Award Number: DAMD17-95-2-5012

TITLE: Postdoctoral Research Associateship Program with USAMRMC

PRINCIPAL INVESTIGATOR: Judith K. Nyquist, Ph.D.

CONTRACTING ORGANIZATION: National Academy of Sciences
Washington, DC 20418

REPORT DATE: October 2000

TYPE OF REPORT: Annual

PREPARED FOR: U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

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<td>National Academy of Sciences</td>
<td></td>
</tr>
<tr>
<td>E-MAIL: <a href="mailto:jnyquist@nas.edu">jnyquist@nas.edu</a></td>
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NATIONAL RESEARCH COUNCIL

Postdoctoral Research Associateship Program

with the

U.S. Army Medical Research and Materiel Command

Annual Status Report

October 1, 1999 to September 30, 2000

DAMD17-95-2-5012

PUBLICITY

The National Research Council (NRC) Resident Research Associateship Programs for the reporting period were announced to the scientific community in the fall of the preceding year, 1999. Publicity materials describing the NRC-AMRMC Program were distributed in November to presidents, graduate deans, heads of appropriate science and engineering departments of all academic degree-granting institutions in the United States. These materials were also sent to Laboratory Program Representatives, Associateship Advisers, and other interested persons. The publicity materials and other related information were made available on the Internet as well. In addition, Program Staff attended numerous annual society meetings to promote the various programs and meet with prospective applicants throughout the year.

REQUESTS

Application materials were distributed in response to specific requests for information about the NRC-AMRMC Associateship Program or as a result of general requests by persons whose fields of specialization appeared to be appropriate for the research opportunities available in the AMRMC laboratories.
COMPETITION

Panel reviews of applicants for the Associateship Programs, including those with the AMRMC, are conducted in February, June, and October of each year. The following is a breakdown of the action taken with the applications during the period of the report.

<table>
<thead>
<tr>
<th>Total Applications</th>
<th>Oct 99</th>
<th>Feb 00</th>
<th>Jun 00</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>Actions taken on the applications:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incomplete/Missing Documentation</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Active Application Pending Lab Response</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Number of Applications Reviewed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>16</td>
<td>9</td>
<td>33</td>
<td></td>
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<tr>
<td>Actions taken on the reviewed applications:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Recommended</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Recommended</td>
<td>8</td>
<td>16</td>
<td>9</td>
<td>33</td>
</tr>
<tr>
<td>Actions taken on Recommended Applications:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Applicant Accepted Award</td>
<td>6</td>
<td>12</td>
<td>7</td>
<td>25</td>
</tr>
<tr>
<td>Applicant Declined the Award</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Applicant Withdrew After Review/Recommended</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Alternate with Final Turndown</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>
**ASSOCIATES’ ACTIVITIES**

Associates who ended tenure during the report period were on tenure for an average of 24 months, ranging from 10 months to 36 months.

Of the 12 Associates who completed their tenure during the report period, 7 (58%) submitted termination reports. In their reports, the Associates indicated the following scholarly activity while on tenure as an Associate.

<table>
<thead>
<tr>
<th>Domestic Presentations</th>
<th>23</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Presentations</td>
<td>2</td>
</tr>
<tr>
<td>Published Articles in Refereed Journals</td>
<td>8</td>
</tr>
<tr>
<td>Patents applied for</td>
<td>1</td>
</tr>
</tbody>
</table>

After completing their tenure Associates, indicated their future plans as follows:

- Research - National government: 5
- Administration- government lab: 1
- Remain at Host Agency: 1
- Different NRC Sponsoring Agency: 1
- Academic -- College or University: 1
- Student: 1
- Non-Profit: -
- Self-employed: -
- Unemployed: -
- Industry: -
- Post-Doctoral Appointment: -
- Other/No Information Provided: -

In their final reports, the Associates were asked to evaluate certain aspects of their experiences on a scale of 1 (low) to 10 (high). The average rating for each item follows.

- Career: Of what value was the NRC experience to your career? 8.6
- Lab: What is your evaluation of your experience in the laboratory? 8.6
- NRC: What is your evaluation of your interaction with the NRC? 8.7

Advisers were also asked to complete an evaluation of the Associate. The following summarizes the Adviser evaluations for Associates completing tenure during the report period. Of the 12 Associates, 4 (33%) Adviser evaluations were completed. Assessments were made on four criteria using the following rating scale, 1-Below Average, 2-Average, 3-Above Average, 4-Good, and 5-Outstanding, Exceptional. The average rating for each item follows.

