid Motion has been fairly steady at about 65 (posters plus videos). This year the number of entries is about twice that. We have no explanation for the increase. Physics of Fluids can accommodate up to 17 winning entries in their September, 2006 Gallery of Fluid Motion article.
- DFD Gallery of Fluid Motion winners are being displayed at the GSNP Gallery of Fluid Motion at the March meeting and vice versa.

External Affairs Committee Report – Mohamed Gad-el-Hak – (Appendix B)

- The travel awards program dispersed about \$20,000 to subsidize travel to the 2006 meeting.
- See attached report for details and other activities of the committee.

Acrivos Dissertation Award Committee – Jim Brasseur – (Appendix C)

- Dr. Silas Alben was chosen as winner of the 2005 Acrivos Dissertation Award.
- See attached report for details and other activities of the committee including changes to the guidelines for submission of nominations.

Fluid Dynamics Prize Committee –

- Ron Adrian was selected as the recipient of the 2005 Fluid Dynamics Prize.

A. Summary of the activities of the DFD program committee – Howard Stone

1. Feedback to the Chicago local programming committee on the invited symposia for the 2005 meeting
 - a. The Chicago group solicited widely for suggestions for symposia. They received at least 13 excellent detailed suggestions and selected four. The DFD programming committee was not really well integrated into the process of the selection of invited symposia.
2. Feedback to the Orlando local programming committee on the invited speakers and symposia for the 2006 meeting
 - a. The DFD program committee has been interacting effectively with Tony Ladd and colleagues, and as of the writing of this memo, is close to reaching a conclusion on the recommended list of speakers.
3. Organization of the DFD program at the March Meeting
 - a. Using symposia suggested (as part of a solicitation) for the Chicago DFD meeting, we contacted individuals to lead focus sessions at the March meeting. We also identified an area for the ONE DFD invited session.
 - b. The final program is shown below:

Invited Session: Shedding Light on the Enigma of the Transition to Turbulence in Pipes and other Shear Flows. (Co-chairs: Tom Mullin and Rich Kerswell)

Focus	Sessions
Biological Hydrodynamics (Chair: Ray Goldstein); co-sponsored with DBP	
Nonlinear Electrokinetics (Chair: Martin Bazant); co-sponsored with GSNP	
Jets, Shocks and Splashes (Chair: Wendy Zhang) ; co-sponsored with GSNP	
Simulations Using Particles (Co-Chairs: Lorena Barba and Jens Walther); co-sponsored with DCOMP	

Note: Originally we had planned a “microfluidics” focus session, but I failed to get anyone to commit to lead it and in any event there is a regular session on this topic.
4. US National Committee on Theoretical and Applied Mechanics: Upcoming meeting in Boulder Colorado, June 25-30, 2006
 - a. The program committee helped solicit symposia in fluid mechanics and individuals to chair the symposia.

B. Report of the External Affairs Committee

November 2005

The committee charge reads, “The External Affairs Committee will promote the affairs of the Division through interactions with other professional societies in the U.S. and abroad, through contributions to public education, and by such other activities as the Committee shall choose to undertake.”

This year the External Affairs Committee of the American Physical Society Division of Fluid Dynamics consisted of the following members:

- Mohamed Gad-el-Hak, Virginia Commonwealth University, Chair
- Joe Fernando, Arizona State University
- John Foss, Michigan State University
- Stephen Morris, University of Toronto
- Mike Reischman, National Science Foundation
- Stavros Tavoularis, University of Ottawa
- Laurette Tuckerman, Laboratoire d’Informatique pour la Mécanique et les Sciences de l’Ingénieur, CNRS, France

As far as the chair is concerned, this was truly a dream committee.

Committee members have carried out several activities this year. The travel subsidy program to attend the division annual meetings continued from prior years. We have a record number of applications and awards. The division committed \$15,000 to the program, and both Schlumberger and the International Centre for Theoretical Physics committed \$5,000 each, with the provision that those be awarded to researchers from developing and underdeveloped countries. There were 50 applicants from developed countries and 22 from developing and underdeveloped countries. The awards went to 24 applicants from the former category (\$500 each), and to 16 applicants from the latter category (\$1000 each; except that applicants from Mexico received \$500 each). All awards were accepted and all awardees, with the exception of one person who could not get a visa in time, are expected to be at this year meeting. [Concerns about visa applications needing few months to be processed motivated the committee to move expeditiously on awarding the subsidies.] All checks have been cut by the APS Treasurer, and Jim Duncan will hand carry them to Chicago. We have also arranged for the hotel to cash the checks for all the awardees who indicated they want to receive their award in cash (more than half opted for this choice).

