“Making thoughtful, quality investment choices and then investing with conviction—in a size commensurate with our thorough due diligence and well-honed decision-making process—will continue to be a priority.”

SCOTT H. RICHLAND, CHIEF INVESTMENT OFFICER
LONG-TERM THINKING

I am very pleased to report that during fiscal year 2016,* Caltech’s endowment investment pool grew by $138 million to $2.227 billion. Perhaps more impressive, over the last five years, we have seen the endowment investment pool grow by more than $600 million while paying out nearly $560 million to support Caltech activities.

This growth is thanks in part to the more than $225 million invested in the endowment over the last two fiscal years through gifts resulting from Break Through: The Caltech Campaign. During this ongoing fundraising initiative, Caltech donors have entrusted their endowed funds to the Investment Office, counting on us to provide annual funding to support the missions of their choice for generations to come.

Also contributing to the endowment growth was a benchmark-beating annual investment return of 8 percent. More important, over the last five years, our investment return of 8.4 percent per annum has substantially exceeded the portfolio benchmark and more than covered our annual payout.

Returns by asset class for the fiscal year were mixed. The majority of active public equity managers, including ours, struggled to keep up with the indices. On the other hand, our alternative securities and private equity portfolios delivered strong returns, beating their respective benchmarks.

In today’s environment of instantaneous information flow and global zero-interest-rate policies, it is not surprising that generating “alpha” is increasingly difficult. Because of this, we have redoubled our efforts to generate attractive returns by using our two primary advantages: a long-term investment horizon and the ability to be a nimble, flexible liquidity provider to out-of-favor or difficult-to-underwrite situations and asset classes. For example, we used our extensive knowledge of the energy space to respond quickly to selective co-investments made available to us at prices set at a fraction of their peak values—investments that we were often able to make with low or no manager fees. We also made investments or acted as lead fund investor in the creation of several well-timed opportunistic strategies. This has allowed us to take advantage quickly of market dislocations in various asset classes and to structure the terms and conditions of the investments to our advantage.

Contrary to the actions of many other institutional investors, we believe that this is the wrong time to abandon the active management afforded by our best-in-class public and private equity and hedge fund managers. It appears that we are heading into a period of rising interest rates and moderate equity returns, making the knowledge, creativity, and proactive management capabilities of our managers more important than ever. Making thoughtful, quality investment choices and then investing with conviction—in a size commensurate with our thorough due diligence and a well-honed decision-making process—will continue to be a priority.

When it comes to investments, people cannot help but look at performance in monthly, quarterly, or annual increments. But just as the academic side of Caltech takes the long view when pursuing new scientific directions, we in the Investment Office invest for the long term. Caltech’s endowment continues to be influenced by investment decisions made 10 to 15 years ago, and the decisions we make today will need to be evaluated on how they will affect the next 10 to 15 years—and beyond.

Thank you, as always, for your continued support of Caltech and its endowment.

* October 1, 2015, through September 30, 2016

Scott H. Richland
Chief Investment Officer
March 2017
The endowment is one of Caltech's most powerful financial tools, offering stable, perpetual funding for educational and scientific endeavors. Endowed funds help make it possible for Caltech to pursue breakthroughs in neuroscience, energy and the environment, earthquake science, computing, and many other fields.

The bulk of Caltech's endowment is an investment pool made up of more than 1,300 privately donated funds to support people, programs, and facilities. Caltech deposits the funds from each new endowed gift into the pool and invests strategically, striving to preserve the inflation-adjusted purchasing power of the original gift amount while generating long-term returns that support the annual payout. In this way, Caltech can honor each donor's wishes for generations to come.

In 2016, Caltech launched Break Through: The Caltech Campaign, a $2 billion fundraising initiative with a primary focus on building endowment. As of December 2016, the campaign has generated nearly $875 million in new commitments to the endowment.

Why is endowment important?

Caltech's endowment supports important areas—such as undergraduate scholarships, professorships, and graduate and postdoctoral fellowships that are key to making Caltech the destination of choice for the world's most extraordinary scholars. Caltech is among a small group of schools that admit students* without regard to their ability to pay—a policy sustained by endowed funds for financial aid.

In addition to funds with specific purposes, such as supporting research areas, departments, or divisions, the endowment includes many discretionary funds that allow Caltech to make smart bets by investing in areas where there is a potential of high reward. The availability of flexible resources from endowment emboldens Caltech researchers to be creative and fearless, because they know that Institute leadership is empowered to invest in their most promising ideas—no matter the timeline or the potential for near-term commercial impact. This kind of environment inspires world-changing science and technology, from discovering evidence of a possible new planet in our solar system, to opening new frontiers in physics, to creating implants that people with paralysis can use to guide artificial limbs using only their thoughts.

