OCA contact: Jacquelyn L. Tyndall  894-4820

OCA contact: Jacquelyn L. Tyndall  894-4820

Sponsor technical contact  Sponsor issuing office

DR. SUREN RAO  H. D. WOLFF, III
(000)000-0000  (000)000-0000

NATIONAL SCIENCE FOUNDATION  NATIONAL SCIENCE FOUNDATION
1800 G STREET, NW  1800 G STREET, NW
WASHINGTON, DC 20550  WASHINGTON, DC 20550

Security class (U,C,S,TS) : U  OCN resident rep. is ACO (Y/N): N
Defense priority rating : N/A  NSF supplemental sheet
Equipment title vests with: Sponsor  GIT X

Administrative comments -
ISSUED TO ESTABLISH SUBPROJECT E-25-X84.
GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION
NOTICE OF PROJECT CLOSEOUT

Closeout Notice Date 09/20/93

Project No. E-24-682 ____________
Center No. 10/24-6-R7528-0A0 ____________

Project Director LOHMANN J R ____________
School/Lab ISYE ____________

Sponsor NATL SCIENCE FOUNDATION/GENERAL ______________________

Contract/Grant No. DDM-9296162 ____________
Contract Entity GTRC

Prime Contract No. ______________________

Title PYI - TRANSFER ______________________

Effective Completion Date 930831 (Performance) 931130 (Reports)

Closeout Actions Required:

<table>
<thead>
<tr>
<th>Closeout Actions Required</th>
<th>Y/N</th>
<th>Date Submitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Invoice or Copy of Final Invoice</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Final Report of Inventions and/or Subcontracts</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Government Property Inventory &amp; Related Certificate</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Classified Material Certificate</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Release and Assignment</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

Comments EFFECTIVE DATE 11-1-91. CONTRACT VALUE $32,835.

Subproject Under Main Project No. ______________________

Continues Project No. ______________________

Distribution Required:

- Project Director: Y
- Administrative Network Representative: Y
- GTRI Accounting/Grants and Contracts: Y
- Procurement/Supply Services: Y
- Research Property Management: Y
- Research Security Services: N
- Reports Coordinator (OCA): Y
- GTRC: Y
- Project File: Y
- Other: CARL BAXTER-FMD: Y
- FRED CAIN-00D: N
GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION

NOTICE OF PROJECT CLOSEOUT (SUBPROJECTS)

Closeout Notice Date 09/20/93

Project No. E-24-682

Project Director LOHMANN J R

Center No. 10/24-6-R7528-0A0

School/Lab ISYE

Sponsor NATL SCIENCE FOUNDATION/GENERAL

Project # E-25-X84 PD JETER S M Unit 02.010.126 T

GRANT # DDM-9296162 MOD# ADM. REVISION MECH ENGR *

Ctr # 10/24-6-R7528-0A1 Main proj # E-24-682 OCA CO JLT

Sponsor-NATL SCIENCE FOUNDAT /GENERAL 107/000

PYI - TRANSFER
Start 930101 End 930831 Funded 6,920.00 Contract 6,920.00

LEGEND
1. * indicates the project is a subproject.
2. I indicates the project is active and being updated.
3. A indicates the project is currently active.
4. T indicates the project has been terminated.
5. R indicates a terminated project that is being modified.
PART I - PROJECT IDENTIFICATION INFORMATION

1. Program Official/Org.  Fe Hall Grant - DDM

2. Program Name  MANUFACTURING PROCESSES & EQUIPMENT PROG

3. Award Dates (MM/YY)  From: 11/91  To: 08/93

4. Institution and Address  

   Administration Building  
   Atlanta  GA  30332

5. Award Number  9296162

6. Project Title  

   Presidential Young Investigator Award: Economic Replacement of Evolving Manufacturing Technology
The data requested below are important for the development of a statistical profile on the personnel supported by Federal grants. The information on this part is solicited in response to Public Law 99-383 and 42 USC 1885C. All information provided will be treated as confidential and will be safeguarded in accordance with the provisions of the Privacy Act of 1974. You should submit a single copy of this part with each final project report. However, submission of the requested information is not mandatory and is not a precondition of future award(s). Check the "Decline to Provide Information" box below if you do not wish to provide the information.

Please enter the numbers of individuals supported under this grant. Do not enter information for individuals working less than 40 hours in any calendar year.

<table>
<thead>
<tr>
<th>Category</th>
<th>Senior Staff</th>
<th>Post-Doctorals</th>
<th>Graduate Students</th>
<th>Under-Graduates</th>
<th>Other Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Total, U.S. Citizens</td>
<td>3</td>
<td>9</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Total, Permanent Residents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>U.S. Citizens or Permanent Residents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black, Not of Hispanic Origin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacific Islander</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, Not of Hispanic Origin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Total, Other Non-U.S. Citizens</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specify Country</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Total, All participants (A + B + C)</td>
<td>3</td>
<td>13</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Disabled 3

☐ Decline to Provide Information: Check box if you do not wish to provide this information (you are still required to return this page along with Parts I-III).

1 Category includes, for example, college and precollege teachers, conference and workshop participants.

2 Use the category that best describes the ethnic/racial status of all U.S. Citizens and Non-citizens with Permanent Residency. (If more than one category applies, use the one category that most closely reflects the person's recognition in the community.)

3 A person having a physical or mental impairment that substantially limits one or more major life activities; who has a record of such impairment; or who is regarded as having such impairment. (Disabled individuals also should be counted under the appropriate ethnic/racial group unless they are classified as "Other Non-U.S. Citizens.")

AMERICAN INDIAN OR ALASKAN NATIVE: A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition.

ASIAN: A person having origins in any of the original peoples of East Asia, Southeast Asia or the Indian subcontinent. This area includes, for example, China, India, Indonesia, Japan, Korea and Vietnam.

BLACK, NOT OF HISPANIC ORIGIN: A person having origins in any of the black racial groups of Africa.

HISPANIC: A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

PACIFIC ISLANDER: A person having origins in any of the original peoples of Hawaii; the U.S. Pacific territories of Guam, American Samoa, and the Northern Marianas; the U.S. Trust Territory of Palau; the islands of Micronesia and Melanesia; or the Philippines.

WHITE, NOT OF HISPANIC ORIGIN: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East.
Part II

The primary objective of this project was the development and application of economic replacement methodologies for evolving technologies. Methodologies employed included dynamic programming, computer simulation, Lagrangian relaxation methods, and branch-and-bound algorithms. Among the decision making environments treated were finite or infinite horizons, deterministic or stochastic consequences, serial or parallel asset replacement, optimal or near-optimal (error-bounded) economic replacement, turnpike strategies, capital rationing constraints, and the effects of recent tax policy on replacement decision making. Related investigations included the effectiveness of capital budgeting decision criteria and investment decision models, and the clarification of fundamental principles and underlying assumptions related to key economic decision criteria and their application. Fifteen publications, including five doctoral dissertations, and a dozen national and international presentations disseminated the results. The research supported fifteen graduate students and three senior personnel. Industrial sponsors of the research include AT&T, General Motors, and IBM.

Part III

PUBLICATIONS


**PRESENTATIONS**