- Knowledge in Field: 4
- Independence: 5
- Research Techniques: 4.5
- Motivation: 4.8

The Advisers were asked, “Would you like this Associate as a Professional Colleague?” The following is a breakdown of the Advisers’ responses.

- 100% Yes

Other information about the Associates’ activities can be found in the attachments and appendix.
ASSOCIATES' Citizenship

Associates on tenure between October 1, 1999 and September 30, 2000 were citizens of the following countries:

<table>
<thead>
<tr>
<th>Country</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>1</td>
</tr>
<tr>
<td>Australia</td>
<td>1</td>
</tr>
<tr>
<td>Croatia</td>
<td>1</td>
</tr>
<tr>
<td>Ecuador</td>
<td>1</td>
</tr>
<tr>
<td>France</td>
<td>1</td>
</tr>
<tr>
<td>Ghana</td>
<td>1</td>
</tr>
<tr>
<td>Hungary</td>
<td>3</td>
</tr>
<tr>
<td>India</td>
<td>3</td>
</tr>
<tr>
<td>Israel</td>
<td>6</td>
</tr>
<tr>
<td>Kenya</td>
<td>1</td>
</tr>
<tr>
<td>Mexico</td>
<td>1</td>
</tr>
<tr>
<td>People's Republic of China</td>
<td>4</td>
</tr>
<tr>
<td>Peru</td>
<td>1</td>
</tr>
<tr>
<td>Portugal</td>
<td>1</td>
</tr>
<tr>
<td>Russia</td>
<td>2</td>
</tr>
<tr>
<td>United States</td>
<td>28</td>
</tr>
</tbody>
</table>

Description of Attachments

Attachment 1 is a list of Associates who completed their appointments during the period of October 1, 1999 through September 30, 2000. It includes the Associates' laboratory location, their starting and termination dates, and the names of their Advisers. Associates are required to submit reports upon termination (attached to this report), and Advisers are asked to submit a final evaluation of each Associate. Associates who have not submitted a termination report have received a follow-up letter.

Attachment 2 provides a roster of Associates on Tenure as of October 1, 2000. This listing includes the Associate's Adviser, laboratory location, start and expected termination date, and country of citizenship.

Attachment 3 lists the applicants who received awards during the period of October 1, 1999 through September 30, 2000. It includes the title of their Research Proposals.

Attachment 4 provides a roster of all recommended candidates by category (i.e. accepted, no funding, etc.). This report includes information about their Ph.D. school, proposed research, starting date and Adviser.

Attachment 5 details a cross tabulation of how many Associates were on tenure for the year by center for each quarter within the report period and other yearly periods.

The Appendix contains the copies of the "Final Reports" received from Associates completing their awards during this reporting period.
## Associates Who Ended Tenure  
10/1/1999 - 9/30/2000

### U.S. Army Medical Research and Materiel Command

<table>
<thead>
<tr>
<th>Associate Name+ Adviser</th>
<th>Center</th>
<th>Tenure Dates</th>
<th>Termination</th>
<th>Adviser</th>
</tr>
</thead>
</table>
| Ahmed, Syed Ashraf(S)  
Dr. Leonard A. Smith | Medical Research Institute of Infectious Diseases | 8/18/97 | 1/28/00 | Received | Received |
| Ashani, Yacov(S)  
Dr. Bhupendra P. Doctor | Walter Reed Army Institute of Research | 8/02/99 | 7/07/00 | Received | Not Recd |
| Cerasoli, Douglas Mark  
Dr. David E. Lenz | Medical Res Inst of Chemical Defense | 7/20/98 | 7/19/00 | Received | Received |
| Dailey, Frank(S)  
Dr. Arthur M. Friedlander | Medical Research Institute of Infectious Diseases | 11/13/96 | 11/12/99 | Not Recd | Not Recd |
| Fernandez-Prada, Carmen Maria  
Dr. David L. Hoover | Walter Reed Army Institute of Research | 3/14/97 | 3/13/00 | Received | Not Recd |
| Fonseca, Dina Madeira  
Dr. Richard C. Wilkerson | Walter Reed Army Institute of Research | 12/15/98 | 7/31/00 | Not Recd | Not Recd |
| Jensen, Melody Janet(S)  
Dr. Leonard A. Smith | Medical Research Institute of Infectious Diseases | 8/10/98 | 9/30/00 | Not Recd | Not Recd |
| Khan, Akbar S.(S)  
Dr. Robert G. Ulrich | Medical Research Institute of Infectious Diseases | 9/15/98 | 12/17/99 | Not Recd | Not Recd |
| Price, Elvis Odin  
Dr. Ming L. Shih | Medical Res Inst of Chemical Defense | 1/15/98 | 6/30/00 | Received | Received |
| Ruff, Albert Leonard  
Dr. Connie S. Schmaljohn | Medical Research Institute of Infectious Diseases | 3/30/98 | 10/22/99 | Received | Not Recd |
| Tashma, Zev(S)  
Dr. Bhupendra P. Doctor | Walter Reed Army Institute of Research | 8/02/99 | 6/09/00 | Received | Not Recd |
| Wilson, Julie Ann  
Dr. Mary K. Hart | Medical Research Institute of Infectious Diseases | 3/24/97 | 1/14/00 | Not Recd | Received |

