Diversifying Your Portfolio: Non-NIH Sources of Funding

UCLA CTSI Training Curriculum Program

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David Geffen School of Medicine at UCLA
THE HARD REALITY

• 10-15 years ago, one could expect to apply for one's first NIH R01, directly after completing a postdoctoral fellowship. Today, the average age for someone to receive their first R01 grant award is over age 40.

• In 2005, 15-18% of grants were funded, depending on the NIH institute. For FY 2010 less than 10% will be funded. For the past five years funding for NIH itself has been flat which means in real dollars the NIH budget has gone down for five years.
How do you get started?

- Understand what is expected.
- Set realistic goals.
- Explore your opportunities.
- Get ready early.
- Take advantage of internal review.
THE HIGH COSTS OF RESEARCH

- Personnel 60-85% of total costs
- Lab assistant (college graduate) $30,000+
- Staff research associate I (college grad + experience) $35,000+
- Research nurse >$100,000
- Postdoctoral fellow $38-46,000
- Portions of P.I.’S and co-P.I.S’ salary
- All salaries must provide benefits (+20-30%)
- Graduate student $27,000 + tuition
THE COSTS OF RESEARCH

• Supplies
  – Bench science ~ 20-40% total
    • High costs: animal colonies
  – Clinical/social science ~10-15%

• Equipment maintenance

• But: physical plant and administration costs usually charged to “overhead”

• Shared instrumentation grants
Major Sources:

Investigator Initiated Grants (RO1)
- NIH – National Institutes of Health ($32B*)
- NSF – National Science Foundation ($7.4B*)
- ACS – American Cancer Society (~$0.1B)
- AHA – American Heart Association

Program Project Grants (PO1, UO1, NIRT etc..)

Other Government
- AHQR, DOD, DOE, DARPA…

Large Foundations (HHMI ($0.8B), Keck, etc…)

Small Foundations (Disease specific)
- CF, MS, Breast cancer, etc.

2011 Budget Request
OTHER USEFUL TYPES OF FUNDING

• California
  – CIRM (stem cell)
  – Tobacco
• Training Grants (Graduate Students, Post-Docs)
• Industry (UC Discovery Program)
• Private Donors (Clinical Departments)
• UCLA - Intramural Programs
• NIH funds subject to cutbacks
• Restrictions on NIH funds (salary cap, foreign travel)
• Restrictions on training grants (US residents or citizens)
• The effects of recession on funding by private foundations
• $14 billion endowment
• $730 million/yr in support for 375 investigators and labs (Superstars!)
• $101 million/yr for grants outside HHMI

From HHMI Website 2010
## Top 20 U.S. Foundations Awarding Grants for Medical Research

