



**INSTRUCTIONS:** Please submit four (4) copies of this review to the UCR Office of Research, University Office Building Room 200 and (1) copy to the College Dean as appropriate. For information about the process for preparing an annual report, please contact the Office of the Vice Chancellor for Research at 951.827.5535.

**A1. GENERAL NARRATIVE:** Please provide a short statement highlighting the main activities in which the center has engaged during the review period and how they relate to the mission, goals and objectives of the research center and to the challenges/issues/problems central to the work of the research center. How did the center contribute to UCR's graduate and undergraduate teaching programs? What activities did the center provide to UCR's external communities?

MAIN ACTIVITIES RELATED TO MISSION, GOALS, AND OBJECTIVES:

**Move to the Genomics Building (September 2009)**

In the beginning of September 2009, 29 IIGB faculty from nine departments moved into the ~66,000 assignable sq. ft (109,072 gsf) Genomics building at the corner of Citrus and Eucalyptus streets, pioneering at UCR the concept of an open-design building (shared labs and student/researcher office spaces) to stimulate interactivity and creativity between members of different research groups and hopefully, innovative, translational discoveries. For many IIGB researchers and staff, much time was dedicated in 2009 to designing lab/office/public space within the building, ordering furniture/supplies, coordinating the move/purchase of instruments and equipment, developing policies for shared resources and collaborative research, preparing work orders for communication/data lines and countless facility issues and, ultimately, ensuring that researchers' needs were met and the transition conducted smoothly. As will be detailed in the report, building participants have also made good use of state-of-the-art meeting room space in the building, specifically a 100-seat auditorium (IIGB Colloquia Series; CEPCEB, IGERT, CDVR and Biology Seminars; graduate student recruitment symposiums; international CDVR symposium, Orbach Naming Science Symposium), conference rooms (laboratory meetings) and interactive rooms (laboratory discussions).

**Informal Collaborative, Motivational Events:**

**Weekly Coffee Hours:**

Soon after moving into the Genomics Building in October 2009, PIs in the Genomics building started hosting a coffee hour every Thursday at 11:10 am in an interactive room (later the lobby, eff. 2010). PIs on all floors contributed to the purchase of a coffee maker holding 50 cups of coffee and a cart to transport beverages, which was moved among the floors as hosting duties shifted. Each month a different floor assumed responsibility for treats and beverages, with labs on the floor alternating on a weekly basis. The purpose of these get-togethers was to encourage interactions among PIs and lab members in an informal setting, and this time slot continues to be well attended. No university funds are used for these gatherings.

**Reception in Honor of Genomics Building Structural Artist: January 25, 2010:**

A reception was held on January 25, 2010 to honor the Professor and Chair of the UCR Art department, Jim Isermann, and the atrium and indoor art he created for the Genomics building. Several building faculty provided refreshments and beverages towards an event that introduced a distinguished sculptor from a completely different field who contributed significantly to the striking and unique identity of the building. Jim Isermann is well known in Europe and the United States with work in the permanent collections of such major museums as MOCA in Los Angeles, the San Diego MOMA, the Museum of Contemporary Art in Chicago and all over Europe.

UCR Press Release dated February 25, 2010 -- Contemporary Art for Contemporary Science:

[http://newsroom.ucr.edu/news\\_item.html?action=page&id=2269](http://newsroom.ucr.edu/news_item.html?action=page&id=2269)

**Celebration of Jian-Kang Zhu's Election to the National Academy of Sciences: April 27, 2010:**

A reception in honor of the election of IIGB/CEPCEB member, Dr. Jian-Kang Zhu, to the National Academy of Sciences was held in the Genomics lobby on April 27, 2010, with remarks presented by Chancellor Timothy White and IIGB/CEPCEB Director Natasha Raikhel. Jian-Kang Zhu was elected for his excellence in original scientific research involving molecular genetic mechanisms underlying plant responses to adverse environments such as salinity, drought and low temperature. His work has led to the identification of genes for modifying the responses of crops to environmental stresses -- research that carries tremendous impact for agricultural industry and the environment.

Membership in the NAS is one of the highest honors given to a scientist or engineer in the United States. Dr. Zhu was continuing scientific achievements.

UCR Press Release dated April 27, 2010 regarding Jian-Kang Zhu's NAS election:

[http://newsroom.ucr.edu/news\\_item.html?action=page&id=2320](http://newsroom.ucr.edu/news_item.html?action=page&id=2320)

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### **Instrumentation Facilities at Keen Hall – Workshops**

The IIGB is a virtual Institute organized around four functional Core Facilities that provide services in the areas of Genomics, Microscopy, Proteomics and Bioinformatics. These facilities are housed in close proximity with the Genomics, Microscopy and Proteomics cores located in Keen Hall. The Bioinformatics Core recently relocated to the new Genomics Building across the street where critical server rooms are efficiently air-conditioned and emergency power is provided. All Cores are spearheaded by qualified Academic Coordinators/Administrators/Faculty. This arrangement provides researchers with the ability to access diverse technologies and expertise in nearby locations which serves to foster interdisciplinary research. The arrangement also allows for broader coordination of instrumentation and expertise maximizing synergism while minimizing duplication of resources on campus.

Of the 137 labs over 17 departments who utilized the Core Facilities in 2009-10, 50% used the services of at least two Cores. With the acquisition and operation of the Illumina (Solexa) Genome Analyzer II DNA Sequencer in 2008, the hiring of two senior programmers to assist with data analysis (currently one programmer for 2010-11), and the subsequent NIH award for another Illumina sequencer, the cores have been challenged with training and research demands and coordination.

Workshops in all four instrumentation facilities are conducted regularly and are typically free of charge. All workshops and training sessions are advertised on the IIGB homepage at: <http://genomics.ucr.edu/>. During fiscal year 2009-10, the following workshops were held:

#### **Microscopy: 20 Workshops**

Training is available regularly and on demand to students, postdocs, technicians and faculty members who want to use the resources of the Microscopy Core in their research. During FY 2009-10, training increased 33% due to usage, demand and the availability of the Academic Coordinator. Training is sufficient to get new users started on using the featured equipment; refresher tips are provided at no extra charge to trained users. Sessions typically run for three hours and involve both a theory presentation and hands-on demonstration. Class sizes are kept between 4 and 10 to allow sufficient hands-on activity. Participants are encouraged to bring examples of their own experimental needs, to discuss the feasibility of different approaches, and to note any particular experimental problems or questions they would like addressed.

#### **Bioinformatics: 10 Workshops**

The demand for the popular bioinformatics workshop series is continuously increasing. In the past year the Bioinformatics facility instructed over 10 full-day workshops that were attended by over 300 UCR and 100 external participants. An increasing number of participants are attending who have to fly to Riverside in order to attend these workshops. For many NIH and NSF grant applications, IIGB's bioinformatics workshop program has become an important educational and outreach component. The extensive online material for these courses has been downloaded by several thousand scientists from international locations and the manuals for these courses can be downloaded from: <http://manuals.bioinformatics.ucr.edu/>.

In addition to the IIGB homepage, the Bioinformatics workshop schedule is available at: <http://facility.bioinformatics.ucr.edu/home/workshops> .

#### **Proteomics: 6 Workshops**

A free monthly one-day workshop is available on the first Tuesday of each month to students, postdocs, technicians and faculty members, and includes a general lecture, an operational demonstration and time for individual practice on the equipment. Session topics cover the proteomics applications of the MALDI-MS/MS system (Q-STAR, ABI). This past year, training was also offered on use of the Biacore X100, an instrument designed to measure protein-protein and ligand-protein interactions. Enrollment is restricted to four people per session to allow sufficient hands-on activity. Trainees gain operational skills in using the MALDI-MS/MS and database-dependent tools to study cellular proteins with both PMF and MS/MS analyses of proteolytic peptides. In addition to the usage in protein identification, the Q-STAR system can also be a choice for studies of protein complexes, protein modifications, and protein-protein interactions. This workshop is intended to help trainees become independent experimentalists using the proteomics approach.

#### **Genomics: 14 Workshops**

Although high throughput tasks such as DNA sequencing and Affymetrix services are offered as services only, the Genomics Core offers expertise in experimental design and trouble-shooting as necessary. Free organized training is available for qPCR, and last year, 8 workshops were conducted instead of the 2-3 usually offered annually, and three BioRad seminars were presented, attracting up to 60 attendees each. These workshops are becoming increasingly

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popular, generate increased usage of IIGB qPCR instruments and lately are attracting participants from LLU, SDSU, and UCSD. Two Illumina next-generation technology workshops were organized in 2009-10, each attracting more than 100 people at UCR and some from off-campus. Illumina representatives as well as UCR faculty and postdocs who are actively using Nextgen sequencing presented talks, providing updated information as well as networking opportunities. The costs were covered by Illumina. Additional workshops in analysis of Illumina data are offered by the Bioinformatics Core. Last year also marked the advent of Basic Flow Cytometry Workshops, featuring the BD FACSAria high speed cell sorter (4) and covering FACSAria usage and sample prep. The Genomics Core also conducts training on microsatellite marker analysis and new Affymetrix products and services. Individuals may reserve time with Core personnel for specific problems or more in-depth training, typically free of charge. For instruments with a lower rate of usage (VersArray, QPix, Luminometer, Hydroshear), or are simple to operate (Nanodrop) or have many legacy users (Typhoon), training is available on an individual basis.

**IIGB Forums (7/22/09; 4/29/10) [see Attachments A, B]:**

Two IIGB Forums were held during FY 2009-10. The first forum was scheduled July 22, 2009 to discuss the budget situation and its impact on current and planned IIGB initiatives and activities, new staff hires (John Weger, Genomics Core Specialist), new policies/procedures (Keen Hall's electronic security system eff. 7/09 and the new Instrumentation Facilities Services and Billing Application), and the pilot Business/Science Graduate program that just completed its first year. The status of the move to the Genomics Building was summarized by CNAS Life Sciences Divisional Dean Linda Walling, and instrumentation proposals recently submitted to NIH and NSF for the following pieces of equipment were summarized:

- Illumina Genome Analyzer and Associated Data Management System (G. Hicks)
- Thermo LTQ Orbitrap Mass Spectrometer with Hyphenated HPLC System (Y. Wang, S.Pan)
- Olympus Spectral Confocal and Multiphoton Scanner (D. Carter)
- Olympus Spectral Confocal Microscope (D. Carter)

An IIGB Forum was held on April 29, 2010 to discuss the NSF High-End Instrumentation Award awarded to IIGB (PI G. Hicks) in April 2010 for a second upgraded Illumina DNA sequencer and extensive supercomputing hardware in support of the system.. Multidisciplinary funding opportunities collaboratively being pursued within the Institute were also discussed by Xuemei Chen (NIH Training), Shou-wei Ding (NIH Research), Kathy Borkovich (NSF IGERT), and Howard Judelson (NSF REU renewal), as was the current budget situation and its impact on IIGB activities and resources.

**IIGB Deep Sequencing Innovation Grants (3) [See Attachment C]**

Using limited resources, the IIGB Genomics Core introduced three Deep Sequencing Innovation Grants (up to \$6200 each) with the goal of providing new applications and methodologies for Illumina sequencing that will be of broader benefit to UCR researchers. This technology is aimed at enhancing IIGB's status nationally and supporting the IIGB mission of fostering research across campus. In view of the success of the 2007-08 IIGB Interdisciplinary Research and Training Awards, where IIGB grant recipient Frances Sladek was able to successfully receive an R21 grant from NIH as a direct result of her seed grant, these funds will hopefully once again provide preliminary data for the subsequent award of full extramural grant proposals.

Three IIGB Deep Sequencing Innovating Grants (\$6200 each) were selected by the committee below from among twelve applications received. The funds were provided in part by donations provided by New England Biolabs and Illumina. The proposals that presented potentially high-impact research balanced with a strong component of technical innovation and/or applications of broad benefit to IIGB members and the UCR campus were the following:

1. **Linda Walling** - Development of RNA-seq Multiplexing Capabilities at UCR
2. **Karine Le Roch/Michael Pirrung** - Beyond the fifth base: Expanding high throughput sequencing capabilities to the sixth one (development of methodology to examine genome-wide A methylation)
3. **Sam Lewis/Bradley Hyman/Paul De Ley** - Multiplex sequencing of complete mitochondrial genomes.

The selection committee was composed of:

**Glenn Hicks**, IIGB Academic Administrator IIGB, Associate Researcher (Botany and Plant Sciences)  
**Thomas Girke**, Director of Bioinformatics, Assistant Professor (Botany and Plant Sciences)  
**Ernest Martinez**, Associate Professor (Biochemistry)

**CDVR Biennial Symposium: "Facing the Challenge of Vector-borne Disease in the 21st Century" - \$3,000  
March 27-28, 2010**

IIGB contributed \$3,000 towards the 2010 Center for Disease Vector Research (CDVR) International Symposium titled "Facing the Challenge of Vector-Borne Disease in the 21st Century." IIGB also assisted with the overall planning and preparation of flyers, posters, name tags, etc. Fifteen experts from three different continents and CDVR faculty presented and discussed their work on genomics, molecular genetics, population genetics and vaccine discovery for a wide range of vector-borne diseases in humans and plants. Topics covered at the symposium included the social and economic impact of vector-borne diseases in the developing world and elsewhere; mosquito and malaria control; the molecular genetics of malaria parasites; vector-pathogen interactions; engineering mosquito resistance to pathogens; vaccine development; insecticide resistance in mosquitoes; the evolution of blood feeding in assassin bugs; the kissing bug problem in Southern California; an anti-Dengue Fever vaccine; odor responses in mosquitoes; plant immune responses; and plant-disease vector interactions. Dr. Haile Debas, the executive director of the UC San Francisco Global Health Sciences and the director of the University of California Global Health Institute, presented the keynote address titled "Interdisciplinary Approach to Global Health Challenges in the 21st Century." The two-day was held in the Genomics Auditorium and organized by the following IIGB members: **Alexander Raikhel (chair), Karine Le Roch, Joao Pedra, Shou-Wei Ding and Linda Walling.** The symposium was also sponsored by the UCR Entomology Department, NSF, USDA, and the UC Global Health Initiative.

