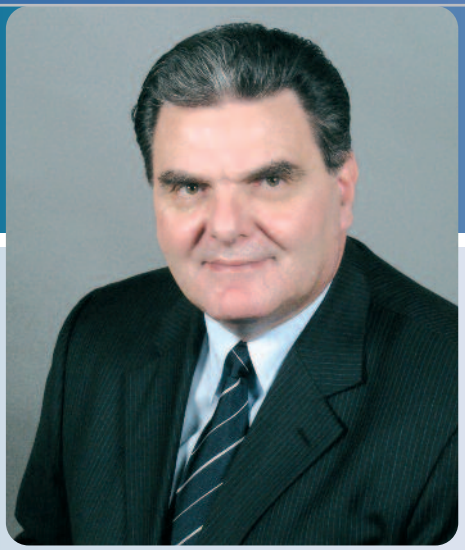
Editorial



One of tasks resulting from the requirements of scientific, scientific and technical and innovative politics written in so call Lisbon Strategy of the European Union is knowledge-based economy which waylays on the creation treated as production and distribution and practical application of knowledge and information. The base of the economic development is then production, distribution and implementation, and knowledge being a product is a main reason for sustainable development. The idea of enterprising university which aspires to achieve a strong international position, competitive in didactic and research market, achieves advantages from the commercialisation of its research activity, contributes in aid of the surrounding, achieving in return notable advantages, becomes a part of those activities. Surely the way of making real of something which often stays only on bookshelves of the university libraries or laboratories and carrying out the researches in such a way that they will result from the real business needs is worth looking for. The essential progress comes from two interconnected fields of science and economy, so that one resulted from the other and they influence each other. The identity of business and scientific ideas is possible through the concept of the scientific and research project as a business project for the creation of business and scientific innovations and creative thinking during the realisation of the application scientific, research and developmental projects and the administration of scientific work which is to plann the sale results, select the target groups and sale the effects of scientific, research and developmental works.

One of the outstanding example of an enterprising university is Stanford University, located between San Francisco and San Jose in the heart of Silicon Valley and recognized as one of the world's leading research and teaching institutions. The picture of one of the buildings of that University can be seen on the cover. Leland and Jane Stanford founded the University to "promote the public welfare by exercising an influence on behalf of humanity and civilisation." Stanford opened its doors in 1891, and more than a century later, it remains dedicated to finding solutions to the great challenges of the day and to preparing students for leadership in today's complex world. The pioneering spirit that inspired Jane and Leland Stanford to start this university more than a century ago and that helped to build Silicon Valley at the doorstep of the campus encourages boldness in everything what they do — whether those efforts occur in the library, in the classroom, in a laboratory, in a theatre or on an athletic field. Stanford's current community of scholars includes: 18 Nobel Prize laureates; 135 members of the National Academy of Sciences; 82 members of National Academy of Engineering; 224 members of the American Academy of Arts and Sciences; 21 recipients of the National Medal of Science; three recipients of the National Medal of Technology; 26 members of the National Academy of Education; 41 members of American Philosophical Society; 4 Pulitzer Prize winners; 23 MacArthur Fellows; 7 Wolf Foundation Prize winners; 7 Koret Foundation Prize winners; 7 Presidential Medal of Freedom winners. NFL quarterbacks Jim Plunkett and John Elway, NFL receiver Gordon Banks, MLB left-fielder Carlos Quentin, and U.S. President Herbert Hoover are alumni. Among Stanford alumni are: Derek Bok, former Harvard president; William Brody, former Johns Hopkins president; Nancy Cantor, Syracuse chancellor and president; France Cordova, Purdue president; Pamela Eibeck, University of the Pacific president; Vartan Gregorian, Carnegie Corp. president; Rev. William Leahy, Boston College president; Richard Levin, Yale president; Robert Shelton, University of Arizona president, Astronauts Eileen Collins, Mae Jemison, Bruce McCandless, Ellen Ochoa and Sally Ride; Vinton Cerf, co-author of Internet protocol; Ray Dolby, designed noise reduction systems; Nobel Prize winners Dudley Herschbach and Eric Cornell; Brent Townsend, inventor of 56K modem; Brad Parkinson, GPS co-principal investigator, Steve Ballmer, CEO, Microsoft; Jeff Bewkes, CEO, Time Warner, Inc.; Sergey Brin and Lawrence Page, Google founders; Doris Fisher, co-founder, Gap, Inc.; Joseph Gallo, CEO, E.&J. Gallo Winery; Reed Hastings, chairman and CEO of Netflix, Inc.; William Hewlett and David Packard (both deceased), founders, Hewlett-Packard Co.; Philip Knight, chairman, Nike, Inc.; Peter Magowan, partner, San Francisco Giants; Robert Mondavi, founder, Robert Mondavi Winery (deceased); Charles Schwab, CEO and chairman, Charles Schwab Corp.; Peter Thiel, co-founder of PayPal; Jerry Yang and David Filo, Yahoo! Founders, Taro Aso, prime minister of Japan; Ehud Barak, Israeli minister of defense, former prime minister; Warren Christopher, former U.S. Secretary of State; Dana Gioia, chairman, National Endowment for the Arts; U.S. President Herbert Hoover (deceased); Ricardo Maduro, former president of Honduras; Guillermo Ortiz Martinez, governor of Bank of Mexico; William Perry, former U.S. Secretary of Defense; Alejandro Toledo, former president of Peru; U.S. Supreme Court Justices Stephen Breyer and Anthony Kennedy; former U.S. Supreme Court Justices Sandra Day O'Connor and William Rehnquist (deceased); U.S. senators Jeff Bingaman, Kent Conrad, Max Baucus, Ron Wyden and Dianne Feinstein; former California Gov. Gray Davis; former Utah Gov. Olene Walker and many others. It is just the graduates and their outstanding achievements which proves the outstanding position of the enterprising university Stanford in California in U.S.A.