<table>
<thead>
<tr>
<th>Foundation Name</th>
<th>State</th>
<th>Dollar Amount</th>
<th>No. of Grants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bill &amp; Melinda Gates Foundation</td>
<td>WA</td>
<td>$270,976,718</td>
<td>26</td>
</tr>
<tr>
<td>2. The Starr Foundation</td>
<td>NY</td>
<td>33,075,000</td>
<td>14</td>
</tr>
<tr>
<td>3. Burroughs Wellcome Fund</td>
<td>NC</td>
<td>25,804,239</td>
<td>83</td>
</tr>
<tr>
<td>4. Flight Attendant Medical Research</td>
<td>FL</td>
<td>20,461,776</td>
<td>143</td>
</tr>
<tr>
<td>5. Avon Foundation</td>
<td>NY</td>
<td>16,216,577</td>
<td>16</td>
</tr>
<tr>
<td>6. The Dana Foundation</td>
<td>NY</td>
<td>15,506,843</td>
<td>50</td>
</tr>
<tr>
<td>7. W. M. Keck Foundation</td>
<td>CA</td>
<td>14,970,000</td>
<td>16</td>
</tr>
<tr>
<td>8. The Picower Foundation</td>
<td>NY</td>
<td>13,198,221</td>
<td>8</td>
</tr>
<tr>
<td>9. Eli &amp; Edythe L. Broad Foundation</td>
<td>CA</td>
<td>12,689,219</td>
<td>45</td>
</tr>
<tr>
<td>10. The Robert A. Welch Foundation</td>
<td>TX</td>
<td>10,960,000</td>
<td>37</td>
</tr>
<tr>
<td>11. Doris Duke Charitable Foundation</td>
<td>NY</td>
<td>10,748,600</td>
<td>26</td>
</tr>
<tr>
<td>12. The Rockefeller Foundation</td>
<td>NY</td>
<td>10,701,679</td>
<td>9</td>
</tr>
<tr>
<td>13. The Abramson Family Foundation</td>
<td>FL</td>
<td>10,300,000</td>
<td>4</td>
</tr>
<tr>
<td>14. The G. Harold &amp; Leila Y. Mathers Foundation</td>
<td>NY</td>
<td>9,114,200</td>
<td>44</td>
</tr>
<tr>
<td>15. The Robert Wood Johnson Foundation</td>
<td>NJ</td>
<td>8,999,782</td>
<td>29</td>
</tr>
<tr>
<td>16. The Sidney Kimmel Foundation</td>
<td>PA</td>
<td>8,050,000</td>
<td>3</td>
</tr>
<tr>
<td>17. James S. McDonnell Foundation</td>
<td>MO</td>
<td>7,558,779</td>
<td>43</td>
</tr>
<tr>
<td>18. F. M. Kirby Foundation, Inc.</td>
<td>NJ</td>
<td>7,210,500</td>
<td>32</td>
</tr>
<tr>
<td>19. Irene Diamond Fund</td>
<td>NY</td>
<td>6,490,495</td>
<td>13</td>
</tr>
<tr>
<td>20. Charitable Leadership Foundation</td>
<td>NY</td>
<td>6,434,695</td>
<td>1</td>
</tr>
</tbody>
</table>

Circa 2005, Modified from Foundation Center Statistical Services
How do you get information?

• Agency Sources (NIH, NSF, ACS web sites)
• University of California - OTT
  http://www.ucop.edu/ott/welcome.html
• UCLA Sponsored Research - Funding Opportunity Databases
  http://www.research.ucla.edu/era/who/whoven.htm
• UCLA School of Medicine, Dean’s Office
  http://research.mednet.ucla.edu - Search Engine
• UCLA School of Medicine, Departments
• Other Sites - links to agencies etc.
School of Medicine Research Website: http://research.mednet.ucla.edu
In order to complete your search through the UCLA School of Medicine Funding Database, please use the form below. Once you have entered sufficient information for your search click on the submit query button underneath. If you would like the database to return all records currently stored, simply leave the form blank and hit the submit button.

**Search Funding**

- **Award Title:** Cancer
- **Funding Type:** ALL
- **Submission Type:** External Funding
- **Category:** ALL

[Submit Query]
Specific Agency Information

**Title:** Lung Cancer Research Program Funding Opportunities

**Agency:** Department of Defense Lung Cancer Research Program

**Address:** Department of Defense Lung Cancer Research Program

**Contact Info:**

**URL:** [http://cdmrp.org](http://cdmrp.org)

**Funding Type:** Award

**Submission Type:** External Funding

**Category:** All Faculty

**Description:** The Department of Defense Lung Cancer Research Program's (LCRP) vision is to eradicate deaths from lung cancer to better the health and welfare of the military and the American public. This program is administered by the US Army Medical Research and Materiel Command through the Office of the Congressionally Directed Medical Research Programs (CDMRP). The information in this pre-announcement is being provided to allow investigators time to plan and develop applications if funds become available. This pre-announcement should not be construed as an obligation by the government.

**Limitations:**

**Disciplines:**
Intramural Funding Information

Funding Opportunities

In order to complete your search through the UCLA School of Medicine Funding Database, please use the form below. Once you have entered sufficient information for your search click on the submit query button underneath. If you would like the database to return all records currently stored, simply leave the form blank and hit the submit button.