+ (S) indicates the associate was a Senior.
## Associates On Tenure

### U.S. Army Medical Research and Materiel Command

<table>
<thead>
<tr>
<th>Associate Name + Adviser</th>
<th>Center Citizenship</th>
<th>Starting Date</th>
<th>Ending Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allon, Nahum (S) Dr. Bhupendra P. Doctor</td>
<td>Walter Reed Army Institute of Research Israel</td>
<td>8/01/00</td>
<td>7/31/01</td>
</tr>
<tr>
<td>Ayyagari, Vijay Lakshmi Naga Dr. Jayasree Nath</td>
<td>Walter Reed Army Institute of Research India</td>
<td>7/03/00</td>
<td>7/02/01</td>
</tr>
<tr>
<td>Babai, Ilan Dr. Bhupendra P. Doctor</td>
<td>Walter Reed Army Institute of Research Israel</td>
<td>7/17/00</td>
<td>7/16/01</td>
</tr>
<tr>
<td>Baker, Robert Owen Dr. John W. Huggins</td>
<td>Medical Research Institute of Infectious Diseases United States</td>
<td>1/06/00</td>
<td>1/05/01</td>
</tr>
<tr>
<td>Baranyi, Lajos (S) Dr. Bhupendra P. Doctor</td>
<td>Walter Reed Army Institute of Research Hungary</td>
<td>6/22/98</td>
<td>3/21/01</td>
</tr>
<tr>
<td>Biba, Edmond Dr. Ai J. Lin</td>
<td>Walter Reed Army Institute of Research US Permanent Resident</td>
<td>6/28/99</td>
<td>6/27/01</td>
</tr>
<tr>
<td>Bodo, Michael Mihaly (S) Dr. Frederick J. Pearce</td>
<td>Walter Reed Army Institute of Research Hungary</td>
<td>2/14/00</td>
<td>2/13/01</td>
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<tr>
<td>Bosio, Catharine Mans Dr. Alan L. Schmaljohn</td>
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<td>9/10/01</td>
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<tr>
<td>Bosio, Christopher Francis Dr. Alan L. Schmaljohn</td>
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<td>2/04/99</td>
<td>2/03/01</td>
</tr>
<tr>
<td>Byrd, Wyatt (S) Dr. Frederick J. Cassels</td>
<td>Walter Reed Army Institute of Research United States</td>
<td>1/20/98</td>
<td>1/19/01</td>
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<tr>
<td>Darko, Christian Asare Dr. Jeffrey A. Lyon</td>
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<td>11/08/01</td>
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<td>Dekonenko, Alexander Evgenievich Dr. Connie S. Schmaljohn</td>
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<td>11/01/01</td>
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<tr>
<td>Dow, Geoffrey Stuart Dr. Rodger K. Martin</td>
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<td>8/07/00</td>
<td>8/06/01</td>
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<tr>
<td>Duncan, Judith Alicia Dr. James L. Meyerhoff</td>
<td>Walter Reed Army Institute of Research United States</td>
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<td>8/14/01</td>
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<tr>
<td>Dutta, Sheetij Dr. David E. Lanar</td>
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<td>7/26/01</td>
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<tr>
<td>Erwin, James Lawrence Dr. Tran C. Chanh</td>
<td>Medical Research Institute of Infectious Diseases United States</td>
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<td>8/09/01</td>
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<tr>
<td>Grogan, Case Kyn Dr. Alan L. Schmaljohn</td>
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<td>6/26/00</td>
<td>6/25/01</td>
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<tr>
<td>Guerrero-Ontiveros, Maria de Lour Dr. Luther E. Lindler</td>
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<td>2/16/99</td>
<td>2/15/01</td>
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<tr>
<td>Hensley, Lisa Ellen Dr. Peter B. Jahrling</td>
<td>Medical Research Institute of Infectious Diseases United States</td>
<td>9/01/98</td>
<td>11/30/00</td>
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<tr>
<td>Hulet, Stanley Warren Dr. Tsung-Ming A. Shih</td>
<td>Medical Res Inst of Chemical Defense United States</td>
<td>1/10/00</td>
<td>1/09/01</td>
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<tr>
<td>Jenner, Jennifer Louise Dr. Harris R. Lieberman</td>
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<td>6/01/98</td>
<td>5/31/01</td>
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*Indicates that the associate started tenure between 10/2/1999 and 9/30/2000.
(S) Associate is a Senior.
# Associates On Tenure