* U.S. citizens and permanent residents
Professor of Mathematics Elena Mantovan (right) works on mathematics problems with Summer Undergraduate Research Fellow Matthew Weidner.

**ENDOWMENT PERFORMANCE, FISCAL YEAR 2016**

Endowment Investment Pool Return

As shown in the table below, for fiscal year 2016, Caltech's endowment investment pool generated an 8 percent return, exceeding the benchmark policy portfolio by 0.6 percentage points. For the three- and five-year periods ended September 30, 2016, the investment pool returns beat their benchmark by 0.9 and 2 percentage points, respectively. Over the last five years, the value generated by this performance in excess of the benchmarks was more than $160 million.
Growth of the Total Endowment

Led by generous giving to endowed funds and strong performance from our emerging markets equities, private equities, and alternative securities funds, the market value of Caltech’s total endowment increased to $2.261 billion by the close of fiscal year 2016. This increase includes new gifts, transfers in, and investment gains and is reduced by endowment payout, transfers out, and endowment investment management expenses. Since the end of fiscal year 2009, the beginning of the recovery from the 2008 financial crisis, the total endowment balance has grown at a compound annual rate of nearly 6 percent. During the same period, the endowment investment pool has supported Caltech’s research programs and people with more than $1 billion in payout.

Asset Class Allocation and Performance

Performing particularly well, our alternative securities portfolio delivered an 8.3 percent return this past year, beating its benchmark by 6.5 percentage points. Our private equity funds did well, up 11.6 percent, beating the benchmark by 2.4 percentage points, as did our emerging markets equities funds, up 17.3 percent, beating the benchmark by 0.5 percentage points. Although our global developed markets equities and private energy funds had a difficult year, we saw material performance improvements during the first quarter of fiscal year 2017.

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>FY 2016 Asset Class Returns</th>
<th>FY 2016 Benchmark Returns</th>
<th>Allocation (as of September 30, 2016)</th>
<th>Target Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global developed markets equities</td>
<td>6.7%</td>
<td>11.4%</td>
<td>27%</td>
<td>24%</td>
</tr>
<tr>
<td>Emerging markets equities</td>
<td>17.3%</td>
<td>16.8%</td>
<td>9%</td>
<td>10%</td>
</tr>
<tr>
<td>Alternative securities</td>
<td>8.3%</td>
<td>1.8%</td>
<td>31%</td>
<td>27%</td>
</tr>
<tr>
<td>Private equity and venture capital</td>
<td>11.6%</td>
<td>9.2%</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>Real assets*</td>
<td>1.8%</td>
<td>4.7%</td>
<td>17%</td>
<td>18%</td>
</tr>
<tr>
<td>Global fixed income</td>
<td>13.6%</td>
<td>6.5%</td>
<td>2%</td>
<td>7%</td>
</tr>
<tr>
<td>Cash and other</td>
<td>0.4%</td>
<td>0.3%</td>
<td>1%</td>
<td>3%</td>
</tr>
</tbody>
</table>

* Primarily real estate, energy, and commodities
In fiscal year 2016, approximately $120 million in endowment payout contributed nearly 19 percent of Caltech’s operating budget, which supports research and education in many valuable ways. Endowed fellowships, for example, afforded graduate students the freedom to pursue their passions without being unduly constrained by funding sources.

In addition, during last year alone, 12 current faculty members were appointed to endowed professorships and leadership chairs, and the availability of endowed chairs played a key role in bringing three new outstanding faculty to Caltech.

Endowing Fellowships for All Graduate Students

Caltech’s long-term goal is to endow fully all graduate fellowships at the Institute. Endowed graduate fellowships will ensure that students can focus on their research, their education, and the future instead of their immediate funding. Fellowships advance innovation and discovery by helping Caltech recruit the most promising and creative graduate scholars in the world, whatever their backgrounds and financial means. At many institutions, this goal would seem out of reach. But because of the small size of Caltech’s student body, it is entirely achievable here. Thanks in part to matching programs established by generous donors, momentum is building toward this goal.