UCR Press Release dated March 15, 2010: [http://newsroom.ucr.edu/news\\_item.html?action=page&id=2284](http://newsroom.ucr.edu/news_item.html?action=page&id=2284)

**Seminar Activities:**

The Institute allocated \$3k/yr in 2009-10 to CEPCEB and CDVR for seminar-related expenses with the purpose of stimulating the research environment. In order to attract the best attendance, secure optimal venues, and promote maximal educational/research benefits, CEPCEB and IGERT seminars were scheduled on a rotating basis on Fridays; also, Genetics, Genomics & Bioinformatics (GGB) Graduate Program seminars were rotated into the Friday noon schedule during this period. In this manner, the chances of inundating campus researchers and students with several seminars throughout a given week are minimized. CDVR Seminars were held on Tuesdays during this period. All seminar activities below are advertised on the IIGB homepage website ([www.genomics.ucr.edu](http://www.genomics.ucr.edu)). The following faculty members coordinated seminar activities within the Institute during 2009-10:

**IIGB Colloquia Series [ATTACHMENT F]**

In fall 2009, a colloquia series was developed and funded by IIGB to help facilitate interactions within the Genomics Building. The content of each colloquium was determined by the PI of the lab, and covered specific questions being addressed by her/his research, the tools used, the context of the research and the latest outcomes. These seminars were held every other week in the Genomics Auditorium, followed by questions and discussion.

Peter Atkinson – (Colloquia Series Chair) Entomology

**CEPCEB Seminar Committee**

Established in 2002, the CEPCEB seminar series (BPSC252: Special Topics in Botany) allows prominent speakers as well as internal faculty and postdocs the opportunity to present and discuss noteworthy research discoveries in the fields of plant cell and molecular biology and genomics.

Hailing Jin (Chair) – Botany and Plant Sciences

Venu Reddy – Botany and Plant Sciences

Tao Jiang – Computer Science and Engineering

**CEPCEB Noel T. Keen Lecture and Award Committee**

Established in 2002, the Center for Plant Cell Biology (CEPCEB) scholarship award fund sponsors an annual Special Lecture and Awards Ceremony where an invited leading scientist presents his or her work and where postdocs, graduate students and undergraduate students receive public recognition of their accomplishments. The Noel T. Keen Lecture has become a top-notch lecture series. Previous lecturers have included: Fred Ausubel (Harvard), Jeffrey Dangl (University of North Carolina at Chapel Hill), Chris Somerville (Stanford), Joanne Chory (Salk Institute), Bernhard Palsson (University of California, San Diego) Gloria Coruzzi (New York University) and Joseph Ecker (Salk Institute).

*CEPCEB Award Committee Members:*

Faculty Members:

Katherine Borkovich (Award Committee Chair) – Plant Pathology & Microbiology

Chia-en Chang – Chemistry

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Sean Cutler – Botany & Plant Sciences

Other Academics:

Glenn Hicks – IIGB Administrator, Genomics Core

Vanitharani Ramachandran – Botany & Plant Sciences

Graduate Student:

Melissa (Missy) Smith – Plant Biology/CEPCEB ChemGen IGERT Program

**CDVR Seminar Committee**

Started in 2005, the Center for Disease Vector Research (CDVR) continues to bring leading as well as young researchers together to discuss seminal discoveries related to molecular biology and the genomics of disease vectors.

Peter Atkinson – (Chair) Dept of Entomology

Karine Le Roch – Dept. of Cell Biology and Neuroscience

Shou-wei Ding – Dept. of Plant Pathology

**Recruitment Activities:**

**Recruitment of Sue Wessler**

IIGB/CEPCEB successfully recruited distinguished professor of genetics and IIGB/CEPCEB researcher Susan Wessler from the University of Georgia in December 2009. Susan Wessler is an internationally recognized leader in the field of mobile genetic elements, or transposable elements (TEs), as well as their genetic and phenotypic effects. Professor Wessler's pioneering work on the molecular biology and evolution of TEs has been recognized by numerous award and honors. The most prestigious of these include election to the U.S. National Academy of Sciences, election to the American Academy of Arts and Sciences, service to the Council of the National Academy, selection as a Howard Hughes Research Institute Professor, and recipient of the Distinguished Scientist Award from the Southeastern Universities Research Association (SURA).

In addition to her research program, Dr. Wessler is also engaged in an innovative teaching program as a Howard Hughes Medical Institute Professor, in which she has brought research in genetics and evolution to the undergraduate classroom at the University of Georgia. As a recent recruit to the Center for Plant Cell Biology, Dr. Wessler's research will bring together people who work on evolution, ecology, bioinformatics, development and cell biology and of course, her forte, genetics. She also pioneers an experimental and forward-looking teaching style by exposing undergraduate students to genomes and evolution through experimentation and by getting them excited about scientific discoveries. These class experiences tend to be irresistible and motivational to students, making science the center of lifetime career goals.

UCR Press Release dated December 1, 2009: [http://newsroom.ucr.edu/news\\_item.html?action=page&id=2220](http://newsroom.ucr.edu/news_item.html?action=page&id=2220)

**Bioinformatics Programmer in Support of Illumina High-throughput Sequencing Services**

The University had previously provided support for two full-time senior programmer positions for two years (2008-2010) who would be devoted to analyzing the large amount of data generated from next-generation sequencing operations. Over the past two years, this service had grown rapidly to the point that there is now a significant waiting time for services. Due to budget constraints, one programmer's position had to be eliminated but IIGB was able to obtain funding from the College to support one programmer for an additional year.

INSTITUTE'S CONTRIBUTIONS TO UCR'S GRADUATE AND UNDERGRADUATE TEACHING PROGRAMS:

**Postdoctoral Professional Master (PPM) Program at Keck Graduate Institute**

The Institute hosted one lunch meeting (October 30, 2010) with presentations by Sheldon M. Schuster (President) from Keck Graduate Institute's (KGI) in Claremont, CA to offer postdoctoral fellows an opportunity to cross train in business and science. The Postdoctoral Professional Masters (PPM) is a groundbreaking professional masters program for postdoctoral fellows with backgrounds in science and engineering. This newly accredited masters degree helps PhD scientists and engineers acquire the business and management skills needed to pursue senior management positions within the life sciences industry or embark on entrepreneurial ventures that are intended to commercialize technologies developed in laboratories.

The program curriculum focuses on the unique business environment within the life sciences. Courses combine traditional training in issues such as competitive strategy and marketing with specialized topics such as the role of regulation and medical reimbursement in determining the viability of life science market opportunities.

The program also includes courses in accounting, finance, and organizational behavior that will help scientists and engineers understand how bioscience companies are managed. These skills are often essential in enabling effective teamwork between the technical and business employees of life science companies.

**Interdisciplinary Teaching Efforts:**

Both IIGB Academic Administrator Glenn Hicks and Academic Coordinator (Microscopy) David Carter have conducted lectures involving IIGB's innovative technology and research pursuits for such UCR graduate courses as Chemistry 221E (Advanced Bioanalytical Chemistry) and Plant Cell Biology 237.

**IIGB Facilities Tours: [see below]**

OUTREACH ACTIVITIES:

**IIGB Facilities Tours: [see Attachment D]**

In an effort to showcase Keen Hall's advanced tools in bioinformatics, microscopy and imaging, proteomics and genomics and assist in recruitment efforts of top-notch faculty and graduate students, IIGB's academic staff regularly participates in conducting tours to a wide range of groups. During fiscal year 2009-10, a total of 13-18 tours were conducted of one and/or all of the cores. Many tours of Keen Hall were conducted as part of faculty recruitments, staff orientation, Copernicus, RCC District, Biological Sciences Graduate Programs, REU and other groups in an effort to assist in recruitments. This has a real impact as guests are highly impressed by the quality of the facilities and personnel.

**Free Public Lecture by CEPCEB Member as part of the 2010 Spring Science Lecture Series:**

This year the 2010 Spring Science Lecture Series sponsored by the College of Natural and Agricultural Sciences and the Science Circle focused on The Causes, Impacts and Solutions of Global Climate Change. Two IIGB researchers presented free public lectures as part of the series: Peter Atkinson's May 19, 2010 talk was titled "*Tipping the Scales? Pest Insects, Agriculture and Health*" and Julia Bailey Serres' June 3, 2010 talk was titled "*The Food Challenge: Waterproof Rice & Other Solutions.*"

The press releases related to these two lectures can be accessed at:

[http://newsroom.ucr.edu/news\\_item.html?action=page&id=2336](http://newsroom.ucr.edu/news_item.html?action=page&id=2336) (Peter Atkinson)

[http://newsroom.ucr.edu/news\\_item.html?action=page&id=2348](http://newsroom.ucr.edu/news_item.html?action=page&id=2348) (Julia Bailey-Serres)

**A2. RESEARCH NARRATIVE:** Please summarize any significant trends (new research directions, significant increases or decreases in sponsored funding, changes in outreach efforts, etc.) during the review period.

The acquisition of the following instruments by IIGB has vastly changed the nature of research being conducted at UCR.

**New IIGB Illumina Sequencing Service and NIH High Instrumentation Award (\$742, 627)**

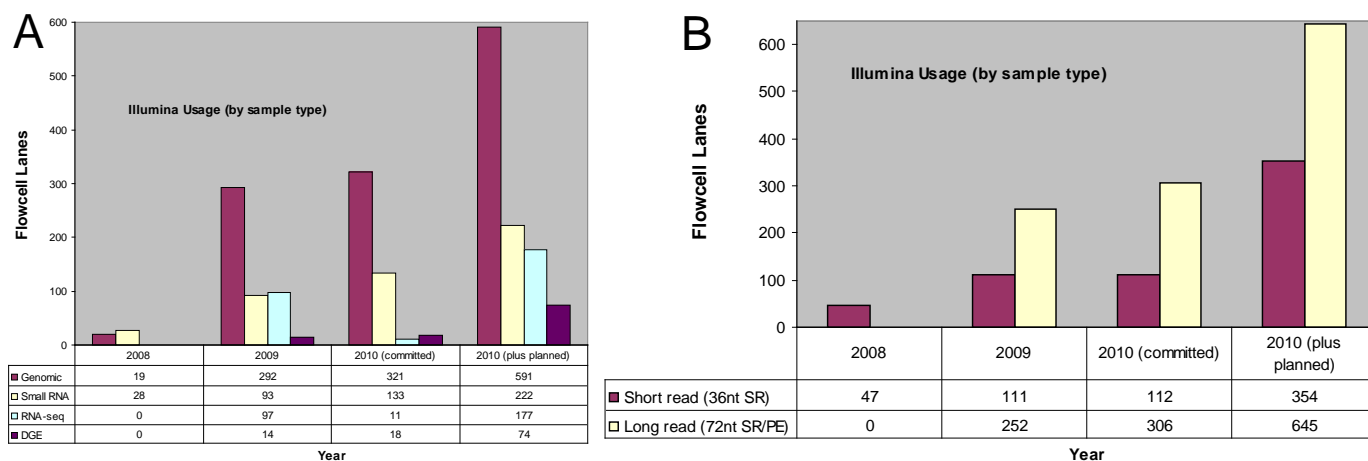
In the past two years, much effort and funds have been directed towards Illumina next-generation sequencing, which is expensive and labor intensive. This is an active decision to focus resources on an area of high-research demand and growth. In 2008-09, the IIGB Genomics Core upgraded their Illumina Genome Analyzer II (to GAIIx) and data server

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(more than \$50,000), while also investing \$70,000 toward the instrument purchase, which augmented the \$500,000 provided by the University. This has enabled and supported increased demand, the enhancement of many new grant applications, the acceptance of many high-profile publications, and the highest usage to date this past quarter (Q2 2010).

Based on the demonstrated use of this instrument over the past 1.5 years, the significant impact on campus research, the existing infrastructure and indicated projections for future demand, IIGB was awarded an NIH ARRA High-End Instrumentation Grant for a second Genome Analyzer Sequencer in April 2010. The proposal was spearheaded by Academic Administrator Glenn Hicks, with Thomas Girke contributing the Bioinformatics infrastructure portion and a committee (Drs. Atkinson, Kaloshian, Chen, and Gill) contributing to the project description. In addition to the grant (1S10RR028934-01, \$742, 627), IIGB obtained a commitment from CNAS for \$96,000 in matching funds for extended warranties for a total of \$838,627 toward the purchase of a new instrument.

After submission, Illumina released the new HiSeq2000 platform. Although costlier than the GAIIx, it is superior and more expandable and will position UCR for the next wave of new sequence technologies. The purchase has been completed, and the instrument is expected to be delivered late fall 2010.



**Figure 1.** Per lane usage and projection of estimated usage. **(A)** lane usage by library type. **(B)** Lane usage indicates sequence read type which are classified as either short reads (36nt single end reads) or long reads. For 2008, data represent two months. **2009**, data represent actual samples sequenced to April 1, plus lanes from PIs with current funding who have committed to submit samples. **2010 (committed)**, data represent projected usage from PIs with current funding who have committed to submit samples. **2010 (plus planned)**, data represent 2010 (committed) plus projected usage based on lanes incorporated into grant applications as of the time of this grant submission.

Below are several examples of IIGB researchers utilizing Illumina and other core services:

**RUI Collaborative Research: Functional Genomics of Spider Silk Synthesis and Fiber Performance within the Western Black Widow and Among Cobweb Weaving Spiders (Cheryl Hayashi)**

Cheryl Hayashi's project was inspired and made possible by the acquisition of Illumina technology and the IIGB support staff. Her lab group embarked on de novo transcriptome assembly of spider silk gland tissue using the Illumina platform (mRNA-seq). Among silk producing organisms, spiders are unparalleled in their reliance on silk and the diversity of silk functions found both within and among species. Most spiders have multiple silk gland types with each type synthesizing a high-performance, task specific fiber or glue. For example, dragline silk, which originates in the major ampullate glands, approaches the tensile strength of steel, and prey wrapping silk, which originates in the aciniform glands, is incredibly tough. Molecular studies of spider silks have almost entirely focused on the component structural proteins (fibroins) and, hence, virtually all models of spider silk evolution and mechanical function are based solely on the attributes of fibroins. However, the spider silk system must involve fibroin as well as non-fibroin genes. Cheryl Hayashi's lab are applying state-of-the-art DNA sequencing and bioinformatic methods to identify the major elements and their putative functions within the gene repertoire underlying silk synthesis in cob-web weaving spiders.

**Shou-Wei Ding's** laboratory developed new culture-independent methods for discovering viruses (PNAS 107:1606-11) and viroids in plants and animals, demonstrated an essential role for viral secondary siRNAs in antiviral defense (PNAS 107:484-9), and established a conceptual framework for RNA-based antiviral immunity (Nat Rev Immunol 10:632-44).



