SIGEVO FY'06 Annual Report
July 2005-June 2006
Submitted by: Erik D. Goodman, SIGEVO Chair

1. SIGEVO, the SIG on Genetic and Evolutionary Computation, transitioned to become a regular SIG on June 15, 2006. After 17 months as a transitional SIG, the SIGEVO bylaws were approved by ACM. This was announced at the Annual Meeting (held in conjunction with the 2006 Genetic and Evolutionary Computation Conference (GECCO-2006) on July 12, 2006, by the chair, Erik Goodman. Membership has grown, reaching 506 members as of the time of GECCO.

2. The SIGEVO Executive Committee held its first meeting at GECCO-2006. The initial board is composed of members of the Executive Board of the former society which became SIGEVO, the ISGEC. A nominating committee was appointed to begin preparing nominations for the first cohort of the board to be replaced in elections in spring, 2007. Initial officers are John Koza (vice chair), Erick Cantu-Paz (secretary) and Wolfgang Banzhaf (treasurer).

3. The biggest news was the initiation of SIGEVO's newsletter, SIGEVOlution, with the first issues appearing in April-May and July, 2006. Editor-in-chief is Pier Luca Lanzi, and the first two issues have exceeded all expectations for both quantity and quality of content! Submission of articles and news items is sought from all SIGEVO members.

4. Many SIGEVO members voiced the opinion that GECCO-2006, just concluded in Seattle, Washington, was the best GECCO ever! Several new tracks (and review committees) were added for GECCO-2006. Attendees in the Evolutionary Computation in Practice track saw many instances described in which evolutionary computation has saved (or made) companies and other organizations large amounts of money – that kind of documentation is vital to make available to practitioners in the field. The Best Paper Award in each track was judged by attendees, after nomination of papers by reviewers, and was presented at the SIGEVO Annual Meeting.

5. Planning for the biennial Foundations of Genetic Algorithms workshop is proceeding rapidly. The conference will be held in January, 2007, in Mexico City.

6. The Executive Committee is targeting London, England for GECCO-2007, if suitable conference facilities can be arranged. Many members are excited about having GECCO held outside the U.S. for the first time. Fallback cities are also being investigated, in case costs in London prove to be prohibitive.

7. The Executive Committee approved a plan brought forward by Erik Goodman that SIGEVO sponsor a conference in Shanghai, China, in fall, 2008 or spring, 2009. The planning group hopes to spawn a biennial Asia/Pacific event that would make SIGEVO more accessible to its members and prospective members in the region. Planners are preparing a TMRF form to submit to ACM, while also seeking approval/support from sources in China.

8. The Executive Committee appointed an Awards Subcommittee to begin consideration of awards that SIGEVO might wish to sponsor. An immediate item for consideration is a successor to ISGEC's Fellows and Senior Fellows awards, which cannot be called that within an ACM SIG in order not to conflict with ACM's Fellow designation.

9. The search for a logo continues, with Lee Spector (of the EC) appointed to consider the current nominees and perhaps prepare/solicit others.

10. Several competitions were held at GECCO-2006: awards were presented at the SIGEVO Annual Meeting to winners of the TinyGA (fewest lines of code), Polynomial Prime Generation (most consecutive primes generated by an evolved polynomial expression), and Pasta Segmentation (evolve an algorithm to recognize pasta and non-pasta in an image) competitions.

Another competition, the Human Competitive Results (“Humies”) competition, was sponsored by Third Millennium On-Line Products, Inc., and the competition included judging prior to GECCO, brief presentations by entrants at GECCO, and announcing of the awards to be provided to winners by Third Millennium. The prizes went to:

Gold Award and $5,000: Varun Aggarwal, et al., “Catalogue of Variable Frequency and Single-Resistance-Controlled Oscillators Employing a Single Differential Difference Complementary Current Conveyor." In particular, they used evolutionary computation to generate a new oscillator with only two resistors, two capacitors, and one active element, besting the previous best design requiring three resistors instead of two.

Silver Award and $3,000: Kumara Sastry, et al., University of Illinois at Urbana-Champaign, “Multiobjective Genetic Algorithms for Multiscaling Excited State Direct Dynamics in Photochemistry.” They evolved the first empirical models with sufficient accuracy to be used to predict correctly excited state dynamics in photochemical reactions.

Bronze Award and $1,000: Jie Yao, et al., Concordia University, “A Multi-Population Genetic Algorithms for Robust and Fast Ellipse Detection.” The algorithm evolved dramatically outperforms prior algorithms on a variety of problems, while remaining simple and easy to implement.

Bronze Award and $1,000: Leonardo Trujillo and Gustavo Olague, Centro de Investigaci´on Cient´ıfica y de Educaci´on Superior de Ensenada (Mexico), “Using Evolution to Learn How to Perform Interest Point Detection.” The algorithm for finding edges, corners, and other interest points in images outperformed many other approaches, and was devised by evolutionary means.

11. SIGEVO will continue to seek innovative ways in which it can help its members garner success in their professional work, and to expand the influence of the field, including through attraction of new members and sponsorship of additional professional activities.