

science has recently generated a great deal of fundamental knowledge about how living systems work. “We’re really beginning to understand how nature builds,” he explains. Those insights can be brought to bear on a wide array of disciplines, including materials science, architecture, medicine, computer science, and engineering. New engineering tools, meanwhile, make it possible to interface with biological systems in novel ways.

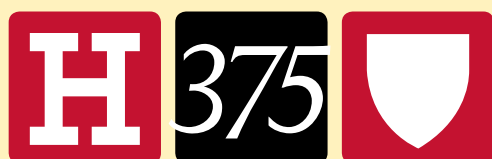
Perhaps most important, by bringing together scholars whose work already

bridges traditional departmental divides—through fields such as genomics, tissue engineering, synthetic biology, and robotics—the institute offers opportunities for unexpected collaborations that can advance research even more. And rather than housing investigators’ individual work in separate labs, Wyss projects are organized into six Enabling Technology Platforms, each focused on developing new technology capabilities that could have numerous applications.

Ingber is leading a project in the Biomi-

metic Microsystems platform that creates microchip-like devices containing living cells that can mimic the functions of real organs. Last June, the team announced that they had made a flexible, coin-sized chip containing chambers of human cells that reproduce the workings of a lung, even “breathing” by stretching and relaxing in response to changing air flow. Pharmaceutical companies are beginning to partner with institute researchers to explore whether these devices can be used to develop drugs and perform toxicology screenings without relying on laboratory animals. Meanwhile, the team’s system for rapidly diagnosing sepsis is a significant advance beyond current practice, where identifying this dangerous condition definitively can take days.

Not all applications have a medical fo-



HARVARD

You’re going to see plenty more of this logo, as Harvard prepares to commemorate its anniversary in the next academic year.

Plans for celebrating the University’s journey since 1636, and how it will evolve, are still in the making, but reflect “the opportunity to bring the members of

our community together not just to mark our history and traditions but also to celebrate what is distinctive about Harvard today and what we aspire to be in the future,” as University marshal Jackie O’Neill puts it—while maintaining a suitably reserved tone. A 375th anniversary is not a 400th, and the economy does not justify extravagance. The aim, O’Neill says, is to showcase contemporary Harvard—a place that has become progressively “more diverse, global, and outward-looking” since its last milestone, in 1986—in ways that emphasize exciting work by faculty members, engage students, and connect alumni. Likely elements include:

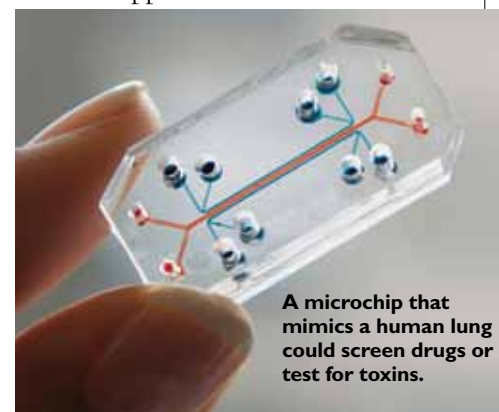
- A birthday party. It wouldn’t be a proper occasion without merrymaking. Accordingly, Friday, October 14—coinciding with freshman parents’ weekend, the Harvard Alumni Association’s fall meeting, and the Harvard College Fund assembly—has been reserved for festive dinners and receptions for students, faculty and staff members, and alumni in the Houses and other sites, followed by processions, led by student performers from diverse cultural traditions, to Tercentenary Theatre. There, further artistic performances, a light show, and other entertainments are scheduled, along with socializing encouraged by dessert buffets and a community dance.

- Academic perspectives. Faculty panels on various subjects will be convened throughout the year, emphasizing the work of younger professors whose research, ideas, and teaching will shape the University and the world at Harvard’s fourth-century birthday. A presidential forum may, separately, examine universities’ roles in society.

- Alumni experiences. The University communications and development staffs are collaborating on “Harvard Stories,” an interactive online library of video recordings of graduates talking about their formative experiences at the University, momentous memories, and more (inspired in part by National Public Radio’s Story Corps series).

- A speaker series. Prominent alumni from various walks of life are expected to participate in campus lectures and perhaps panel discussions.

Reflecting continuity with tradition, a new Harvard picture book is being produced for the occasion (to be published by Harvard University Press). Reflecting change during the past quarter-century, this year’s events will be coordinated through a dedicated website, launching in the summer. Reflecting the eternal verities, O’Neill (who worries about such things at each Commencement) is trying to assure clement weather on October 14. President Drew Faust is expected to unveil anniversary details during this year’s Commencement exercises, on May 26.



A microchip that mimics a human lung could screen drugs or test for toxins.

cus—others will affect the environment or improve industrial design and manufacturing. The Bioinspired Robotics platform, for instance—building on work by assistant professor of electrical engineering Robert Wood, its co-leader—is designing small, delicate robots that look like houseflies; such devices could help pollinate crops in places where bees are threatened (see “Tinker, Tailor, Robot, Fly,” January-February 2008, page 8). Berylson professor of materials science Joanna Aizenberg is leading efforts in the Adaptive Architecture platform to develop materials with special properties inspired by objects in nature; lotus leaves, for instance, are extremely efficient at repelling water, and the Wyss team seeks to capitalize on this property to develop a material that could prevent ice formation on airplane wings.

Ingber explains that the platforms—the others are Anticipatory Medical Devices (developing electronic devices to detect and prevent medical problems before