The Illumina sequencing machine in the core facility of the Institute has been used in all of the papers published in 2010 and cited in the grant applications.

**Agricultural Genomics:**

Mikeal Roose's lab is developing Arabidopsis as a model system for the citrus disease HLB, including qPCR detection methods. They are also using microsatellite markers to determine the genome composition of sweet orange

**Biomedical:**

Two significant findings by **David Lo's** lab during this period were: (1) the identification of factors, including electrostatic forces, that influence particle uptake by epithelial M cells in the nasal passages. This work was published in papers in Journal of Controlled Release, and Journal of Biological Chemistry. (2) the identification of the gene CD137 as a critical signaling molecule in the differentiation and function of epithelial M cells in the airways and intestine. This work was published in the American Journal of Pathology.

**Frances Sladek** published her modified protein binding microarray(PBM) system in The Journal of Hepatology (Feb 2010; impact factor 10.84). This work was reviewed by faculty of 1000 and ranked as exceptional (9/10). She also started an NIH R21 grant titled "Nuclear Receptor Networks in Human Disease," using the PBMs in July 2009.

**Jolinda Traugh's** research on the protein kinase Pak2 continues. In response to a variety of moderate stresses Pak2 is transiently activated and promotes a state which allows the cell to remove toxic substances or repair the damage on the cell. Under extreme stress conditions Pak2 promotes apoptosis. Jolinda Traugh's lab has been analyzing the structures of inactive and active forms of Pak2, wherein Pak2 becomes autophosphorylated at 8 sites. The changes are examined by identifying reciprocally coupled residues in the catalytic domain that are critical for protein activity using statistical coupling analysis. In addition they are identifying substrates for Pak2 by identifying the key phosphorylated protein in growth and stress related pathways and determining the function of the phosphorylation. For instance they looked at the ribosomes, identified the proteins and the serine/threonine phosphorylation sites and analyzed the consequences of phosphorylation. The phosphorylation of ribosomes in this case resulted in the inhibition of protein synthesis. They are also looking at a number of other proteins and their effect on metabolic pathways.

The above are just a few examples of many on the UCR campus that have been enabled by IIGB's new generation of instrumentation, including both expertise from the Genomics and Bioinformatics Cores at IIGB. The close physical and operational connections between these two cores are essential for several successful services. This work would not have been possible without the new Illumina technology. Furthermore, although IIGB acquired the instrument less than two years ago, it is already clear that many new grant applications are being submitted that incorporate and in many cases rely upon this technology and the facilities at IIGB for success. At a time when the economic environment is very challenging, the investment in this technology was wise and essential to ensure that UCR remains competitive for extramural funding.

**Bioinformatics:**

The number of researchers utilizing IIGB's Bioinformatics Linux cluster has increased by another 18% compared to the previous year. There are currently 150 researchers from ~45 labs using the Linux cluster, from bioscience, biomedical, statistics, chemistry and engineering departments at UCR. A recently awarded NIH equipment grant allowed the Bioinformatics facility in the Genomics building to quadruple the storage and memory on their cluster. This expansion will enable many new data analysis strategies that could not be performed before, especially in the next generation sequence analysis and molecular modeling areas.

**A3. ORGANIZATIONAL AND MANAGEMENT STRUCTURE:** Have any changes been made to the organizational or management structure of the center during the review period? If so, please describe.

**New IIGB Members:**

In fiscal year 2009-10, the following faculty accepted invitations to join the Institute for Integrative Genome Biology. Currently, there are 130 members affiliated with the Institute from 22 departments, 3 Colleges, 1 Division, and 9 Centers.

Joao Pedra, Assistant Professor, Entomology  
Anupama Dahanukar, Assistant Professor, Entomology  
Susan Wessler, Distinguished Professor, Botany & Plant Sciences  
Jan Walter, Assistant Professor, Entomology  
Christiane Weirauch, Assistant Professor, Entomology

**Leadership:**

The following assumed notable roles in FY 2009-10 within the IIGB Genomics Building:

**Genomics Building Advisory Committee**

Jory Yarmoff, CNAS Divisional Dean  
Natasha Raikhel, IIGB Director  
Julia Bailey-Serres, CEPCEB Director (Alternate)  
Peter Atkinson, CDVR Director  
Sarjeet Gill, Professor, Cell Biology & Neuroscience  
Cynthia Larive, Professor, Chemistry

**Floor Contacts**

Given the open design of the building, it is important that occupants of each floor have a primary contact for inquiries, suggestions, and concerns. The following faculty have been designated with responsibility for management of operations and space on their floor.

First Floor: Howard Judelson, Plant Pathology & Microbiology  
Second Floor: Peter Atkinson, Entomology  
Third Floor: Linda Walling, Botany & Plant Sciences  
Fourth Floor: Natasha Raikhel, Botany & Plant Sciences

**Emergency Contacts:**

Building Supervisor for Emergency Conditions (BSEC):  
Rebecca Stevenson, SRA, Botany & Plant Sciences  
Mien Van de Ven, SRA, Botany & Plant Sciences (Alternate)

Building Emergency Staff:

Mashita, Chad (Floor 1)  
Borkovich, Katherine (Floor 1)  
Sauer, Silvia (Floor 2)  
Hice, Robert (Floor 2)  
Atamian, Hagop (Floor 2)  
Holzer, Frances (Floor 3)  
Gao, Zhihuan (Floor 3)  
Dinh, Theresa (Floor 4)  
Nagawa, Shingo (Floor 4)  
Van de Ven, Mien (Floor 4)

<b>B.1: PARTICIPATING PERSONNEL</b>								
<b>UCR FACULTY (Senate Members)</b>			<b>Type of Participation (check all that apply)</b>					
<b>Name</b>	<b>Payroll Title</b>	<b>Affiliation</b>	<b>PI/Co-PI on Center Sponsored Award</b>	<b>IIGB Advisory Committee Member</b>	<b>Speaker at Center Event</b>	<b>Author on Center Publication</b>	<b>Other</b>	<b>(Description of Other)</b>
Atkinson, Peter W.	Professor	Entomology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CDVR Dir; CMDB Dir; IIGB Colloquia Series Organizer; IIGB Advisory Committee; Gen Bldg Advisory Committee; IIGB Forum Participant; CDVR Symposium Committee Member and Speaker, "Facing the Challenges of Vector-Borne Diseases in the 21st Century"
Bailey-Serres, Julia	Professor	Botany & Plant Sciences	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Advisory Committee; Gen Bldg Floor Contact (Alt); IIGB Colloquium Speaker; IIGB Forum Participant; CEPCEB ChemGen IGERT PI
Bazhenov, Maksim	Assoc. Professor	Cell Biology & Neuroscience	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IIGB Colloquium Speaker
Borkovich, Katherine	Professor	Plant Pathology & Microbiology	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Advisory Committee; IIGB Colloquium Speaker; IIGB Forum Participant; CEPCEB Award Committee Chair; Gen Bldg Emerg Staff (BES); PI on IGERT Preproposal (2010)
Carde, Ring	Distinguished Professor	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CDVR Symposium Speaker, "Facing the Challenges of Vector-Borne Diseases in the 21st Century"
Carson, Monica J.	Assoc. Professor	Biomedical Sciences	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Advisory Committee
Chang, Chia-en	Asst. Professor	Chemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEPCEB Seminars
Chen, Xuemei	Assoc. Professor	Botany & Plant Sciences	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Colloquium Speaker; IIGB Forum Speaker; CEPCEB REU Participating Faculty ; Contributor to NIH High-End Instrumentation Grant for Sequencer
Close, Timothy	Professor	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CEPCEB REU Participating Faculty
Cui, Xinping	Asst. Professor	Statistics	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	IIGB Forum Participant

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Cutler, Sean	Asst. Professor	Botany & Plant Sciences	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ChemGen IGERT Assoc Dir, Speaker Host
Dahanukar, Anupama	Asst. Professor	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IIGB Colloquium Speaker; Session Moderator, CDVR Symposium Speaker, , "Facing the Challenges of Vector-Borne Diseases in the 21st Century"
De Ley, Paul	Assoc. Professor	Nematology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IIGB Innovation Deep Seq Grant Awardee
Deolalikar, Anil B.	Professor, CHASS Associate Dean	Economics	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CDVR Symposium Speaker, , "Facing the Challenges of Vector-Borne Diseases in the 21st Century"
Ding, Shou-Wei	Professor	Plant Pathology and Microbiology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CDVR Symposium Committee Member and Speaker, "Facing the Challenges of Vector-Borne Diseases in the 21st Century"; IIGB Forum Participant; GGB Director; CEPCEB REU Participating Faculty; CEPCEB ChemGen IGERT Mentor
Ellstrand, Norman	Professor	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Symposium Speaker, "Science-based Solutions for the 21st Century: The Legacy of Raymond L Orbach"
Eulgem, Thomas	Assoc. Professor	Botany & Plant Sciences	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	REU Asst. Dir; ChemGen IGERT Mentor; CEPCEB Seminar Host ; IIGB Forum Participant
Federici, Brian A.	Professor	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CDVR Symposium Speaker, "Facing the Challenges of Vector-Borne Diseases in the 21st Century"
Gill, Sarjeet S.	Professor	Cell Biology & Neuroscience	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Advisory Committee; Gen Bldg Advisory Committee; IIGB Forum Participant
Girke, Thomas	Asst. Professor, Dir of Bioinformatics Facilities	Botany & Plant Sciences	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Innovation Deep Seq Grant Award Committee; IIGB Forum Participant; NIH ARRA High-End Instrumentation Grant Contributor
Haddon, Robert C.	Distinguished Professor	Chem & Env Engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Symposium Speaker,

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								"Science-based Solutions for the 21st Century: The Legacy of Raymond L Orbach"
Hayashi, Cheryl Y.	Assoc. Professor	Biology	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Advisory Committee; IIGB Forums
Hyman, Bradley	Professor	Biology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IIGB Innovation Deep Seq Grant Awardee
James Ng	Asst. Professor	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CDVR Symposium Speaker, "Facing the Challenges of Vector-Borne Diseases in the 21st Century"
Jiang, Tao	Professor	Computer Science & Eng	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	IGERT ChemGen Co-PI; CEPCEB Seminar Committee member
Jin, Hailing	Asst. Professor	Plant Pathology & Microbiology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CEPCEB Seminar Coordinator; IIGB Forum Participant; CEPCEB REU Participating Faculty
Judelson, Howard S.	Professor	Plant Pathology and Microbiology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Floor Contact; IIGB Forums; PI, CEPCEB REU Renewal; IIGB Forum Participant
Kaloshian, Isgouhi	Assoc. Professor	Nematology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Colloquium Speaker; CDVR Symposium Speaker, "Facing the Challenges of Vector-Borne Diseases in the 21st Century"; IIGB Forum Participant; Contributor to NIH High-End Instrumentation Grant for Sequencer
Larive, Cynthia	Professor	Chemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Gen Bldg Advisory Committee; ; IIGB Forums
Le Roch, Karine	Asst. Professor	Cell Biology & Neuroscience	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	IIGB Innovation Deep Seq Grant Awardee; IIGB Colloquium Speaker, "Facing the Challenges of Vector-Borne Diseases in the 21st Century"; CDVR Symposium Committee Member and Speaker
Li, Bai-lian (Larry)	Professor of Ecology	Botany & Plant Sciences	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Liao, Jiayu	Asst. Professor	Bioengineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forums
Lo, David	Professor	Biomedical Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CDVR Symposium Speaker, "Facing the Challenges of Vector-Borne Diseases in the 21st Century"

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Lonardi, Stefano	Assoc. Professor	Computer Science & Engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forums
Lord, Elizabeth M.	Professor	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forums
Lyubovitsky, Julia G.	Asst. Professor	Bioengineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forums
Ma, Wenbo	Asst. Professor	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CEPCEB REU Participating Faculty; IIGB Forum Organizer (co-sponsored by GGB)
Maduro, Morris	Asst. Professor	Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forums
Martinez, Ernest	Assoc. Professor	Biochemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	IIGB Innovation Deep Seq Grant Award Committee; IIGB Forums
McHughen, Alan	Cooperative Extension Plant Biotechnologist	Botany & Plant Sciences	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ng, James	Assistant Professor	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CDVR Symposium Speaker, "Facing the Challenges of Vector-Borne Diseases in the 21st Century"
Nunney, Leonard	Professor	Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forums
Paine, Timothy	Professor	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Symposium Speaker, "Science-based Solutions for the 21st Century: The Legacy of Raymond L Orbach"
Pedra, Joao	Asst. Professor	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Colloquium Speaker; CDVR Symposium Speaker, "Facing the Challenges of Vector-Borne Diseases in the 21st Century"; IIGB Forum Participant
Pirrung, Michael	Professor, Presidential Chair	Chemistry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IIGB Innovation Deep Seq Grant Awardee; IIGB Forums, CEPCEB ChemGen IGERT Co-PI and Mentor
Raikhel, Natasha V.	Dist. Professor, IIGB/CEPCEB Dir.	Botany & Plant Sciences	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Dir, IIGB and CEPCEB; CEPCEB REU Participating Faculty; CEPCEB ChemGen IGERT Co-PI; CEPCEB Seminar Host/Participant; Symposium Speaker, "Science-based Solutions for the 21st Century: The Legacy of Raymond L Orbach"
Raikhel, Alexander S.	Professor	Entomology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CDVR Symposium Committee Chair and Speaker, "Facing the Challenges of Vector-Borne Diseases in the 21st Century"

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								21st Century"; NIH Grant CEPCEB REU Participating Faculty
Rao, A.L.N.	Assoc. Professor	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Ray, Anandasankar	Asst. Professor	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IIGB Colloquium Speaker; CDVR Symposium Speaker, "Facing the Challenges of Vector- Borne Diseases in the 21st Century";
Reddy, Venugopala G.	Asst. Professor	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forum Participant; CEPCEB REU Participating Faculty; CEPCEB Seminar Host and Participating Faculty
Roose, Mikeal L.	Professor, Vice-Chair Teaching	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forum Participant
Schultz, Jerome	Dist. Professor, Chair	Chemical/Env Engineering	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IIGB Advisory Committee
Sladek, Frances	Professor	Cell Biology & Neuroscience	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forum Participant
Smith, Harley	Asst. Professor	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forum Participant
Springer, Patricia S.	Assoc. Professor	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Colloquium Speaker, CEPCEB REU Co-PI, REU Participating Faculty
Stajich, Jason	Asst. Professor	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Colloquium Speaker; IIGB Forum Participant
Walling, Linda	Professor, Divisional Dean of Life Sciences	Botany & Plant Sciences	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Innovation Deep Seq Grant Awardee; CDVR Symposium Committee Member and Speaker; CDVR Symposium Grant PI; Genomics Bldg Coordinator/Moving Committee; Gen Bldg Floor Contact
Walter, Jan	Assistant Professor	Plant Pathology & Microbiology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Weirauch, Christiane	Assistant Professor	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CDVR Symposium Speaker, "Facing the Challenges of Vector- Borne Diseases in the 21st Century"
Wessler, Susan	Distinguished Professor of Genetics	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Yang, Zhenbiao	Professor	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	IIGB Colloquium Speaker
Zhong, Wenwan	Asst. Professor	Chemistry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Co-PI on NIH Instrumentation Grant proposal for Mass Spec
Zhu, Jian-Kang	Professor	Botany & Plant Sciences	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forum Participant

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For Other Academics: Please list professional researchers, post-docs, visiting scholars, adjunct professors, academic specialists, research associates, academic coordinators, and academic CE appointees who actively participated in Center activities, e.g., PI on a sponsored project administered by the Center, member of a Research Team, speaker at a Center Conference/Event, author on a Center publication, etc.

