The UC San Diego Technology Transfer Advisory Committee (TTAC) is responsible for general oversight of the university's technology transfer program. This standing committee is appointed by the chancellor and is chaired by the vice chancellor for research. It meets periodically to assess UC San Diego's technology transfer practices and guides the overall direction of the program.

UCSD TTAC MEMBERS—FY11

Sandra Brown (Chair) Vice Chancellor, Research
Amy Alexander Associate Professor, Visual Arts
David Brenner Vice Chancellor, Health Sciences
Linda Collins Assistant Vice Chancellor, Office of Contract & Grant Administration
Michael David Professor, Biology
Steve Dowdy Professor, Cellular and Molecular Medicine
William Gerwick Professor, Pharmaceutical Science
Steve Kay Dean, Division of Biological Sciences
Jane Moores Assistant Vice Chancellor, Technology Transfer
Rosibel Ochoa Executive Director, William J. von Liebig Center
Geert Schmid-Schoenbein Professor, Bioengineering
Frieder Seible Dean, Jacobs School of Engineering
Robert Sullivan Dean, Rady School of Management

Industry TTAC Members—FY11

The Industry Technology Transfer Advisory Committee (I-TTAC) provides guidance, from an industry perspective, on university technology transfer and strengthens ties with industry partners.

Julia R. Brown
Member of board of directors: Biodel, Inc.; CleanTech San Diego; CONNECT; MediQuestTherapeutics, Inc.; and Targacept, Inc.

Scott Minick
President and CEO, BIND Biosciences; Member of board of directors: Chiasma and Sorbent Therapeutics.

Bob Slapin
Executive Director, San Diego Software Industries Council; Member of board of directors: Ecolayers Inc.
UC San Diego’s Technology Transfer Office (TTO) continues to work effectively with its academic and industry partners to license university technologies for the benefit of the university community and the public. This partnership effort has resulted in 64 license agreements in FY2011. In the last seven-year period, the TTO executed between 60 and 85 licenses a year showing a strong level of sustained activity despite the economic downturn. At year-end, more than 400 license agreements were active with companies around the globe. TTO’s patent activity also continued at a vigorous pace with 88 U.S. patents issuing, compared with 75 in the previous year.

University researchers reported 416 inventions and copyrights to the TTO in FY2011 (more than 1.5 innovations per working day), averaging more than 400 innovations for each of the last three fiscal years. Thirteen new start-up companies were founded with licensed university technology and all but three of these start-ups are based in the San Diego area. Entrepreneurism starts locally, often with new ideas generated from university research; these new start-ups reflect the home-grown nature of the San Diego technology cluster and the university’s contribution and commitment to encouraging local economic development.

Total intellectual property income in FY2011 was $18.7 million, compared to $26 million in FY2010. This decrease can be attributed to the patent expiration for a FY2010 top royalty-generating invention. Typical for university innovations across the country, only a small fraction of UCSD innovations generate $1,000,000 or above in royalties per year. Absent the large royalty spikes from the top innovations, overall income from the more typical types of revenue-generating innovations is stable when comparing year-to-year numbers. As is the case for our industry counterparts, intellectual property income will continue to change dramatically with expiring patents and increasing time to obtain regulatory approval for health care products.

This report highlights TTO’s capabilities, achievements, and positive impact in the University and the community. TTO remains steadfast on its mission to facilitate the transfer of university innovations into the marketplace as we continually improve our demonstrated ability to provide excellent service. We welcome your support and partnership in achieving these goals.

Sincerely,

Jane C. Moores, PhD
EarthRisk Technologies is redesigning the link between weather and business decision-making. The technology company is developing software that accesses a wide range of publicly and commercially available weather and climate data to empower customers to tailor dynamic, customized risk assessments for their individual needs. The company’s initial focus leverages a unique approach of applying precursor weather information as a basis for predicting extreme temperature events at lead-times of up to forty days. The software solution is designed for intuitive application by analysts who connect weather to business decisions such as energy resource planning and commodity investments. EarthRisk links cutting-edge atmospheric research to real-world applications through intuitive analytic interfaces.

In 2010, EarthRisk Technologies licensed a patent-pending process originated at Scripps Institution of Oceanography (SIO), UC San Diego. Drs. Alexander Gershnov and Kristen Guirguis developed the research and EarthRisk has leveraged the technology to design software that assesses the risk of extreme weather events. Its customers consist of energy companies and financial firms who actively manage energy resources and financial futures. The company anticipates expanding to serve the agriculture, transportation, and risk management industries.

