edge to a generation of young engineers at the early stages of their careers."

Tristan Guillot will accept the Harold C. Urey Prize for his "fundamental contributions in the study of the interior structure of gas giant planets, their formation process, and their atmospheres under extreme environments. His accomplishments include detailed models of the internal structure of Jupiter and Saturn and studies of the late emergence of gas giants." Guillot is a researcher for CNRS at l'Observatoire de la Côte d'Azur in Nice, France.

Kyoto Prize winners are announced

Among the recipients of this year's 22nd annual Kyoto Prize are the developer of the Fluorescence Activated Cell Sorter (FACS) and the creator of a statistical-model selection criterion that is finding applications ranging from weather forecasting to image compression.

Leonard A. Herzenberg and Hirotugu Akaike will collect their awards during a November ceremony in Kyoto, Japan. They will also receive a diploma, a 20-karat Kyoto Prize medal, and a cash gift of ¥50 million (approximately \$446 000), according to the Inamori Foundation of Japan, which sponsors the prize. The Kyoto Prize is Japan's highest private award for lifetime achievement, presented to individuals and groups worldwide who have contributed significantly to humankind's



Herzenberg, a professor emeritus of genetics at Stanford University, won in the advanced technology category "for his outstanding contributions to life sciences and clinical medicine through his work in developing the

FACS, a flow cytometer that has had a profound impact on medical science, diagnostics and the field of regenerative medicine." FACS has made it possible to rapidly count and sort cells with specific attributes, and isolate and analyze DNA, RNA, and protein from a single cell in a viable condition, out of an estimated 60 trillion cells in the human body.



Akaike, professor emeritus in the statistical science department and the Graduate University for Advanced Studies at the Institute of Statistical Mathematics in Tokyo, won in the basic-sciences category "for his contribu-

tions to statistical science and modeling through his development of the Akaike Information Criterion (AIC)." The AIC is a criterion for the selection of statistical models; since Akaike formulated it in the 1970s, it has become important in the development of the information and statistical sciences, wrote the foundation. The AIC is built into commercial statistical software packages and is widely used in gene analysis, image compression technologies, and vehicle stability-control technologies. It is increasingly important in understanding and forecasting phenomena in economic-related fields, including finance and insurance; safety-related fields ranging from pharmaceuticals to food and transportation; natural phenomena such as weather, natural disasters, and the environment; and the management of huge systems.

in brief The discovery that a mysterious dark energy is driving an ever-faster expansion of the universe

captured the \$1 million Shaw Prize in astronomy for three researchers. Saul **Perlmutter**, professor of physics at the University of California, Berkeley, and senior scientist at Lawrence Berkeley National Laboratory; Adam G. Riess, astronomer at the Space Telescope Science Institute in Baltimore, Maryland, and professor of physics and astronomy at Johns Hopkins University, also in Baltimore; and Brian P. Schmidt, Australian Research Council Federation Fellow of Mt. Stromlo Observatory at the Australian National University in Canberra, were awarded the prize "for discovering that the expansion rate of the universe is accelerating, implying in the simplest interpretation that the energy density of space is non-vanishing even in the absence of any matter and radiation." The prize will be awarded during a September ceremony in Hong Kong. Created in 2002, the Shaw Prize is administered by the Shaw Prize Foundation in Hong Kong.

See www.pt.ims.ca/9467-31