Name	Payroll Title	Affiliation	PI/Co PI on Center Sponsored Award	Center Advisory Committee Member	Speaker at Center Event	Author on Center Publication		(Description of Other)
Aggarwal, Pooja	Postdoc/Reddy	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Aliyari, Roghiyh	Assistant Specialist/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Gen Bldg Lab Contact
Baig, Ayesha	Graduate Student/Eulgem	ChemGen IGERT /Plant Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Barding, Gregory	Graduate Student/Larive	ChemGen IGERT and Chemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEPCEB ChemGen IGERT Speaker
Barrera, Blanca	Postdoctoral Scholar	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEPCEB ChemGen IGERT Speaker
Batelli, Giorgia	Visitor/Zhu	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Bideshi, Dennis K	Assistant Specialist/Federici	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Bolotin, Eugene	Graduate Student/Sladek	GGB/ChemGen IGERT Programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Boyle, Sean	Graduate Student/Pirrung	GGB	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEPCEB ChemGen IGERT Speaker
Brown, Michelle	Graduate Student/Raikhel	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	REU Mentor, CEPCEB ChemGen IGERT Retreat Speaker; Member of Research team
Bryant, Bart	Postdoctoral Associate	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NIH grant
Campbell, Asharie	Postdoc/Borkovich	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cao, Eddie (Yiqun)	Graduate Student/Jiang	Computer Science & Eng	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CEPCEB ChemGen IGERT Retreat Speaker; Member of Research team
Cao, Mengji	Junior Specialist/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Carter, David	Academic Coordinator, Microscopy	Center for Plant Cell Biology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PI, NSF Instrumentation Proposal (multiphoton scanner); IIGB Equipment Committee; IIGB Forum Participant; State Science Fair Judge for CEPCEB Award
Cervantes, Serena	Graduate Student/Le Roch	Cell Biology & Neuroscience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Chen, Angel	Postdoc/Ng	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Chen, Gang	Associate Specialist/Pedra	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Chinnusamy, Viswanathan	Visitor/Zhu	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Chung, Doug	Graduate Student/Le Roch	Cell Biology & Neuroscience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Poster Presentation
Clark, Clay	Laboratory Assistant/IIGB	Inst. For Integrative Genome Biol	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forum Participant



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Defries, Andrew	Graduate Student/Smith	ChemGen IGERT and Plant Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEPCEB ChemGen IGERT Retreat Speaker
Dias-Mendoza, Mercedes	Postdoc/Federici	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of research team
Diedrich, Jolene	Graduate Student/Zhong	ChemGen IGERT and Analytical Chemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEPCEB ChemGen IGERT Retreat Speaker
Dinh, Theresa	Graduate Student/Chen	ChemGen IGERT and Plant Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Genomics Building Lab Contact and Building Emergency Staff; Bus/Science Grad Student Participant
Du, Peng	Junior Specialist/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Eaton, Carla	Postdoc/Borkovich	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Evans, Jane	Staff Research Associate/Sladek	Cell Biology & Neuroscience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fang, Bin	Postdoc/Jiang	Computer Science & Eng	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Fujii, Hiroaki	Postdoc/Zhu	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fukao, Takeshi	Assistant Specialist/Bailey-Serres	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Lab Contact
Gao, Zhihuan	Asst. Specialist	Plant Path & Micro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Emerg Staff
Gao, Zhihuan	Assistant Specialist/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Han, Yanhong	Junior Specialist/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Hice, Robert	Staff Research Associate/Atkinson	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Building Emergency Staff and Lab Contact
Hicks, Glenn	Academic Administrator/Assoc. Research Plant Cell Biologist	Inst, for Integrative Genome Biology/Botany & Plant Sciences	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forum Speaker, IIGB Innovation Deep Seq Grant Coordinator and Award Committee; NIH Instrumentation Proposal (Sequencer) PI; CEPCEB RIMS and State Science Fair Judge
Holzer, Fran	Staff Research Associate/Walling	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Emerg Staff and Lab Contact
Hsu, Yuan-Hao (Howard)	Graduate Student/Traugh	Biochemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hwang-Verslues, W	Graduate Student/Sladek	Environmental Toxicology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Jablonska, Barbara	Staff Research Associate/Springer	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Lab Contact
Jamin, Augusta	Graduate Student	ChemGen IGERT and GGB	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEPCEB ChemGen IGERT Retreat Speaker
Ji, Lijuan	Graduate Student/Chen	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Jones, Carol	Assistant Specialist/Borkovich	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Jovel, Juan	Postdoc/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of research team
Juntawong, Piyada	Graduate Student/Bailey-Serres	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Kaiser, Kayla	Graduate Student/Larive	ChemGen IGERT and Analytical Chemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEPCEB ChemGen IGERT Retreat Speaker
Kim, James	Graduate Student/Borkovich	CMDB/ChemGen IGERT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CEPCEB ChemGen IGERT Retreat Speaker
Kim, YunJu	Graduate Student/Chen	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team

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Klingler, John	Visitor	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Lee, Seung Cho	Graduate Student/Bailey-Serres	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Li, Dongming	Visiting Student/Chen	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Li, Shaofang	Graduate Student/Chen	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Li, Shengben	Postdoc/Chen	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Li, Wei	Graduate Student/Jiang	Computer Science & Eng	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Li, Yang	Postdoc/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Liao, H	Postdoc/Sladek	Cell Biology & Neuroscience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Liu, Xigang	Postdoc/Chen	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Ma, Kelvin	Undergraduate Student/Bailey-Serres	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Mai, Jungo	Postdoc/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Mandal, Jayati	Jr. Specialist	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Lab Contact
Nagawa, Shingo	Postdoc	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Lab Contact and Bldg Emerg Staff
Pan, Songqin	Academic Coordinator, Proteomics	Center for Plant Cell Biology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Co-PI on NIH Instrumentation Grant proposal for Mass Spec ; IIGB Forum Participant; State Science Fair Judge for CEPCEB Award
Park, Gyungsoon	Specialist	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Lab Contact
Pena Castro, Julian	Postdoc/Bailey-Serres	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Perales, Mariano	Postdoc	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Lab Contact
Ponts, Nadia	Postdoc/Le Roch	Cell Biology & Neuroscience	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Prudhomme, Jacques	Staff Research Associate/Le Roch	Cell Biology & Neuroscience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Rajpoot, Ravi	Assistant Specialist/Traugh	Biochemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of research team
Ramachandran, Vanitha	Assistant Specialist/Ding, Chen	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CEPCEB High-School State Science Fair Judge; Member of Research team
Rodriguez, Elisandra	Postdoc/Le Roch	Cell Biology & Neuroscience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Rodriguez-Salus, Melinda	Graduate Student/Eulgem	ChemGen IGERT/Plant Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CEPCEB ChemGen IGERT Retreat Speaker; Member of Research team
Sauer, Sylvia	Staff Research Associate/Sauer	Biochemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Emergency Staff (BES) and Lab Contact
Schacht, Patrick	Graduate Student/Borkovich	GGB/ChemGen IGERT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	CEPCEB ChemGen IGERT Retreat Speaker; REU Mentor
Schroeder, Mercedes	Jr. Specialist/Eulgem	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Servin, Jacqueline	Postdoc/Borkovich	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	IIGB Forum Participant
Shin, Sang Wood	Asst. Researcher	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NIH grant

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Smith, Melissa	Grad Student/Walling	ChemGen IGERT and Plant Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEPCEB ChemGen IGERT Retreat Speaker
Spears, Tatsinda	Graduate Student Researcher/Federici	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Stevenson, Rebecca	Staff Research Associate/Zhu	Botany & Plant Sciences						IIGB Building Supervisor for Emergency Conditions (BSEC)
Ta, J	Graduate Student/Sladek	Cell, Molecular & Dev Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Tataw, Moses	Graduate Student/Reddy	ChemGen IGERT and Computer Science	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CEPCEB ChemGen IGERT Retreat Speaker
Tsuchiya, Tokuji	Asst. Specialist/Eulgem	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Tuazon, Polygena	Biochemist/Traugh	Biochemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Udomoporn, Petchthai	Visiting Graduate Student/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Van de Ven, Wilhemina	Staff Research Associate/Raikhel	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Supervisor for Emerg Conditions (Alt); Gen Bldg Lab Contact
Wang, Ying	Postdoc/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Wang, Xianbing	Postdoc/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Wang, Zhengming	Visiting Student/Chen	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wei, Linda	Postdoc/Eulgem	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Lab Contact; Member of Research team
Wirth, Margaret C.	Staff Research Associate/Federici	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Won, So Youn	Graduate Student/ Chen	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Wu, Qingfa	Assistant Specialist/Ding	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Wu, Shang	Graduate Student/Smith	ChemGen IGERT and Plant Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CEPCEB ChemGen IGERT Retreat Speaker
Xiang, Qijun	Postdoc/Judelson	Plant Pathology & Microbiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	REU Mentor
Xie, Mingtang	Graduate Student/Reddy	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Xu, Linda	Postdoc/Traugh	Biochemistry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Presented poster at AAAS Conference at Anaheim Convention Center
Xu, Tongda	Graduate Student/Yang	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Gen Bldg Lab Contact
Yadav, Ram	Postdoc/Girke, Reddy	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Yumul, Rae	Graduate Student/Chen	Plant Biology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	REU Mentor; CEPCEB ChemGen IGERT Retreat Speaker
Zhao, Xin	Visiting Scientist/Chen	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Zhao, Yuanyuan	Graduate Student/ Chen	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Member of Research team
Zheng, Binglian	Postdoc/Chen	Botany & Plant Sciences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Zou, Zhen	Postdoctoral Associate/Zhu	Entomology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NIH grant

**PROFESSIONAL/TECHNICAL/RESEARCH STAFF Information dependent on PI response.**

For Professional/Technical/Research Staff: Please list Staff Research Associates and other professional staff titles. Under Source of Funding, include all sources that apply to each individual, e.g., Campus Allocation, Sponsored Awards, Income/Revenue, Gifts/Endowments, etc.

Name	Payroll Title	IIGB Lab	Dept	Source of Funding
Abramayan, John	Postdoc	Stajich, J	Plant Pathology & Microbiology	Initial Complement
Aimanova, Karly	Asst. Specialist	Gill, S	Cell Biology & Neuroscience	CA
Appleby, Nancy	Research Associate	Lo, D	Biomed Sciences	SP (Grand Challenges in Global Health - Gates Foundation/FNIH; NIH)
Beni, Szabolcs	Visiting Professor	Larive, C	Chemistry	SP (Hungarian American Enterprise Scholarship Fund)
Bideshi, Dennis	Assistant Specialist	Federici, B	Entomology	SP (RO1 AI 45817 and UO1 AI 54778 from NIH National Institute for Allergies and Infectious Diseases)
Broitman-Maduro, Gina	Associate Specialist	Maduro, M	Biology	SP
Cannell, Elspeth	Laboratory Assistant	Raikhel, A	Entomology	SP
Chatterjee, Papri	Staff Research Associate	Dahanukar, A	Entomology	Init. Complement
Chellappa, Kakrthi	Postdoc	Sladek, F	Cell Biology & Neuroscience	SP (NIH grant)
Chen, Andrew	Laboratory Assistant	Raikhel, A	Entomology	SP
Chen, Gang	Associate Specialist	Pedra, J	Entomology	CA & SP
Chen, J	Postdoc	Gill, S	Cell Biology & Neuroscience	SP (NIH)
Deol, Poonam	Visiting Postgraduate Researcher	Sladek, F	Cell Biology & Neuroscience	SP (NIH grant)
Diaz-Mendoza, Mercedes	Postdoc	Federici, B	Entomology	SP SP (RO1 AI 45817 and UO1 AI 54778 from NIH National Institute for Allergies and Infectious Diseases)
Diop, Ndeye	Postdoc	Close, T	Botany & Plant Sciences	SP
Eckelhoefer, Holly	Senior Research Associate	Lo, D	Biomed Sciences	SP (Grand Challenges in Global Health - Gates Foundation/FNIH; NIH)
Evans, Amy	Staff Research Associate	Gil, S	Cell Biology & Neuroscience	SP (NIH, USDA)
Evans, Jane	Staff Research Associate	Sladek, F	Cell, Biology & Neuroscience	SP (NIH grant)
Fang, Bin	Postdoc	Jiang, T	Computer Science & Eng	SP
Fatmi, Qaiser	Postdoc	Chang, C-E	Chemistry	Init. Complement
Federici, Clair	Staff Research Associate	Roose, M	Botany & Plant Sciences	SP
Frang, Bin	Postdoc	Sladek, F	Cell Biology & Neuroscience	SP (NIH grant)
Fukao, Takeshi	Assistant Specialist	Bailey-Serres, J	Botany & Plant Sciences	SP (USDA)
Hamer, Mary	Research Associate	Lo, D	Biomed Sciences	SP (Grand Challenges in Global Health - Gates Foundation/FNIH; NIH)
Jablonska, Barbara	Staff Research Associate	Springer, P	Botany & Plant Sciences	CA and SP
Jang-Kyun Seo	Postdoc	Rao, ALN	Plant Pathology & Microbiology	SP
Kang, Myungsham	Postdoc	Chang, C-E	Chemistry	SP (NSF)
Koetter, Alexandra	Staff Research Associate	Walter, J	Entomology	Init. Complement





**GRADUATE STUDENTS** Information dependent on PI response.

For Graduate Students, please indicate degree being pursued, program/department/institutional affiliation, and faculty mentor.