TempRisk makes extreme weather data useful on a daily basis for high-value business decisions. EarthRisk’s customers extend their lead-time in predicting extreme cold snaps and heat waves, enabling them to be better positioned with greater confidence. EarthRisk’s vision is to conquer “big data” in a way never before institutionalized in the weather community. The company is driven to extend its knowledge of extreme temperature events to analyze hurricane genesis and movement, drought and precipitation, wind and other important areas.

TTO IMPACT – facilitating start-up formation
TTO’s licensing staff have specialties over the broad range of innovations developed at the university. The EarthRisk and MRV (see next page) licenses were facilitated by TTO. In addition to negotiating agreements, the office provides guidance to faculty on particular issues associated with the start-up process. Since the 1990s, TTO staff’s commitment has resulted in more than 130 start-ups founded on university innovations.
Start-up: MRV SYSTEMS, LLC

MRV Systems provides oceanographic vehicles with comprehensive data integration and vehicle deployment services. Uniquely tied to global research organizations and government agencies, MRV is committed to providing creative and innovative solutions to better monitor, understand, and protect the world’s oceans. The company was founded by Mr. Jim Dufour—upon his retirement from a 30-year career at Scripps Institution of Oceanography (SIO) at UC San Diego—and SEAR Technologies, a San Diego-based venture firm whose focus is on environmental technologies that will provide better engineering and systems for research, education, private sector, and government.

The company collaborates with several research institutions, government agencies, and non-governmental organizations (NGO’s) around the world. MRV’s goals include:

1. Supporting science through cutting edge technology,
2. Providing platform research and development, allowing scientists to focus on research,
3. Maximizing financial value—more observational profiles per unit cost,
4. Customizing vehicles for the specific needs of its clients along with its tremendous sensor integration program; scalability, and
5. Adding value over its competitors.

MRV is focused on being an intrinsically integrated company—environmentally focused, recycling all waste, maximizing scientific utility, providing full-spectrum services, while striving towards Leadership in Energy and Environmental Design (LEED) operational standards. The company believes community outreach and education are instrumental to its brand and recognition. Its goals are designing, building, and analyzing highly reliable and diverse instruments and continuation of its outreach program.

Products and Services

MRV Systems provides a better, faster, less expensive way to collect oceanographic data. The MRV S2A platform makes it possible to collect the highest resolution data at the lowest cost per profile. Leveraging SOLO-II technology developed and proven by SIO, MRV S2A (vertically profiling autonomous vehicles) can provide global coverage for oceanographic research. An unmatched level of energy efficiency enables the MRV S2A float to provide continuous profiling, sampling every hertz, and averaging data every two meters—providing unequalled return on customer research investments.

The first 20 MRV S2A floats, produced locally in San Diego, were deployed in the South Pacific in September and October 2011 as part of the ARGO program. ARGO is a global array of over 3,000 free-drifting profiling floats that measure temperature, salinity, and velocity of the upper 2000 meters of the ocean, returning data within minutes of collection. The ARGO program has developed a large user community within universities, government labs, and meteorological/climate analysis/forecasting centers. The need for global ARGO observations will continue for the foreseeable future, and the technologies and design of the array and floats will evolve to meet the needs of the scientists characterizing the global ocean.
Multimeric Biotherapeutics (Multimeric) is an early-stage biotech company that was founded to spinout technology developed at UC San Diego by its scientific founder, Richard S. Kornbluth, MD, PhD, while Associate Professor of Medicine. The company’s product development focus is based on a technology for expressing TNF superfamily (TNFSF) molecules as multimeric, many-trimer soluble proteins with markedly enhanced activity. Molecules with 4 TNFSF trimers are called the UltraLigands™ and molecules with 2 TNFSF trimers are called the MegaLigands™. The lead compound is UltraCD40L™ (SP-D-CD40L), a 4-trimer form of CD40 ligand (CD40L) that stimulates the immune system. A similar protein, MegaCD40L™ (Acrp30-CD40L), is a 2-trimer molecule that is already in use by research laboratories around the world as a powerful immune stimulating agent.

