# 2006 NATIONAL DROSOPHILA BOARD MEETING AGENDA

**March 29, 2006, Houston, Texas**
**Room 335 A-C, Hilton Americas, 3 – 6 p.m.**

| | | Report |
|---|---|---|
| **INTRODUCTION & APPROVAL OF THE 2005 MINUTES** | **3:00 – 3:10** | 1 |
| **MEETING ORGANIZATION** | **3:10 – 3:40** | |
| 2006 PROGRAM COMMITTEE (Hugo Bellen, Ron Davis, Graeme Mardon, George Halder) | 15' | 2 |
| 2007 PROGRAM COMMITTEE | | 3 |
| REPORT OF THE GSA MEETING COORDINATOR (Suzy Brown) | 10' | 4 |
| **AWARDS** | | |
| SANDLER LECTURESHIP COMMITTEE (Scott Hawley) | 5' | 5 |
| GSA POSTER AWARD | | 6 |
| IMAGE AWARD (David Bilder) | | 7 |
| **TREASURER'S REPORT** (Michael Bender) | **3:40 – 3:50** | 8 |
| **DROSOPHILA BOARD COMPOSITION** | | |
| ELECTION REPORT (Ruth Lehmann) | | 9 |
| **COMMUNITY RESOURCE REPORTS & PROJECTS** | **3:50 – 5:00** | |
| BLOOMINGTON STOCK CENTER (Kathy Matthews, Kevin Cook)<br>REPORT OF ADVISORY COMMITTEE (Hugo Bellen) | 5' | 10<br>11 |
| DROSOPHILA GENOMIC RESOURCE CENTER (Justen Andrews) | 5' | 12 |
| P-ELEMENT COLLECTION (Allan Spradling) | 10' | 13 |
| SPECIES SEQUENCING PROJECT (Bill Gelbart, Thom Kaufman, Teri Markow) | 10' | 14 |
| FLYBASE (Bill Gelbart) | 10' | 15 |
| DROSOPHILA INFORMATION SERVICE (Jim Thompson) | | 16 |
| KYOTO DROSOPHILA GENETIC RESOURCE CENTER (Masa Toshi Yamamoto, Thom Kaufman,) | 5' | 17 |
| TUCSON STOCK CENTER (Teri Markow) | 5' | 18 |
| DROSOPHILA BOARD WHITE PAPER (Lynn Cooley) | 15' | 19 |
| D-ENCODE WHITE PAPER (Brian Oliver) | 5' | 20 |
| **Refreshment Break** | **5:00-5:15** | |
| **OLD BUSINESS** | | 21 |
| **NEW BUSINESS** | | 22 |
| **ADJOURN** | **6:00** | |

Present: Susan Abmayr, Justen Andrews, Michael Ashburner, Utpal Banerjee, Phil Batterham (for Robert Saint), Hugo Bellen, Michael Bender, David Bilder, Ken Burtis, Kevin Cook,Lynn Cooley, Ron Davis, Rick Fehon, Bill Gelbart, Pam Geyer, George Halder, Scott Hawley, David Ish-Horowicz, **Gary Karpen,** Thom Kaufman, Rebecca Kellum, Mark Krasnow, Mitzi Kuroda, Chuck Langley,Ruth Lehmann, Howard Lipshitz, Trudy MacKay, Graeme Mardon, Teri Markow, Kathy Matthews**,** Dennis McKearin, Brian Oliver**, Helen Salz, Trudi Schüpbach,** Allan Spradling, Henry Sun (for Yash Hiromi), Barb Taylor.

Newly elected Board members were introduced: Utpal Banerjee (President-Elect), Michael Bender (Treasurer), Pam Geyer (Midwest), Susan Abmayr (Heartland), Howard Lipshitz (Canada). Thanks and appreciation were expressed to Board members completing their terms: Lynn Cooley (President), Rick Fehon (Treasurer), Lori Wallrath (Midwest), Dennis McKearin (Heartland), Henry Krause (Canada). Suzy Brown, the new Drosophila Research Conference meeting coordinator at GSA, was introduced.

## 1. 2005 MINUTES

2005 Drosophila Board Meeting Minutes. March 30, 2005, San Diego, California. Submitted by Lynn Cooley. Posted on FlyBase. Approved.
Present: Justen Andrews, Kavita Arora, Hugo Bellen, Sarah Bray, Ken Burtis, Susan Celniker, Kevin Cook, Lynn Cooley, Ron Davis, Rick Fehon, Bill Gelbart, George Halder, Scott Hawley, Yasushi Hiromi, Gary Karpen, Thom Kaufman, Rebecca Kellum, Mark Krasnow, Henry Krause, Mitzi Kuroda, Chuck Langley, Frank Laski, Ruth Lehmann, Trudy MacKay, Graeme Mardon, Teri Markow, Kathy Matthews, Dennis McKearin, Brian Oliver, Robert Saint, Gerold Schubiger, Amanda Simcox, Allan Spradling, Trudi Schüpbach, Rahul Warrior, Kevin White, Toshi Yamamoto.

## 2. REPORT OF THE 2006 PROGRAM COMMITTEE (Hugo Bellen, Ron Davis, Graeme Mardon, and Georg Halder)

Marsha Ryan resigned last year in April and Suzy Brown is the current, and probably future organizer of the fly meetings. We have so far had no problems with this transition, and the meeting itself will determine how smooth the transition has occurred.

Overall, the organization of this meeting went well. We visited the hotel and met with Suzy Brown in the hotel in April. The organizers met a few times in April and May of 2005, selected the historical speaker, the plenary speakers, decided on the type and number of sessions, and the session chairs. We contacted all the involved parties and only two invited plenary speakers declined: Steve Cohen and Gary Struhl. They were replaced with Richard Mann and Troy Littleton. Calling (not emailing) all the parties early and letting them know that they will not be reimbursed is in our opinion a good strategy as most people have no commitments a year ahead and do not complain about lack of support later.

All the plenary speakers, the historical speaker, the introducer of the historical speaker, and the Larry Sandler memorial lecturer received free registration, since the board decided to offer this bonus last year. In addition, since the meeting organizers live in Houston, they did not request hotel accommodation. As the hotel offers a number of free nights (~40) we were able to offer a free night of accommodation to historical speaker, introducer of the historical speaker, and all nights to the Larry Sandler Awardee.

Abstract submission was at the count of ~900 by the due date. This is about 10% lower than the previous year and may indicate a ~10% lower attendance rate. The number of people who registered on Feb. 27, 2006 was ~1275, about ~75 less than last year at the same time. However, as many items seem better priced in Houston we do not know if and how this will impact the budget. Suzy Brown will be able to give us a better picture of submissions and attendance, and the cost of the meeting.

Graeme Mardon was in charge of having the Session Chairs select Platform Presentations from among the abstract submissions and organizing the workshops. We asked Session Chairs to select the top third of abstract submissions and to prioritize this list and this seemed to work well. Georg, Graeme, and Ron, edited the selections and suggested minor modifications. There were twelve workshop submissions and these were organized based on requested time slots first and then by order of submission (i.e., those not requesting a specific time and last to be submitted were scheduled for Saturday night). Workshop Organizers were also asked to submit a brief summary of their workshop and a list of speakers with about ten days to respond before the abstract book was going to press. This should have been done a little earlier so that organizers would have more time to respond.

## 3. 2007 PROGRAM COMMITTEE

The 48th annual Drosophila Research Conference is March 7-11, 2007 at the Philadelphia Marriott. The organizers of the meeting are Steve DiNardo (Penn), Elizabeth Gavis (Princeton), Tom Jongens (Penn), and Jessica Treisman (NYU).

## 4. REPORT OF THE GSA MEETING COORDINATOR (Suzy Brown, CMP)

**47th ANNUAL DROSOPHILA RESEARCH CONFERENCE**

**Registration:**

Total registrations for 2006 (as of the early registration date of February 24) is 1272. This number is lower than that of 2005 when there were 1348 registered at the early cut-off date. In previous years we have seen anywhere from 12-20% of the registrants come in during the late/on-site registration process so we could get to nearly 1500 registrants in Houston if that trend continues.

Registration income at this point is about $76,000 below the total projected registration income of $301,100. The number of individuals registering as GSA members, paying the lower member rate, is about the same as last year (778 vs. 797 in 2005). It is possible that late and on-site registrations may bring in enough additional income to make up the shortfall in the actual registration income.

**Hotel Rates and Pick-up:**

Hotel room rates for singles and doubles in 2006 are $149/179/$189, about the same as in San Diego last year. Pick-up this year is well behind last year by 100 rooms on peak night. However, this report is being written on the cut-off date for the hotel so that could significantly change. We have met our commitment of 85% of the block which is important because it directly ties into complimentary space and other contractual obligations.

**Exhibitors:**

Fourteen exhibit spaces were sold this year—seven less than 2005 although more could still come in. Thirteen of the companies are commercial companies.

**Donors and Advertisers:**

None

**2007 – 48th ANNUAL DROSOPHILA CONFERENCE – March 7-11 – Philadelphila Marriott**

By contract, room rates will not exceed $185 single and $195 double. Meeting and poster space is more than adequate. Immediately adjacent to the Marriott are the famous Reading Market Terminal, historic city landmarks, including Independence Hall, as well as countless restaurants—all in easy walking distance.

**2008 – 49th ANNUAL DROSOPHILA CONFERENCE** The 2008 conference will be the western rotation, again, at the Town and Country. Meeting dates are April 2 through April 6. Rates have already been negotiated and will range from $162-$182 single/double per night. Meeting space has been set aside based upon the same program and schedule we used in 2005.

**2009 – 2011** At this time there is no contracted space for 2009-2011. This should probably be a priority after the conclusion of the Houston meeting. The Town & Country is very interested in a return visit from the Drosophilists. In addition, space is tentatively being held by the three major chains (Marriott, Starwood and Hilton) in keeping with the current rotation and based upon availability. Cities being solicited, based solely on availability, space and room rate are:

2009 (Central) – Dallas, New Orleans, Chicago, Houston,
2010 (East) – Atlanta, Baltimore, Boston, Greensboro
2011 (West) – Phoenix, San Diego

There was a long discussion on the sites of future Drosophila Research Conferences and associated hotel costs. The Board agreed that 2011 should be in San Diego again: the city and conference facility are nice and hotel price is reasonable. Importantly, the Conference typically makes money at the San Diego site, which compensates for losses at the other, more costly venues in the three year rotation. There was much debate about future sites. The following considerations were raised:

a) Stability - conferees know and like the standard sites (San Diego, Chicago, Wash DC)
b) Major airline hub - easy to get to
c) Desirability of location

Attracting conferees - however, location hasn't had big impact on attendance
Providing convenient/desirable/affordable restaurant options
Weather concerns - unpredictability of spring weather in Chicago, Philadelphia
Emotional appeal to help New Orleans

d) Affordability of hotel and conference facilities

Major concern, especially with tightening grant situation. Board members would like room costs under $200/night and ideally under $150.

e) Balancing affordability against desirability of locations - hard to find major hotel/conference facility in Washington DC with rooms under $225.

Suzy Brown will report back to Board on how much could be saved by going slightly outside downtown areas (e.g. Arlington, VA). It was noted that going far from downtown areas in past, such as Bellevue, WA, didn't work well as it was hard to visit Seattle due to lack of public transportation. Suzy is also investigating potential savings by going to cities that may be less pricey (e.g. Houston, Pittsburg, Baltimore). However, Suzy pointed out that there are significant constraints due to large size of hotel/conference facility needed for our meeting. The requirement of a huge poster space could be relaxed if we use a rotation system in which each poster is up for only half the meeting. Board agreed to try such a rotation as a one-time experiment, if significant savings can be realized.