Name	Degree	Faculty Mentor	Dept/Program
Ai, Rizi	PhD	Chang, C-E	GGB
Alvarez, Kanwal	PhD	Raikhel, A	CMDB/UCR
Baig, Ayesha	PhD	Eulgem, T	Plant Biology
Bao, Ergude	MA	Girke, T	Computational Science
Barding, Gregory	PhD	Larive, C/Bailey-Serres, J	Chemistry
Barding, Gregory	PhD	Bailey-Serres, J/Larive, C	Chemistry, ChemGen IGERT
Beecher, Consuelo	PhD	Larive, C	Chemistry
Bolden, Jennifer	PhD	Pirrung, M	Chemistry
Bolotin, Eugene	PhD	Sladek, F	GGB
Brinton, Erin	PhD	Bailey-Serres, J	Plant Biology
Brown, Michelle	PhD	Raikhel, N	GGB
Bulloch, Daryl	PhD	Larive, D/Schlenk, D	Chemistry
Cabrera, Ilva	PhD	Borkovich, K	CMDB
Cao, Eddie	PhD	Girke, T	Computational Science
Cao, Eddie (Yiqun)	PhD	Jiang, T	Computer Science
Cervantes, Serena	PhD	Le Roch, K	CMDB
Charisi, Anna	MA	Girke, T	Plant Biology
Charlu, Sandhya	PhD	Dahanukar, A	Biomed
Choi, Soon	PhD	Rao, ALN	CMDB
Chowdhury, Indranil	PhD	Walker, S	Chem & Env Eng
Chung, Doug	PhD	Le Roch, K	CMDB
Collin, Matthew	PhD	Hayashi, C	GGB
Crowley, Jennifer	PhD	Roose, M	GGB
Cruz, Jennifer	PhD	Larive, C	Chemistry
Demisse, Dagne Duguma	PhD	Walton, W	Entomology
Diaz, Jessica	PhD	Springer, P	Plant Biology/IGERT
Ding, Theresa	PhD	Chen, X	Plant Biology
Donald Beasley	MS	Walton, W	Entomology
Duma, Denise	PhD	Lonardi, S/Close, T	Computer Science
Elkashaf, Samer	PhD	Ding, S-W	GGB
Freeman, Erica	PhD	Dahanukar, A	Bioengineering
Gong, Amy	PhD	Walker, S	Chem & Env Eng
Gusti, Veronica	PhD	Lo, D	Biomedical Sciences
Han, Michael	PhD	Maslov, D	CMDB
Harris, Elena	PhD	Le Roch, K/Lonardi, S	Computational Science
Henke, Jennifer	PhD	Walton, W	Entomology
Hollowell, Amanda	PhD	Sachs, J	GGB
Honda, Ryan	PhD	Walker, S	Chem & Env Eng
Hondros, Christopher	PhD	Chang, C-E	Chemistry
Horan, Kevin	PhD	Girke, T	Computational Science
Hou, Yueh Ju	PhD	Zhu, J-K	Plant Biology
Hsieh, Gracie	PhD	Lo, D	Biomedical Sciences
Huang, Yu-ming Mindy	PhD	Chang, C-E	Chemistry
Jang, Charles	PhD	Bailey-Serres, J	GGB, ChemGen IGERT
Jayanadinijjar, Parham	PhD	Walker, S	Chem & Env Eng
Ji, Lijuan	PhD	Chen, X	Plant Biology
Jiang, Shushu	PhD	Ma, W	Plant Pathology
Jones, Christopher	PhD	Larive, C	Chemistry
Juntawong, Piyada	PhD	Bailey-Serres, J	GGB
Kaiser, Kayla	PhD	Bailey-Serres, J/Larive, C	Chemistry, ChemGen IGERT
Kim, Panya	PhD	Springer, P	Plant Biology/IGERT
Kim, James	PhD	Borkovich, K	CMDB, ChemGen IGERT
Koble, Robert	PhD	Springer, P	Plant Biology/IGERT
Lang, Zhaobo	PhD	Zhu, J-K	Plant Biology
Langesley, Derek	PhD	Larive, C	Chemistry
Lee, S	PhD	Gill, S	Environmental Toxicology
Lee, Seung Cho	PhD	Bailey-Serres, J	Plant Biology
Lehto, Elizabeth	MS	Ma, W	Biochemistry
Li, Shaofang	PhD	Chen, X	Plant Biology
Li, Wei	PhD	Jiang, T	Computer Science

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Limtiaco, John	PhD	Larive, C	Chemistry
Lotfi, Sima	MS	Jiang, T	Computer Science
Lu, Jinfeng	PhD	Ding, S-W	GGB
Luo, Yingjun	PhD	Ding, S-W	CMDB
Marcus, Ian	PhD	Walker, S	Chem & Env Eng
Martin, Chris	PhD	Mullens, B	Entomology
Massou, Theresa	PhD	Pirrung, M	Chemistry
McDonald, Warren	PhD	Raikhel, A	Entomology
Michkov, Alexander	PhD	Borkovich, K	GGB
Mongkolsiriwattana, Chawin	PhD	Ng, J	Plant Pathology & Microbiology
Niu, Xiaofan	PhD	Judelson, H	Plant Pathology & Microbiology
Orin, Melanie	PhD	Walter, J	GGB
Orr, Daniel	PhD	Larive, C	Chemistry
Owraghi, Melissa	PhD	Maduro, M	CMDB/Biology
Pasala, Sumana	PhD	Sladek, F	GGB
Patel, Mohini	MS	Bailey-Serres, J	Biochemistry
Patne, Sai	PhD	Roose, M	Plant Biology
Pokhriyal, Neeti	MS	Le Roch, K/Lonardi, S	Computational Science
Polishko, Anton	PhD	Lonardi, S	Computer Science
Regus, John	PhD	Sachs, J	EEOB
Roberts, Chris	PhD	Chang, C-E	Chemistry
Roy, Sourav	PhD	Judelson, H	GGB
Ruegger, Paul	PhD	Borneman, J	GGB
Saha, Tusar	PhD	Raikhel, A	GGB/UCR
Sain, Divya	PhD	Stajich, J	GGB
Sakhon, Olivia	PhD	Pedra, J	Biomedical Sciences
Satoorian, Tiffany	PhD	Pirrung, M	CMDB
Schacht, Patrick	PhD	Borkovich, K	GGB, ChemGen IGERT
Severo, Maiara	PhD	Pedra, J	Entomology
Shi, Wilson (Guanqun)	PhD	Jiang, T	Computer Science
Snipes, Stephan	PhD	Reddy, V	Plant Biology
Sorenson, Reed	PhD	Bailey-Serres, J	Plant Biology
Spears, Tatsinda	PhD	Federici, B	CMDB
Starrett, James	PhD	Hayashi, C	GGB
Tanaseichuk, Olga	PhD	Jiang, T	Computer Science
Tataw, Moses	PhD	Reddy, V	Computer Science
Underwood, Stephanie	PhD	Ding, S-W	GGB
Vuong, Linh	PhD	Sladek, F	CMDB
Wang, Bob (Wei-Bung)	PhD	Jiang, T	Computer Science
Wang, Jing	PhD	Lo, D	Biomedical Sciences
Wang, Yan	MA	Girke, T	Computational Science
Wang, Yizhou	PhD	Stajich, J	Plant Sciences
Why, Andrea	MS	Walton, W	Entomology
Wisotsky, Zev	PhD	Dahanukar, A	Neuroscience
Won, So Youn	PhD	Chen, X	Plant Biology
Wong, James	PhD	Ma, W	CMDB
Wright, Sara	PhD	Borkovich, K	BMB
Yang, Jiue-in	PhD	Borneman, J	Plant Pathology
Yu, Lifeng	PhD	Springer, P	Plant Biology/IGERT
Yumul, Rae	PhD	Chen, X	Plant Biology
Zhao, Yuanyuan	PhD	Chen, X	Plant Biology
Zhong, Jing	PhD	Ding, S-W	CMDB
Zhou, Yi	PhD	Stajich, J	GGB
Zhu, Lei	PhD	Nothnagel, E	Plant Biology



**UNDERGRADUATE STUDENTS** Information is dependent on PI response.

For Undergraduate Students, please indicate class level, major/department/institutional affiliation, and faculty mentor.

Name	Degree	Faculty Mentor	Program/Dept/Institution
Abughoush, Hana		Close, T	STEM Student/RCC
Ahmed, Beheva	BS	Ding, S-W	
Alonzo, Adam	BS	Walker, S	Env Engineering/UCR
Alpert, Matt	BS	Lonardi, S/Close, T	Computer Science/UCR
Azubuike, Ugochi	BS	Hayashi, C	Biology/UCR
Bakhtiari, Persiah	BS	Nothnagel, E	Biology/UCR
Bansal, Nidhanjali		Sachs, J	Biology/UCR
Barekat, Ayeh	BS	Nothnagel, E	Biology/UCR
Beltran, Elliott	Associate	Raikhel, N	Biology/Chaffey College
Bernardo, Andrew		Sachs, J	Biology/UCR
Brale, Matthew	BS	Le Roch, K	Biology
Bruton, Matthew	BS	Le Roch, K	Biology
Carrizales, Cassie	BS	Judelson, H	Texas A&M
Chan, Henrique	BS	Walton, W	Biology
Chan, Vicky		Ma, W	Biology/UCR
Chavez, Rosalva	BS	Walker, S	Env Engineering/UCR
Chow, Matthew		Chen, X	
Choy, Anthony	BS	Pedra, J	
Chung, Brittany	BS	Nothnagel, E	Biology/UCR
Clark, Jonathan	BS	Dahanukar, A	Neuroscience
Contreras, Antonio	BS	Bailey-Serres, J	Biological Sciences/UCR
De Anda, Jessica	BA	Stajich, J	
DeAlwis, Ashni	BS	Nothnagel, E	Neuroscience/UCR
Dejoras, Sasha	BS	Pedra, J	
Diala, Fitz-Gerald	BS	Borkovich, K	Biochemistry/UCR
Duchon, Alex	BS	Walker, S	Env Engineering/UCR
Escalera, Julie	BS	Bailey-Serres, J	Biological Sciences/UCR
Esfeld, Lizz		Chen, X	REU/Truman College
Evero, Mano		Borkovich	REU/UCR
Fan, Raymond		Ma, W	Biology/UCR
Fletcher, Erin	BS	Walter, J	
Flores, Andrew		Close, T	STEM Student/RCC
Flores, Efrain	BS	Raikhel, N	Biology/UCR
Gandhi, Kumar	BS	Walter, J	
Gill, Puneet	BS	Bailey-Serres, J	Biological Sciences/ UCR
Gonzalez, Michelle		Springer, P	RCC
Gurjhal, Jasleen	BS	Borkovich, K	Biology/UCR
Hadikusumo, Katherine	BS	Ng, J	Biology/UCR
Halbritter, Dale	BS	Mullens, B	Entomology
Hallam, Tristam	BS	Walton, W	Entomology/UCR
Handayan, Christina	BS	Walton, W	Biology/UCR
Hernandez, Wynter	BS	Nothnagel, E	Biology/UCR
Hsu, Emily	BS	Raikhel, N	Biology/UCR
Hung, Andrew	BS	Springer, P	Biology/UCR
Iargueta, Ise		Springer, P	Chaffey College
Jain, Shika	BS	Nothnagel, E	Biology/UCR
Johnson, Latasha	BA	Raikhel, N	Spanish/UCR
Kan, Dayoung	BS	Raikhel, N	Biology/UCR
Khoobyari, Parnian		Chen, X	
Kim, James	BS	Walker, S	Chemical Engineering/UCR
Kim, Kevin	BS	Chang, C-E	Chemistry
Kuelbs, Amanda	BS	Hayashi, C	Biology/UCR
Lara, Leonardo	BS	Roose, M	Biology/UCR
Laussu, Gabriella	BS	Nothnagel, E	Biology/UCR
Le, Xuan Lam		Chen, X	
Lee, Sunny	BS	Chang, C-E	Biochemistry
Legaspi, Matthew	BS	Walter, J	
Lew, Valerie		Sachs, J	Biology/UCR
Lung, Kimberly	BS	Dahanukar, A	Biological Sciences
Luu, Tony		Ma, W	Biology/UCR
Ma, Kevin	BS	Walton, W	Biochemistry/UCR

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Mackenzie, Mollie	BS	Nothnagel, E	Global Studies/UCR
Magistrado, Leila	BS	Maduro, M	Biology/UCR
Massimino, Chris		Close, T	REU/UCR
Melchor, Geraldine	BS	Borkovich, K	Biology/UCR
Moore, William	BS	Nothnagel, E	Plant Biology/UCR
Moussaoui, Roba	BS	Walter, J	
Nafiz, Rayek	BS	Walter, J	
Nguyen, Andrew	BS	Walton, W	Biochemistry/UCR
Nguyen, Bich	BS	Walton, W	Biology/UCR
Nguyen, Annie	BA	Stajich, J	
Nguyen, Peter	BA	Sladek, F	Biology/UCR
Nguyen, Viet	BS	Nothnagel, E	Biology/UCR
Noche, Kathleen	BS	Nothnagel, E	Biology/UCR
Nuygen Huei		Reddy, V	
Nyugen, V.	BS	Gill, S	
Oguguo, Chinonyerem	BS	Hayashi, C	Biology/UCR
Opot, Stephen	BS	Walker, S	Env Engineering/UCR
Orozco, Nikolas		Chen, X	
Patil, Akshav		Sachs, J	Biology/UCR
Patino, Jessica		Close, T	
Ramirez, Gerardo J		Chen, X	
Ramirez, Carman	BS	Traugh, J	Biochemistry/UCR (NIH MARC-U Program)
Reimer, Mundy		Chen, X	
Richardson, Justin	BS	Walton, W	Environmental Sciences
Richardson, Jordyn	BS	Borkovich, K	Biology/UCR
Roberson, Heather	BS	Maduro, M	Biology/UCR
Rodriguez, Kevin	BS	Springer, P	Biology/UCR
Rodriguez, Manuel E.		Chen, X	
Romaro, Lisette		Ma, W	Biology/UCR
Sabha, Kamran	BS	Borneman, J	Biological Sciences
Schnabl, Jake	BA	Sladek, F	Bioengineering/ UCR
Servantes, Michael	BS	Le Roch, K	Biology
Shah, Vishwa	BS	Larive, C	Biochemistry/UCR
Sofish, Victoria		Sachs, J	Biology/UCR
Sorkhpoosh, Dustin	BS	Roose, M	Biology/UCR
Sprehn, Charlotte		Chen, X	REU/Tulane U
Suen, Wayng	BS	Maslov, D	Biology/UCR
Suzuki, Rina		Sachs, J	Biology/UCR
Syed, Hera	BS	Bailey-Serres, J	Biological Sciences/UCR
Tavakkoli, Montreh		Reddy, V	
Tea, Zueena	BS	Judelson, H	UCR
Thai, Lisa	BS	Nothnagel, E	Biology/UCR
Thant, Wai	BS	Chang, C-E	Biology
Tien, Da		Zhu, J-K	
Tien, Da		Zhu, J-K	
Tran, John	BA	Sladek, F	Biology/UCR
Tse, Yu (Rex)	BS	Walton, W	Biology/UCR
Unoje, Ohmanii	BS	Traugh, J	Biochemistry/UCR (NIH MARC-U Program)
Van, Jennifer		Zhu, J-K	
Velez, Erik	BS	Larive, C	Biology/UCR
Wang, Bowen	BA	Sladek, F	Biology/UCR
Weitz, Jonathan	BS	Eulgem, T	Biology/UCR
Williams, Ashley	BA	Sladek, F	Cell Biology & Neuroscience/UCR
Wong, Samantha	BS	Walton, W	Biology
Wycoco, Marc		Reddy, V	
Xie, Aaron	BS	Ng, J	Biology
Yeh, Evan		Chen, X	
Yeung, Elaine	BS	Bailey-Serres, J	Biochemistry Honors/UCR
Zamora, Renee		Chen, X	

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**ADVISORY COMMITTEE MEMBERS**

For Advisory Committee members, please indicate name, title, and affiliation. Below the table, list dates of meetings held for the period under review and attach a copy of the agenda for each meeting listed.