Multimeric has exclusive worldwide licenses to the therapeutic uses of the TNFSF multimerization technology, which can also be applied to the other 18 proteins in the TNF superfamily for use in cancer immunotherapy, vaccines, transplantation, and regenerative medicine. For its first clinical trial, the company is planning a breakthrough cancer treatment that combines genetic information obtained from a patient’s own tumor cells with an UltraCD40L™-enabled strategy that generates anti-tumor T lymphocytes for administration back into the patient’s body to fight the tumor.

TTO IMPACT
– promoting entrepreneurship
As with many top research universities, UC San Diego continues to be attractive to academic heavyweights in their fields who, if they have an interest, make the leap into entrepreneurial ventures. The Multimeric and NanoSort licenses are examples of start-ups founded by former faculty and students who have the passion and drive to advance their research into commercial markets.
NanoSort, Inc. is a lab-on-a-chip flow cytometer company for life science researchers and clinicians. The company was founded with technology developed by Professor Yu-Hwa Lo (Electrical and Computer Engineering). In addition to Dr. Lo, co-founders include UCSD alumni Jose Morachis, PhD; William Alaynick, PhD; and Nathaniel Heintzman, PhD. NanoSort’s mission is to advance biomedicine by providing researchers with a robust, portable, inexpensive flow cytometer that reduces assay complexity, time, space, and cost. Compared to current systems, NanoSort’s smaller system offers cell sorting capabilities and the detection of more colors. The market for these devices is presently estimated at $1.5 billion and is projected to grow to $3.7 billion in 2015.

Flow cytometry is a method of measuring certain properties of cells, such as size and granularity. By placing the designated cells into a stream of fluid and passing them through a laser one at a time, the refracted or scattered light is recorded as data. This process collects data on thousands of cells per second, allowing researchers to quickly analyze their cell samples. Specialized computer software analyzes and summarizes data to produce statistical information on cell attributes such as size, complexity, phenotype, and health. This information can also be visually represented in a histogram. Flow cytometry has had a wide variety of applications including HIV research, blood cancer diagnosis, and the effects of space travel on immune systems and DNA.

Flow cytometry technology (also referred to as fluorescence-activated cell sorting or FACS) has played an increasingly vital role in medical and research applications for more than 40 years. NanoSort is advancing this technology by enabling point-of-care access via a robust, portable, inexpensive device that meets or exceeds performance of current industry leaders at a fraction of the cost and space. The company’s proprietary and patent-pending Lab-on-a-Chip platform combines microfluidics, photonics, and microacoustics with groundbreaking analytical software to create its new cytometry system.

The advantages of NanoSort’s system include:

- **Miniaturization**: The unique Lab-on-a-Chip technology allows for better integration of multiple functions onto a single chip.
- **Detection and Analytics**: Building on robust wireless technology principles in signal processing, the integrated microfluidics, optical waveguides and Color-Space-Time Coding (CoST) techniques enable multi-parameter detection using a single photomultiplier tube (PMT) detector.
- **Piezoelectric Sorting**: Low-cost, low-complexity piezoelectric cell-sorting technology allows the Lab-on-a-Chip device to rapidly and precisely sort a single cell at a time and preserve the integrity of cells at rates that exceed current devices.

In addition to the technical advantages listed above, this new point-of-care device can improve healthcare by lowering diagnostic cost for patients in the U.S., and have a larger impact in chronically underserved areas in Africa and Asia. A small, inexpensive, fast point-of-care diagnostic would be beneficial for healthcare delivery in underdeveloped countries.
HIPerWorks, Inc. provides innovative software solutions to optimize visual performance on ultra high-resolution display systems. Its technology allows scaling or expansion of any content (e.g., images, 3-D models, videos, etc.) from a single laptop, desktop, or mobile device environment to multiple-display systems or visualization clusters, the size of which depends on the client’s budget and needs. Additional built-in features allow clients to connect to similar visualization clusters via network and engage their partners in collaborative exploration of multimedia content, thereby reducing costs and time associated with extensive business travel.

HIPerWorks grew out of research and development of a core visualization technology called Cluster Graphic Library for Large Scale Cross Platform Display Environment (CGLX). Developed by Dr. Kai-Uwe Doerr at the California Institute for Telecommunication and Information Technology (Calit2) at UC San Diego, CGLX was initially designed to help fellow researchers in universities and other educational settings to visualize and manipulate scientific data on large display clusters and share such data in real-time by connecting to similar systems via a network.

