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LETTER FROM THE EDITOR

From Bioinformatics to
the Science Olympiad

Mariluce Moura | EDITOR IN CHIEF

Approximately 15 years ago, the human genome sequencing project emerged as the most fascinating scientific adventure of the final portion of the 20th century and inspired teams of biologists to believe in the antiquated idea that biology could replace physics as science's field *par excellence*. At this time, Brazil began pioneering work on genomics, which, among other objectives, sought to considerably advance the field of molecular biology. This first initiative involved the bacteria, *Xylella fastidiosa*, and significant obstacles had to be overcome for the project to succeed. One of the project's greatest challenges involved bioinformatics, as Brazil had no expertise in this field at the time.

By the time the project was concluded in early 2000, the source of its success lay in the field of bioinformatics, then in the hands of Brazil's first experts. Three generations of bioinformaticians have since been trained, and our junior and senior specialists today are competitive in the international race for tools that seek to enable comparisons between genomes and to increase the efficiency and cost effectiveness of the sequencing process. The cover story in this issue of *Pesquisa FAPESP* by our special editor, Marcos Pivetta, reports on these tools in the context of an increasingly sophisticated national bioinformatics capability, which can easily navigate both science and technology (page 5).

I would also like to highlight the report on the progress that has been made in the technical quality of ceramics produced in São Paulo, especially at the ceramics industrial complex in Santa Gertrudes, in the central area of the state. This complex has helped to make Brazil the world's second largest manufacturer of ceramic wall and floor tiles, ranking only behind China. Until 2001, Brazil was the world's fourth largest producer of ceramic tiles, and São Paulo accounted for 40% of that production (473 million m²). At this point, a proposal submitted by researchers from the Ceramics Center of Brazil (CCB) and companies from Santa Gertrudes, in partnership with researchers affiliated with other universities and research institutes, received substantial support from FAPESP's Sectoral Consortia for Research and Innovation (ConSITec) program. The result was a significant improvement in the quality of Brazilian ceramic materials. Moreover, São Paulo's share of the nation's ceramic output rose to 70% of the 866 million m² that was produced in 2012. Details of this trend are found in the article by Yuri Vasconcelos, starting on page 50.

To conclude, I would like to recommend a report that touches on a sensitive topic related to the contemporary development of Brazil: scientific education. In the text that begins on page 18, Fabrício Marques, our science and technology policy editor, attempts to demonstrate the connection between the participation of high school students in the Science Olympiad and the generation of new researchers. He notes that winning medals in these contests can serve as a special incentive for young people to pursue a career in science. Enjoy your reading!