U.S. ARMY ADVANCED CONSTRUCTION TECHNOLOGY FELLOWSHIP PROGRAM

FINAL REPORT
to the
ARMY RESEARCH OFFICE
on
GRANT NO. DAAL03-86-G-0188

Advanced Construction Technology Center
University of Illinois at Urbana–Champaign
Urbana, Illinois

November 16, 1992
This is a report of the Fellowship Program conducted by the University of Illinois Advanced Construction Technology Center. The program was in effect from October 1, 1986 to September 30, 1992. During that time, thirty-five American graduate students were appointed to the program and designated U.S. Army Advanced Construction Technology Fellows. These fellows participated in the Research Program of the Center, while completing their graduate studies.
INTRODUCTION

This is a report of the Fellowship Program conducted by the University of Illinois Advanced Construction Technology Center. The program was conducted in accordance with the provisions of the Army Research Office Grant No. DAAL03-86-G-0188, Proposal No. 24607-E-G-U1F; Advanced Construction Technology Center. The grant was effective from October 1, 1986 to September 30, 1992. During that period, select American graduate students were appointed to the program and designated U.S. Army Advanced Construction Technology Fellows. These Fellows participated in the program of the Advanced Construction Technology Center, a center of excellence established under Grant Nos. DAAL03-87-K-0006 and DAAL03-86-G-0186. The Research Program of the Center consisted of twenty-eight projects grouped into five thrust areas. Each of the Fellows was assigned to work with one of the projects in the Center. The thrust areas in which the Fellows worked are as follows:

Nondestructive Evaluation Technologies for Constructed Works
Construction Site Metrology
New Materials and Material Technologies for Construction
Computer-Aided Construction
Special Technologies

The important results from the research in these thrust areas have been reported separately.

LIST OF PARTICIPATING SCIENTIFIC PERSONNEL (Fellows)

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Degree</th>
<th>Year</th>
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<tbody>
<tr>
<td>Anderson, Michael</td>
<td>Ceramics</td>
<td>MS</td>
<td>1989</td>
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<td>Biggar, John</td>
<td>Architecture</td>
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<td>Bills, Richard E.</td>
<td>ECE</td>
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<td>PhD</td>
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<td>Breslin, John</td>
<td>CE</td>
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<td>Carson, Robert T.</td>
<td>Mat. Sci.</td>
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<td>Davison, William W.</td>
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<td>Eckhoff, Mark</td>
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<td>Elam, Steve</td>
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<td>Epperson, Gary</td>
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<td>PhD</td>
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<td>Friedrich, James</td>
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LIST OF PUBLICATIONS

THESSES:


OTHER PUBLICATIONS:


GARRETT, JR., J.H., S.C-Y. LU, J.B. THOMPSON, and A.E. HERMAN. Applications of artificial intelligence techniques to engineering design at the University of Illinois at Urbana-Champaign. *Proc. International Conference on Artificial Intelligence in Engineering 1990 I, Boston, Massachusetts, July 1990, 261-280 (1990).*


**PRESENTATIONS:**


EPPERSON, G.S. and D.P. ABRAMS. Nondestructive evaluation of masonry piers. Annual Meeting of the American Concrete Institute, Atlanta, Georgia, February 1989.

EPPERSON, G.S. and D.P. ABRAMS. Estimated and measured shear strength of brick walls. Fifth North American Masonry Conference, University of Illinois at Urbana-Champaign, June 1990.


THOMPSON, J.B. and S.C-Y. LU. A design model to support design evolution management. American Association of Artificial Intelligence-90 Workshop on Concurrent Engineering, Boston, Massachusetts, July-August 1990.


* expected completion date.