**October 1, 2000**

**U.S. Army Medical Research and Materiel Command**

<table>
<thead>
<tr>
<th>Associate Name+ Adviser</th>
<th>Center Citizenship</th>
<th>Starting Date</th>
<th>Ending Date</th>
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<td>Kan, Robert Kwai Dr. John P. Petra</td>
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<td>5/10/99</td>
<td>5/09/01</td>
</tr>
<tr>
<td>Kanjilal, Partha Partim Dr. Richard R. Gonzalez</td>
<td>U.S. Army Research Institute of Environmental India</td>
<td>8/02/99</td>
<td>8/01/01</td>
</tr>
<tr>
<td>Korolev, Sergey Vasilyevich Dr. Jeenan Tseng</td>
<td>Walter Reed Army Institute of Research Russia</td>
<td>9/01/99</td>
<td>4/14/01</td>
</tr>
<tr>
<td>Kwik, Jeanne Frieda Dr. Sina Bavari</td>
<td>Medical Research Institute of Infectious Diseases United States</td>
<td>6/05/00</td>
<td>6/04/01</td>
</tr>
<tr>
<td>Leader, Haim Nissan Dr. Richard K. Gordon</td>
<td>Walter Reed Army Institute of Research Israel</td>
<td>5/10/99</td>
<td>11/09/00</td>
</tr>
<tr>
<td>Leon Villalba, Luis Renato Dr. Michael J. Turell</td>
<td>Medical Research Institute of Infectious Diseases Ecuador</td>
<td>5/25/00</td>
<td>5/24/01</td>
</tr>
<tr>
<td>Liu, Liang Ming Dr. Michael A. Dubick</td>
<td>U.S. Army Institute of Surgical Research People’s Republic Of China</td>
<td>4/08/99</td>
<td>4/07/01</td>
</tr>
<tr>
<td>Markotic, Alemka Dr. Connie S. Schmaljohn</td>
<td>Medical Research Institute of Infectious Diseases Croatia</td>
<td>10/25/99</td>
<td>10/24/00</td>
</tr>
<tr>
<td>Marvaud, Jean-Cristophe Dr. Leonard A. Smith</td>
<td>Medical Research Institute of Infectious Diseases France</td>
<td>12/01/99</td>
<td>11/30/00</td>
</tr>
<tr>
<td>Mendelson, Itai Dr. Arthur M. Friedlander</td>
<td>Medical Research Institute of Infectious Diseases Israel</td>
<td>4/24/00</td>
<td>4/23/01</td>
</tr>
<tr>
<td>Milosevits, Janos Dr. Bhupendra P. Doctor</td>
<td>Walter Reed Army Institute of Research Hungary</td>
<td>7/03/00</td>
<td>7/02/01</td>
</tr>
<tr>
<td>Myers, Todd Matthew Dr. Richard A. Bauman</td>
<td>Walter Reed Army Institute of Research United States</td>
<td>5/15/00</td>
<td>5/14/01</td>
</tr>
<tr>
<td>Peng, Daizhi Dr. Albert T. McManus</td>
<td>U.S. Army Institute of Surgical Research People’s Republic Of China</td>
<td>1/05/99</td>
<td>1/04/01</td>
</tr>
<tr>
<td>Rayner, Jonathan Ole Dr. Jonathan F. Smith</td>
<td>Medical Research Institute of Infectious Diseases United States</td>
<td>5/01/00</td>
<td>10/31/00</td>
</tr>
<tr>
<td>Riemenschneider, Jenny Lynn Dr. Connie S. Schmaljohn</td>
<td>Medical Research Institute of Infectious Diseases United States</td>
<td>3/01/00</td>
<td>2/28/01</td>
</tr>
<tr>
<td>Roberson, Melinda Rice Dr. John H. McDonough</td>
<td>Medical Res Inst of Chemical Defense United States</td>
<td>5/02/00</td>
<td>5/01/01</td>
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<tr>
<td>Troyer, Jill Michelle Dr. Daniel A. Strickman</td>
<td>Walter Reed Army Institute of Research United States</td>
<td>1/04/99</td>
<td>1/03/01</td>
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<tr>
<td>Waitumbi, John Njenga Dr. Jose A. Stoute</td>
<td>Walter Reed Army Institute of Research Kenya</td>
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<td>2/08/01</td>
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<tr>
<td>Weeks, Steven Douglas Dr. Susan L. Welkos</td>
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<td>Winter, David Bicknell Dr. George C. Tsokos</td>
<td>Walter Reed Army Institute of Research United States</td>
<td>7/28/00</td>
<td>7/27/01</td>
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<td>Zhang, Peng Dr. Peter K. Chiang</td>
<td>Walter Reed Army Institute of Research People’s Republic Of China</td>
<td>2/01/99</td>
<td>1/31/01</td>
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</tbody>
</table>