**Registrations - 2006**

| | **Number** | **Amount** |
|---|---|---|
| Members | 496 | $94,385.00 |
| NonMembers | 233 | $72,230.00 |
| Student Members | 276 | $22,080.00 |
| Student Nonmembers | 250 | $36,250.00 |
| Complimentary | 17 | 0 |
| **Advance-Early** | **1,272** | **$224,945.00** |
| | | |
| Mailings-USA | 238 | $3,570.00 |
| Overseas | 18 | $0.00 |
| **Advance Mailings** | | **$3,571.00** |
| | | |
| **Grand Total** | **1,272** | **$228,515.00** |

## Country Breakdown Report

| Country | Count |
|---|---|
| U.S. | 1003 |
| UNITED KINGDOM | 45 |
| CANADA | 37 |
| JAPAN | 28 |
| GERMANY | 22 |
| TAIWAN | 22 |
| SWITZERLAND | 18 |
| FRANCE | 18 |
| SWEDEN | 12 |
| KOREA | 10 |
| MEXICO | 8 |
| SPAIN | 5 |
| ISRAEL | 5 |
| ITALY | 5 |
| AUSTRIA | 5 |
| GREECE | 4 |
| RUSSIAN FEDERATION | 4 |
| AUSTRALIA | 4 |
| INDIA | 3 |
| BELGIUM | 3 |
| SINGAPORE | 3 |
| HONG KONG | 2 |
| CZECH REPUBLIC | 2 |
| NETHERLANDS | 1 |
| ARGENTINA | 1 |

| | |
|---|---|
| FINLAND | 1 |
| DENMARK | 1 |

Total number of registrants: 1272

**27** different countries: 78% from USA and 22% from Canada and overseas

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## 5. REPORT OF THE SANDLER AWARD COMMITTEE (R. Scott Hawley)

Committee:
R. Scott Hawley, Stowers Institute (Chair 2006)
Helen Salz, Case Western University (Chair 2007)
Kenneth Burtis, UC Davis
Susan Abmayr, Stowers Institute

Selection Procedure:
☐ On December 31, 2004 I received 13 nominations that included Curriculum Vitae, a thesis abstract, and a letter of nomination from the advisor. Nominations were received as PDF files and sent to the committee members. The thirteen applicants were: Borghese, Lodovica; Colombani, Julien; Forrest, Kevin; Han, Chun; Hebbar, Sarita; Huh, Jun; Jaeger, Johannes; Meyer, Pablo; Mueller, Jacob; Ortiz-Barrientos, Daniel; Pearson, Bret; Wernet, Matthias; Yao, Shenqin

☐ By January 23rd voting for the top four candidates for each committee member resulted in the selection of four finalists. Since one of the candidate's (Dr, Colombani's) thesis was in French, we requested the assistance of an outside reader, Dr Olivier Porquie to comment on this thesis. Drs Abmayr and Salz were able to read French, Drs Hawley and Burtis voted on the basis of the published manuscripts.

☐ Thesis advisors provided the theses to the committee as pdf files.

☐ On February 8th, the committee members provided me with a ranking of the theses. After multiple email exchanges and commentaries, Dr. Daniel Ortiz-Barrientos (Indiana University) was unanimously ranked as number 1. Dr Colombani was the runner-up.

Scott Hawley asked the Board for advice on how to handle PhD theses in foreign languages. Board agreed that appointment of ad hoc reviewer(s) fluent in the language to advise Committee is appropriate, as was done this year. Scott also asked whether Committee should consider speaking ability in selection. Board members recommended Committee continue to judge based on the science. Poor oral presentations have not been a problem.

Previous Committee Members (to help future chairs select new members)

2000 Committee:
Amy Bejsovec
Tom Cline
Joe Duffy
Chris Field
Janice Fischer
Scott Hawley
Bill Saxton (Chair)
Bill Sullivan (1999 Chair)

2001 Committee:

Laurel Raftery
Haig Keshishian
Susan Parkhurst
Bill Saxton (2000 Chair)
Lynn Cooley (Chair)

2002 Committee:
Steve DiNardo, UPenn (Chair)
Lynn Cooley, Yale Med (2001 Chair)
Chip Ferguson, U Chicago
Helen Salz, Case Western

2003 Committee:
Amanda Simcox, Ohio State (Chair)
Steve DiNardo, UPenn (2002 Chair)
Celeste Berg, University of Washington
Jin Jiang, UT Southwestern

2004 Committee:
Ross Cagan, Washington University (Chair)
Amanda Simcox, Ohio State (2003 Chair)
Susan Abmayr, Stowers Institute
Tom Clandinin, Stanford

2005 Committee:
Gerold Schubiger, University of Washington (Chair)
Ross Cagan, Washington University (Chair 2004)
Seth Blair, University of Wisconsin
Gertrud Schüpbach, Princeton University

2006 Committee
R. Scott Hawley, Stowers Institute
Helen Salz, Case Western University (Chair 2007)
Kenneth Burtis, UC Davis
Susan Abmayr, Stowers Institute

## 6. GSA POSTER AWARD AND MENTORING LUNCH

The GSA is sponsoring an award for the best poster. First ($500), second ($300) and third ($200) place prizes will be given to the students or postdocs judged to have the best posters. Both scientific merit and clarity of presentation will be taken into account. Elaine Strass of GSA asked Board to establish process for picking Chair and members of Selection Committee and to set guidelines for the selection procedure. Suggestions for chair and members of the Selection Committee included: Drosophila Board President-elect, member of the previous selection committee, outgoing member of the Board, current meeting organizer(s), previous meeting organizer, plus additional committee members (selected by the above) as needed to provide subject balance. In the past, each Platform session moderator evaluated the posters in their topic area on first full day of meeting and nominated 1 or 2 posters. Committee then evaluated the 15-20 nominees and selected the first, second, and third place winners on the second day of the meeting. Winners were asked to come to the final Plenary Session where they were presented with the awards by the Board President. Winning posters were then put on display outside meeting room. 2006 selection committee is: Lynn Cooley, Rebecca Kellum, Eric Lai, and Carl Thummel. Should archive of GSA poster prize winners be added to Flybase along with Sandler Award and Drosophila Image Prize winners?

GSA instituted an informal Mentoring Lunch for students and postdocs at the meeting. Three tables of 10 (8 students, 2 faculty). Faculty participants: Pam Geyer, Scott Hawley, Ruth Lehmann, Trudi Schupbach, Allan Spradling, Jen

Zallen. Pam Geyer's recommendations for next year are to expand to include more students; have a senior and junior faculty member at each table; consider providing lunch or having students pre-pay $10 for lunch when they sign up so time during Mentoring Lunch is not spent searching for food.

## 7. IMAGE AWARD (David Bilder)

Committee members:
David Bilder
Brian Calvi
Peter Lawrence
Liqun Luo
Laurel Raftery

This year saw a sharp spike in submissions, 45 as compared to 27 last year and up from 22 in the initial year of the competition. The committee feels that this is encouraging in reflecting increasing awareness and appreciation of the Award within the Drosophila community. Again, submissions were received from Europe and East and South Asia as well as the U.S., and the images reflected a wide variety of subject matter. The committee is particularly pleased that non-microscopy images have begun to be submitted.

Twelve finalists were selected in initial voting, and the winner was chosen in a second round of voting:
***Ken-ichi Kimura****, for his image exhibiting* fruitless*-dependent sexually dimorphic neuronal innervation in the Drosophila brain*

This year's runners-up were:
☐ *Esteban Mazzoni for his display of differential Rhodopsin expression in the eye imaginal disc, controlled by* warts *and* melted *pathway signaling*
☐ *Christoph Melcher for his image illustrating interneurons that integrate primary gustatory input with higher brain centers to control feeding behavior*

This year the committee also chose to award a special commendation to two images that reflect the training of Drosophila geneticists. While these images do not fit the stated goal of the Award in highlighting important primary research results, the committee nevertheless felt it was an excellent opportunity to draw attention to this critical endeavor.
☐*Jennifer Childress for her images of commonly scored Drosophila marker phenotypes*
☐*Gerald Call for his photo mosaic of the members of the UCLA Undergraduate Research Consortium in Functional Genomics and the results of their genetic screen.*

Other developments:
-Trudi Schupbach stepped down from the committee last year, and Brian Calvi agreed to take her place. Next year, Liqun Luo has expressed interest in stepping down. The committee is interested in hearing nominations for replacements.

-With the help of the GSA, a permanent website has been created (www.drosophila-image.org) to post details on the competition, frequently asked questions, historically compelling images and most importantly to serve as a repository for finalist and winning images for each year. The community and the Board in particular are encouraged to visit and provide feedback to the committee.

Board suggested that a link to the website be added on the new Commentary item at the top of Flybase, and that a poster with miniature versions of all past winners be displayed throughout the meeting including outside the last platform session along with the posters prize winners.

## 8. TREASURER'S REPORT (Michael Bender) February 28, 2006

### A. ANNUAL DROSOPHILA CONFERENCE INCOME/EXPENSE

(Data from GSA [Elaine Strass], 2/03/06)

| | Wash, DC 2004 (Actual) | San Diego 2005 (Actual) | Houston 2006 (Projected) |
|---|---|---|---|
| **REVENUE** | | | |
| Registration fees: (increased by $10 in 2004) | $313,645 | 297,750 | 301,915 |
| Grants and Contributions: | 1,000 | 0 | 0 |
| Exhibit Fees (increased by $200/exhibit in 2004) | 28,500 | 24,250 | 25,000 |
| Advertising/Mail Lists/Other | 2,005 | 4,630 | 1,940 |
| **TOTAL REVENUE** | **345,150** | **326,630** | **328,855** |
| **EXPENSE** | | | |
| Salary, Payroll Tax and Benefits | 62,071 | 45,532 | 55,000 |
| Printing and Mailing | 37,442 | 33,173 | 40,000 |
| Receptions and Catered Events (Note 1) | 100,527 | 71,034 | 100,000 |
| Posters and Exhibits | 24,416 | 24,030 | 25,000 |
| Supplies and Duplicating | 838 | 2,554 | 1,150 |
| Hotel and Travel | 5,287 | 6,193 | 7,500 |
| Audiovisual services (Note 2) | 73,072 | 36,797 | 60,000 |
| Other contracted services | 3,450 | 5,001 | 5,000 |
| Telephone and Fax | 3,527 | 1,837 | 2,200 |
| Credit Card Fees | 9,120 | 9,422 | 9,500 |
| Miscellaneous | 2,372 | 495 | 500 |
| Total Expense | **322,122** | **236,068** | **305,850** |
| Net Revenue Over (Under) Expense | **$23,028** | **$90,562** | **$23,005** |

Note 1: Food and Beverage at the Town and Country in 2005 is substantially cheaper than the Wardman Park Marriot in DC.

Note 2: AV decreased in 2005 because fly board decided that speakers would bring own laptops to make presentations which resulted in savings of approximately $25,000. The savings resulted from decreased AV personnel and time allocated to set up for sessions.

### B. MEETING ATTENDANCE

| | | |
|---|---|---|
| Pre-registration 2006 (Houston) (as of 2/27): | 1,271 (Note 3) | $228,515 |
| **Total registration 2006 (est.):** | **1,600** | **$301,100** |
| Pre-registration 2005 (San Diego): | 1,451 | $264,440 |
| **Total registration 2005:** | **1,515** | **$297,750** |
| Pre-registration 2004 (Wash DC) | 1470 | $266,110 |
| **Total registration 2004:** | **1,617** | **$313,645** |
| Pre-registration 2003 (Chicago): | 1,488 | $256,130 |
| **Total registration 2003:** | **1,603** | **$283,270** |
| Pre-registration 2002 (San Diego): | 1,219 | $211,000 |
| **Total registration 2002:** | **1,552** | **$290,170** |
| Pre-registration 2001 (Wash DC): | 1,372 | $240,240 |
| **Total registration 2001:** | **1,627** | **$297,915** |
| Pre-registration 2000 (Pittsburgh): | 1,083 | $131,075 |
| **Total registration 2000:** | **1,183** | **$167,005** |
| Pre-registration 1999 (Seattle): | 1,142 | $156,350 |
| **Total registration 1999:** | **1,366** | **$191,425** |

Note 3. The early registration deadline was 2/24. Historically, 12 to 20% of registrations come in after the early registration deadline (per Suzy Brown of the GSA). Suzy's best guess based on the 2/27 figure is that registration will be around 1475 with revenue within 15% of the estimate.