**2009-10 Internal IIGB Advisory Committee:**

Formulated in 2006, the IIGB Advisory Committee is comprised of faculty representing each of the major research areas within the Institute (vector biology, mammalian biology, plant biology, biology, bioengineering, social/ethical considerations). The IIGB Advisory Committee serves as the primary consultative body for the director and provides input regarding daily operational issues, expenditures exceeding \$60k and the short- and long-term goals of the Institute. Committee members are approached on a regular basis by the director and have agreed to respond to all general and pressing issues within 12 hours via email whenever possible. The committee also meets on an as-needed basis, as determined by the Director or advisory committee members.

<i>Name</i>	<i>Title</i>	<i>Affiliation</i>	<i>Period of Service on Advisory Committee</i>
Atkinson, Peter	Professor	Entomology	2006-10
Borkovich, Katherine	Professor	Plant Pathology & Microbiology	2006-10
Carson, Monica	Assoc. Professor	Division of Biomedical Sciences	2006-10
Gill, Sarjeet	Professor, Chair	Cell Biology & Neuroscience	2006-10
Hayashi, Cheryl	Assoc. Professor	Biology	2006-10
Schultz, Jerome	Distinguished Professor	Bioengineering	2006-10

**2009-10 Genomics Building Advisory Committee**

The Genomics Building Advisory Committee is authorized to assess space allocations (general purpose, conference/public, research, bioinformatics training, and office/study) and make final decisions regarding unresolved procedural issues and concerns affecting occupants on floors or throughout the Genomics Building. Committee membership includes the IIGB director, IIGB center directors (Center for Plant Cell Biology (Alternate), Center for Disease Vector Research), two outside members (non-building residents), and the divisional dean responsible for facilities and research as an ex officio member. Current members are below.

Jory Yarmoff, CNAS Divisional Dean  
 Natasha Raikhel, IIGB Director  
 Julia Bailey-Serres, CEPCEB Director (Alternate)  
 Peter Atkinson, CDVR Director  
 Sarjeet Gill, Professor, Cell Biology & Neuroscience  
 Cynthia Larive, Professor, Chemistry

## B.2: IIGB PUBLICATIONS

No maximum page limit. Provide information only for fiscal year under review. List only those publications resulting from programs administered through the Center and those authored jointly as a result of collaborations between or among Center participants. Use suggested format below. Use full citation and arrange alphabetically by author under the Center's major research programs.

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- Liu L, Wu Y, **Lonardi S**, and **Jiang T** (2010) Efficient genome-wide tagSNP selection across populations via the linkage disequilibrium criterion. *Journal of Computational Biology (JCB)* 17(1):21-37.
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- Peterson FC, DeJong ES, Park SY, Jensen DR, Weiner JJ, Bingman CA, **Chang CEA**, **Cutler SR**, Phillips Jr, GN, Volkman, BF (2010) Structural basis for selective activation of ABA receptors. *Nature Structural & Molecular Biology*. Vol. 17: p.1109 – 1113. 5p. Website: <http://www.nature.com/nsmb/journal/v17/n9/full/nsmb.1898.html>.
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Comment in *Hepatology.* 2010 Feb;51(2):376-7. <http://www.ncbi.nlm.nih.gov/pubmed/20101744>

*The modified PBM applied to HNF4 $\alpha$  and cross referenced to expression profiling and genome-wide location analysis to identify ~240 new direct targets of HNF4 $\alpha$ . This is the first major publication of the PBM technology applied to a full length, native TF expressed in a crude mammalian cell extract.*



**VIROLOGY**

- Bigot, Y., Renault, S., Nicolas, J., Moundras, C., Demattei, M. V., Samain, S., Bideshi, D. K., and Federici, B. A. (2009) Symbiotic virus at the evolutionary intersection of three types of large DNA viruses: iridoviruses, ascoviruses, and ichnoviruses. *PLoS One* **4(7)**, e6397.
- Stewart, L.R., Medina, V., Tian, T., Turina, M., Falk, B.W., **Ng, J.C.K.** 2010. A mutation in the **Lettuce infectious yellows virus** minor coat protein disrupts whitefly transmission but not **in planta** systemic movement. *Journal of Virology* (In press).
- Salem, N.M., Chen, A.Y.S., Tzanetakis, I.E., Mongkolsiriwattana, C., and **Ng, J.C.K.** 2009. Further complexity of the genus **Crinivirus** revealed by the complete genome sequence of **Lettuce chlorosis virus** (LCV) and the similar temporal accumulation of LCV genomic RNAs 1 and 2. *Virology* 390, 45-55.

**B.3: DISTINGUISHED AWARDS RECEIVED OR HELD BY CENTER PARTICIPANTS** Please list prestigious awards received or held by Center participants from professional organizations, industry, etc.

Recipient Name	Name of Award	Year Award Received
BAILEY-SERRES, JULIA Botany & Plant Sciences	2010 Fellow of the American Society of Plant Biologists (ASPB)	2010
BORKOVICH, Katherine Plant Pathology & Microbiology	B.O. Dodge Award "For exceptional contributions to the Neurospora community", March 2010	2010
CHANG, CHIA-EN Chemistry	HP outstanding Junior Faculty Award, American Chemical Society	2009
CLOSE, TIMOTHY Botany & Plant Sciences	2009 Fellow, American Association for the Advancement of Science (AAAS)	2009
CUTLER, SEAN, Botany & Plant Sciences	Top 10 Breakthrough List for 2009, <i>Science</i>	2009
ELLSTRAND, NORMAN Botany & Plant Sciences	2010 Guggenheim Fellowship (for genetics, genomics and hybridization)	2010
HAYASHI, CHERYL Biology	UCR Chancellor's Chair Award	2010
HAYASHI, CHERYL Biology	UCR University Scholar Award	2009
HAYASHI, CHERYL Biology	MacArthur Foundation Fellowship	2009
LARIVE, CYNTHIA Chemistry	Chair-elect, American Chemical Society Division of Analytical Chemistry	2010
MADURO, Morris Biology	NSF CAREER Award	2010
MULLENS, BRADLEY Entomology	Entomol. Soc. America Recognition Award for Contributions to Agriculture	2009
NOTHNAGEL, EUGENE Botany & Plant Sciences	Academy of Distinguished Teachers at UCR	2006
PEDRA, JOAO Entomology	Centers for Disease Control and Prevention Public Health Research Scientist Development Award	2010
RAIKHEL, ALEXANDER Entomology	University of California Presidential Chair	2010
RAIKHEL, ALEXANDER, Entomology	Fellow of Entomological Society of America	2010
SACHS, JOEL Biology	2009-10 Faculty Mentor of the Year Award – UCR's Honors College	2010
WALKER, SHARON Chem & Env Engineering	Fulbright Fellowship	2009
WALKER, SHARON Chem & Env Engineering	NSF Career Award	2010
ZHU, JIAN-KANG Botany & Plant Sciences	Election to the National Academy of Sciences	2010

**B.4: EVENTS SPONSORED BY CENTER**

Please list events sponsored by Center during the period under review.

<b>EVENTS SPONSORED BY CENTER</b>					
<b>Title of Event</b>	<b>Type of Event</b>	<b>Date of Event</b>	<b>Number of Attendees</b>	<b>Names of Featured Speakers</b>	<b>Title and Affiliation of Featured Speakers</b>
IIGB/CEPCEB/CDVR/GGB / IGERT Seminars	Seminar Series	See Attachment E	~25	See Attachment E	
IIGB Tours	Tours of Instrumentation Facilities (microscopy, bioinformatics, proteomics, genomics)	See Attachment D	See Attachment C	Microscopy: David Carter Bioinformatics: Thomas Girke Proteomics: Songqin Pan Genomics: Glenn Hicks	Academic Coordinator, Imaging/Microscopy Asst. Professor/Dir. of Bioinf Facilities Academic Coordinator, Proteomics IIGB Academic Administrator
IIGB Colloquia Series	Seminars	See Attachment F	~25	See Attachment F	
IIGB Forum	Forum	July 22, 2009	~40	Natasha Raikhel Linda Walling Glenn Hicks	IIGB/CEPCEB Director CNAS Life Sciences Divisional Dean IIGB Academic Administrator
		April 29, 2010		Natasha Raikhel Glenn Hicks Xuemei Chen	IIGB/CEPCEB Director IIGB Academic Administrator Professor, Botany & Plant Sciences
CDVR Symposium	Symposium	March 27-28, 2010	~100	See Attachment G	

**B.5: SPACE UTILIZED BY CENTER**

Fiscal Year Period:

Center Name:

Please provide explanations or descriptions as required. Changes to number of square feet, space configuration, or space use should be described.

<b>Space Description</b>	<b>Square Feet</b>
Meeting Space	298 (2018 Keen Hall)
Office Support	784*
Research	6518**
Special Use	
Miscellaneous	148
Total Assigned Space	7,748

\* Offices assigned to IIGB/CEPCEB

\*\* Core Instrumentation Facilities: Lab/Offices belonging to Genomics.

**B.6: SPONSORED FUNDING PROPOSALS AND AWARDS**

Fiscal Year Period:

Center Name:

On the first table below, please list all current (new and continuing) awards for the fiscal year under review. This list should include only those projects where the intellectual content was a result of Center collaborations, not awards that were made possible simply because of the availability of Center facilities and/or equipment.

**Current Awards**

Proposal Title	PI	Co-PIs	Funding Agency	Period of Funding	Total Award	1 <sup>st</sup> year Award
DNA Demethylation and Transcriptional Gene Silencing	Jian-Kang Zhu		NIH	5/1/2008 – 4/30/2012	\$1,456,495	\$301,229
Calcium Signaling and Ion Homeostasis Regulation	Jian-Kang Zhu		NIH	5/1/2008 – 4/30/2012	\$1,401,157	\$301,638
BE/CNH: Spatiotemporal Dynamics of Engineered Crop Genes: Natural and Human Constraints and Consequences	Norm Ellstrand	Bai-Lian Larry Lee; Alan McHughen; Richard Sutch	NSF	9/1/2004 – 8/31/2009	\$1,545,268	\$1,545,268
Nuclear Receptor Networks in Human Disease	Frances Sladek	Tao Jiang	NIH (R21)	7/13/2009 – 4/30/2011	\$760,000	\$375,000
Use of Protein Binding Microarrays as a High Throughput DNA Binding Assay (E. Bolotin - Student)	Frances Sladek		PHRMA FOUNDATION (Fellowship)	1/30/2009 – 12/31/2010	\$25,000	\$20,000
Advanced DNA sequencing and computing resources in support of NIH-funded research	Glenn Hicks		NIH	4/11/2010-4/07/2011	\$742, 627	\$742, 627
ChemMine Tools: an Open Source Framework for Mining Small Molecule Data	Thomas Girke		NIH	1/1/2010 – 12/31/2012	\$219,275	\$219,275
Functional analysis of Potato Aphid Transcriptome	Isgouhi Kaloshian	Thomas Girke	USDA	4/1/2010-3/31/2013	\$633,930	\$494,465
DNA Demethylation and Transcriptional Gene Silencing	Jian-Kang Zhu		NIH	9/1/2009 – 8/31/2011	\$291,278	\$291,278
Effects of Intestinal Microflora on high - LET radiation mediated toxicity and genomic instability	James Borneman		NASA	11/01/2010 – 10/31/2013	\$68,000	\$68,000
DNA Demethylation and Transcriptional Gene Silencing	Jian-Kang Zhu		NIH	5/1/2008 – 4/30/2012	\$1,456,495	\$301,229



Institute for Integrative Genome Biology

Fiscal Year 2009-10

**B.7: NON-SPONSORED RESOURCES**

<b>Sources of Funding</b>	<b>Amount</b>
Funding Provided by UCR Institutional Sources	\$286,467
	CNAS Staff funding
	\$21,087
	CNAS Operating Budget
Funding Provided by UC System Sources	
Funding from Endowments or Gifts	\$1,053
	Noel Keen Memorial Endowment Fund
Funding from Other Sources (Please List)	\$95
	Biotechnology Impact Center Various Donors
	\$308,702

**IIGB Forum**  
**July 22, 2009: 3:00pm**  
**Batchelor, Room 1104**

**–AGENDA–**

**I. Introduction - State of the IIGB Budget (N. Raikhel)**

- A. Minimal Carry-forward
- B. Cash Reductions:
  - 08-09: IIGB \$18,388 + CEPCEB \$14,935 = \$33,323
  - 09-10: Unknown what we will have to pay
- C. Annual IIGB Operating Budget: ~\$25K

