

**To:** Jeffrey Epstein[jeevacation@gmail.com]  
**From:** Charles L. Harper Jr.  
**Sent:** Fri 11/12/2010 1:57:43 AM  
**Subject:** Very interesting research area on the evolution of deception

Dear Jeffrey,

Quick note:

I have done a bit more research on one area you mentioned to me last week. Darwin himself wrote a book on deception in orchids:  
"On the various contrivances by which orchids are fertilized by insects."  
(1885)

I have discovered that there is a rich and broad-ranging contemporary research literature in this topical area.  
(I've found hundreds of papers as well as overview books, gene databases, etc.) Apparently, the rate of speciation-evolution in orchids having to do with food and sexual deception, and with plant-pollinator pairing and co-evolution is very rapid. It seems to be a rapidly expanding research field that is seriously connected into evolutionary theory and plant genetics.

The topic is not (yet) connected in any way to issues in cryptography. However, I note extensive work on gene complexes called "MADS-box" genes in orchids. This kind of work relates to one of the significant research frontiers I mentioned: systems biology and evolution towards understanding the dynamics of variation:  
how does a plant species "learn" to re-create insect sex pheromones as well as insect shapes?

(Probably you will know Marc Kirschner at Harvard, who is a key pioneer in systems biology and research on the "evolution of evolution" dynamics of variation).

I have identified some serious plant geneticists working in this arena.

I think there may be potential to connect with innovation agendas in cryptography pursuing "nature inspired" approaches.  
For example, the work of the cryptologist John A. Clark (See: <http://www-users.cs.york.ac.uk/~jac/CV.pdf>)  
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Paper: "Nature-Inspired Cryptography: Past, Present and Future." (2003) and

Paper: "Fusing Natural Computational Paradigms for Cryptography:  
Or, How to Create Quantum Solvable Cryptographic Problems with  
Heuristic Search." (2006)

This note relays a quick pass only into the literature to report that there seems to be a lot there that looks seriously interesting.

Allbest,

Charles Harper