### C. ACCOUNT BALANCES

| Drosophila Main Fund | | | | |
|---|---|---|---|---|
| **Meeting Year** | **Location** | **Net Income** | **Fund Balance*** | **# Meeting Attendees** |
| 1993 | San Diego | $17,105 | $ 25,146 | 1,165 |
| 1994 | Chicago | 2,800 | 27,946 | 1,222 |
| 1995 | Atlanta | 8,417 | 36,363 | 1,103 |
| 1996 | San Diego | 15,035 | 51,398 | 1,423 |
| 1997 | Chicago | 31,663 | 83,061 | 1,382 |
| 1998 | Wash DC | 21,522 | 104,583 | 1,378 |
| 1999 | Seattle | (6,053) | 98,530 | 1,366 |
| 2000 | Pittsburgh | (56,060) | 42,470 | 1,183 |
| 2001 | Wash DC | 71,656 | 114,126 | 1,627 |
| 2002 | San Diego | 60,661 | 174,787 | 1,552 |
| 2003 | Chicago | (22,993) | 151,794 | 1,603 |
| 2004 | Wash DC | 23,026 | 174,820 | 1,617 |
| 2005 | San Diego | 90,562 | 265,382 | 1,515 |
| 2006 (projected) | Houston | 23,005 | 288,387 | 1,600 |

**NB**: The GSA Board (Sept. 2003 meeting) established a required ~$150,000 *minimum* reserve fund (one-half of meeting expenses). No cap figure stated.

| Sandler Lecture Fund | | | |
|---|---|---|---|
| Year | Net Income | **Balance** | Excess to Reserve ($8,000) |
| 1993 | 1417 | 25,964 | 17,964 |
| 1994 | (451) | 25,513 | 17,513 |
| 1995 | 1,595 | 27,108 | 19,108 |
| 1996 | 1,142 | 28,250 | 20,250 |
| 1997 | 1,119 | 29,369 | 21,369 |
| 1998 | 1,385 | 30,754 | 22,754 |
| 1999 | 877 | 31,631 | 23,631 |
| 2000 | 257 | 31,888 | 23,888 |
| 2001 | (234) | 31,654 | 23,654 |
| 2002 | (846) | 30,808 | 22,808 |
| 2003 | (2431) | 28,377 | 20,377 |
| 2004 | 432 | 28,809 | 20,809 |
| 2005 | (169) | 28,640 | 20,640 |

## D. SUMMARY AND REMARKS

The 2005 meeting in San Diego produced a $90,000 surplus ($55,000 more than was projected) due to lower than expected expenses. This continues a trend of breaking even or losing money at the expensive venues (East and Midwest), then making up ground at the less expensive San Diego location. Although difficult to predict with certainty, it appears that this trend will continue for the 2006 meeting in Houston. The current 2006 meeting projection is a

$23,000 surplus, but pre-registration is lower (by 200) than each of the past three years so that revenues may be reduced by $50,000 or more compared to the projection. Offsetting this, Suzy Brown of the GSA projects that our actual AV expenses for 2006 will be $15,000 less than currently projected. Assuming that the 2006 meeting does not lose a large amount of money, the Drosophila fund has a healthy balance and it appears that registration fees can be kept constant. Although this discussion might best wait until after a lean year, the board may want to consider the target size of the Drosophila fund, keeping in mind the GSA board requirement for a minimum reserve fund of one half of the annual meeting costs (currently $150,000). At its current level, the fund could withstand two consecutive losses of the magnitude of the 2000 meeting ($56,000) before going below the GSA minimum.

The Board may also want to discuss the long-term health of the Sandler Fund. This fund showed a modest increase over the 1993 to 2000 period but has stayed flat or declined since then. In 2005, the investment gain was $1,076 and expenses were $1,208 for travel and $37 for supplies. The GSA accountant, Chuck Windle, projects that with interest rates rising, a disbursement of no more than last year's expenses would keep the account near equilibrium. The only concern about just maintaining equilibrium is that with time the ability of the fund to cover increasing expenses will decay.

Finally, there is one old business issue to consider concerning meeting expenses. It was requested that the Fly Board consider adding a meal to the Drosophila meeting. Doing so would add a significant cost to the meeting (between $60,000 and $80,000 per the previous treasurer, Rick Fehon) so I would suggest that the board not make this change.

During the Board meeting, Michael Bender noted that the Drosophila Main Fund has been gradually increasing and suggested that the Board consider setting an upper limit on the Fund (e.g., 1x the annual meeting cost, ~$300,000).

Phil Batterham suggested that the number of meeting sponsors is not as great as it should be for a meeting of this size, and that Board should consider more aggressive recruitment of sponsors. Extra funds might be used to keep meeting costs down or provide food/refreshments to increase networking opportunities (lunch at the meeting) or an opportunity for attendees to meet their Board representatives (wine and cheese mixer). David Ish-Horowicz noted that for a London meeting they hire a consultant (Claire Morgan) who gets a percentage of the sponsor take; Suzy Brown will follow up on this suggestion.

Sandler Fund should be used to pay Awardee's travel to the meeting. Awardee is also given free registration and a free hotel room (one of comp rooms provided by hotel).

## 9. ELECTION REPORT (Ruth Lehmann)

The Elections Committee consisted of Ruth Lehmann (Chair), Ross Cagan and Laurel Raftery, and three new members Kavita Arora, Ilaria Rebay and Howard Lipshitz. We met by Email and made a list of possible nominees. Candidates were selected based on previous involvement in the fly community or our perception of their ability to perform the job. The committee rank-ordered an extensive list of candidates for each category. The chair contacted the individuals selected by the committee to construct the final ballot. The following letter was e-mailed to Drosophilists through FlyBase:

Dear FlyPerson,

Enclosed you will find a ballot on which to cast your vote for new members of the National Drosophila Board. The Board plays an important role for the Drosophila research community, so please take a few seconds to learn about the Board and cast your vote.

The Board's duties include: overseeing community resource centers and addressing other research and resource issues that affect the entire Drosophila research community. The Board also administers the finances for the annual North America Drosophila Research Conference and it associated awards, and it chooses the organizers and the site of the annual meeting. The Board consists of 9 regional representatives, 8 from the U.S. and 1 from Canada, who serve 3-year terms. It also has 3 elected officers include a President, a President-Elect and a Treasurer. In addition, the Board has ex officio members, who represent Drosophila community resource centers or international Drosophila

communities. For more information about the Board and the summaries of the annual Board meetings see: http://flybase.net/.data/docs/DrosBoard

In 2004, the Board voted to have a President-Elect who could serve with the current President before beginning his/her term as President. Thus, this year we are electing the President elect, who will serve as President starting with the fly meeting in March 2007. We also elect regional representatives for the Midwest, the Heartland and Canada, who will serve 3-year terms starting with the fly meeting, March 2006.

Please participate in this election. It is your opportunity to choose the individuals who will help set priorities and garner support for community resources. In order to record your vote, delete this upper portion of the ballot and simply reply to this email indicating your selection. You may vote for candidates in ALL categories even though you do not reside in the region represented by the candidates. Balloting will end February 10, 2006.

Election Committee, Drosophila Board

REMEMBER
Return ONLY the ballot portion of the message.
Reply to the sender of this message, NOT to the people below.
----------cut here ----------

***President Elect: VOTE FOR ONE INDIVIDUAL***

Utpal Banerjee (University of California, Los Angeles, CA)
Michael O'Connor (University of Minnesota, Minneapolis, MN)

***Midwest: VOTE FOR ONE INDIVIDUAL***

Pam Geyer (University of Iowa)
Martin Kreitman (University of Chicago, Illinois)

***Heartland: VOTE FOR ONE INDIVIDUAL***

Sue Abmayr (Stowers Institute for Medical Research, Missouri)
Anthea Letsou (University of Utah)
Rob Denell (Kansas State University, Kansas)

***Canada: VOTE FOR ONE INDIVIDUAL***

Marla Sokolowski (University of Toronto)
Howard Lipshitz (University of Toronto)
Helen McNeill (University of Toronto)

RESULTS

The election ballots were tallied by Thom Kaufman. We received about 250 votes/ category and clear winners were identified. The winners were:

**Utpal Banerjee** for president-elect from April 2006-2007, President from April 2007-2008
**Pam Geyer** regional rep for Midwest
**Sue Abmayr** regional rep for Heartland
**Howard Lipshitz** regional rep for Canada

The terms of the three International reps will end after the meeting in 2007. Each International rep is to nominate or hold an election for their successor. Yash Hiromi (Asia) nominated Vijay Rhagavan as his successor, and the nomination was unanimously approved.

## Drosophila Board Master List Spring 2005-2006

flyboard@morgan.harvard.edu

Year indicates the last Fly Meeting through which Board Members will serve as Officers or Regional Reps.

| **Officers:** | | **Year** | |
|---|---|---|---|
| Mark Krasnow | President | 2009 | krasnow@cmgm.stanford.edu |
| Trudy MacKay | President-elect | 2010 | trudy_mackay@ncsu.edu |
| Lynn Cooley | Past-President | 2008 | lynn.cooley@yale.edu |
| Ruth Lehmann | Past-President & Elections Chair | 2007 | lehmann@saturn.med.nyu.edu |
| Rick Fehon | Treasurer | 2006 | rfehon@uchicago.edu |
| **Regional Representatives:** | | | |
| Henry Krause | Canada | 2006 | h.krause@utoronto.ca |
| Amanda Simcox | Great Lakes | 2008 | simcox.1@osu.edu |
| Barb Taylor | Northwest | 2007 | taylorb@bcc.orst.edu |
| Rebecca Kellum | Southeast | 2008 | rkellum@pop.uky.edu |
| Ken Burtis | California | 2007 | kcburtis@ucdavis.edu |
| Dennis McKearin | Heartland | 2006 | dennis.mckearin@utsouthwestern.edu |
| Mitzi Kuroda | New England | 2008 | mkuroda@genetics.med.harvard.edu |
| Claude Desplan | Mid-Atlantic | 2007 | claude.desplan@nyu.edu |
| Lori Wallrath | Midwest | 2006 | lori-wallrath@uiowa.edu |
| **International Representatives:** | | | |
| Robert Saint | Australia/Oceania | 2007 | robert.saint@anu.edu.au |
| Yasushi Hiromi | Asia | 2007 | yhiromi@lab.nig.ac.jp |
| David Ish-Horowicz | Europe | 2007 | david.horowicz@cancer.org.uk |
| | | | |
| ***Ex Officio:*** | | | |
| Bill Gelbart | FlyBase | | gelbart@morgan.harvard.edu |
| Gerry Rubin | BDGP & FlyBase | | gerry@fruitfly.berkeley.edu |
| Susan Celniker | BDGP | | celniker@fruitfly.org |
| Thom Kaufman | B'ton S.C.& FlyBase | | kaufman@bio.indiana.edu |
| Kathy Matthews | B'ton S.C.& FlyBase | | matthewk@indiana.edu |
| Kevin Cook | B'ton S.C. & Nomenclature Comm. | | kcook@bio.indiana.edu |
| Teri Markow | Tucson Species S.C. | | tmarkow@arl.arizona.edu |
| Masa Toshi Yamamoto | DGRC, Kyoto | | yamamoto@kit.jp |
| Jim Thompson | DIS | | jthompson@ou.edu |
| Michael Ashburner | Europe & FlyBase | | ma11@gen.cam.ac.uk |
| Hugo Bellen | B'ton S.C. Adv. Comm. & P element project | | hbellen@bcm.tmc.edu |
| Allan Spradling | P-element project | | spradling@ciwemb.edu |
| Scott Hawley | Sandler Comm, Nomenclature Comm | | rsh@stowers-institute.org |
| David Bilder | Image competition | | bilder@socrates.berkeley.edu |
| Chuck Langley | At large | | chlangley@ucdavis.edu |
| **Past-Presidents serve as members-at-large with terms ending:** | | | |
| Barbara Wakimoto | | 2006 | wakimoto@u.washington.edu |
| Ruth Lehmann | | 2007 | lehmann@saturn.med.nyu.edu |
| Lynn Cooley | | 2008 | lynn.cooley@yale.edu |
| **2006 Meeting Organizers:** | | | |
| Hugo Bellen | | | hbellen@bcm.tmc.edu |
| Ron Davis | | | rdavis@bcm.tmc.edu |
| Graeme Mardon | | | gmardon@bcm.tmc.edu |
| George Halder | | | ghalder@mdanderson.org |