**II. Recent New IIGB Systems/Technologies/Initiatives (G. Hicks)**

- A. John Weger: IIGB Genomics Core Specialist
  - Primary responsibility: next-generation sequencing (Illumina Genome Analyzer II)
- B. Keen Hall Security System (eff. February 2009)
  - Programmed after-hour fob access (renewal each Sept)
- C. IIGB Facilities Services Billing Application (eff. July 2009)
  - Online reservations and service requests for all billable instruments
- D. Joint Business/Science Graduate Pilot Program (N. Raikhel)

**III. Genomics Building Update (L. Walling)**

Scheduled Move-in: start 9/2/09

**IV. Discussions (N. Raikhel)**

- A. Ways to Generate Collaborative Discoveries
  - Are our Core Facilities addressing cutting-edge needs or we are missing something? We need faculty input. If you do not attend the forum, please send constructive suggestions to [Jocelyn.brimo@ucr.edu](mailto:Jocelyn.brimo@ucr.edu).
  - a. NIH/NSF High-End Instrumentation Grants
    - i. Illumina Genome Analyzer and Associated Data Management System (G. Hicks)
    - ii. Thermo LTQ Orbitrap Mass Spectrometer with Hyphenated HPLC System (Y. Wang, S.Pan)
    - iii. Olympus Spectral Confocal and Multiphoton Scanner (D. Carter)
  - b. Small Exploration Grants for Deep Sequencing
    - Goals of the grants, mechanisms of execution (with or without matching funds, etc).
    - It was decided that up to three grants for ~\$5k each would be offered to IIGB members from the IIGB/Genomics Core funds; additional funds would be sought from Illumina and New England Biolabs to increase grant allocations. The grants were ultimately offered at \$6200 each.**
- B. Bioinformatic Support for HT Sequencing after 6/30/10 (N. Raikhel)
  - Ideas discussed included incorporating programmer position support into proposal submissions and/or including support in large collaborative proposals.**
- C. Next IIGB Scientific Advisory Board?
  - What should be the main topic of the review? (Core Facilities reviewed in November, 2007.) If we decide to have an IIGB Scientific Advisory Board next year (2010), we need suggestions/names of people. **IIGB members were submit ideas to Jocelyn.**

**V. Upcoming Events**

**October 16, 2009, 2-4pm: CEPCEB Award Ceremony [Inaugural Event in Genomics Auditorium!]**

Noel Keen Special Lecturer: Joseph Ecker, Professor of Biology, The Salk Institute for Biological Studies, La Jolla, CA

**VI. Next IIGB Forum**



**IIGB Forum**  
**April 29, 2010: 12:30pm**  
**Genomics Auditorium, Rm 1102**

**–AGENDA–**

**I. News**

- A. IIGB Member Recognitions:
  - a. Election of Jian-Kang Zhu to National Academy of Science
  - b. Norman Ellstrand: Guggenheim Fellowship for for genetics, genomics and Hybridization
  - c. Sean Cutler: Top 10 Breakthrough List for 2009, *Science*
  - d. Timothy Close: 2009 Fellow, American Association for the Advancement of Science (AAAS)
- B. IIGB Awards and Proposals
  - a. Awarded: NIH NCRR Recovery Act Limited Competition: High-End Instrumentation Grant Program (S10): Illumina GAIx Massively Parallel Sequencing Instrument [discussed below]
  - b. Awarded: NSF Research Experience for Undergraduates (REU) Program (2010-2015) – Howard Judelson (PI)
  - c. Submitted: NSF IGERT Preproposal – Katherine Borkovich (PI)
  - d. In Preparation: NIH Multidisciplinary Training Proposal – Xuemei Chen
  - e. In Preparation: NIH Multidisciplinary Research Proposal – Shou-wei Ding
- C. 2009-10 Budget Reductions:
  - Permanent Budget: IIGB \$10,643 + CEPCEB \$915 = \$11,558
  - Temporary Budget: IIGB \$4,610 + CEPCEB \$5,655 = \$10,265

**II. Recent New IIGB Technologies/Initiatives (G. Hicks)**

- A. 2010 IIGB Deep Sequencing Innovation Seed Grants – Glenn Hicks
  - a. Three, one-year starter grants to develop novel innovations or applications for deep sequencing in collaboration with IIGB in the amount of \$6,200 awarded to:
    - i. Linda Walling – Dev. of RNA-seq Multiplexing Capabilities at UCR
    - ii. Karin LeRoch/Michael Pirrung - Beyond the fifth base: Expanding high throughput sequencing capabilities to the sixth one (development of methodology to examine genome-wide A methylation)
    - iii. Sam Lewis/Bradley Hyman/Paul Delay - Multiplex sequencing of complete mitochondrial genomes.
- B. New Technologies, Opportunities and Directions for Keen Hall Facilities
  - a. Microscopy Core – David Carter
  - b. Bioinformatics – Thomas Girke
  - c. Proteomics – Songqin Pan

**IV. Discussion: Funding of Bioinformatic Programmer (N. Raikhel)**

- D. High-throughput Sequencing at UCR – Glenn Hicks  
*It was determined from the discussion of high-throughput sequencer options to trade-in the current Illumina Genome Analyzer IIx for an Illumina Hi-Sequencer instrument.*
- E. Bioinformatic Support for HT Sequencing after 7/31/10 (N. Raikhel)  
*Due to the need to secure funding for a programmer after existing funds expire 7/31/10, several faculty members at the forum suggested writing letters of need/justification to the Administration.*
- F. Next IIGB Scientific Advisory Board? Focus? Suggestions for Reviewers?

**V. Upcoming Events**

- October 15, 2010, 2-4pm: CEPCEB Award Ceremony**  
Noel Keen Special Lecturer: Philip Benfey, **Paul Kramer Professor and Chair, Biology Department**, Institute for Genome Sciences and Policy, Duke University

**VI. Next IIGB Forum?**

## 2010 IIGB Deep Sequencing Innovation Seed Grants

### Program Scope

The program will fund a maximum of three one-year awards of up to \$6200 each from the IIGB Genomics Core to UCR researchers with the following overall goals:

1. Promote cutting-edge multi-disciplinary research in genomics (biology, engineering, chemistry, computer sciences, bioinformatics, etc) on the UCR campus to fulfill the IIGB mission of fostering research across campus.
2. As part of our mission, enhance the stature of IIGB as a recognized center for innovation, in this case, in the area of new deep sequencing technologies and applications.

### Purpose of the grants

1. Provide seed money to assist in the exploration and development of innovative new technologies and applications for deep sequencing that can lead to preliminary data for successful extramural grant applications
2. Provide assistance for short-term projects to develop innovative new technologies and applications for deep sequencing that are of potentially of broad interest and will be disseminated to the UCR research community and beyond.
3. Promote multi-disciplinary research projects across the UCR campus
4. Promote strong collaborative research and publications with IIGB scientists to enhance Institute standing.

### Details

1. Proposals must utilize IIGB Illumina sequencing instrumentation and services within the Genomics Core, but can include elements from other IIGB Cores (Bioinformatics, Microscopy or Proteomics). Where possible, we would encourage applicants to fully utilize IIGB resources.
2. Multi-disciplinary proposals are strongly encouraged. For example, collaborations between biologists and chemists, engineers, bioinformaticians, computer scientists, or scientists from other disciplines are encouraged.
3. Proposals should aim toward relatively broad applications that will benefit as diverse a group of UCR laboratories as possible.
4. Proposals for a continuation of ongoing projects or aspects of projects already funded will not be considered.
5. Successful project innovations will be made available publically through publication and more directly with the UCR community via the IIGB web site or other mechanisms.
6. Intellectual and technical contributions to funded projects by IIGB and Genomics Core personnel must be acknowledged in any publications. The funding source must be noted in acknowledgements.
7. The Genomics Core of IIGB will fund up to three proposals for up to \$6200 each.
8. All grant funds MUST be spent during within one year from the start date. All remaining funds will revert to the IIGB Genomics Core.
9. A final report of results and a budget summary (form to be provided) from each funded project is due within 30 days of the end of funding. The report should be no more than three pages.
10. Through the generosity of New England Biolabs, awarded projects will receive a 50% discount on NEBNext library kits purchased through grant funding.

### Application Process

1. For consideration, PIs should submit a two-page proposal providing background, significance and experimental plan. The significance should consider the innovation both scientifically and to the UCR research community as well as a statement of how the project will lead to future funding. A brief budget should be included outlining the cost of the proposal including allocations to IIGB facilities.
2. Proposals will be reviewed by the IIGB (Academic Administrator, the Director of Bioinformatics) and an independent reviewer from the UCR campus.

3. Proposals will be selected based upon:
  - a. the scientific merit and novelty of the innovation or application.
  - b. the interdisciplinary nature of the proposed work.
  - c. the value of the proposed work to the UCR and border research communities.
  - d. the potential for success
4. Preference will be given to applications that:
  - a. propose novel innovations or applications of deep sequencing.
  - b. are strongly interdisciplinary and promote the inclusion of scientists in disciplines other than biology.
  - c. include PIs who are early in their careers.
5. A person may be designated as PI for one grant only. There is no limit for designation as co-PI.
6. Applications should be forwarded to Guille Vallejo ([guilleb@ucr.edu](mailto:guilleb@ucr.edu)) until the **due date of November 1, 2009**. After review, applicants will be notified of decisions by mid-November. Funding for projects will begin Jan 1, 2010 and end Dec 31, 2010.

**Acknowledgements: IIGB funds were augmented by generous donations from Illumina (\$1500) and NEB (\$2000 plus significant reagent discounts).**

**IIGB INSTRUMENTATION FACILITY TOURS:**

FY09/10	Genomics	Proteomics	Microscopy	Bioinformatics	Title	Total Number of Attendees/ Per Month
July	2	2	1	1	Assistant Professor Candidates	
August	1	1	1	0	Copernicus Program Students	
September	1	1	1	0	Undergraduate Recruitment Students	
October	2	2	2	1	Undergraduate Recruitment Students, Graduate Students	
November	0	0	0	0	None	
December	1	1	1	1	Moreno Valley Community College Students	
January	1	1	1	1	Invited Seminar Speaker, Professor	
February	3	3	2	1	Prospective High School Students, CAN's Students, Grad Division Students	
March	1	1	1	0	Prospective Biochemistry and Molecular Biology PhD Students	
April	2	2	2	2	CMDB Graduate Students, CNAS	
May	0	0	0		None	
June	4	0	1	0	Faculty Candidate, REU Students	
<b>Subtotal</b>	<b>18</b>	<b>14</b>	<b>13</b>	<b>7</b>		<b>52</b>

DATE	SPEAKER	TITLE	HOST
<b>July '09</b>			
CEPCEB (Friday) **Internal	10 <b>David Carter</b> Academic Coordinator Botany & Plant Science	<i>"Technology Talk: Expanding the Microscopy toolbox with Multiphoton, FLIM and FCS"</i>	David Carter
CEPCEB (Friday) **Internal	17 <b>Nadia Potts</b> Cell Biology & Neuroscience Department University of California, Riverside	<i>Epigenomics in pathogens: the case of the human malaria parasite</i>	Karine Le Roch
	31 No seminar		
<b>August '09</b>			
CEPCEB (Friday) **Internal	7 <b>Xianbing Wang</b> Department of Pathology & Microbiology University of California, Riverside	<i>"RNAi-mediated viral immunity requires amplification of virus-derived siRNAs in Arabidopsis thaliana"</i>	Shou-wei Ding
	14 No Seminar		
	21 No Seminar		
	28 No Seminar		
<b>Sept '09</b>			
	4 No Seminar		
	10 <b>Henrik Jonsson</b> Dept of Theoretical Physics, Division of Complex Sciences, Lund University, Sweden	<i>"Modeling Morphogenesis in Shoot Apical Meristems"</i>	Venu Reddy
	18 No Seminar- Biochem Symp		
CEPCEB (Tuesday)	22 <b>Olivier Voinnet</b> Centre national de la recherche scientifique Institut de Biologie Moléculaire des Plantes	<i>"Roles and mechanisms of action of silencing small RNAs"</i>	Shou-wei Ding
<b>Oct '09</b>			
IGERT	2 <b>IGERT Retreat</b>		
CEPCEB (Friday)	9 <b>Ming Chen Hammond</b> Assistant Professor of Chemistry University of California, Berkeley	<i>"Discovering and Deciphering the Function of cis-Regulatory RNAs in Plants"</i>	Xuemei Chen
CEPCEB (Friday)	16 <b>Joe Ecker</b> 2009 Noel Keen Lecturer <b>CEPCEB CEREMONY AWARD</b> The Salk Institute for Biological Studies La Jolla, California	<i>"Sequencing across the genome/ phenome divide"</i>	Natasha Raikhel
CEPCEB (Friday) ** Internal	23 <b>Patricia Springer</b> Botany & Plant Sciences University of California, Riverside	<b>CANCELLED</b> <i>It's all about balance- the role of boundaries in Arabidopsis organ formation-</i>	Hailing Jin
CEPCEB (Friday)	30 <b>Sheldon M. Schuster</b> Keck Graduate Institute of Applied Life Sciences	<i>Leadership Opportunities in the Biosciences Industry</i>	Katherine Borkovich
<b>Nov '09</b>			
IGERT	6 <b>H. Eric Xu</b> Distinguished Investigator Laboratory Structural Sciences Van Andel Research Institute Michigan	Structure Biology and Drug Discovery of Nuclear Hormone Receptor	Sean Cutler
CEPCEB (Friday) **Internal	13 <b>Katherine Borkovich</b> Plant Pathology and Microbiology Department University of California, Riverside	<b>CANCELLED</b>	Hailing Jin
CEPCEB	16 <b>Jiri Friml</b>	<i>"Hormonal Regulation of Endocytosis and Polarity"</i>	Natasha Raikhel