The journey to California, United States requires the visit in Yosemite National Park spanning eastern portions of Tuolumne, Mariposa and Madera counties in east central of the State. Yosemite National Park is located in the central Sierra Nevada of California. It takes approximately 3.5 hours to drive to the park from San Francisco. The park covers an area of 3,081 km^2 and reaches across the western slopes of the Sierra Nevada mountain chain. Concerned by the effects of commercial interests, prominent citizens including Galen Clark and Senator John Conness advocated for protection of the area. A park bill passed both houses of the U.S. Congress, and was signed by President Abraham Lincoln on June 30, 1864, creating the Yosemite Grant. This is the first instance of park land being set aside specifically for preservation and public use by action of the U.S. federal government, and set a precedent for the 1872 creation of Yellowstone as the first national park. Yosemite Valley and the Mariposa Grove were ceded to California as a state park, and a board of commissioners was proclaimed two years later. Muir and Johnson lobbied Congress for the Act that created Yosemite National Park on 1st October 1890. The State of California, however, retained control of the Valley and Grove. In May 1903, President Theodore Roosevelt camped with Muir near Glacier Point for three days. On that trip, Muir convinced Roosevelt to take control of the Valley and the Grove away from California and return it to the federal government. In 1906, Roosevelt signed a bill that did precisely that. Designated a World Heritage Site in 1984, Yosemite is internationally recognized for its spectacular granite cliffs, waterfalls, clear streams, Giant Sequoia groves, and biological diversity. Yosemite is one of the largest and least fragmented habitat blocks in the Sierra Nevada, and the park supports a diversity of plants and animals. The park has an elevation range from 600 to 4,000 m and contains five major vegetation zones: chaparral/oak woodland, lower montane, upper montane, subalpine, and alpine. Of California's 7,000 plant species, about 50% occur in the Sierra Nevada and more than 20% within Yosemite. There is suitable habitat or documentation for more than 160 rare plants in the park, with rare local geologic formations and unique soils characterising the restricted ranges many of these plants occupy. The geology of the Yosemite area is characterised by granite rocks and remnants of older rock. About 10 million years ago, the Sierra Nevada was uplifted and then tilted to form its relatively gentle western slopes and the more dramatic eastern slopes. The uplift increased the steepness of stream and river beds, resulting in formation of deep, narrow canyons. About 1 million years ago, snow and ice accumulated, forming glaciers at the higher alpine meadows that moved down the river valleys. Ice thickness in Yosemite Valley may have reached 1200 m during the early glacial episode. The downslope movement of the ice masses cut and sculpted the U-shaped valley that attracts so many visitors to its scenic vistas today. Almost all of the landforms in the Yosemite area are cut from the granite rock of the Sierra Nevada Batholith. About 5% of the park (mostly in its eastern margin near Mount Dana) are from metamorphosed volcanic and sedimentary rocks. These rocks are called roof pendants because they were once the roof of the underlying granite rock. Erosion acting upon different types of uplift-created joint and fracture systems is responsible for creating the valleys, canyons, domes, and other features we see today. These joints and fracture systems do not move, and are therefore not faults. Spacing between joints is controlled by the amount of silica in the granite and granodiorite rocks; more silica tends to create a more resistant rock, resulting in larger spaces between joints and fractures. Pillars and columns, such as Washington Column and Lost Arrow, are created by cross joints. Erosion acting on master joints is responsible for creating valleys and later canyons. The single most erosive force over the last few million years has been large alpine glaciers, which have turned the previously V-shaped river-cut valleys into U-shaped glacial-cut canyons (such as Yosemite Valley and Hetch Hetchy Valley). Exfoliation acting on granite rock with widely spaced joints is responsible for creating domes such as Half Dome and North Dome and inset arches like Royal Arches. El Capitan, a prominent granite cliff that looms over the Yosemite Valley. The high country of Yosemite contains beautiful areas such as Tuolumne Meadows, Dana Meadows, the Clark Range, the Cathedral Range, and the Kuna Crest. The Sierra crest and the Pacific Crest Trail run through Yosemite, with peaks of red metamorphic rock, such as Mount Dana and Mount Gibbs, and granite peaks, such as Mount Conness. Mount Lyell is the highest point in the park.