For travel subsidy awardees and other meeting attendees, Laurette Tuckerman coordinated a share-a-room matching service.

Other activities of the committee included coordinating with the local organizing committee in arranging the Saturday evening special celebration of the World Year of Physics, featuring Nobel Laureate Leon Lederman, and a program for high-school physics teachers from the Chicago metropolitan area, as well as the issuing of pre-conference press release. We have also been cooperating with the Executive Committee to select a group of writers and reviewers for this year USNCTAM fluid mechanics report. A member of our committee, John Foss, is also the USNCTAM liaison to the EC. Finally, our committee stayed in the loop when this year’s meeting organizers developed a sequence of minisymposia, particularly when such symposia involved other countries and other societies.

The Gallery of Fluid Mechanics Problems, proposed by our committee member Stavros Tavoularis, is now a reality and can be found on www.efluids.com.

Currently the committee has no vice chair who under normal circumstances would rise to the chair position. I served for one year as vice chair and for two years as chair, and the time has come to infuse new blood to this vibrant and important committee.

Respectfully submitted,
Mohamed Gad-el-Hak
Chair of the External Affairs Committee

C. 2005 Acrivos Dissertation Award Committee – Jim Brasseur

The 2005 Acrivos Dissertation Award Committee met in two conference calls on 13 and 15 June 2005 to discuss the dissertations submitted for the 2005 Acrivos Dissertation Award and decide a winner. The committee members were: James Brasseur, Chair (12/05), Paul Neitzel, Vice-Chair (12/06), Ellen Longmire (12/05), Ken Melville (12/05), Marc Perlin (12/05), Anette (Peko) Hosoi (12/06), Richard Leighton (12/06).

Eleven theses were considered this year, four of these having been carried over from the previous year. After serious deliberations the committee chose Dr. Silas Alben for the 2005 Acrivos Dissertation Award. Dr. Alben received his degree in Mathematics from the Courant Institute of New York University, advised by Prof. Michael Shelley. The committee felt that Dr. Alben's thesis, "Drag Reduction by Self-Similar Bending and a Transition to Forward Flight by a Symmetry-Breaking Instability," was of exceptional quality, both in the mathematical models and method used to elucidate interesting physics uncovered experimentally, and in the quality of the writing. In particular, Dr. Alben's thesis exemplified an elegant combining of in-depth elegant mathematical analysis with simple effective experiment, to describe the essence of two fundamental fluid-structure interaction problems: reduction of drag resulting from deformation of elastic membranes in a uniform flow (e.g., leaves within a wind), and the basic description of the mathematical physics underlying the generation of forward motion by wing flapping. In both analyses, the fundamental mechanisms are elucidated through mathematical models that capture the essence of the problem. The committee felt that the thesis is an excellent example of high quality research coupling elegant modeling and experiment, written well for others fluid dynamicists to appreciate and enjoy. We congratulate Dr. Alben and his advisor, Professor Shelley.

The committee also discussed improvements to the Acrivos Dissertation Award website (<http://www.aps.org/praw/acrivos/>) in 2006. In addition to the usual updating of the committee and the addition of the award for 2005, we suggest the following simple modifications:

1. Amend item 1 to read "A **pdf** document and a single **hard copy** of the Ph.D. thesis. Please try to keep pdf document under 25 Mbytes." The second sentence was added in an effort to keep the pdf document to reasonable size for downloading.

2. Amend item 3 to read “A complete curriculum vitae of the nominee as a **pdf** document. Include only papers published or under review.” The second sentence was added because the committee felt that it is inappropriate to include manuscripts not yet written on the student’s CV.
3. Modify the second sentence in item 6 to read “The signed letters should be submitted directly to the chair of the current awards committee (below) by the nominator no later than **May 1** in the year of the award as a scanned signed document.” Currently we request that letters of reference be submitted in hard copy, while the nominating letter is to be submitted as a scanned signed letter in pdf form. Hard copy was not used in the review, so we suggest asking only for a scanned signed letter.
4. We also noted that the links to the previous winners of the Dissertation Award currently contain a one-line “Citation” and a paragraph with the “Background” for each winner. We recommend that, in addition to these two items, the title of the thesis be provided along with a link to the thesis. If the latter is not possible or feasible, then we suggest that the abstract to the thesis be included along with the thesis title.

In addition, in 2006 the Chair, Paul Neitzel, will examine the FAQ section of the Acrivis Dissertation Award website for modification, or for potential removal.