Search Funding

Award Title: 
Funding Type: ALL
Submission Type: Intramural Funding
Category: ALL

Submit Query
<table>
<thead>
<tr>
<th>Title</th>
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<tbody>
<tr>
<td>2005 UCLA HUMAN GENE MEDICINE PROGRAM</td>
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<tr>
<td>2010 Oppenheimer Program</td>
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<tr>
<td>AACR-FNAB Fellows Grant for Translational Pancreatic Cancer Research Grants</td>
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<tr>
<td>CALIFORNIA BREAST CANCER RESEARCH PROGRAM (CBCRP)</td>
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<tr>
<td>CALIFORNIA POLICY RESEARCH CENTER (CPRC) 2005-2006 Call for Proposals</td>
</tr>
<tr>
<td>Call for Pilot and Feasibility Studies</td>
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<tr>
<td>HIGH-END INSTRUMENTATION GRANT (HEI) PROGRAM</td>
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<tr>
<td>Myasthenia Gravis Student Fellowship</td>
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<tr>
<td>NIH-NSF Ecology of Infectious Diseases Initiative Program</td>
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<tr>
<td>Pancreatic Cancer Action Network-AACR Career Development Awards</td>
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<tr>
<td>Pancreatic Cancer Action Network-AACR Fellowship</td>
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<tr>
<td>Pancreatic Cancer Action Network-AACR Pathway to Leadership</td>
</tr>
<tr>
<td>Pilot Grants</td>
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<tr>
<td>Pilot and Feasibility Projects 2007-2008</td>
</tr>
<tr>
<td>THE UC MICRO PROGRAM</td>
</tr>
<tr>
<td>TOXIC SUBSTANCES RESEARCH &amp; TEACHING PROGRAM (TSR&amp;TP)</td>
</tr>
<tr>
<td>The Alpha Omega Alpha Robert J. Glaser Distinguished Teacher Award</td>
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<tr>
<td>The Award for Distinguished Research in the Biomedical Sciences</td>
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<tr>
<td>The David E. Rogers Award</td>
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<td>The Herbert W. Nickens Award</td>
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<tr>
<td>The Humanism in Medicine Award</td>
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<tr>
<td>The John Merck Scholars Program in the Biology of Developmental Disabilities in Children</td>
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<tr>
<td>The Outstanding Community Service Award</td>
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<tr>
<td>The UC Discovery Grant</td>
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<tr>
<td>UC MEXUS-CMHI SPECIAL CALL FOR PROPOSALS 2005</td>
</tr>
<tr>
<td>UCLA Human Gene Medicine Program</td>
</tr>
<tr>
<td>WHCF Early Career Translational Research Awards in Biomedical Engineering Program</td>
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</tbody>
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Program Goals
The overarching goal of the Oppenheimer Program is to provide seed money for worthwhile projects in health sciences at UCLA, for which alternative sources of funding are not readily available.

These modest seed grants support innovative projects that are in initial stages of development. The Oppenheimer Program is administered by the Senior Associate Dean for Research in the David Geffen School of Medicine at UCLA.

Mr. & Mrs. Gerald H. Oppenheimer
The primary benefactors of the Oppenheimer Program are Mr. & Mrs. Gerald H. Oppenheimer. The Oppenheimer name is a familiar one at UCLA. Gerald (Jerry) has been vitally involved with the University since moving to Southern California in the mid 1950s. He has assumed a leadership role in shaping and supporting the future of medical research at UCLA. The quality that distinguishes Mr. Oppenheimer is his participatory style of philanthropy.

Creation of the Stein/Oppenheimer Endowment Awards provides a perfect example. He was not content to be just the program’s generous benefactor. The most urgent needs of the UCLA Center for the Health Sciences were investigated, and the Award was carefully crafted to meet the identified priorities by providing seed money grants. Gail and Jerry Oppenheimer continue to be philanthropic champions for UCLA, including the recent naming of the Gail and Gerald Oppenheimer Family Center for Neurobiology of Stress.

