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PCR

28 February 1997

about the project will be announced on the *C. albicans* World Wide Web at server <http://alces.med.umn.edu/Candida.html>.

The authors also make a bold and intriguing policy recommendation.

While we await the completion of the human genome sequence sometime around the year 2005, there is danger of dispersing sequencing power among too many model genomes. Instead, it may be desirable to direct sequencing capacity toward eukaryotic parasites (such as *Plasmodium falciparum*, *Trypanosoma cruzi*, *Schistosoma mansoni*, and *Leishmania donovani*) that plague millions of people in developing countries.

Because of the intermediate size of these genomes, this would be a more readily achievable task, the authors maintain, "provided that funding is increased from its present modest levels." We strongly affirm this recommendation.

A good start in this direction was made several years ago, when the Wellcome Trust, a United Kingdom-based medical charity, initiated a project to map the genome of *P. falciparum*, the parasite that causes malaria. Independently, the World Health Organization provided seed grants to establish Parasite Genome Networks for five other pathogenic organisms: *Filaria*, *Schistosoma*, *Leishmania*, *Trypanosoma brucei*, and *T. cruzi*. The malaria genome effort recently has received a significant boost: the Wellcome Trust, the Burroughs Wellcome Fund, NIH's National Institute of Allergy and Infectious Diseases, and the U.S. Department of Defense formed a funding consortium to begin sequencing the *P. falciparum* genome. However, other parasite networks are still struggling to secure the necessary funding to move forward rapidly, despite their great progress in developing international collaborative links and proving the feasibility of sequencing.

In order to secure funding for this historically underserved research community, it will probably be necessary to seek funds from a variety of government and private sources interested in genomics as well as parasitology. The successful establishment of the *P. falciparum* consortium—an international working group of multiple private and public funding agencies—demonstrates the plausibility of this approach. What is now needed is the will to dedicate the funds.

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Response: I am pleased to learn that a project has been started on sample sequencing of *C. albicans* and that the Wellcome Trust has made a laudable start toward the sequencing of the *Plasmodium* genome. To my knowledge, the funding provided by Wellcome is significant, but far from being sufficient to ensure the rapid completion of the sequencing of this genome. The funds provided by the World Health Organization appear to barely make it possible to proceed toward the construction of sequence-ready libraries of five pathogens and are by no means sufficient to sequence these genomes. The Commission of the European Community does not seem to be getting involved in the sequencing of parasite genomes. But whatever happens, I believe that laboratories in developing countries should be involved in an organized way, rather than having the sequencing work done in only a few large Western sequencing centers.

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Doppler What?

In "Iron in Io" (This Week in Science, 3 May 1996, p. 625), there was mention of "Doppler waves generated by the Galileo orbiter." "Doppler waves," per se, do not exist, but the relative motion of the Galileo orbiter with respect to the Earth can, indeed, generate a "Doppler effect." Exploring this effect, J. D. Anderson *et al.* came to the conclusion that Io may have a large metallic core composed of iron.

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"Ecological Footprint"

The News piece "Ecologists look at the big picture" (13 Sept., p. 1490) by Anne Simon Moffat mentions a fascinating model of how living standards and presumably personal choices result in an "ecological footprint." If the developer of that model, population biologist William Rees of the University of British Columbia, could develop a version, possibly for export to the home computer, that would enable an individual (and perhaps communities) to estimate his or her own footprint, then by manipulating the input (for example, by becoming a vegetarian, reducing gasoline consumption, or recycling waste) one

could see the resulting changes in footprint size, thereby increasing motivation for ecologically positive choices and directing one's activity to the changes with greatest potential for beneficial effect.

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Global Mean Sea Level Change: Correction

An error was recently discovered in the computer software that processes data from the National Aeronautics and Space Administration altimeter on the TOPEX/POSEIDON satellite (1). The error caused a small measurement drift of less than 1 centimeter per year. Its effect is negligible for most oceanographic studies using the data, except for the computation of changes in global mean sea level. Correction of this error (2) changes our previously published results (Reports, 5 May 1995, p. 708) (3), as well as those in other papers (4). The corrected value of global mean sea level rise observed since the launch of

TOPEX/POSEIDON in 1992 is close to 0 millimeters per year, although there is evidence of additional instrument drift (5), suggesting a preferred value of roughly +2 millimeters per year. The corrected TOPEX/POSEIDON observations for 1993–1996 are in statistical agreement with the historical tide gauge record, which shows mean sea level rising at a rate of approximately 1.8 millimeters per year over the last 50 years (6). Further improvements of these results await a longer time series of measurements and improved methods for externally monitoring the overall system performance.

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References and Notes

1. O. Zanife, P. Escudier, and P. Vincent of the Centre National d'Etudes Spatiales are credited with discovering the software error in June 1996.
2. D. W. Hancock and G. S. Hayne, <http://osb.3.wff.nasa.gov/topex/OscDrift.html> (1996).
3. R. S. Nerem, *Science* **268**, 708 (1995).
4. ———, *J. Geophys. Res.* **100**, 25135 (1995); J. F. Minster, C. Brossier, P. Rogel, *ibid.*, p. 25153; J. R. Hendricks, R. R. Leben, G. H. Born, C. J. Koblinsky, *ibid.* **101**, 14131 (1996); W. B. White and C.-K. Tai, *ibid.* **100**, 24943 (1995).

5. G. T. Mitchum, in preparation.
6. B. C. Douglas, *Rev. Geophys.* **33** (suppl.), 1425 (1995).

Corrections and Clarifications

The table of contents in the issue of 7 February 1997 (p. 727) should have listed the report "Numerical simulation of the Cretaceous Tethys circumglobal current" by Andrew B. G. Bush, which begins on page 807.

In figures 1 and 3C (p. 229) of the report "Mechanism of suppression of cell-mediated immunity by measles virus" by C. L. Karp *et al.* (12 July, p. 228), "IFN- α " should have read, "IFN- γ " in all occurrences. In the second line of note 11 (p. 230), the phrase "(American Type Culture Collection)" should have read, "(courtesy of P. Rota)."

Letters to the Editor

Letters may be submitted by e-mail (at science_letters@aaas.org), fax (202-789-4669), or regular mail (*Science*, 1200 New York Avenue, NW, Washington, DC 20005, USA). Letters are not routinely acknowledged. Full addresses, signatures, and daytime phone numbers should be included. Letters should be brief (300 words or less) and may be edited for reasons of clarity or space. They may appear in print and/or on the World Wide Web. Letter writers are not consulted before publication.

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