- **Drosophila Board Master List** **Spring 2006-2007**

flyboard@morgan.harvard.edu

Year indicates the last Fly Meeting through which Board Members will serve as Officers or Regional Reps.

| **Officers:** | | **Year** | |
|---|---|---|---|
| | | | |
| Trudy MacKay | President | 2010 | trudy_mackay@ncsu.edu |
| Utpal Banerjee | President-elect | 2011 | banerjee@mbi.ucla.edu |
| Mark Krasnow | Past-President | 2009 | krasnow@cmgm.stanford.edu |
| Lynn Cooley | Past-President & Elections Chair | 2008 | lynn.cooley@yale.edu |
| Ruth Lehmann | Past-President | 2007 | lehmann@saturn.med.nyu.edu |
| Michael Bender | Treasurer | 2009 | bender@uga.edu |
| **Regional Representatives:** | | | |
| Howard Lipshitz | Canada | 2009 | lipshitz@sickkids.on.ca |
| Amanda Simcox | Great Lakes | 2008 | simcox.1@osu.edu |
| Barb Taylor | Northwest | 2007 | taylorb@bcc.orst.edu |
| Rebecca Kellum | Southeast | 2008 | rkellum@pop.uky.edu |
| Ken Burtis | California | 2007 | kcburtis@ucdavis.edu |
| Susan Abmayr | Heartland | 2009 | sma@stowers-institute.org |
| Mitzi Kuroda | New England | 2008 | mkuroda@genetics.med.harvard.edu |
| Claude Desplan | Mid-Atlantic | 2007 | claude.desplan@nyu.edu |
| Pam Geyer | Midwest | 2009 | pamela-geyer@uiowa.edu |
| **International Representatives:** | | | |
| Robert Saint | Australia/Oceania | 2007 | robert.saint@anu.edu.au |
| Yasushi Hiromi | Asia | 2007 | yhiromi@lab.nig.ac.jp |
| David Ish-Horowicz | Europe | 2007 | david.horowicz@cancer.org.uk |
| ***Ex Officio:*** | | | |
| Bill Gelbart | FlyBase | | gelbart@morgan.harvard.edu |
| Gerry Rubin | BDGP & FlyBase | | gerry@fruitfly.berkeley.edu |
| Susan Celniker | BDGP | | celniker@fruitfly.org |
| Thom Kaufman | B'ton S.C.& FlyBase | | kaufman@bio.indiana.edu |
| Kathy Matthews | B'ton S.C.& FlyBase | | matthewk@indiana.edu |
| Kevin Cook | B'ton S.C. & Nomenclature Comm. | | kcook@bio.indiana.edu |
| Teri Markow | Tucson Species S.C. | | tmarkow@arl.arizona.edu |
| Masa Toshi Yamamoto | DGRC, Kyoto | | yamamoto@kit.jp |
| Jim Thompson | DIS | | jthompson@ou.edu |
| Michael Ashburner | Europe & FlyBase | | ma11@gen.cam.ac.uk |
| Hugo Bellen | B'ton S.C. Adv. Comm. & P element project | | hbellen@bcm.tmc.edu |
| Allan Spradling | P-element project | | spradling@ciwemb.edu |
| Helen Salz | Sandler Comm. | | hks@po.cwru.edu |
| Scott Hawley | Nomenclature Comm | | rsh@stowers-institute.org |
| David Bilder | Image competition | | bilder@socrates.berkeley.edu |
| Chuck Langley | At large | | chlangley@ucdavis.edu |
| **Past-Presidents serve as members-at-large with terms ending:** | | | |
| Ruth Lehmann | | 2007 | lehmann@saturn.med.nyu.edu |
| Lynn Cooley | | 2008 | lynn.cooley@yale.edu |
| Mark Krasnow | | 2009 | krasnow@cmgm.stanford.edu |
| **2007 Meeting Organizers:** | | | |
| | | | |
| | | | |

## 10. BLOOMINGTON STOCK CENTER (Kathy Matthews, Kevin Cook)

The Bloomington collection currently consists of 20,677 stocks. 1,689 stocks were added to the collection in 2005 and 543 were removed or died (447 autosynaptics, translocations and inversions were culled, 81 lines were removed as defective and 15 died). We expect the collection to grow to approximately 25,000 stocks over the next 3.5 years.

The current collection (as of 23 Feb 2006) includes:
7,454 genes represented by mutant alleles
11,980 unique mutant alleles
14,109 unique insertions (12,821 in the 'insertion collection'; others are UAS, GAL4, FRT etc. insertions)
2,701 unique aberrations (1,940 are deficiencies)

Use of the collection during 2005:
12,428 shipments (6.5% increase over 2004)
158,368 subcultures shipped (3.2% increase over 2004)
40% were 'insertion collection' insertions (63,967 total, 10,655 unique insertions)
29% were deficiencies (46,337 total, 1,784 unique deficiencies)
21% were 'other' insertions (32,483 total, 2,032 unique insertions)
3% were duplications (4,387 total, 354 unique duplications)
2% were 'other' aberrations (3,418 total, 388 unique aberrations)
Stocks were ordered on 1,348 unique user accounts under 2,640 unique user names.

Funding received in 2005:
$427,060 in direct costs from NSF/NIH
$392,727 in payments for 2004 user fees (actual payments received)
---
$820,333 income for general use in 2005

$231,132 from HHMI to renovate and equip a new high-capacity media kitchen, and to convert the old kitchen to a fly room (kitchen renovation is in progress and should be complete by summer)

Projected 2006 income and expenses:
$441,952 in direct costs from NSF/NIH
$441,677 expected user fee income in 2006 for 2005 use
---
$883,629 projected income for 2006

$862,272 current annual rate of spending (January 2006 normal expenses projected to 12 months)

The stock center has a new web site which we hope will make it easier for people to identify stocks of interest.

Supported Personnel:
Collection Managers: Kathy Matthews @ 90%, Kevin Cook @ 75%
Research Associate: Stacy Holtzman @ 100%
Stockkeepers: 10x full-time-equivalent stockkeeping/packing/accounts effort

Advisory Committee:
The Committee meets annually, usually in conjunction with the Drosophila Conference. Our 2005 meeting was held at the Town and Country Hotel, San Diego. Present at the meeting were: Michael Ashburner, Hugo Bellen, Susan Parkhurst, Norbert Perrimon, Amanda Simcox (advisors), Thom Kaufman, Kathy Matthews, Kevin Cook (stock center people) and Laurie Tompkins (NIGMS).

At his request, Michael Ashburner has been liberated from his advisory duties. Ken Burtis has agreed to join the committee. We thank Michael for his 16 years of service and welcome Ken. The current Advisory Committee: Hugo Bellen, Baylor College of Medicine (Chair); Norbert Perrimon, Harvard Medical School; Amanda Simcox, Ohio State

University; Susan Parkhurst, Fred Hutchinson Cancer Research Center; Ken Burtis, U.C. Davis. The next meeting of the Advisory Committee will be at the Hilton Americas, Houston, at noon on April 1, 2006.

## 11. REPORT OF ADVISORY COMMITTEE (Hugo Bellen)

The advisory committee ( Ashburner, Perrimon, Parkhurst, Simcox, and Bellen together with Cook, Matthews, and Kaufman) meets once a year during the fly meeting. There is no report this year; Hugo felt the information was covered by the Bloomington Stock Center Report above

## 12. DROSOPHILA GENOMICS RESOURCE CENTER (Justen Andrews, Thom Kaufman, and Peter Cherbas)

### A. INTRODUCTION

The Drosophila Genomics Resource Center (DGRC) exists to ensure that the research community has access to high quality Drosophila genomics resources. We were funded in July 2003 for a period of four years and have now been distributing reagents for two years (2/2004-2/2006). We have continued to expand activities. Briefly, we now have 3,253 registered users from 1,417 laboratories; and have distributed a total of 14,092 individual reagents (microarrays, vectors, clones, and cell lines) in 4,929 individual orders. We are now at a steady state of personnel for this workload yet we continue to refine our day-to-day operations and to continue to provide considerable assistance to DGRC users, both new and old. This report focuses on the activities and developments in the year since our first report to the Drosophila Board.

### B. MICROARRAYS

We have been distributing full transcriptome amplicon microarrays and amplicon test arrays since 2004. In the previous year, we have distributed 625 full and 85 test arrays. We continue to provide gene lists, deconvolution files, and regularly updated protocols for download on the web site. The demand for our microarrays continues to fall short of our estimates of "mature demand." Our efforts to stimulate increased use of these resources by the community include (i) distributing oligonucleotide transcriptome microarrays, (ii) offering a hybridization service, and (iii) providing users access to web based microarray database and analysis software. These are described in Section F.

### C. CELL LINES

During the past year, the cell line collection has been expanded by only 7 new lines, now totaling 108; we believe that the bulk of available cell lines are now in the collection and accessible to the community. (The reader might want to contrast this situation with panel of 2-10 lines readily available before the inception of the DGRC.) Additions since the last report include four CNS lines from the Miyake lab collection and three embryonic lines generated in the Gvozdev lab. We have concentrated on the following activities:

1. Distributing the existing cell lines – we shipped 445 samples during the past year.
2. Characterizing the available lines – see Section F.
3. User support - many of the lines, particularly the disc and CNS lines, are difficult to grow, and we have devoted considerable time to thawing particularly troublesome lines in-house for re-shipment and answering user queries.

### D. VECTORS AND CLONES

We currently house 991,000 vectors, cDNAs, and fosmid clones. This number exceeds -- by 975,000 -- the scope outlined in our original proposal! Our activities in the last year are as follows:

1. Increased the vector collection from 225 to 235 common vectors.
2. Continued to annotate and publicly provide information on incoming vectors and some older vectors for which little is known.
3. Sequenced five of the most commonly used vectors for which there are incomplete sequence records. This information will be made available to the community in April 2006.
4. Increased the *Drosophila melanogaster* cDNA collection from 270,000 to 351,000 clones.
5. Increased the number of cDNAs spotted onto Whatman FTA cards for distribution from 90,000 to 200,000.

6. Acquired and will begin distributing (April 2006) 125,000 cDNA clones from five other Drosophila species (*D. virilis, D. ananassae, D. erecta, D. grimshawi, and D. mojavensis*) generated as part of the Drosophila Species Sequencing Consortium project.
7. Acquired and have archived 475,000 Drosophila species fosmid clones (from the Drosophila Species Sequencing Consortium project) and the *Drosophila melanogaster* P1 collection (used for the initial D.m. genome mapping).
8. Distributed 7,072 individual vectors or clones.
9. Acquired four additional -80°C freezers (through an NIH supplement) to house the additional unanticipated clone acquisitions.

**E. USER SUPPORT**

Our efforts in the last year have been focused on responding to users enquiries to our help desk (telephone and email) and further improvements to our web site and user support. To this end, we have achieved the following in the last year:

1. The number of registered users has increased from 2,199 individuals in 976 laboratories to 3,253 individuals from 1,417 laboratories.
2. We have responded to users enquiries with a total of 7,286 email messages (total received and sent), covering 1,843 different issues.
3. We have implemented a two-week release cycle for web development, which ensures that website materials (e.g., sequence files, protocols, MTAs) are always current.
4. We have created several administrative tools and reports that decrease the amount of work and time it takes to fill user orders and allow staff to keep product information current.
5. We have streamlined and almost automated the process of invoicing users, thereby increasing the efficiency of the billing process. We also added the ability to pay for all resources, invoices, and Lab Account balances with credit cards to further expedite billing and order processing.
6. We have added a more robust and user-friendly search tool for vectors and clones.
7. We have improved error handling to facilitate accurate and timely user support.
8. We hosted an information booth at the 2005 Annual Drosophila Research Conference. The booth allowed us to talk directly to many users and we will be doing this again at the upcoming 2006 conference.

**F. DEVELOPMENTS AND EMERGING TECHNOLOGIES**

In the last year, our efforts to facilitate the community's adoption of new genomics technologies have included the following.