The Seed Grants
There are five separate seed grant programs under the Oppenheimer Program:

1. Stein/Oppenheimer Endowment Awards
2. UCLA CTSI Scholars Program
3. Gerald Oppenheimer Family Foundation Center for the Prevention of Eye Disease Program
4. Seed Grant Program in Complementary, Alternative and Integrative Medicine (CAIM)
5. Harvey L. Karp Discovery Awards at UCLA

A single application process is used for all five programs. Faculty may submit only one application each year. Faculty who are funded by the Oppenheimer Program must wait two years before submitting another grant application.

The Stein/Oppenheimer Endowment Awards program provides up to $30,000 to enable scientists, clinicians, and others to generate preliminary data for use in subsequent applications to federal and private funding organizations. It is open to academic senate faculty of all ranks.

The Stein/Oppenheimer Endowment was established to further medical research, education, and patient care at the UCLA Center for the Health Sciences. Through the support of specific projects, these awards enhance UCLA’s commitment to comprehensive excellence in the biomedical field.

Since the program’s inception in 1990, 254 seed grants have been awarded. To date, an investment of over five million dollars has generated more than one hundred million in new research grants to UCLA, a 20-fold return.

The commonality of pursuing pioneering investigations has created a unique bond for the awardees,
Industry Funded Research

Forming partnerships with industry
- Standard research grants and contracts (to be discussed by Dr. Wang)
- UC Discovery Program
- Federal Grant Programs
  - SBIR and STTR
Questions regarding these funding opportunities may be directed to the Research Grants Program Office (PARC). E-mail PARC or call 510-987-9386.

FY 2010-2011 Cycle 2 Call for Proposals - Now Open

The University of California Office of Research and Graduate Studies is pleased to announce the 2010-2011 Cycle 2 UC Discovery Grant Request for Proposals (RFP).

This cycle we are soliciting proposals for three award mechanisms; the Discovery Seed Funding Grant (DSF), Research and Training Grant (DRT), and a new opportunity for targeted Proof of Concept (POC) proposals. Please review the attached RFPs for more information, and to determine which opportunity is most appropriate for your research.

Please read all forms and instructions carefully. Requirements may have changed since previous calls.

<table>
<thead>
<tr>
<th>Important Dates</th>
<th>Deadline</th>
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<tbody>
<tr>
<td>PI Letter of Intent Submission Window</td>
<td>Tuesday, February 1 through Wednesday, March 2, 2011</td>
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<tr>
<td>Letter of Intent Notification Window (rolling approvals)</td>
<td>Thursday, February 3, 2011 through Friday, March 5, 2011</td>
</tr>
<tr>
<td>C&amp;G Official Proposal Submission Deadline</td>
<td>Thursday, April 14, 2011 (12:00 Noon PT/3 PM ET)</td>
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<tr>
<td>Industry Sponsor Letter of Intent to Fund</td>
<td>Monday, April 25, 2011 (12:00 Noon PT/3 PM ET)</td>
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<tr>
<td>Expected Notification of Review Outcome</td>
<td>Wednesday, July 20, 2011</td>
</tr>
<tr>
<td>Research Agreement Deadline</td>
<td>Wednesday, August 31, 2011</td>
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<tr>
<td>Research Commences</td>
<td>Thursday, September 1, 2011</td>
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</tbody>
</table>
The Small Business Innovation Research (SBIR) program is a Federal set-aside program for domestic small business concerns to engage in Research/Research and Development (R/R&D) that has the potential for commercialization.

Federal agencies with extramural research and development budgets over $100 million are required to administer SBIR programs using an annual set-aside of 2.5% for small companies to conduct innovative research or research and development that has potential for commercialization and public benefit.

To date, over $12 billion has been awarded by the SBIR program to various small businesses.
The unique feature of the STTR program is the requirement for the small business concern applicant organization to formally collaborate with a research institution.