Caltech graduate students such as Cora Went (pictured above) are the scientists and engineers of the future and the present. With support from the Peter and Melanie Cross Fellowship—created by Peter Cross (BS ’68) and his wife, Melanie, using matching funds from the Lynda and Stewart Resnick Matching Program—Went is studying two-dimensional semiconductors made of a single layer of atoms. Her findings could be applied to improve solar cells that convert sunlight into electricity by making the cells thinner, more efficient, and less costly.
Giving the Gift of Flexibility

In fiscal year 2016, Board of Trustees Vice Chair Ronald Linde (MS '62, PhD '64) and his wife, Maxine, created The Linde Center for New Initiatives, which provides flexible resources to launch bold academic endeavors and support top institutional priorities. The creation of the center exemplifies the Lindes’ longtime strategy for giving to Caltech: to support particularly creative and important research and educational projects that would be very difficult to fund on a timely basis using other resources.

In the first of what is expected to be a series of transformational investments, The Linde Center for New Initiatives initially is focusing on ensuring and increasing the vitality of Caltech’s mathematics department. Planned major renovations of the Alfred P. Sloan Laboratory of Mathematics and Physics will create a facility commensurate with the department’s academic aspirations.

This new endowed fund was created using part of an earlier $50 million gift from the Lindes and is part of the Break Through campaign, which focuses on discretionary endowment as the single most potent form of philanthropy.
INVESTMENT PRINCIPLES

Asset Allocation Strategy

The asset allocation policy for Caltech’s endowment investment pool emphasizes diversification across asset classes, investment styles, and geographical locations, striving to achieve strong long-term investment performance while avoiding highly concentrated risks. Strategic asset allocation ranges are established subject to periodic review. In addition, tactical adjustments are made in response to current or anticipated shorter-term market conditions.

At the end of fiscal year 2016, the endowment investment portfolio was underweight in traditional fixed income and overweight in global developed markets equities and alternative securities relative to our strategic allocation guidelines. The underweight position in fixed income continues to reflect our concern that the end of quantitative easing and fiscal stimulus will lead to a more normal (and higher) interest rate environment—and that the rise in interest rates will have an adverse effect on U.S. Treasuries and low-spread fixed-income instruments.

Endowment Liquidity

Caltech’s endowment investment pool is closely managed and monitored for liquidity. We define liquidity as the ability to realize and access cash from an investment in a timely manner. There are four main reasons for desiring liquidity:

1. The portfolio has obligations that must be satisfied, sometimes on relatively short notice, such as investment-fund capital calls.
2. Changes in tactical and/or policy allocations require liquidity in order to be implemented.
3. From time to time, unusual investment opportunities arise—driven by market or other forces—that cannot be seized without liquidity.
4. In times of economic downturn, the endowment investment portfolio must be prepared for a potential reduction in cash inflows while maintaining outflows essential to achieving Caltech’s mission.
5. In an emergency, unrestricted endowment investment pool funds can be tapped to assist in maintaining operating continuity.

The Caltech endowment investment pool is quite liquid, with more than 18 percent of the assets currently convertible to cash within one to two weeks and nearly 26 percent convertible to cash within a calendar quarter under normal circumstances. The Institute also has additional sources of liquidity, including substantial funds that have been raised from issuing bonds over the last five years as well as lines of credit provided by commercial banks.
MANAGEMENT OF THE ENDOWMENT INVESTMENT PORTFOLIO

The Caltech Investment Office reports jointly to the Board of Trustees’ Investment Committee and the Institute’s president, with the Investment Committee having primary responsibility for setting investment policy and overseeing policy implementation. The committee meets at least quarterly to discuss and review asset allocation, investment policies, new investments, and portfolio performance and interacts frequently between meetings to discuss specific investments. The members bring significant expertise in both specific asset classes and the investment industry in general. In March 2017, we lost senior trustee Stephen A. Ross (BS ‘65), a longtime and esteemed member and former chair of the committee, as well as a major contributor to the field of financial economics. Caltech will sorely miss his unwavering devotion, keen investment insights, kindness, and sense of humor.

The Investment Office

The Investment Office develops recommendations on investment policies, strategies, and asset allocation for review and approval by the Investment Committee. With the general guidelines in place, the Investment Office then identifies investments as well as what it considers to be best-in-class asset managers around the world who can effectively implement the adopted investment strategies. The office focuses on medium- to long-term performance—identifying global trends and investment opportunities that may develop over many years. While quarter-to-quarter performance is closely monitored and appropriate portfolio adjustments are made from time to time, ultimately the primary goal is to earn long-term rates of return that support the annual endowment payout and maintain its inflation-adjusted purchasing power, allowing it to support Caltech’s activities for generations to come.

INVESTMENT COMMITTEE MEMBERS

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