1. We have acquired a set of ca. 15,000 70-mer oligonucleotides (designed and purchased in collaboration with the International Drosophila Array Consortium) and have fabricated and tested our first batch of oligonucleotide transcriptome microarrays. We will begin distributing them in March 2006.
2. We are preparing to offer a microarray hybridization service. We plan to start up on a limited scale with existing staff levels. If this is popular and there are no significant or persistent problems, we anticipate expanding staff to meet the demand. We anticipate offering this service in March 2006.
3. We have modified the open source software package BASE, adapting it to the needs of DGRC microarray users and the Drosophila research community. This software, running on DGRC servers, will be made available starting in March 2006.
4. We have expanded support by including frequently asked questions and a script (BHA) with associated documentation to help users judge the success of their hybridizations.
5. We developed a new method, ArrayLOD, for analyzing microarray data. This technique has been implemented in a stand alone R-script and has been incorporated into the DGRC BASE instance.
6. In collaboration with Maurizio Gatti we are characterizing the cell lines. We are examining both karyotypes and ploidy, the latter through flow cytometry. The data will be made available on the DGRC website following publication.
7. We have a project in collaboration with the laboratory of Marc Muskavitch to optimize transfection procedures for CNS and imaginal disc lines.
8. We have an ongoing project to describe the transcriptomes and early ecdysone responses of selected cell lines. The data will be made available on the DGRC website following publication.

**G. FUNDING**

We are approaching the end of the third year of a four-year NIH grant (NCRR and NIGMS) and will be submitting a competitive renewal in June 2006. Since this is a resources grant, we will need to document the DGRC's utility and its role in stimulating Drosophila research. In preparation for the renewal application we plan to invite letters of support form the community. Meanwhile we welcome suggestions and comments from the research community and the Fly Board regarding our progress, impact and future plans.

**H. ADVISORY BOARD**

Ken Burtis, University of California
Reed George, University of California
Alex E. Lash, Memorial Sloan-Kettering Cancer Center
Brian Oliver (Chair), NIDDK, NIH
Susan M. Parkhurst, Fred Hutchinson Cancer Center
J. Tim Westwood, University of Toronto
Kevin P. White, Yale University

## 13. BDGP GENE DISRUPTION PROJECT (Allan Spradling)

**BDGP Gene Disruption Project update.** *Robert W. Levis[1], Yuchun He[2,3], Joseph W. Carlson[4], Martha Evans-Holm[4], Soo Park[4], Kenneth H. Wan[4], P. Robin Hiesinger[2,3], Karen L. Schulze[2,3], Roger A. Hoskins[4], Allan C. Spradling[1,3], Hugo J. Bellen[2,3].* 1) Dept Embryology, Carnegie Institution, Baltimore, MD; 2) Dept Molecular and Human Genetics, Baylor College of Medicine, Houston, TX; 3) Howard Hughes Medical Institute; 4) Dept Genome Biology, Lawrence Berkeley National Laboratory, Berkeley, CA.

Our project strives to provide the community with a transposon insertion affecting each *Drosophila* gene. We use a non-targeted strategy to generate insertions without regard to mutant phenotype. Sequences flanking the transposon are used to localize it. Insertions that further the project's goals are sent to the Bloomington Stock Center. We have also localized insertions in collections donated by other investigators. At the time of our most recent publication (Bellen et al (2004) Genetics 167: 761-781), the BDGP collection contained 7140 mutant lines, providing experimental access to at least 5362 of the 13,666 annotated genes. Since then, we have added to the collection > 800 lines generated by our project and > 700 lines from DeveloGen and the European Genome Project. We have also analyzed the original sequence data for the Exelixis collection (Thibault et al. (2004) Nature Genetics 36: 283-287) and revised the locations of their insertions. The publicly available collections now include insertions for approximately 65% of the annotated genes. To mutate the remaining genes, we have initiated a screen using a *Minos* enhancer-trap transposon (Metaxakis et al. (2005) Genetics 171: 571-581). *Minos* lacks the strong insertional bias for the 5' ends of genes characteristic of *P*-elements and frequently inserts in genes that have been refractory to mutagenesis by *P*-elements. Unlike *piggyBac*, *Minos* can be induced to generate imprecise deletion derivatives in which DNA flanking the insertion has been deleted. The BDGP collection can be searched online (http://flypush.imgen.bcm.tmc.edu/pscreen/) and mutants may be requested that are not yet available from the Stock Center.

**The Carnegie protein trap collection: a versatile research resource.** *Michael Buszczak[1], Shelley Paterno[1], Julia Bachman[1], Dan Lighthouse[1, 2], Ben Ohlstein[1], Anna K. Allen (formly Anna Krueger)[1, 2], Todd Nystul[1], Tina Tootle[1], Erika Matunis[3], Terence Murphy[1], Stephanie Owen[1], Nathathai Srivali[1], Megan Kutzer[1], Eva Decotto[1], James Wilhelm[1], Allan Spradling[1].* 1) Dept. of Embryology/ Howard Hughes Medical Institute, Carnegie Institution, Baltimore, MD. 21218; 2) Dept. of Biology, Johns Hopkins University, Baltimore, MD. 21218; 3) Dept. of Cell Biology, Johns Hopkins School of Medicine, Baltimore, MD. 21205.

We have constructed a large library of protein trap lines[1, 2], the Carnegie protein trap collection, as a general resource for determining the expression programs of Drosophila proteins, including their patterns of sub-cellular localization. This resource will help identify new genes involved in subjects of interest, help reveal remaining unknown cell types throughout Drosophila tissues, and help uncover dynamic aspects of biological processes. To increase the rate of line production we utilized an EGFP exon carried in P-element or piggyBac vectors and incorporated automated embryo-sorting technology. More than 7,500 independent GFP insertions were generated, molecularly characterized[3], and clustered into 2,100 groups based on insertion site, orientation and reading frame. We estimate that at least 600

different proteins have been trapped. RT-PCR sequencing of the fusion transcripts reveals new insight into the mechanisms of P element-mediated protein trapping, and provides a basis to further improve the technique. Analysis of the expression patterns of a core set of lines in adult ovaries, larval salivary glands and discs demonstrates that our collection successfully tags proteins expressed in many different cell types and subcellular compartments. In the future, we plan to extend coverage to most Drosophila protein isoforms.

[1]Morin X, Daneman R, Zavortink M, Chia W. (2001). Proc Natl Acad Sci U S A. 98:15050-5.
[2]Kelso RJ, Buszczak M, Quinones AT, Castiblanco C, Mazzalupo S, Cooley L. (2004). NAR 32:D418-20.
[3]we acknowledge R. Hoskins and the BDGP gene disruption project for insert sequencing.

The need was expressed for an easy way for an investigator to find all available P element and other insertions in a region of interest in the genome. There has been significant improvement in this during the past year but one still cannot go to a single site to find all insertions (e.g. http://flypush.imgen.bcm.tmc.edu/pscreen/ is quite comprehensive but doesn't include Japan collection).

## 14. SPECIES SEQUENCING PROJECT (Bill Gelbart and Thom Kaufman)

**Report on The Sequencing and Comparative Genome Analysis of 12 Drosophila Species (March 2006)**
This report provides supplementary narrative to the recent update on the status of the genome sequencing projects (http://flybase.bio.indiana.edu/docs/news/DrosTimelinesStatusMar06.htm).

First, the Drosophila Board and the community should express its gratitude to the large scale sequencing centers for the production of these important resources. The coordination of the production of the assemblies and downstream analysis would not have been possible without the full participation of the several centers. Further, we are grateful to NHGRI for funding these major efforts and especially to Adam Felsenfeld for serving as project coordinator for NHGRI in working with the several centers.

The original timelines for completion of the analysis and submission of initial publications on the various species has slipped by about 6 months. The very good reason for this was to give the sequencing centers and a collaborating assembly group at the University of Maryland time to evaluate using a "reconciliation process" to modestly improve a backbone assembly with read placements computed in a second assembly. This process fixes a small but sufficient number of gaps, compressions and expansions (changing at most 1-2% of the genome sequence) to make the delay worthwhile. Improving the genome now allows us to avoid a large amount of working downstream in terms of data migration from one assembly to another (a very labor and compute intensive process).

*Assembly*: The final assemblies for the initial analysis phase were frozen on March 6, 2006, superceding some abortive earlier freezes. These frozen assemblies, along with alignments and annotation sets produced on previous assemblies, are available to the community through Michael Eisen's AAA site (http://rana.lbl.gov/drosophila/). The selected frozen assemblies for the ten new genome sequencing projects are:

- Reconciled Arachne/Celera assemblies: *D. ananassae*, *erecta*, *grimshawi*, *mojavensis*, *virilis* (sequenced by Agencourt) and *willistoni* (sequenced by JCVI). For each species, a primary Arachne assembly produced at Agencourt was reconciled by the U. Maryland group using a secondary Celera assembly.
- Arachne assembly: *D. persimilis* and *sechellia* (sequenced by the Broad Institute). For these two lower coverage whole genome shotgun projects, it was felt that the reconciliation process would not add value.
- Mosaic PCAP assembly: *D. simulans* (sequenced by Wash. U.). Because of the nature of the approved project (the *w501* strain sequenced to ~3X coverage; 6 other haplotypes sequenced to ~1X coverage), a simple assembly of a single inbred strain was not possible. The best assembly was deemed to be the one in which the *w501* primary PCAP assembly was improved by the addition of non-conflicting mate pair reads from the other 6 haplotypes.
- PCAP assembly: *D. yakuba* (sequenced by Wash. U.). The use of a reconciled Arachne/Celera assembly was explored, but it was felt that the amount of post-processing editing effort put into the PCAP assembly made it a better value-added choice for the frozen assembly.

For the two previously sequenced Drosophila species, the following assemblies are frozen for the analysis:

- Release 4 of the finished arms (sequenced by the BDGP) and Release 3.2b of the heterochromatin (sequenced by the DHGP): *D. melanogaster*. While Release 5 of *D. melanogaster*, improving the finished assemblies and

integrating the previously separate (and somewhat redundant) arm and heterochromatin datasets will be released by BDGP in the near future, there would not be time for FlyBase and DHGP to produce a migrated and integrated Release 5.0 annotation set without significantly delaying the analysis effort on the new genomes, and so we decided to stay with the currently available assemblies and with the Release 4.3 arm and Release 3.2b heterochromatin annotation sets.

- Atlas assembly Release 2 (sequenced by Baylor)): *D. pseudoobscura*. The use of a reconciled Arachne/Celera assembly was explored, but for several reasons (confirmed map order consistency, post-processing editing effort and use by the community over the last two years), the Atlas assembly was deemed to remain the better choice for the frozen assembly, and Release 2.0 for the annotation set.

Alternative assemblies are also posted on AAA. We expect that some of the analysis groups might produce annotation sets on multiple assemblies as one evaluation of how they compare. Nonetheless, it is imperative for the sake of comparison that the frozen assemblies be treated as the reference sets unless substantial problems emerge during the analysis phase.

*Layering the sequence map onto the recombination and cytogenetic maps of the species:* Thom Kaufman and Teri Markow are coordinating an effort to produce reference polytene maps and to anchor the sequence map on the polytene arms and, where available, on the recombinational maps of the 11 other species. Preliminary orthology mappings provided by Arjun Bhuktar, Susan Russo, Temple Smith and Bill Gelbart are being used to help in this anchoring process. All of these efforts should allow us to have order and orientation of the major scaffolds on each chromosome arm in each species. Overall, progress has been excellent; we expect that these groups will update us on their progress at the Saturday evening workshop at the DRC. Our goal is to have the anchored maps available in the next 2-3 months.