*Indicates that the associate started tenure between 10/2/1999 and 9/30/2000. (S) Associate is a Senior.
# Associates On Tenure

**October 1, 2000**

**U.S. Army Medical Research and Materiel Command**

<table>
<thead>
<tr>
<th>Associate Name+ Adviser</th>
<th>Center</th>
<th>Citizenship</th>
<th>Starting Date</th>
<th>Ending Date</th>
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<tr>
<td>Zhu, Shuren Dr. Ai J. Lin</td>
<td>Walter Reed Army Institute of Research</td>
<td>US Permanent Resident</td>
<td>11/01/99</td>
<td>10/31/01</td>
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</tbody>
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---

*Indicates that the associate started tenure between 10/2/1999 and 9/30/2000.
(S) Associate is a Senior.
October 1999 Awardees
Awardees Listed 6

Baker, Robert O
Expression and Purification of the DNA Polymerases from Pox Viruses: Development of a Cell-Free Drug Screening System

Bodo, Michael M
Determination of the Functionality of Rheoencephalography as a Non-Invasive Measure of Cerebral Blood Flow

Dillman, James F, III
Proteomic Analysis of Sulfur Mustard Toxicity

Hulet, Stanley W
Effects of Chronic Low Dose Soman Exposure on Extracellular NT Levels and Resultant Neurobehavioral Deficits

Mendelson, Itai
Directed Signature-Tagged Mutagenesis (DSTM) of Bacillus anthracis Genome-Identification of New Targets for Future Anthrax Vaccines and for Antibacterial Therapy

Riemenschneider, Jenny L
Evaluation of DNA Vaccine Strategies for Ebola Virus Immunization

February 2000 Awardees
Awardees Listed 12

Allon, Nahum
Induction of Protection Against Organophosphorous Poisoning by Liposome Mediated Delivery of Human Butyrylcholinesterase Gene to the Lungs

Ayyagari, Vijay Lakshmi N
Development of Therapeutic Strategies for Regulation of Leukocyte-Endothelial Interactions During Acute Pulmonary Injury

Babai, Ilan
Immunogenicity of Squalene, a Precursor of Cholesterol

Bosio, Catharine M
Identification of Correlates of Immunity Following Vaccination Against Marburg Virus

Dow, Geoffrey S
Analysis of Surrogate Markers Associated with Induced Neurotoxicity from Antimalarial Endoperoxides

Duncan, Judith A
Potential Role of NPY in the Modulation of ** Social Defeat and Defeat-induced Behavior in DBA/2 and C57BL/6 Mice
Grogan, Case K
Characterization of Marburg and Ebola Virus Glycoprotein Domains Important in Vaccine Efficacy

