

## HITECH AGAIN WINS PENNSYLVANIA CHESS CHAMPIONSHIP: Becomes First Computer Senior Master

ICCA Communication

*by Hans Berliner*

The Pennsylvania State Chess Championship was held in Pittsburgh, on July 23-24. In a field of 46 players, including 8 masters, Carnegie-Mellon University's Hitech won the title outright with a score of 4.5 - 0.5. The finale was very exciting as the number one seeded player, International Master Ed Formanek, had a perfect 4-0 going into the final round against the number-two seed Hitech, which was the only competitor with 3.5 - 0.5. Hitech had to win to gain the title, whereas Formanek could become Champion by drawing this game. Hitech played beautifully, and the game culminated in a brilliant endgame that Hitech handled perfectly. The game is appended below.

Hitech also finished first in last year's State Championship, but after the fact a number of issues arose relating to whether the computer would be the State titlist. This year the rules specified that a computer could win the title. So Hitech received the title, but was not eligible for the \$ 400 first prize money and was supposed not to get the trophy either. However, in a fine gesture of sportsmanship, Prof. Formanek, of the Mathematics Department of Penn. State University, gave Hitech the trophy which he had been awarded as the most highly placed human, since he indicated Hitech clearly deserved it. Formanek was one of four Masters that ended tied for 2<sup>nd</sup> at 4-1.

This is the first time Hitech has won a non-computer tournament outright; that is, without sharing the 1<sup>st</sup> place. Formanek, rated at 2485, is the highest rated player Hitech has ever beaten. It is the first time that Hitech has beaten an IM, and we believe only the second time that a machine has beaten an IM (Fidelity also did).

We estimate Hitech's new rating to be 2405; so it has crossed the magical 2400 boundary and is now a Senior Master in the US Chess Federation (USCF). It is the first computer to achieve this title, the highest that the USCF can award. The above are subject to verification by the USCF; however, in the past our calculated ratings have never differed from the USCF's by more than 2 points. This advance also places Hitech among the top 150 players in the US. Hitech's performance rating was 2507.

In tournaments since our last report, Hitech had a mediocre result of 3.5 - 2.5 at the Fredkin Masters Open in Pittsburgh, May 28-30. Over the 4<sup>th</sup>-of-July holiday, Hitech competed in the World Open, Masters Section. The field was made up of 126 humans, almost all of which were Masters, and Hitech. Hitech scored 5.5 -2.5 and finished tied for 10<sup>th</sup>. It lost its last round game, when winning would have meant tying for 1<sup>st</sup>.

Since August 1987, when Hitech was reborn with new pattern recognizers and properly working software, it has played 48 US-rated games and 4 games in international matches. Its US performance rating over this period is 2440. In two matches earlier this year, it beat M. Peretz of Israel 1.5 - 0.5, and drew M. Apicella of France 1-1. A summary of these results by category of player can be found below;

Experts or less(<2200)	Master(2200-2399)	Sr. Mstr(2400-2499)	Top 50 US
15 - 0	14.5 - 6.5	3 - 1	1 - 7
Foreign		2.5 - 1.5	

Pennsylvania State Championship, Pittsburgh, July 24, 1988.

White: IM Formanek (2485)

Black: Hitech (2385)

1. e4 e5 2. Nf3 Nc6 3. Bb5 a6 4. Ba4 Nf6 5. 0-0 Nxe4 6. d4 b5 7. Bb3 d5 8. Nxe5 Nxe5 9. dxe5 c6 10. Nd2 Nc5 11. Nf3 Be7 12. c3 Nxb3 13. axb3 0-0 14. Nd4 Bd7 15. b4 a5 16. Rxa5 Rxa5 17. bxa5 Qxa5 18. b4 Qa2 19. Be3 Qc4 20. Qa1 c5 21. bxc5 Bxc5 22. h3 Re8 23. Nf3 Bxe3 24. fxe3 Qc5 25. Qe1 Rc8 26. Qf2 Be8 27. Nd4 Qxc3 28. Nxb5 Qxe5 29. Nd4 Rc3 30. Re1 Bd7 31. Qf3 Bc8 32. Kf2 f6 33. Ra1 Bb7 34. Rb1 Rc7 35. Rb6 Kf7 36. Re6 Qg5 37. Qg3 Rc2+ 38. Nxc2 Qxg3+ 39. Kxg3 Kxe6 40. Nd4+ Ke5 41. Kf3 h5 42. h4 g5 43. g3 Bc8 44. Nc6+ Kd6 45. Nd4 Bg4+ 46. Kf2 Ke5 47. Nb5 Bd7 48. Nd4 Ke4 49. Nc2 Bb5 50. Nd4 Ba6 51. Ne6 Bc8 52. Nd4 Bd7 53. Nc2 gxh4 54. gxh4 Bg4 55. Nd4 f5 56. Ne6 f4 57. Nc5+ Kf5 58. Nd3 d4 59. exd4 Ke4 60. Ne5 Kxd4 61. Nf7 Be6 62. Ng5 Bd5 63. Nh3 Ke4 64. Ng1 Kf5 65. Ne2 Kg4 66. Kg1 f3 67. Nc3 Bc6 68. Kf2 Kxh4 69. Nd1 Kg4 70. Ne3+ Kf4 71. Nf1 h4 72. Nh2 h3 73. Nf1 Bb5 74. Ng3 h2 75. Nh5+ Kg4 76. Ng3 Bf1 White Resigns.

## BONA FIDE?

ICCA Communication

*by David Welsh*

As a service to our readers, we are glad to republish an *extract* from the *Transactions of the United States Chess Federation Computer Chess Committee*, Vol. 5, No. 1, May 10, 1988.

The republication has been prompted by its relevance to the vexed question whether and to what extent computer programs are chess-players under FIDE rules.

"Recent successes by HITECH have raised its performance rating to the 2400 Elo level and would make the program eligible for a FIDE rating, except that FIDE does not recognize chess programs as "players". The following letter from Prof. Lim Kok-Ann of FIDE answered a USCF inquiry:

[address and saluting formulae]

1. [...]. There is no official FIDE policy on rating of computers. The following is my interpretation of what is implied by FIDE regulations.
2. The principles of the FIDE rating system is described in Reg. 3.0, B.01 of the Handbook, "Measurement of Over-the-Board Play." Reference is made there to the performance of "players", a term that implied *human* players. It is a moot point if machines can "play".
3. According to my understanding, a computer cannot be a player, in fact a game "played by a computer is a game played by a human with the assistance of a machine programmed to do so. The Laws of Chess specifically prohibits in Section 15.1(a), the use of "handwritten, printed or otherwise recorded matter, or to analyze the game on another chess-board." This rules out the use of a computer whether the player himself is at the chessboard or places there a remote-controlled machine.
4. The application of the FIDE rating system to games played in violation of the Laws of Chess is therefore meaningless. Please do not include in your rating reports any results obtained with the assistance of computers.
5. The technical skill involved in programming chess computers is of course of great interest, similar to the interest evoked by the construction of flying machines [!Eds]. FIDE has a Commission on Chess