*Timelines for aligments, annotations and initial downstream analysis:* The timelines for production of alignments and annotations, and for downstream analysis are very tight. We assume that the groups that will be contributing annotation sets have already tuned their software on preliminary assemblies and will be able to generate gene prediction sets in the next approximately two months (end of April). We have then scheduled approximately one and a half months (mid-June) for the production of a consensus annotation set that will be submitted to GenBank for each of these species. Some downstream analyses are dependent on having these consensus annotation sets. Other analyses are dependent on having an agreed upon multiple alignment of the species. The coordinators (Doug Smith, Michael Eisen, Thom Kaufman and Bill Gelbart) will be working with the alignment and annotation groups to produce these agreed-upon reference sets. Hopefully, in this way, the initial publication will point to a series of common data sets and hence, differences amongst any downstream publications will be methodological and analytical, rather than on the data input side.

Agencourt has produced EST sets (25,000 ESTs for each of its five species). They are currently accessible through the trace repository and will be submitted to dbEST in the near future.

*Timelines for publication:* Our target is for submission of initial papers in August. We know that this is challenging given the other timelines, but we want to avoid additional delays in the publication schedule. To facilitate production of the main paper(s), we are limiting the broad analysis to high level views of the initial analysis of gene products and gene organization (orthologies, syntenies, evolutionary conservation and changes in gene and genome organization). Further, we will not try and coordinate a major downstream analysis effort but will rather encourage other groups to submit their initial reports in synchrony with the submission of the main papers.

## 15. FLYBASE (Bill Gelbart)

**FlyBase Report to the Drosophila Board** (March 2006; Bill Gelbart, Michael Ashburner, Rachel Drysdale, Thom Kaufman, Kathy Matthews)

This has been a year of considerable change within the FlyBase project. While we maintain our major data collection and presentation efforts, much effort has been going on behind the scenes to improve performance, provide access to richer data sets and allow for more robust querying capability within FlyBase. In addition, as had been planned and

reported to you previously, our colleagues at Berkeley ended their participation in FlyBase as of the end of calendar year 2005. We again thank them for all they did for FlyBase. They continue to be very helpful in providing information in areas of their special expertise.

Major new projects underway at FlyBase are:

- *Implementation of a new core database (Chado) to replace multiple legacy databases:* This project began in earnest last spring and phase 1 (implementation of all modules necessary to replace Gadfly, our sequence annotation database) has been completed. Work on phase 2 (creation of modules to replace the legacy database for genetic, functional and bibliographic information (mol_5)) is targeted for completion in June 2006. Phase 3 (creation of data modules for additional classes of data, including stocks and image annotations, that were not housed in Gadfly or mol_5) will begin thereafter and be completed by early 2007. Completion of Chado implementation and all of the software necessary for data loading, reporting, etc., will be important in several respects:
    - All data will be preserved in a single central database both for our use and for downloading by power users.
    - It allows us to rethink and re-rationalize project dataflow, permitting us to implement systems and procedures for more regular and frequent public updates.
    - Because Chado is the core database for the GMOD (Generic Model Organism Database) project, we are reaping the benefits of third party software development, as well as contributing to the work of other model organism groups.
    - Perhaps most importantly, it provides the back-end for complete reimplementation of our reporting software. This will allow us much greater flexibility in designing querying systems and web reports.
- *FlyBase Web Redesign*. Chado implementation has freed us from previous limitations in designing reports and query systems. In addition, the current web site engine is dependent on outmoded and ad hoc software. Thus, we are in the process of both a major back-end web server/engine reimplementation and a complete revision of the structure, look and feel of the FlyBase web pages. Some sample pages of this work-in-progress will be presented to the Board and during FlyBase demo room presentations. Feedback from the Board on the web site revisions will be very helpful.
- *Incorporation of data from the newly sequenced genomes and related improvements to the annotations of the existing genomes:* We have been preparing for incorporation of the 10 new genomes and the associated annotation sets, orthology/synteny relationships, gene reports, cytogenetic maps, etc. In this respect, it has been helpful to have had the chance to use *melanogaster-pseudoobscura* relationships as a prototype. Our general timelines and plans regarding these genome data are as follows:
    - *BLAST services:* FlyBase provides access to the reference genomes for the 12 Drosophila species plus other insects (http://flybase.org/blast/). Once consensus annotation sets are submitted to GenBank (June 2006), BLAST services will extend to the transcript and protein sets for each genome as well.
    - Timely incorporation and presentation of annotated whole genome data for each of the non-*melanogaster* species after it is published in GenBank (Gbrowse views of genome, consensus annotation sets, multiple gene prediction sets from the AAA annotation contributors, orthology and synteny relationships, individual annotation and gene reports). Current timelines for submission of annotated reference genomes to GenBank is mid-June. Our goal is to have FlyBase presentation of these genomes within a few weeks of their appearance in GenBank.
    - Incorporation of changes to *melanogaster* annotation set based on comparative analysis by the annotation group and migration of *melanogaster* annotations to BDGP's Release_5, the improved, integrated arm/heterochromatin genome assembly. Target date: end of July, 2006.
    - Once these genomes are in GenBank, periodic updating of the corresponding annotation sets will be necessary, and this will be a FlyBase responsibility. Our major manual gene annotation effort will continue to focus on *D. melanogaster*. How to best deploy a limited manual effort in the other species is something that is under consideration. Similarly, how to incorporate changes to annotations for the other species reported to us by FlyBase users is an important issue for us.

*Funding issues:* FlyBase is in the third year of the current 5 year funding period. Commitment to FlyBase by NHGRI remains strong, and within the limitations imposed by the current NIH budget, FlyBase continues to be well-supported. However, we can anticipate that the funding reductions below recommended levels will take its toll, particularly on curator positions, during succeeding years. Further, the current 5-year funding plan did not anticipate the production

of a dozen Drosophila annotated genome sequences. Thus, an independent funding stream for another 2-3 additional positions will be important to maintain, let alone extend, FlyBase services into the indefinite future.

## 16. DROSOPHILA INFORMATION SERVICE (Jim Thompson)

Volume 88 (2005) of Drosophila Information Service was published on schedule in January 2006. The 154 page volume included all articles accepted in the 2005 calendar year, including reports of new techniques, research articles, teaching activities, and various special reports such as regional and national conference summaries. Having articles published as a function of the calendar year continues to work well. Since the majority of contributions are received between mid November to the end of December, this is a relatively rapid publication rate. The cost of this year's issue is unchanged at $12.00, but an increase in shipping and handling charges was necessary. Good progress is being made on redesigning and expanding the DIS web page, and the new version is scheduled to be active by early March. It will include electronic versions with color illustrations of the newest issue (volume 88) and other recent issues, so quick access can be gained to the newest articles. Archiving of earlier volumes will continue as soon as the new web page is active. Submissions are accepted at any time. Manuscripts and orders can be sent to James N. Thompson, jr., Department of Zoology, University of Oklahoma, Norman, OK 73019; jthompson@ou.edu.

## 17. KYOTO DROSOPHILA GENETIC RESOURCE CENTER (Masa Toshi Yamamoto)

The Drosophila Genetic Resource Center (DGRC) at Kyoto Institute of Technology in Kyoto, Japan was established in 1999 and has a capacity of >30,000 stocks. In addition to the basic running costs funded by the government, we are currently supported largely by the National Bio-Resource Project (NBRP: http://www.nbrp.jp/index.jsp) from the Ministry of Education, Culture, Sports, Science and Technology. DGRC is the core center and has three sub-centers (National Institute of Genetics, Ehime University and Kyorin University). This is a five-year project, and lasts until the end of March 2007. In order to obtain continued funding for another five years beyond 2007(or longer) we have to demonstrate to the government the international necessity of the DGRC for Drosophila research world-wide as well as the actual scientific achievements made by the stocks we supplied. This would be measured by the number and lists of published papers in which the stocks we supplied were used and described. We need further understanding, support and cooperation from all Drosophila researchers to make the center really functional and stable.

**Number of stocks at Drosophila Genetic Resource Center at Kyoto (including sub-centers)**

| | |
|---|---|
| The core center DGRC | 17,180 |
| Sub-centers | |
| National Institute of Genetics | 5,125 |
| Ehime University | 475 |
| Kyorin University | 524 |
| Total stocks on December 15, 2005 | 23,304 |

Among the lethal, sterile, inversions, deficiencies, visible alleles, many are duplicates with Bloomington's, which we think important to maintain separately in case a tragic loss occurred at either stock center.

Unique stocks are Gal-4 lines called NP lines, UAS/Promoter lines (GS and LA lines), Protein traps, lethal-FRT lines, old Umea stocks and chromosomal rearrangements of the X and, T(X;Y) and T(A;Y)'s. When the insertion stocks become a seriously big load for us to keep, these latter chromosomal rearrangements may be the first ones to be considered for removal from the collection.

Stocks can be searched and ordered through our WEB site (http://kyotofly.kit.jp/stocks/). Our web site will be renewed in April.

**Sub-centers maintain and supply the following stocks:**

1. NIG: Most stocks will be RNAi lines (about 6,000) since April 2006. (http://shigen.nig.ac.jp/fly/nigfly/)
2. Ehime: 55 species collected in Japanese wild populations. (http://kyotofly.kit.jp/ehime/)

3. Kyorin: Mutant lines of *ananassase*, *hydei*, *auraria*, and wild type strains of *ananassae* subgroup. (http://kyotofly.kit.jp/kyorin/)

**Use**
We sent out 21,951 stocks between April 1, 2005 and October 31, 2005, which is double the number from the same period of 2004 (10,345 stocks between April 1, 2004 and October 31, 2004). In 2003, we shipped 14,316 stocks. Please inform DGRC to your lab members and expand to other labs.

**Fees**
We supply our stocks totally free to Academia, but some time this year, probably around May or June, we will have to start charging our actual costs such as postage and the cost of vials and boxes. All users will need to obtain ID numbers from our NEW WEB page, which will be announced when ready.

**Database**
A New Japanese Drosophila Stocks Database <Flystock> on our WEB page will provide easier access to stock information and easy ordering of stocks from DGRC and its sub-centers. Soon we hope our stocks will be linked with Flybase.

**Additions**
We still have some additional capacity to keep stocks. It will be good if members of the world-wide community would consider depositing stocks to DGRC. Since we have not heard anything for the last two years from Hugo Bellen and Allan Spradling about new P insertion stocks they would like maintained at DGRC, we rather are looking for other categories of stocks. We are considering accepting other useful stocks.

Masa Toshi Yamamoto was not able to attend the Board Meeting so Thom Kaufman presented the report. He had visited the Kyoto Drosophila Genetic Resource Center and said it is a very nice set up with potential to keep up to 50,000 stocks. Allan Spradling said the center must apply soon for renewal of its support and expressed concern about the long term financial support for this valuable resource. Concern was also expressed about the arcane nomenclature used by Kyoto and Board agreed that it is critical that it be made compatible with the nomenclature of Flybase and the other stock centers. Thom Kaufman and Kathy Matthews will lead the Board effort to encourage Masa Toshi Yamamoto and the Kyoto Center to make this a high priority.

## 18. TUCSON STOCK CENTER (Teri Markow)

The Tucson Stock Center maintains nearly 1600 stocks, and the number of species offered has increased to 257. We have added more species from related Genera such as *Chymomyza, Scaptodrosophila* and *Zaprionus* thanks to generous donations from the fly community. For some species, the Center maintains genetically-marked as well as wild-type strains from more than one locality. Of the species being ordered, the twenty most frequently requested each year are given in Table 1. These values plus the inquiries we receive about stocks indicate that demand is being fueled by the genome sequencing projects. In addition to the orders of stocks from the regular collection, we occasionally have offered recently-collected isofemale lines of several species, and these have been popular as well.