Differences between SBIR and STTR. Under SBIR Program, the PI must have primary employment with the small business concern. The STTR Program requires research partners at universities and other non-profit research institutions to have a formal collaborative relationship with the small business concern. At least 40 percent of the STTR research project is to be conducted by the small business concern and at least 30 percent of the work is to be conducted by the single, "partnering" research institution.
Foundation Funding

Check with your Grants and Contracts office for Information

American Federation of Aging Research
American Heart Association
American Diabetes Association
California Endowment
California Wellness Foundation
Dermatology Foundation
Emergency Medicine Foundation
Juvenile Diabetes Foundation International
Lifeline Foundation, The
March of Dimes Birth Defects Foundation
National Kidney Foundation
Robert Wood Johnson Foundation
Susan G. Komen Breast Cancer Foundation
Grants and Contracts Office

Pre-clinical and Clinical Trials Office

- Distribution of Funding Agencies Contacts and Funding opportunities
- Submission of grants and contract applications
- Provide pre-proposal consulting with investigators to ensure realistic budgeting, accuracy, and compliance with institutions
- Coordination with internal compliance committee.
- Set up awards internally, including communicating agency restrictions.
- Reconcile and close out projects and transmit progress and final reports to agencies.
- Confidentiality Agreements
- Material Transfer Agreements
- Contracts Negotiation
American Heart Association

Programs Funded by American Heart Association
(http://www.americanheart.org)

- Pre-doctoral
- Post-doctoral
- Fellow-to-Faculty Transition Award
- Beginning Grant-In-Aid
- Scientist Development Grant
- Established Investigator Award
American Heart Association

Fellow-to-Faculty Transition Award

Provides funding for trainees with outstanding potential for careers as physician-scientists in cardiovascular or stroke research during the crucial career development from the completion of research training through the early years of the first faculty/staff position. Physicians who hold an M.D., D.O., M.D./PhD. (not Ph.D.) or equivalent doctoral degree are eligible.
American Heart Association

Scientist Development Grant

Supports highly promising beginning scientists in their progress toward independence by encouraging and adequately funding research projects that can bridge the gap between completion of research training and readiness for successful competition as an independent investigator.
American Heart Association

• Western States Affiliate Program Descriptions
• Includes: California, Nevada, and Utah
• Application Deadline: Jan. 4, 2007
  Paper Deadline: Jan. 9, 2007
  Award Activation Date: July 1, 2007

• The American Heart Association has approved new peer review criteria. More…..

• Useful Links
  Application Deadlines | Application Forms and Instructions | Applying to Affiliate and National
  Changes for January 2007 Deadline | Contact Us | Electronic Application Submission | FAQs | Grant Writing Tips
  Identify Your Affiliate | Policies | Posters | Program Descriptions
  Resubmissions | Science Categories We Fund | Tips for Filling out Forms
American Heat Association

Western States Affiliate Program

- Programs Offered
- Pre-doctoral Fellowship
- Post-doctoral Fellowship
- Beginning Grant-in-aid

- Besides affiliate awards, the Fellow-to-Faculty Transition Award and the Scientist Development Grant are AHA awards available nationally. Application deadline is Jan. 8, 2007.

- The Western States Affiliate also offers an Undergraduate Student Research Program, a Medical Student Research Program and a young Investigators Forum to eligible applicants in California, Nevada and Utah. Limited financial support is also available to coordinate External Scientific Meetings to eligible applicants.
• **Research Award:**
  – both new and established investigators
  – 20,000 - $100,000 per year for up to 3 years

• **Clinical Research Award:**
  – investigators whose studies directly involve patients.
  – $200,000 per year for up to three years.

• **Innovation Award:**
  – pilot and feasibility grants are designed to support novel hypotheses that may lack preliminary data, but offer considerable promise for the cure, prevention, or treatment of diabetes
  – $50,000 per year for two years. No indirect costs may be requested.
Foundation Grants

- Go to the web-site and check out the details
- Discuss your application with the grants and contracts office
- Ensure the aims of the study fits the goals of the foundation and will provide meaningful outcome
- Start preparation for the application early
- Obtain external review when possible
- Each foundation has different application deadlines and formats
- Some may not use the “just in time” mechanisms for IRB and other regulatory approvals.
Industry Supported Grants

- Investigators initiated, industry supported grants (investigator develops hypothesis, aims and design of study, applies to industry for a grant to conduct the study)

- Industry initiated, industry sponsored studies (single or multi-center clinical trials, industry designs and monitors study, investigators participates as sites for the clinical trial)
Industry Supported Grants

