What keeps Caltech at the top of the *Times Higher Education* World University Rankings? Phil Baty reports from Pasadena on an institution whose cultural DNA includes interdisciplinarity, minimal management and hiring only the very best.
Caltech's neat and unassuming campus sits in a quiet residential neighborhood in Pasadena, in the shadow of the San Gabriel Mountains. Although it is only 15 miles away from Hollywood, the Tinseltown razzmatazz seems a world away.

But Caltech can lay claim to its own galaxy of stars. Among a long and illustrious list of former faculty is Charles Richter, inventor of the scale that quantifies the magnitude of earthquakes (handy in Southern California) and Theodore von Kármán, the first head of what is now NASA’s Jet Propulsion Laboratory. He nurtured the pioneering “rocket boys” who risked ridicule in the 1930s as they brought space rockets from the pages of science fiction comics into the real world.

In many cases we have faculty searches in a particular area where it may take us several years to find the appropriate person to bring in. “We've been extremely careful about how we hire faculty, and we are fully committed to the success of those faculty once they are here.”

Rosakis is much more blunt: “I cannot make mistakes when I hire. I really cannot. We have 16 faculty members in Information Science and Technology – Carnegie Mellon [University in Pittsburgh, a highly ranked research institution] has 200. If I make one hire or two hires that are wrong, I have a huge setback. “If you ask me what is more important, to get $100 million into my division or to hire 10 faculty members who are the best, I would say to hire those 10 faculty members. “Our main purpose of achieving excellence is attracting the best human talent. If we have the best human talent, then the $100 million will come, because they will be winners in writing grants, they will excite philanthropic donors to give Caltech funding and they will increase the visibility of the whole institute.”

What this means is that decision-makers at Caltech spend “an enormous amount of time making sure that we identify the best available and have the resources to attract them”, Rosakis continues.

“We take our hiring to be our first priority. We hire people and we give them everything that they need to succeed. Other places would hire three or four people for the same position and let them compete. We trust that we have made a good choice, and we give them enough gold so that they cannot say that they failed [for lack of] material resources.”

Harrison, who came to Caltech as a
No one comes here saying, ‘I want to start a company.’ They come because they want to benefit from the great, open, interdisciplinary environment—to do fundamental work.

The art laboratory and office with one of the best views on campus has, according to Mayo, “the freedom to truly choose responsible actions.”

Caltech is an environment where students are expected to take on major responsibilities—something that is not easily offered by other institutions.

There are fewer people involved in any given decision, and the ones who make the decisions you can actually get on the phone—and it still feels like it is driven by the faculty.

Caltech’s Institute Academic Council is where many of the key decisions—faculty appointments, academic hiring priorities—are made. It consists of the chairs of Caltech’s six academic divisions and the provost and president, who meet for a full day once a month.

All senior administrators remain research active (“you will not be respected by your faculty if you are considered an empty suit,” says Rosakis) and all are closely involved in each division’s activities.

The structure is simple, flat and flexible. “I would describe the boundaries between divisions as semi-permeable membranes,” says Rosakis. And this prevents the development of silos. “It is one thing to be interdisciplinary intellectually and another thing to be interdisciplinary in terms of resources,” he adds.

“I never heard ‘Well, you better just write papers,’ and I think that attitude really pervades at Caltech—an element of accepting risk and big payoffs.”

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