The Tucson Stock Center experienced a steady increase in the number of users and in the number of stocks being ordered (Table 2). The trends seems to be that we are increasing the number of users and that these users are all ordering more stocks. We are seeing more and more NIH- or HHMI-supported investigators requesting stocks along with an increase in customers that have Medical School addresses. Approximately 22% of our 2005 shipments went overseas (Table 3).

| 2001[1] | | 2002 | | 2003 | | 2004 | | 2005 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| species | stocks | species | stocks | species | stocks | species | stocks | species | stocks | species | stocks |
| mauritiana | 29 | sechellia | 37 | pseudoobscura | 78 | simulans | 131 | willistoni | 248 | simulans | 416 |
| pseudoobscura | 29 | simulans | 35 | simulans | 40 | melanogaster | 71 | melanogaster | 217 | melanogaster | 337 |
| virilis | 29 | mauritiana | 31 | mauritiana | 38 | pseudoobscura | 62 | simulans | 174 | pseudoobscura | 303 |
| montana | 25 | pseudoobscura | 26 | melanogaster | 25 | mimica | 50 | arakawana | 142 | willistoni | 295 |
| sechellia | 24 | virilis | 21 | persimilis | 20 | mojavensis | 41 | pseudoobscura | 101 | sechellia | 182 |
| simulans | 22 | lebanoensis | 11 | sechellia | 19 | immigrans | 36 | virilis | 75 | virilis | 166 |
| funebris | 12 | melanogaster | 11 | yakuba | 18 | sechellia | 30 | mojavensis | 71 | mauritiana | 153 |
| novamexicana | 12 | willistoni | 11 | willistoni | 15 | funebris | 28 | ananassae | 65 | arakawana | 144 |
| serrata | 11 | ananassae | 10 | aldrichi | 14 | virilis | 28 | sechellia | 63 | mojavensis | 138 |
| ananassae | 9 | orena | 10 | miranda | 13 | grimshawi | 24 | hydei | 49 | ananassae | 126 |
| willistoni | 9 | americana | 9 | virilis | 12 | acutilabella | 23 | americana | 46 | hydei | 91 |
| hydei | 8 | hydei | 9 | orena | 11 | latifaciaeformis | 22 | yakuba | 41 | yakuba | 91 |
| immigrans | 8 | sulfurigaster | 8 | hydei | 10 | mauritiana | 22 | erecta | 34 | persimilis | 82 |
| mojavensis | 8 | yakuba | 8 | ananassae | 9 | nannoptera | 22 | persimilis | 34 | americana | 80 |
| takahashii | 8 | ezoana | 7 | busckii | 9 | ananassae | 20 | mercatorum | 32 | immigrans | 75 |
| teissieri | 8 | mojavensis | 7 | affinis | 8 | robusta | 19 | mauritiana | 30 | mimica | 69 |
| auraria | 7 | teissieri | 7 | teissieri | 8 | guttifera | 16 | nigricruria | 29 | montana | 69 |
| melanogaster | 7 | busckii | 6 | elegans | 7 | paulistorum | 16 | montana | 25 | funebris | 58 |
| yakuba | 7 | mercatorum | 6 | eugracilis | 7 | aldrichi | 15 | aldrichi | 23 | aldrichi | 54 |
| arizonae | 6 | novamexicana | 6 | mojavensis | 7 | arizonae | 14 | arizonae | 21 | teissieri | 54 |
| | | | | | | | | | | | |
| Total stocks/year | 526 | Total stocks/year | 567 | Total stocks/year | 646 | Total stocks/year | 1568 | Total stocks/year | 2563 | Total stocks | 3307 |

**Table 1. Top twenty species most ordered in the Tucson Stock Center**. Species organized by year and total. Shaded boxes indicate species that have had their genomes sequenced.

| Year | Number of Users | Shipments | Stocks Shipped |
|---|---|---|---|
| **2001[1]** | 76 | 106 (1.4) | 526 (6.9) |
| **2002** | 101 | 140 (1.4) | 567 (5.6) |
| **2003** | 119 | 161 (1.4) | 646 (5.4) |
| **2004** | 134 | 195 (1.5) | 1568 (11.7) |
| **2005** | 171 | 282 (1.6) | 2563 (15.0) |

**Table 2. Customer use 2001-2005**. Number of individual users that received stocks in a given year, the total shipments (and mean shipment per user), and the total stocks shipped (and mean stocks per user).
[1] 11-month operation

| Year | | Acdemic U.S. | Academic U of A | gov U.S | com U.S. | teach U.S. | teach U of A | Non-U.S. | total |
|---|---|---|---|---|---|---|---|---|---|
| 2001 | Shipments | 58.5% | 2.8% | 0.0% | 1.9% | 1.9% | 0.9% | 34.0% | 106 |
| | Stocks Sent | 67.3% | 2.5% | 0.0% | 0.4% | 0.4% | 1.0% | 28.5% | 526 |
| 2002 | Shipments | 62.9% | 0.7% | 0.0% | 0.0% | 2.1% | 0.7% | 33.6% | 140 |
| | Stocks Sent | 64.6% | 0.2% | 0.0% | 0.0% | 1.8% | 0.9% | 32.6% | 567 |
| 2003 | Shipments | 66.5% | 2.5% | 0.0% | 1.2% | 0.0% | 0.6% | 29.2% | 161 |
| | Stocks Sent | 68.6% | 5.4% | 0.0% | 1.1% | 0.0% | 0.2% | 24.8% | 646 |
| 2004 | Shipments | 50.3% | 14.9% | 0.5% | 0.5% | 1.0% | 1.5% | 31.3% | 195 |
| | Stocks Sent | 38.4% | 27.3% | 0.1% | 0.1% | 0.1% | 0.8% | 32.7% | 1568 |
| 2005 | Shipments | 62.1% | 11.0% | 1.8% | 1.8% | 0.4% | 1.1% | 22.0% | 282 |
| | Stocks Sent | 32.0% | 49.6% | 1.0% | 0.4% | 0.0% | 2.1% | 12.3% | 2563 |

**Table 3. The distribution of our users.** The majority of our stocks were sent to academic institutions in the US. International shipments were not divided into academic versus commercial use.

In October 2005, our fifth annual Drosophila Species Identification Workshop rapidly filled to its capacity of twelve participants, with a sizeable waiting list. This fall, we hope to expand to fifteen participants, and we have implemented an online application to increase exposure. Concurrent with the Species Workshop, we hosted a meeting to discuss the progress of the 12 species genomes.

The Tucson Stock Center submited an R01 grant application to the NIH because use is increasing, and in all likelihood, as the sequencing and BAC projects are completed, will grow even more. At the same time, we are, in effect, losing person-hours, as university fringe benefit rates have increased. The personnel needs cannot be met by cost recovery. Due to budget constraints we are only keeping duplicates for a subset of our collection, primarily those from genome projects, but we would prefer to have duplicate stocks for our collection in its entirety. We would also like to produce genomic DNA for many of the stocks available. If this NIH grant is funded, it will allow us to maintain duplicates of all stocks, prepare genomic DNA for many species, and expand the number of stocks in our collection. This last point is key since we anticipate transgenic stocks from the twelve species with sequenced genomes.

The Center now has a re-designed website which we hope will make it much easier for customers to obtain the stocks they are interested in. We also hope it will be a resource for obtaining information about various *Drosophila* species and other information relevant to the fly community.

## 19. DROSOPHILA BOARD WHITE PAPER 2005 (Lynn Cooley)

The first White Paper was written in 1999 by a Fly Board subcommittee led by Bill Gelbart. It was modified by a group that Laurie Tompkins organized for an NIH workshop in March 2000. This revised version is posted on the FlyBase Web site as the White Paper 2001. The 2002, the Fly Board decided we should write a White Paper every two years. We agreed that we would not support specific investigators, but project goals. An obvious exception is continuing support for stock centers. Barbara Wakimoto coordinated White Paper 2003, and I followed her guidelines for White Paper 2005, as follows.

On December 17, 2004 I asked Flybase to email the following:

> Dear Fly Person,
>
> With extensive input from the Drosophila community, the Drosophila Board of Directors assembles and publishes the Drosophila Board White Paper. This document is extremely useful for informing NIH and NSF of our top research priorities. Past White Papers have helped to justify funding for valuable community resources

such as insertion mutations, cDNA collections, FlyBase and fly and molecular stock centers. It is now time to update the White Paper and I am writing to ask for your input.

Please download the Drosophila Board White Paper 2003:
<http://flybase.net/.data/docs/CommunityWhitePapers/>.

Many of the projects listed in the White Paper are underway or nearing completion.
Which projects on the list remain high priority?
What are the bottlenecks to current research using Drosophila?
What do you see as the emerging projects or technologies that should be encouraged or supported?

Your input in this process is essential to maintaining and expanding our research tools. Please take the time to send your comments and ideas so the priorities for the next 2-3 years in the White Paper accurately represent the community. Respond to this email, to your regional Representative on the Board of Directors, or to any member of the Board as soon as possible.

Thank you and best wishes for 2005,
Lynn Cooley
President, Drosophila Board of Directors
http://flybase.net/.data/docs/DrosBoard/

I also asked the members of the Board for comments, and the heads of ongoing projects for status reports. Based on what I got, I prepared a first draft for discussion at the Board meeting in San Diego on March 30, 2005. The discussion was productive, and several people volunteered to revise sections. During the general business meeting in San Diego, I gave a brief overview of the Board and the White Paper, and appealed to those present (not very many) to register as a Fly Person so they could participate in elections and community resource projects such as the White Paper. Following the meeting, I pestered people for revisions and then sent a second draft to the Board on May 11, 2005.

In an attempt to reach people not signed up on Flybase, I asked the GSA office to send the following to all the Fly Meeting attendees (it was emailed on May 26, 2005):

Greetings Fly Meeting 2005 Attendee:

I am writing to encourage you to participate actively in the preparation of the newest Drosophila Board White Paper. With extensive input from the Drosophila community, the Drosophila Board of Directors assembles and publishes the Drosophila Board White Paper. This document is extremely useful for informing funding agencies including the NIH and NSF of our top research priorities. Past White Papers have helped to justify funding for valuable community resources such as insertion mutations, cDNA collections, FlyBase and fly and molecular stock centers. It is now time to update the White Paper and we need your help.

If you have not done this already, please register as a Fly Person so that you can receive information about the latest White Paper and contribute your comments. This is very easy and it does not cost anything.

Go to Flybase at http://flybase.net, click on "People", then "Add" if you are not already in the database, or "Update" if your contact information is out of date.

Your input in the White Paper process is essential for maintaining and expanding our research tools. Please take two minutes to become an official Fly Person at Flybase so you can help in defining our community priorities for the next 2-3 years.

Thank you,
Lynn Cooley
Past-President, Drosophila Board of Directors
<http://flybase.net/.data/docs/DrosBoard/BoardMaster.htm>

After getting feedback from the Board and community project directors, I posted a draft White Paper at Flybase, and had this message sent to all Fly Persons on June 3, 2005:

> Dear Fly Person,
>
> I am writing to ask for your comments on the Drosophila Board White Paper 2005 draft. The White Paper is extremely important for informing funding agencies including the NIH and NSF of our top research priorities for the next 2-3 years. Past White Papers have helped to justify funding for valuable community resources such as insertion mutations, cDNA collections, FlyBase and fly and molecular stock centers.
>
> The Drosophila Board White Paper 2005 draft has been assembled by the Board of Directors based on input from many members of the community. For it to accurately reflect the community's priorities, we need your input now. Please download the draft and send me your comments. Do you agree with the priorities? Is something important to your research missing? Are there things in the document you do not agree with?
>
> Please send comments even if it is only to endorse the White Paper. The White Paper is most powerful when backed by everyone in the research community including students, postdocs and PI's. Your opinion matters!
>
> Download the Drosophila Board White Paper 2005 draft at:
> http://flybase.net/.data/docs/CommunityWhitePapers/
>
> Send comments to lynn.cooley@yale.edu with "White Paper" on the subject line.
> Deadline for comments: June 20, 2005.
>
> Thank you for your help,
> Lynn Cooley
> For the Drosophila Board of Directors

I received comments from 67 people, about half of which are not in the U.S, and compiled the comments into a single document. The comments ranged from brief to detailed. I modified the White paper as appropriate, and then sent the revised White paper and community comments to the elected members of the Fly Board on June 29, 2005, and asked for a vote of approval. The vote was unanimous to approve the White Paper.

Meanwhile, I arranged with Elise Feingold to present the Drosophila Board White Paper to the Trans-NIH Genomics Committee. I sent Elise the White Paper and the community comments, and Ruth Lehman and I traveled to Bethesda on July 7, 2005 for this meeting. There was support for the White Paper, although it was tempered by questions about the national priority of Drosophila research. We defended the fly community vigorously, helped by Laurie Tompkins' staunch support at the meeting. She and others told us the White Paper would be much more useful with the projects prioritized in more detail, since money is tighter than recent years.