Office of Clinical Trials at UCLA-CHS
- Funded by the School of Medicine, Dean’s office
- Medical Director: Isidro Salusky
- Study coordinator resources: one RN and three non-nurse coordinators
- Staff: 1 Executive Director, 1 Director of Contracting, 1 Manager of Research Quality Assurance & Training, and 17 others with a wide range of skill sets
- Cost recovery for providing service to the investigators,
- Free service to K23 recipient for regulatory submissions

Clinical Trials Office at LA Biomed
- Medical Director: Scott Filler, MD
- Staff: two program officers and assistants
- Free service to all investigators
Industry Supported Grants

Office of Clinical Trials at UCLA-CHS

- Pre-award services
- Submissions to IRB, biosafety committee, cancer center review committee, other regulatory committees, GCRC
- Protocol feasibility and assessment
- Clinical trial budget development and negotiation
- Training on IRB, GCP, and clinical trials management
- Identification of study interests and funding opportunities
- Patient recruitment support
Industry Supported Studies

Investigators initiated, industry supported studies

- Similar to grant application to foundations
- Hypothesis, Aims, Study Design, Biostatistics developed by investigators
- Usually involves marketed product or those in development by the industry sponsor
- Conduct and monitoring of the study are the investigators’ responsibility
- Industry may request review of results before publication
Industry Supported Studies

Industry initiated, industry sponsored studies

- Study designed and originated by sponsor
- Only minor changes to protocol sometimes possible
- Investigator and site selected by sponsor
- Monitoring of study conducted by sponsor to meet FDA and Fed Regulations
- Data analysis done by sponsor’s biostatistician
- Study report written by investigator
Industry Supported Studies

Industry initiated, industry sponsored studies

- Read the protocol carefully
- Ensure the protocol is scientifically interesting
- Review to be certain that you have the study population required by the study
- Contact the grants and contracts office early to initiate contract negotiations
- Contact clinical trials unit for assistance in developing budgets
Industry Supported Studies

Industry initiated, industry sponsored studies

- Budgets based on per subject
- Discuss with your clinical trials expert
- Develop a budget to cover your time and effort and also that of your team
- Never under budget
- Your team should be able to meet or exceed the commitment for recruitment for any study
Industry Supported Studies

Industry initiated, industry sponsored studies

- Recruitment and retention of study participants crucial to the success of your participation in clinical trials
- Experience and enthusiasm of the study coordinators critical
- Learn Good Clinical Practice
- Review inclusion and exclusion criteria very carefully
- Obtain IRB and other regulatory approvals early
- Start recruitment and aim at recruiting more and faster than any other participating sites
Industry Supported Grants

Industry initiated, industry sponsored grants

- Attend and actively participate in the investigators meetings
- Express concerns and make suggestions to improve the protocol
- Identify the key personnel and your contacts for the proposed study
- Meet with your study team frequently to resolve issues
- Review all AEs and sign all reports and forms
- Meet with study monitor at each visit
Industry Supported Grants

Industry initiated, industry sponsored grants

– Usually sponsor selects a Principal Investigator for the study (experienced researcher in the field)
– Be the PI if possible
– Discuss authorship of publications early
– Authorship on publication frequently depends on the number of subjects your site has enrolled
– Volunteer to write or review manuscript if possible
Industry Sponsored Studies

- Gain experience in design and conduct of clinical trials
- Develop team of support personnel for conduct clinical and translational research
- Play role in drug development to improve health and treat diseases
- Contribute to scientific literature on therapeutics
Example of Successful Industry Academic Collaboration

- Sponsor contact our group to develop a transdermal androgen
- Protocol developed jointly by investigators and sponsor
- Protocols approved by FDA
- Multicenter clinical trials initiated with our group as PI
- Study completed, study report reviewed by our group
- NDA application submitted by sponsor and approved by FDA
- FDA conduct audit visits, reviews and approves NDA
- New transdermal gels available as new delivery system of androgens
- New products accepted by many hypogonadal men
Example of Successful Industry Academic Collaboration

Publications:


Other Studies;

Buccal, Transdermal, Oral Androgens