The company offers CGLX Pro and CGLX Pro-based software products and provides consulting services around the core technology in a diverse range of industry and educational sectors. Serving as a flexible, transparent OpenGL graphics framework for distributed visualization systems, CGLX Pro enables distributed real-time graphics on large-scale, network-connected, tiled display systems. HIPerWorks provides a fully documented application programmer interface (API) that allows clients to program highly-customized applications leveraging the unique features of the company’s core technology. For non-programmers, the company offers CGLX-Pro applications that allow end-users to display content in a plug-and-play architecture.
Start-up: VENTRIX, INC.

Ventrix Inc. was founded in 2009 to spinout the research of Professor Karen Christman (Bioengineering). The technology license agreement was formalized in FY2011. Dr. Christman’s work has developed promising results for the treatment and repair of cardiac tissue damage. A departure from current approaches, this innovation is a hydrogel that treats damaged tissue by providing a restorative scaffold on which new cells can grow. This hydrogel, VentriGel, is made from cardiac connective tissue that is stripped of heart muscle cells through a cleansing process, freeze-dried and milled into powder form, and then liquefied into a fluid that can be easily injected into the heart. Upon reaching body temperature, the liquid turns into a semi-solid, porous gel that encourages cells to repopulate areas of damaged cardiac tissue and to preserve heart function. The hydrogel forms a scaffold to repair the tissue and possibly provides biochemical signals that prevent further deterioration in the surrounding tissues.

Cardiac disease is prevalent in the U.S. According to the Centers for Disease Control and Prevention, every year about 785,000 Americans have a first heart attack. Another 470,000 who have already had one or more heart attacks have subsequent attacks. There is a definite need for therapies that prevent heart failure after a heart attack.

In animal models, VentriGel was not rejected and did not trigger arrhythmic heart beating. In addition, the hydrogel can be injected through a catheter which is minimally invasive and does not require general anesthesia.

The company plans to begin clinical testing in humans in late 2012. This safety trial will be conducted in Europe where the catheter used for gel delivery has already been approved.
At UC San Diego, in addition to patentable inventions, university researchers also create copyrightable works and trademarks that originate during the course of research. While they make up a smaller percentage of the total innovations, university copyrights have a broad impact as they are used in different mediums, from drug development to publishing. In FY2011, TTO licensed 16 copyrights and 2 trademarks that resulted from university research.

The MEME Suite is an integrated collection of tools for discovering and characterizing sequence motifs in collections of DNA or protein sequences. (http://meme.sdsc.edu)

Walrus is a tool used for internet data visualization and analysis, including collection, analysis, and display of data through both passive and active measurement efforts. (http://www.caida.org)

UC San Diego SHORTNESS OF BREATH QUESTIONNAIRE

The Shortness of Breath (SOB) Questionnaire is a 24-item measure that assesses self-reported SOB while performing a variety of daily activities. This assessment tool has been widely licensed by healthcare providers in the U.S. and is used in both clinical practice and research in patients with moderate to severe lung disease.

CATCH®

CATCH (Coordinated Approach To Child Health) is an evidence-based, coordinated school health program designed to promote physical activity, healthy food choices, the prevention of tobacco use, the prevention of childhood obesity, and improved lifestyles in children. The programs cover children from preschool through 8th grade and have been implemented in thousands of schools and after-school organizations across America and Canada. (http://catchinfo.org/)

ROCKS

Rocks® is an open-source Linux cluster distribution that enables end-users to easily build computational clusters, grid endpoints, and visualization tiled-display walls. Rocks is a widely-used cluster operating system for academic, government, and commercial organizations.

Open-Source Toolkit for Real and Virtual Clusters
http://www.rocksclusters.org/
At the end of FY2011, 403 commercial licenses were active, nearly half of which were with companies located in the state of California. Furthermore, the majority of the California licensees were based in San Diego county.

Countries from five different continents are represented in our global licensing portfolio. The United States continues to have the largest concentration of licenses with almost ninety percent of the total number of licenses.