Based on the NIH feedback, Ruth and I discussed how to prioritize projects. Mostly we rearranged and consolidated related projects so there were fewer. The final version is now posted on Flybase.

Lynn presented three questions for discussion at the Board Meeting:

1) How often should a new White Paper be produced? It has been done every two years starting in 2001, but producing a White Paper is much work. It was agreed that every two years is a reasonable balance between community need and rate of change in those needs and the effort involved in producing a White Paper.

2) How can we distribute the responsibility of producing the White Paper? In the past, it has been nearly exclusively the responsibility of one person, the Board President. Lynn recommended major responsibility be shared among the President, President-Elect and Past-President, to ease the burden on any one person.

3) How can we engage the Drosophila community? This is very difficult. Lynn sent requests for input last time to everyone listed in the Flybase directory and everyone that attended the Drosophila Research Conference.

The third question lead to a general discussion of whether we are reaching our constituency effectively. Many Drosophila researchers don't know about the Board despite its prominent listing in the Abstract book and efforts to introduce the Board and community issues at meetings after Plenary Sessions at past Drosophila Research Conferences. There were suggestions to hold the meetings at the well-attended Techniques platform session, to have Lori Tomkins of NIH speak at the Conference to explain the importance to NIH of the Board and the White Paper, to add a punchy missive about the Board and White Paper on the new Commentary section on Flybase, and to project bullet points and web addresses of the Board and White Paper on the screen before each plenary session at the meeting. Concern was expressed about the challenge regional reps face in contacting and getting feedback from their constituencies. One solution is to provide them with e-mail addresses of their consituents. Another idea is to invite everyone at the Conference to a wine and cheese mixer during the Conference to meet their representatives and other Board members and discuss issues of importance to the community (see New Business). A third idea is to have reps and other Board members wear a ribbon on their name tag for easy identification by conferees.

## 20. D-ENCODE WHITE PAPER (Brian Oliver)

The Board and others should be aware of the following two RFAs. Groups should start to self-organize to prepare for grant submission.

**http://grants.nih.gov/grants/guide/rfa-files/RFA-HG-06-006.html**
**Title: Identification of All Functional Elements in Selected Model Organism Genomes (U01)**
**Request For Applications (RFA) Number: RFA-HG-06-006**
**Overview Content**

- The RFA solicits applications to identify all of the sequence-based functional elements in the *Caenorhabditis elegans* and/or *Drosophila melanogaster* genomes.
- $16.5 million dollars in FY 2007 funds have been committed to fund this RFA.
- Between 6 and 12 awards will be made.
- This RFA will use the NIH U01 Research Project Cooperative Agreement award mechanism.
- Eligible organizations include for-profit and non-profit organizations, public and private institutions, units of state and local governments, eligible federal agencies, and foreign and domestic institutions.
- Eligible principal investigators include any individual with the skills, knowledge, and resources necessary to carry out the proposed research.
- Applicants may submit more than one application, provided they are scientifically distinct.

**Issuing Organization** National Human Genome Research Institute (NHGRI)
**Key Dates**
Release Date: March 10, 2006
Letters of Intent Receipt Date(s): June 21, 2006
Application Submission Dates(s): July 21, 2006
Peer Review Date(s): November 2006
Council Review Date(s): February 12-13, 2007
Earliest Anticipated Start Date: March 1, 2007
Expiration Date: July 22, 2006

**http://grants.nih.gov/grants/guide/rfa-files/RFA-HG-06-007.html**
**Title: A Data Coordination Center for the Model Organism ENCODE Project (modENCODE) [U41]**
**Request For Applications (RFA) Number: RFA-HG-06-007**
**Overview Content**

- The purpose of this RFA is to solicit applications for a Cooperative Agreement (U41) to develop and implement a Data Coordination Center (DCC) as part of the ENCODE Project for model organisms (modENCODE). The DCC will be funded primarily to develop, house, and maintain databases to track, store, and provide access to the data generated as part of the modENCODE Project. In addition, the DCC will import data from related projects that are relevant to the goals of the modENCODE Project.
- A total of $1.5 million dollars per year in total costs for 3 years is to be awarded through this RFA.
- It is anticipated that 1 award will be made.
- This RFA will use the NIH U41 Biotechnology Resource Cooperative Agreement award mechanism.
- Eligible organizations include for-profit and non-profit organizations, public and private institutions, units of state

and local governments, eligible federal agencies, and foreign and domestic institutions.
- Eligible principal investigators include individuals with the skills, knowledge, and resources necessary to plan, organize, and administer a DCC. Members of racial and/or ethnic minority groups, women, and persons with disabilities are encouraged to apply as principal investigators. An individual may be a principal investigator on only one application in response to this RFA.

**Issuing Organization** National Human Genome Research Institute (NHGRI)
**Key Dates**
Release Date: March 10, 2006
Letters of Intent Receipt Date(s): June 21, 2006
Application Submission Dates(s): July 21, 2006
Peer Review Date(s): November 2006
Council Review Date(s): February 12-13, 2007
Earliest Anticipated Start Date: March 1, 2007
Expiration Date: July 22, 2006

## 21. OLD BUSINESS

**A. Update on administrative hassles in importing Drosophila strains** (Kevin Cook)
Kevin Cook and others reported that the USDA has resolved major problems in the permitting and inspection process, and the process now takes only three weeks to obtain a three year permit and a short additional period for inspection. Kevin recommends that fly labs apply every three years for import permits for obtaining transgenic flies from each country you are likely to need flies from during that period (http://fly.bio.indiana.edu/Regulatory/import.htm). The major issue now is the shipping problem -- will the inspected flies arrive alive? It was asked if we could convince USDA to give up on permits? This would probably require a major lobbying effort, for which Allan Spradling suggested enlisting the help of Lynn Marquis and the lobbying arm of the GSA/ASCB/Society for Neuroscience Joint Steering Committee for Public Policy. Kevin thinks it is highly unlikely because 2-3 years ago Drosophila was labeled an "agricultural pest" because one member of the Drosophila genus is considered a serious pest in Florida, and *D. melanogaster* and *simulans* are listed as pests for grape growers in California. Because of the "agricultural pest" label, all Drosophila strains were placed under USDA control with permits required to import them. Kevin feels that it would be very difficult to reverse the classification of *D. melanogaster* as an "agricultural pest" and efforts should focus on streamlining and expediting the permitting process. Last year the Board discussed the possibility of setting up a shuttle from Kyoto Center to Bloomington Center or some other U.S. site (e.g. Susan Zusman of Genetic Services in Boston is interested).

## 22. NEW BUSINESS

**A. Providing on-site lunches at Fly Meetings to keep scientists on-site and promote interaction.** (David Ish-Horowicz) This is done at European Drosophila conference. Board agreed it is a good idea in theory but concern was expressed about the cost and impact on registration fees. Suzy Brown will investigate box lunches and other ways of keeping costs down, and if cost is not prohibitive we may wish to experiment with it at an upcoming meeting such as San Diego where meeting costs are low and there are few restaurants nearby. Sponsors might be sought for the lunch.

**B. How can we become more effective at making sure NIH appreciates the value of Drosophila research?** (Lynn Cooley). This is an important issue for the field that deserves serious discussion at a future meeting.

**C. Can anything be done about the burden of maintaining and distributing private P element collections?** (Lynn Cooley, Spyros Artavanis-Tsakonas). It was noted that investigators can apply for supplement to their NIH grants for sending out large numbers of fly stocks.

**D. Need for an insect genome sequencing White Paper**. (Bill Gelbart) There have been a number of one-off proposals to NIH seeking funds to sequence other insect genomes. These have not fared well at NIH. Bill said NIH is looking for broad projects, and he volunteered to initiate an effort to draft a White Paper on priorities for insect genome sequencing.

The following items came up after the business meeting and were presented to the Board in in a 4/27/06 e-mail ballot from Mark Krasnow.

**E. Proposal to ban photography at the Annual Drosophila meeting.** (David Bilder) David suggested we consider banning photography at the Annual Drosophila meeting, similar to the ASCB policy that has been in effect since at least 1998: "***All types of cameras and other recording devices are prohibited on the exhibit floor and in all poster and oral presentation sessions.***" The statement is published in the ASCB Program book each year, and signs are posted inside and outside of the Exhibit Hall throughout the Annual Meeting. Here is David's rationale:

"At issue is whether digital photography is really any different from note-taking, which we certainly allow. Objections to photography should be on clear grounds, not just a Luddite reaction. My own sense is that the ubiquity of digital cameras, their ability to exactly reproduce primary data, and the potential to distribute these easily electronically, all combines to make a real difference.

To my mind, the negatives of a policy prohibiting photography are that it implies a certain distrust of attendees, and we don't have a good sense of how serious the problem actually is. In my 3 days at the meeting I heard personally from 2 postdocs and 3 PIs about the issue, who particularly mentioned seeing close-up photography of specific figures on a poster. I myself saw it twice, when the concurrent speaking sessions were going on. I don't know if this is representative. It may be that some non-native English speakers use photography so that they can translate the posters at their leisure, and this is something that should be considered.

The positives are that the policy would protect the data that students and postdocs generate, and encourage people to present that unpublished data at the meeting and discuss it. As people become more shy about this, the value (and fun!) of the meeting in general and the posters in particular decreases. I think that on balance adopting such a policy is a sensible action.

I feel that active 'enforcement' is unlikely to be necessary. My guess is that there is a consensus in the community that discouraging photography is appropriate, and that if an explicit standard is stated, the community will hold to it."

The Board voted 10 to 3 in favor of the ban. There was much discussion. Most supporters felt that cameras decrease openness among presenters. Some felt we should go in the opposite direction to encourage exchange of the large amount of poster information by providing easier and universal access to it by establishing a secure website where participants could post their posters (and slides from platform talks) for viewing by all registrants. Some were sympathetic to the needs of participants whose native language is not English. Some felt it would be difficult to implement or unenforceable. Many mentioned that they support the ban but do not want active policing of the ban.

**F. Should there be a policy banning politics from scientific presentations?** (Ron Davis) Ron felt there was inappropriate presentation of personal political opinions in a couple talks at the meeting, and asked if we should have a policy banning politics from scientific presentations. Board members voted 16-0 against instituting such a policy. Reasons included: not favoring any type of censorship or encroachment on freedom of speech; leave it up to speaker as to what is appropriate and tasteful and let speaker take the consequences if their views are unpopular; some political statements, especially with respect to scientific issues, may be appropriate and educational; humor, including political humor, is fun and can be effective, especially if directed at a scientific political issue relevant to the audience; such a policy is unnecessary, unwise, unworkable, unenforceable, counterproductive in long run, and possibly illegal. Several emphasized that it would be good if speakers were sensitive to the diversity of views likely present, and some suggested Board should encourage such sensitivity and focus on science.

**G. Increasing visibility and access of Drosophila Board members** (Mark Krasnow) Mark suggested that during the Annual Drosophila Conference we have a wine-and-cheese social attended by all Drosophila Board members and open to all members of the Drosophila community who would like to meet their representatives or have issues they want to share with the Board. Ribbons can be placed on the name tag of each Board member so they are easier to identify during the Conference. Board voted 11-0 in favor of these proposals. It was suggested that the social be scheduled early in the meeting when Board members are all present, and that we require conferees to find and talk to rep in order to get refreshments (e.g., reps could distribute the refreshment vouchers). It was also suggested that reps be supplied with an e-mail list of their constituents to facilitate communication.

**H. Separate poster prize for postdocs** (Pam Geyer). Pam Geyer suggested that there be separate poster prizes for graduate students and postdoctoral fellows. Elaine Strass said GSA would provide $1000 additional prize money so that two sets of prizes can be awarded. Board members voted 10-0 for this.

**I. Informal dinner for Board members.** (Mark Krasnow) Mark suggested we have an inexpensive dinner immediately following Board meeting and preceding the Wednesday evening session. There is little time for Board members to get dinner and this would be a way of increasing interaction and extending discussion among Board members. Board members voted 11-0 for this proposal. Ruth Lehmann suggested that money from President's fund could be used for this, if necessary.