

## Lab Researchers Earn Royalties

Director Paul Alivisatos acknowledged Berkeley Lab researchers with successfully licensed and commercialized inventions at the Lab's annual royalty distribution event, held Feb. 13.

Out of the nearly \$2.7 million in FY12 licensing income, the inventors' share, about \$657,000, went to 113 Lab scientists and authors. As in past years, members of the TOUGH software development team elected to use their entire inventors' share to fund upgrades to their popular simulation programs for analyzing geothermal and hydrocarbon reservoirs, among other subsurface systems.

The Lab's annual licensing income grew steadily from \$65,000 in FY94 to a \$3.8 million high in FY09. Since then, royalties have seesawed with an upturn in FY11 flanked by lower income years in which some licensees experienced reduced sales and other elected to release intellectual property rights altogether to reduce expenses.

In spite of the economic climate, Berkeley Lab technologies gave rise to three new startups in FY12—Lygos (<http://newscenter.lbl.gov/feature-stories/2012/02/28/jbei-startup-takes-aim-at-petrochemicals/>), TeselaGen (<http://newscenter.lbl.gov/feature-stories/2012/10/01/jbei-teselagen/>), and Saffron Eagle Biofuels, which seeks to develop advanced biofuels from non-food feedstocks. All three startups are based on technology developed at the Joint BioEnergy Institute, JBEI.

Berkeley Lab Technology Transfer negotiates the right to use Berkeley Lab inventions with organizations from Fortune 500 firms to small start-ups. Offering exclusive or non-exclusive rights to the technologies ensures that the Lab's inventions are successfully commercialized and, ultimately, meet society's needs. To learn more about how the Lab's Technology Transfer Department works with researchers and their inventions, visit <http://www.lbl.gov/Tech-Transfer/researchers/index.html>.

The following Berkeley Lab technologies and published books generated royalty income in FY12 from exclusive and non-exclusive licenses, copyrighted software and book publications, and transfer of biological material:

- Low Cost Water Purification
- Advanced blood lipoprotein testing for diagnosis and treatment of heart disease
- Low resistivity photon-transparent window attached to photo-sensitive silicon detector
- Robotics for nanovolume protein crystallography
- PHENIX software for automated macromolecular crystallography
- Visual servoing optical microscopy for biological applications
- Low NOx burners for industrial use and air heaters

TABL Story ~ Distribution Ceremony for FY12 Royalties  
Prepared by Suzanne T. Storar, x-4306  
Technology Transfer and Intellectual Property Department

- Therapeutics for cardiovascular disease
- EnergyPlus, energy simulation software for building design
- EMGeo software for oil and gas exploration
- TOUGH software for modeling multiphase fluid and heat flow
- Cathodic Arc Plasma System with Twist Filter
- PhyCa software for the PhyloChip
- Endothelial Function Assessment
- Bioelectrical Reactor
- Electron Microscope Phase Enhancement
- Software for Dynamic SPECT
- Waste Heat Recovery technology
- Home Energy Saver software
- Duct sealing technology
- Transgenic mice for sickle cell disease research
- Books authored by Berkeley Lab researchers on particle physics, experimental math, scientific data management and energy efficient windows

A complete list of start-up companies based on Berkeley Lab technologies can be found at [http://www.lbl.gov/Tech-Transfer/success\\_stories/start-ups.html](http://www.lbl.gov/Tech-Transfer/success_stories/start-ups.html).

The following researchers earned royalties in FY12:

Adams, Paul D.  
Afonine, Pavel V.  
Anders, Andre  
Arasteh, Dariush K.  
Bailey, David H.  
Bankiewicz, Krystof  
Basarkar, Mangesh  
Benner, William H.  
Bielicki, John K.  
Bissell, Mina J.  
Blanche, Patricia J.  
Brennan, Thomas  
Brown, Richard E.  
Buchko, Rostyslav  
Buhl, Walter F.  
Callahan, Daniel E.  
Campisi, Judith  
Carrie', Francois (Remi)  
Chen, Joanna  
Chen, Renkun  
Cheng, Robert K.