TOTAL LICENSES WORLDWIDE (403)

**ASIA:** China (4), India (1), Japan (7), South Korea (2), Taiwan (1), Thailand (2) • **AUSTRALIA:** Australia (1)

**EUROPE:** Austria (2), Belgium (3), Denmark (3), France (1), Germany (3), Great Britain (9), Ireland (1), Italy (1), Netherlands (3), Switzerland (2)

**MIDDLE EAST:** Israel (3) • **NORTH AMERICA:** Bermuda (1), United States (352) • **SOUTH AMERICA:** Colombia (1)

*Charts and data were revised-8/31/12*
OUTREACH AND PARTNERING

The Technology Transfer Office organizes and participates in multiple events and meetings throughout the year to promote technology transfer and university research. In addition, the TTO hosts visitors from other groups and institutions to discuss best practices in technology transfer and economic development. Listed below are highlights from FY2011.

July 2010
- BIOCOM Open House

August 2010
- 6th Annual Industry/ Academia Translational Oncology Symposium
- Defense Industry Roundtable participation
- Licensing Executive Society (LES)–Summer Social

September 2010
- LES Chapter Meeting–Where Art Meets Technology
- Roche West Coast Innovation Visit
- BIOCOM Partnering with Big Pharma
- TTO Presentation–Patents & Patent Searching Workshop, UCSD
- Staff Education
- Knobbe Martens Open House

October 2010
- TTO Presentation to SIO Advisory Committee
- BIOCOM CalAsia Conference
- Innovation Night at La Jolla Playhouse
- San Diego Center for Molecular Agriculture Symposium
- Connect with CONNECT
- AUTM Western Regional Meeting–TTO presentation, Los Angeles CA
- CleanTech Innovation and Commercialization Program Technology Showcase–TTO display
- BIOCOM Personalized Medicine Symposium

November 2010
- LES Chapter meeting: Values Vary as Defined–Banks, Auditors, Markets and Lawyers
- UC Systemwide Intellectual Property Managers Meeting
- Foley Life Sciences Conference
- The 6th Annual SABPA Pacific Forum 2010–Racing to the Top
- TTO presentation for Entrepreneurial Seminar at UCSD von Liebig Center
- Association of Women in Science–Alternative Careers Panel
- SDSU School of Business Licensing Panel

December 2010
- UCSD Entrepreneur Challenge–Technology Transfer Panel
- TTO Presentation–Patents & Patent Searching Workshop, UCSD
- Staff Education
- 5th Annual Stem Cell Meeting on the Mesa
- TTO Presentation at Jiangsu Medical Expo, China
- CONNECT Most Innovative Products Award Program

January 2011
- TTO Presentation–UCSD Department of Pediatrics
- LES Chapter Meeting: Creating a Community of Collaboration and Innovation–New ways to drive innovation by leveraging government partnerships
- TTO Benchmarking and Best Practices–University of Michigan visit
- TTO IP Seminar with Perkins Coie–What You Need to Know About Nanotechnology Patents

February 2011
- Opportunities and Considerations for Cross-Border Technology Transfer–Jun He IP Law Firm visit
- TTO Presentation–Patents & Patent Searching Workshop, UCSD
- Staff Education
- BIOCOM Global Partnering Conference
- TTO Panel at AUTM Annual Meeting: Improving the Odds, Las Vegas NV

March 2011
- TTO Presentation–Engineering Science Masters Program
- Technology Transfer Best Practices–Karlsruhe Institut für Technologie (KIT) Innovation Management visit
- Agency for Science, Technology and Research (A*STAR) visit
- CONNECT–Technology Transfer Roundtable
- Connect with CONNECT
- Technology Licensing from the TTO and Entrepreneur Viewpoints–SDSU School of Business
- San Diego IP Lawyers Association–Myriad Genetics Patent Case
- CONNECT–Understanding Alzheimer’s: The promise of stem cells.

April 2011
- Strategic Partnerships for Innovation–University Industry Demonstration Partnership
- Biopharm Licensing Conference Panel–Philadelphia, PA
- LES Chapter Meeting–Patent Damages
- BIOCOM Health Reform Legislative Impact
- TTO Presentation–ENG100A UCSD Jacobs School of Engineering
- Research Expo: Innovation for Life
- UCSD Green Open House–TTO booth
- TTO/Millipore Industry Relations Seminar for Health Sciences

May 2011
- ATHENA Pinnacle Awards
- Knobbe Martens Legal Update
- BIOCOM Gene Patents: A Business Perspective
- San Diego IP Lawyers Association–IP Meeting
- TTO Presentation at the Center for Integrated Access Networks (CIAN) Engineering Research
- UC Systemwide Intellectual Property Managers Meeting

June 2011
- Technology Transfer Best Practices and Relationship Building–China delegation visit
- BIO International Convention, Washington DC
PATENT ACTIVITY

The protection of university intellectual property is crucial when companies are licensing technologies and can often be critical when seeking financing for new ventures. In FY2011, 88 U.S. patents issued, an increase from 75 issued patents in the prior year. Total U.S. filings in FY2011 were 239 compared to 251 in the prior year.

