

The Tropical Disease Initiative

An Open-Source Initiative for Biomedical Research

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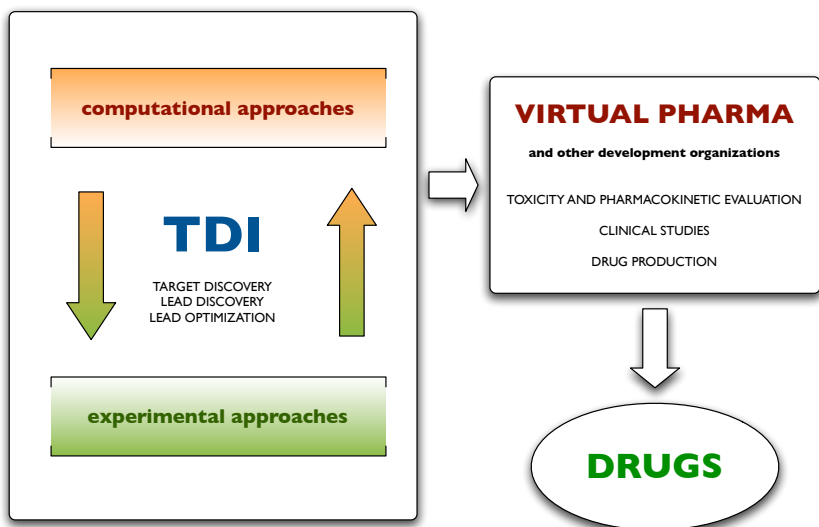
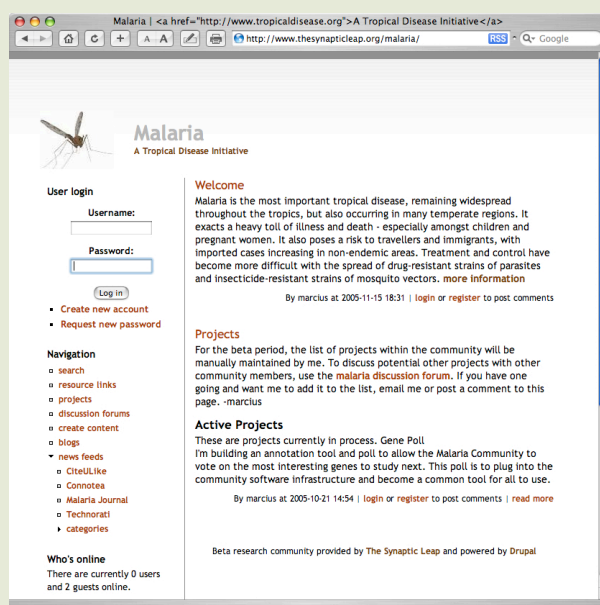
The Tropical Disease Initiative aims to apply an open-source collaborative approach to biological and medical research for tropical diseases.

Computation plays an increasing role in biology. The convergence between computing and biology suggests that open source methods can be used to organize early phase drug discovery. We argue that a new approach, which we call open source drug discovery, would significantly reduce the cost of discovering, developing and manufacturing cures for tropical diseases. First, it would give hundreds of scientists a practical way to donate urgently needed manpower. Second, open source discoveries would not be patented, permitting sponsors to award development contracts to the company that offered the lowest bid. Finally, competition from generic drug makers would keep manufacturing prices at or near the cost of production, significantly accelerating drug development for the 500 million people who currently suffer from tropical diseases.

Only about 1% of newly developed drugs are for tropical diseases, such as African sleeping sickness, dengue fever, and leishmaniasis. While patent incentives and commercial pharmaceutical houses have made Western health care the envy of the world, the commercial model only works if companies can sell enough patented products to cover their research and development (R&D) costs. The model fails in the developing world, where few patients can afford to pay patented prices for drugs.

Open-source drug discovery is feasible: no known scientific or economic barrier bars the way

Pilot project: Target selection for structural genomics in Malaria



We suggest an open source, approach to drug development, called the Tropical Diseases Initiative (TDI). We envisage TDI as a decentralized, Web-based, community-wide effort where scientists from laboratories, universities, institutes, and corporations can work together for a common cause.

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More reading...

- Finding Cures for Tropical Diseases: Is Open Source an Answer? S.M. Mauer, A. Rai, and A. Sali *PLoS Medicine* 1, 180-183, 2004.
- An open-source shot in the arm? *The Economist* June 10th 2004.
- <http://www.tropicaldisease.org>
- <http://www.thesynapticleap.org/malaria/>