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Coates, John D.  
Commer, Michael  
Cork, Christopher  
Cornell, Earl W.  
Coughlin, Katie  
Curtis, Dimitri  
Densmore, Douglas M.  
DeSantis, Todd Z.  
Diaz-Delgado, Raul  
Dimri, Goberdhan P.  
Dmytriv, Zinovii  
Doughty, Christine  
Duewer, Fred W.  
Eberling, Jamie L.  
Echols, Nathaniel  
Erdem, Ahmet E.  
Flament, Arnaud  
Gadgil, Ashok  
Gao, Chen  
Geiger, Emil J.  
Ghiorso, Albert  
Glaeser, Robert M.  
Griffith, Brent T.  
Grosse-Kunstleve, Ralf W.  
Gulberg, Grant T.  
Hale, Frank V.  
Ham, Timothy S.  
Haves, Philip  
Headd, Jeffrey J.  
Hillson, Hathan J.  
Hochbaum, Allon I.  
Hoffman, Darleane C.  
Holland, Stephen E.  
Hong, Tianzhen  
Hoyt, Tyler A.  
Huang, Y Joe  
Jaklevic, Joseph M.  
Jin, Jian  
Johansson, Jan  
Jones, Arthur L.  
Keen, Noel  
Kinoshita, Kim  
Koike, Masato  
Kolbe, William F.  
Krauss, Ronald M.

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Lee, Kwang Ho  
Luke, Paul N.  
Madden, Norman W.  
Mair, Dieudonne A.  
Majumdar, Arunava  
Maltz, Jonathan S.  
Mills, Evan  
Modera, Mark P.  
Moriarty, Nigel W.  
Narla, Mohandas  
Natarajan, Pradeep  
Newman, Gregory A.  
Nordmeyer, Robert A.  
Orr, Joseph R.  
Parvin, Bahram  
Paszty, Chris  
Peacocke, Monica  
Pennacchio, Len  
Pinckard, Margaret  
Reutter, Bryan W.  
Richardson, Thomas J.  
Rosengarten, Rafael D.  
Rotem, Doron  
Rubin, Edward M.  
Santarsiero, Bernard D.  
Sauter, Nicholas K.  
Schultz, Peter G.  
Selkowitz, Stephen E.  
Shoshani, Arie  
Stevens, Raymond  
Thrash, Cameron  
Tsang, Chin-Fu  
Turley, Eva A.  
Wang, Duo  
Warner, Jeffrey  
Webster, Sam  
Wei, Tao  
Winkelmann, Frederick C.  
Xiang, Xiao-Dong  
Yang, Haitao  
Yang, Peidong  
Yegian, Derek  
Zelnik, Yuval R.  
Zwart, Petrus

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Members of the TOUGH Software Development team, which reinvested earned royalties into further development of the software suite:

Birkholzer, Jens  
Cortis, Andrea  
Doetsch, Joseph  
Doughty, Christine  
Finsterle, Stefan  
Ghezzehei, Teamrat  
Haukwa, Charles  
Houseworth, James  
Ito, Kazumas  
Johnson, Jeffrey  
Kim, Jihoon  
Kowalsky, Michael  
Liu, Hui-Hai  
Lu, Guoping  
Moridis, George  
Mukhopadhyay, Sumit  
Murakami, Haruko  
Oldenburg, Curtis  
Pan, Lehua  
Pau, George  
Pruess, Karsten  
Reagan, Matthew  
Rutqvist, Jonny  
Seol, Yongkoo  
Shan, Chao  
Sonnenthal, Eric  
Spycher, Nicolas  
Steeffel, Carl  
Wu, Yu-shu  
Xu, Tianfu  
Zhang, Guoxiang  
Zhang, Keni  
Zhang, Yingqi  
Zhou, QuanLin

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