*U.S. first filings are typically provisional filings, and some U.S. utility filings.
**U.S. secondary filings are conversions, continuations (includes divisionals, continuations-in-part), and refiled provisional patents.
***First foreign filings are Patent Cooperation Treaty (PCT) filings.

Note: Foreign National Stage and U.S. National Stage filings are not included in the table above.

Some totals may change from year-to-year due to post fiscal year-end adjustments.

MANDATORY DISTRIBUTIONS OF INCOME

The Technology Transfer Office distributed approximately $12.4 million of intellectual property income in FY2011, compared to $14.6 million in FY2010. Distributions were made to inventors/authors, co-owners of IP, participating academic units for research support, the campus fund, and the UC General Fund in accordance with UC policies and UC San Diego campus guidelines. Invention and copyright income distributions are based on income received through the close of the prior fiscal year (FY2010). Material transfer agreement (MTA) income distribution is based on income received in the same fiscal year (FY2011).

in thousands

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*Home Academic Unit
†Formerly called State General Fund; FY03 shows credit due to extraordinary expenses. Some totals may change from year to year due to post-closing adjustments.
**TECHNOLOGY TRANSFER RESULTS**

**FY2011 INNOVATIONS REPORTED**
The number of inventions and copyrights reported during FY2011 was 416, compared to 404 reported during FY2010. For the third year in a row, innovations received surpassed the 400-mark. The distribution between life science and physical science innovations is similar to prior years, approximately sixty percent life science and thirty percent physical science. The total number of active innovations in the San Diego portfolio was approximately 2,800 at the end of FY2011.

**FY2011 LICENSE AGREEMENTS**
In FY 2011, a total of 64 license agreements for inventions and copyrights were finalized. In the last seven-year period, the TTO executed between 60 and 85 licenses a year showing a strong level of sustained activity despite the economic downturn. The TTO signed agreements with large, medium, and small companies, including 13 start-ups founded on university technology. The chart below shows the distribution of licenses between inventions and copyrights.

**FY2011 START-UPS**
A strong indicator of economic growth of the region is the entrepreneurial activity of its inhabitants. UCSD’s faculty, staff, and students drive entrepreneurial activity by forming new companies. In FY2011, 13 new start-ups were founded on technology licensed from UCSD. The chart below shows the breakdown of start-ups by industry sector.

**FY2011 TOTAL AGREEMENTS**
The TTO executed more than 700 agreements during FY2011. These agreements comprised licenses, options, outgoing material transfers, confidentiality, letters of intent, and other administrative agreements.
INCOME

in thousands

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<tr>
<td>Campus Operations</td>
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<td>$1,981</td>
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<td>$2,691</td>
<td>$2,732</td>
<td>$2,739</td>
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<td>$877</td>
<td>$892</td>
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<td>Extraordinary Expenses**</td>
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<td>$2,789</td>
<td>$459</td>
<td>$57</td>
<td>$205</td>
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<td>UC General Fund***</td>
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<td>$2,612</td>
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<td>$2,744</td>
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<td>TOTAL EXPENSES</td>
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<td>$11,581</td>
<td>$12,416</td>
<td>$12,346</td>
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<td>NET INCOME</td>
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<td>$13,529</td>
<td>$13,897</td>
<td>$17,464</td>
<td>$15,143</td>
<td>$15,141</td>
<td>$9,568</td>
<td>$102,043</td>
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</table>

* Extraordinary income includes nonrecurring items such as legal settlements and/or one-time payments. ** Extraordinary expenses includes unbudgeted expenses for litigation and settlement. *** UC General Fund was previously called State General Fund.
† Service charges are assessed by the Office of the President based on their internal calculations.

INTELLECTUAL PROPERTY INCOME

(in millions)

<table>
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Total

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