Almost 95% of the park is designated wilderness. Although not the first designated national park, Yosemite was a focal point in the development of the national park idea, largely owing to the work of people like John Muir and Galen Clark. They have an airpark, Yosemite Airpark. It has a runway, a jetway bridge over the road that separates the runway from the residential district, and separated jetways from the roads, with Victorian homes. It is surrounded by trees. It has a challenging takeoff, because planes must turn left shortly after takeoff to avoid a granite dome, and then crest up to exit the valley. Along much of Yosemite's western boundary, habitats are dominated by mixed coniferous forests of Ponderosa Pine, Sugar Pine, Incense-cedar, White Fir, and Douglas Fir, and a few stands of Giant Sequoia, interspersed by areas of Black Oak and Canyon Live Oak. The park has three groves of ancient Giant Sequoia (Sequoiadendron giganteum) trees; the Mariposa Grove (200 trees), the Tuolumne Grove (25 trees), and the Merced Grove (20 trees). This species grows larger in volume than any other and is one of the tallest and longest-lived. These trees were much more widespread before the start of the last Ice Age. Increasing ozone pollution is causing tissue damage to the massive Giant Sequoia trees in the park. This makes them more vulnerable to insect infestation and disease. Since the cones of these trees require fire-touched soil to germinate, historic fire suppression has reduced these trees' ability to reproduce. The current policy of setting prescribed fires is expected to help the germination issue. One of the oldest trees in the world, almost ca. 2700-year old, unfortunately destroyed during the thunderstorm a few years ago is Grizzly Giant.

Delivering the present volume of the Journal JAMME I am sure that the papers published in the given Journal and its whole activity are the input to the development of knowledge-based economy. As usual I invite PT Authors for the publication of their papers in the journal and PT Readers for the critical analysis of its contents. I wish a nice reading.

Gliwice, in 2009

Prof. Leszek A. Dobrzański M. Dr hc
Editor-in-Chief of the JAMME
President of the WAMME
President of the ACMS&SE