DATE	SPEAKER	TITLE	HOST
(Monday)	Department of Plant Systems Biology VIB/ Universiteit Gent, Belgium	<i>in Plants</i>	
CEPCEB (Friday)	20 <b>Yi Zhang</b> Professor and HHMI Investigator The Department of Biochemistry & Biophysics UNC School of Medicine	<i>Could the DNA demethylase please stand up?</i>	Hailing Jin
<b>Dec '09</b>			
IGERT	4 <b>Paul Jensen</b> Associate Research Scientist Scripps Institution of Oceanography	Chemical Ecology of Marine Micro-organisms (tentative)	Katherine Borkovich and Julia- Bailey Serres
CEPCEB (Friday)	11 <b>Dorothy Shippen</b> Professor of Biochemistry and Biophysics Texas A&M University	<i>Beginning to understand the ends: telomere structure and synthesis in Arabidopsis</i>	Connie Nugent
CEPCEB (Friday) **Internal	28 <b>Xianbing Wang</b> Plant Pathology & Microbiology University of California, Riverside	CANCELLED	Shouwei Ding
<b>January '10</b>			
IGERT	8 <b>Steve Kay</b> Divisional Dean of Biological Sciences University of California, San Diego	<i>Circadian Rhythms in Plants and Animals- Chemical Genomics(tentative)</i> <b>CANCELLED PER JULIA</b>	Julia Bailey-Serres
CEPCEB (Friday)	15 <b>David Galbriarh</b> Department of Plant Sciences University of Arizona	<b>CANCELLED BY SPEAKER</b>	Venu Reddy
IGERT- CEPCEB- CHEMISTRY	22 <b>Jeffrey Aubé</b> Department of Medicinal Chemistry University of Kansas Structural Biology Center	<i>Libraries Inspired by Alkaloids and Peptides</i>	Cindy Larive And Julia Bailey-Serres
	29		
<b>February '10</b>			
CEPCEB (Friday)	5 <b>Pat Zambryski</b> Department of Plant and Microbial Biology UC Berkeley	<i>"Plasmodesmata mediated intercellular transport during different stages of development"</i>	Hailing Jin
CEPCEB (Wednesday)	10 <b>Rong Li</b> Stowers Institute for Medical Research Kansas City, MO	<i>A quantitative dissection of the state of cell polarity in budding yeast</i>	Zhenbiao Yang
IGERT	12 <b>Jurgen Ehling</b> Assistant Professor Centre for Forest Biology University of Victoria Canada	<i>Evolution of a novel phenolic pathway in Arabidopsis thaliana</i>	Thomas Eulgem
CEPCEB (Friday)	19 <b>Shauna Somerville</b> Department of Plant and Microbial Biology UC Berkeley	<i>Defenses at the Plant Cell Wall</i>	Hailing Jin
CEPCEB (Friday)	26 <b>Steven Clark</b> Department of Molecular, Cellular, and Development Biology University of Michigan	<i>Stem cells, cell polarity and phosphoinositols in Arabidopsis</i>	Venu Reddy
<b>March '10</b>			
IGERT	12 <b>Brenda S.J. Winkel</b> Professor, Department of Biological Sciences	<i>Flavonoids ( tentative)</i>	

DATE	SPEAKER	TITLE	HOST
	Virginia Tech		
CEPCEB (Friday) 19	<b>Jonathan Jones</b> Project Leader The Sainsbury Laboratory UK	<i>Using Pathogen Effectors to Investigate Plant Resistance Mechanisms</i>	Hailing Jin
<b>April '10</b>			
CEPCEB (Friday) 1	<b>C. Robertson McClung</b> Professor of Biological Sciences Dartmouth College	<i>Do you know your ABCs? Arabidopsis and Brassica Clocks</i>	Hailing Jin
CEPCEB (Friday) 2	<b>Mary Lou Guerinot</b> Professor Department of Biological Sciences Dartmouth	<i>From the Ionome to the Genome: Identifying genes involved in regulating ion homeostasis in plants</i>	Hailing Jin
IGERT 9	<b>Pamela Green</b> Delaware Biotechnology Institute	<i>Small RNAs, target RNAs and RNA decay</i>	Natasha Raikhel
CEPCEB (Monday) 12	<b>Ben Scheres</b> Professor Utrecht University	<i>Plant architecture and multilevel</i>	Venu Reddy
CEPCEB (Friday) 30	<b>Yi-Fang Tsay</b> Institute of Molecular Biology Academia Sinica, Taiwan	<i>"A new story of an old protein: Sensing and transport are independent functions of the same protein CHL1 TBA"</i>	Anthony Huang
<b>May '10</b>			
CEPCEB (Friday) **Internal 7	<b>Samer Elkashef</b> Plant Pathology & Microbiology University of California, Riverside	<i>"Small molecule inhibitors of RNAi"</i>	Shou-wei Ding
IGERT 14	<b>Erin Carlson</b> Department of Chemistry Indiana University	<i>"Integrating Proteomics and Metabolomics to Map Bacterial Development"</i>	Cynthia Larive
CEPCEB (Friday) **Internal 21	No Seminar		
CEPCEB (Friday) **Internal 28	<b>Xianbing Wang</b> Plant Pathology & Microbiology University of California, Riverside	CANCELLED	Shouwei Ding
<b>June '10</b>			
CEPCEB (Friday) **Internal 4	<b>Mingtang Xie</b> Botany & Plant Sciences University of California, Riverside	<i>Live Imaging Study on Cytokinin Function and Regulation in Stem-cell</i>	Venu Reddy
IGERT 11	<b>Eric Mjolsness</b> Professor Department of Computer Science Center for Computational Morphodynamics UC Irvine	<i>"Foundations for lively geometry in plant morphodynamics"</i>	Julia Bailey-Serres
CEPCEB (Friday) **Internal 18	<b>Takeshi Fukao</b> Botany & Plant Sciences University of California, Riverside	<i>Waterproof Rice: SUB1A-dependent submergence tolerance and its crosstalk with drought tolerance TBA</i>	Julia Bailey-Serres
CEPCEB (Friday) 25	<b>Shruti Lal</b> Botany & Plant Sciences	<i>Understanding the Molecular Mechanisms that Control Floral Evocation in Arabidopsis thaliana</i>	Harley Smith

DATE	SPEAKER	TITLE	HOST
<b>**Internal</b>	University of California, Riverside		

**LEGEND:**

CEPCEB (BPS 252) Seminars: Special Topics on Botany

IGERT Seminars

CDVR Seminars

IIGB Seminars

GGB Seminars





## 2009-10 IIGB Colloquia

4:10 – 5:00 pm Tuesdays

\*12:00 – 1:00 pm Wednesdays

\*\*12:00 – 1:00 pm Tuesdays (combined with GGB Graduate Program)

Genomics Auditorium, Rm 1102A



DATE	PRESENTER	TITLE	HOST
Nov 10	Patricia Springer	"It's all about balance - the role of boundaries in Arabidopsis organ formation"	Hailing Jin
Nov 24	Joao Pedra	"Host immune response to a tick borne pathogen"	Peter Atkinson
Dec 15	Julia Bailey-Serres	"Getting the message across: Monitoring translational dynamics in discrete cells of Arabidopsis"	Natasha Raikhel
Jan 13*	Karine Le Roch	"The ubiquitin proteasome system as a new therapeutic approach against the human malaria parasite"	Morris Maduro
Jan 27*	Morris Maduro	"Using Genomics Approaches to Probe Embryonic Cell Specification in C. elegans"	
Feb 10*	Isgouhi Kaloshian	"Plant host immunity against insects and nematodes"	Anupama Dahanukar
Feb 24*	Anupama Dahanukar	"Taste coding in Drosophila: a systems level approach to understanding chemosensory behavior"	Karine Le Roch
Mar 10*	Katherine Borkovich	"Functional Genomics and Signal Transduction in Filamentous Fungi"	Hailing Jin
Mar 24*	Maksim Bazhenov	"Extracellular potassium dynamics and epileptogenesis - new insights on an old topic"	Thomas Girke
Mar 27-28	CDVR Symposium	"Facing the Challenges of Vector-borne Diseases in the 21 <sup>st</sup> Century"	Alex Raikhel (Chair)
Mar 30**	Xuemei Chen	"Transcription factors, microRNAs, and epigenetics in the regulation of floral stem cells"	
Apr 13**	Jason Stajich	"Comparative biology of Fungi from a genomic perspective"	
May 4**	Zhenbiao Yang	"Spatial control of cell expansion in Arabidopsis"	

## Facing the Challenges of Vector-Borne Diseases in the 21<sup>st</sup> Century

### ORGANIZERS:

Alexander Raikhel (chair), Karine Le Roch, Joao Pedra,  
Shou-Wei Ding and Linda Walling

### LOCATION:

Genomics Building Auditorium (Rm 1102)

**Saturday, March 27, 2010**

### SYMPOSIUM OPENING

- 8:30 AM – **Alexander Raikhel**, Organizing Committee Chair  
– **Thomas Baldwin**, Dean, College of Natural & Agricultural Sciences  
– **Peter Atkinson**, CDVR Director – Introduction of the Keynote Speaker and Acknowledgements
- 9:00 AM – Keynote Lecture: **Haile Debas**, Executive Director, UCSF Global Health Sciences  
*Universities addressing unmet needs in Global Health*

### MORNING SESSION: Co-Chairs Linda Walling and Joao Pedra

#### 1. Social Impact of Vector-Borne Diseases

- 9:30 AM – **Marcia Castro**, Harvard School of Public Health  
*Social aspects of mosquito and malaria control*
- 10:00 AM – **Anil B. Deolalikar**, UCR Economics  
*Social & economic consequences of vector-borne diseases in the developing world*
- 10:20 AM – COFFEE BREAK

#### 2. Population Genetics and Systematics of Disease Vectors

- 10:40 AM – **William Black**, Colorado State University  
*Population genetics of disease vectors*
- 11:10 AM – **Christiane Weirauch**, UCR Entomology & CDVR  
*Evolution of blood feeding in assassin bugs (Hemiptera: Reduviidae) and the kissing bug problem in Southern California*
- 11:30 AM – **Gregory Lanzaro**, UC Davis  
*The genetics of Anopheles gambiae populations in West and Central Africa*

12:00 PM – LUNCH & POSTER SET UP

### AFTERNOON SESSION: Co-Chairs James Ng and Isgouhi Kaloshian

### 3. Host Seeking Behavior in Disease Vectors

- 1:00 PM – **Leslie Vosshall**, Rockefeller University, NY  
*Odorant receptors in Drosophila*
- 1:30 PM – **Anand Ray**, UCR Entomology & CDVR  
*Modification of odor responses in mosquitoes*
- 1:50 PM – **Mark Mescher**, Pennsylvania State University  
*Plant cues attracting insect vectors*
- 2:20 PM – **Ring Carde**, UCR Entomology & CDVR  
*Insect orientation to host odors*
- 2:40 PM – COFFEE BREAK

### 4. Genetic Molecular Approaches to Investigating Vector-Pathogen Interactions I

- 3:00 PM – **George Dimopoulos**, Johns Hopkins University School of Public Health  
*Immune interaction between mosquitoes and their pathogens; a genomics approach*
- 3:30 PM – **Linda Walling**, UCR Botany & Plant Sciences and CDVR  
*The Arabidopsis-whitefly interaction: deceptive messages and biphasic host responses*
- 3:50 PM – **Joao Pedra**, UCR Entomology & CDVR  
*Microbial colonization of ticks*
- 4:10 PM – **Stephane Blanc**, UMR BGPI-CIRAD/INRA/SUPAGRO, Montpellier, France  
*Plant-vector-virus interactions*
- 4:40 PM – **FORUM: Alexander Raikhel, discussion leader; Consuelo De Moraes; Anand Ray; William Black**  
*What makes Arthropods such ideal vectors of diseases*
- 5:15 PM – RECEPTION and POSTER SESSION (registered participants)  
Posters will remain for the next day

## Sunday, March 28, 2010

**MORNING SESSION: Co-Chairs Karine Le Roch and Anupama Dahanukar**

### 5. Small RNAs in Control of Genome Stability and Disease in Arthropods

- 8:30 AM – **Shou-Wei Ding**, UCR Plant Pathology & Microbiology and CDVR  
*The role of siRNAs in anti-viral responses*
- 8:50 AM – **Mikiko S. Siomi**, Keio University of Tokyo, Japan  
*Small RNAs in animals*
- 9:20 AM – **Peter Atkinson**, UCR Entomology & CDVR  
*piRNAs in vector insects*

9:40 AM – **Alexei Aravin**, California Institute of Technology  
*Arginine methylation as a molecular signature of the piRNA pathway*

10:10 AM – COFFEE BREAK

## 6. Genetic Molecular Approaches to Investigating Vector-Pathogen Interactions II

10:30 AM – **Georg Jander**, Boyce Thompson Institute, Ithaca NY  
*Molecular genetics of Arabidopsis-aphid interactions*

11:00 AM – **Alexander Raikhel**, UCR Entomology & CDVR  
*Transgenic mosquitoes in studies of disease vector-pathogen interactions*

11:20 PM – **Isgouhi Kaloshian**, UCR Nematology & CDVR  
*Plant immune responses to aphid and root-knot nematode infestation*

11:40 AM – **James Ng**, UCR Plant Pathology & Microbiology and CDVR  
*Virus-vector interactions mediating the semi-persistent Bemisia tabaci transmission of lettuce infectious yellow virus*

12:00 PM – LUNCH

## AFTERNOON SESSION: Co-chairs Anand Ray and Christiane Weirauch

## 7. Molecular Approaches to Control of Vectors and Diseases

1:00 PM – **Martin Donnelly**, Liverpool School of Tropical Medicine, UK  
*Molecular genetics of insecticide resistance in mosquitoes*

1:30 PM – **Rodrigo Almeida**, UC Berkeley  
*Blocking the transmission of a leafhopper-borne bacterial pathogen*

2:00 PM – **Brian Federici**, UCR Entomology & CDVR  
*Recombinant bacterial larvicides for controlling major vector mosquitoes*

2:20 PM – **Jesus G. Valenzuela**, NIH, Bethesda, MD  
*Sand flies, leishmaniasis and development of vaccine*

2:50 PM – **David Lo**, UCR Division of Biomedical Science & CDVR  
*Novel approaches to an anti-Dengue Fever vaccine*

3:10 PM – COFFEE BREAK

3:30 PM – **Kirk Deitsch**, Weill Cornell Medical College, NY  
*Genetic basis of antigenic variations in the malaria parasite Plasmodium falciparum*

4:00 PM – **Karine Le Roch**, UCR Cell Biology & Neuroscience and CDVR  
*Genomics and proteomics studies of the malaria parasite Plasmodium falciparum*

4:20 PM – **Anthony James**, UC Irvine

*Engineering mosquito resistance to pathogens*

- 4:50 PM – **Forum II: Linda Walling, discussion leader; Martin Donnelly; Georg Jander; Peter Atkinson**  
***Urgent Issues in Arthropod Vector Biology***
- 5:20 PM – END OF SYMPOSIUM  
Poster removal