Kwik, Jeanne F
Bacterial Superantigen Affinity and Specificity for the Human T cell Receptor and Human Major Histocompatibility Complex Class II Molecule: A Quantitative Analysis Using Surface Plasmon Resonance

Milosevits, Janos
Role of Natural Anti-Lipid Antibodies in Complement-Mediated Physiological and Pathological Processes

Myers, Todd M
Percentile Schedules of Reaction Time Reinforcement in the Serial Probe Recognition Procedure: Toward a More Sensitive Assay of Cognitive and Behavioral Functioning

Rayner, Jonathan O
RNA Polymerase I-Based VEE Replicon Production System

Roberson, Melinda R
The Potential Neurotoxic Effects of Low-Dose Sarin Exposure in a Guinea Pig Model

June 2000 Awardees
Awardees Listed 7

Gonzalez, Liza M
Production of Recombinant Antigens for Detection of Antibodies to Hantaviruses

Gorbounov, Nikolai V
Development of Biomarkers for Early Detection of Blunt Trauma- Associated Injury: Possible Preventive Strategies

Heller, Elimelech D
Search for Common Virulence Genes in Human and Rabbit Enteropathogenic Escherichia coli

Hurrelbrink, Robert J
Reverse Genetic Studies on Ebola Virus: Minireplicon and Infectious cDNA Clone Systems for Rational Vaccine Design

Steffen, Scott E
Characterization of the Ebola RNA-Dependent RNA Polymerase

Velayudhan Nair, Lalitha P
Cloning, Expression and Protective Efficacy Studies of Apical Membrane Antigen (AMA1) from Plasmodium Falciparum
<table>
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<tr>
<th>Name/Research Title</th>
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<tbody>
<tr>
<td>Winter, David B</td>
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<tr>
<td>Modulation of the Immune Response to Malaria Utilizing a Novel Vaccine Approach</td>
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</tbody>
</table>

Total Associates Listed for Lab 25
Recommended Candidates  
10/1/1999 - 9/30/2000
U.S. Army Medical Research and Materiel Command

October 1999

A- Accepted Award (6 Applicants listed)

BAKER, ROBERT O  Ph.D. Date: 1999
Citizenship: United States  University of Arizona
Adviser: Dr. John W. Huggins  Actual Starting Date: 1/06/00
Research Field: Virology  Termination Date: 1/05/01
Research Title: Expression and Purification of the DNA Polymerases from Pox Viruses: Development of a Cell-Free Drug Screening System

BODO, MICHAEL M  Ph.D. Date: 1990
Citizenship: Hungary  Inst Evol Physio & Biochem/Russia
Adviser: Dr. Frederick J. Pearce  Actual Starting Date: 2/14/00
Research Field: Physiology  Termination Date: 2/13/01
Research Title: Determination of the Functionality of Rheoencephalography as a Non-Invasive Measure of Cerebral Blood Flow

DILLMAN, JAMES F, III  Ph.D. Date: 1996
Citizenship: United States  University of Virginia
Adviser: Dr. John J. Schlager  Actual Starting Date: 11/29/99
Research Field: Toxicology  Termination Date: 11/28/01
Research Title: Proteomic Analysis of Sulfur Mustard Toxicity

HULET, STANLEY W  Ph.D. Date: 1999
Citizenship: United States  The Pennsylvania State University
Adviser: Dr. Tsung-Ming A. Shih  Actual Starting Date: 1/10/00
Research Field: Pharmacology Toxicology  Termination Date: 1/09/01
Research Title: Effects of Chronic Low Dose Soman Exposure on Extracellular NT Levels and Resultant Neurobehavioral Deficits

MENDELSON, ITAI  Ph.D. Date: 1993
Citizenship: Israel  Hebrew Univ of Jerusalem/Israel
Adviser: Dr. Arthur M. Friedlander  Actual Starting Date: 4/24/00
Research Field: Medical Microbiology  Termination Date: 4/23/01
Research Title: Directed Signature-Tagged Mutagenesis (DSTM) of Bacillus anthracis Genome-Identification of New Targets for Future Anthrax Vaccines and for Antibacterial Therapy

RIEMENSCHNEIDER, JENNY L  Ph.D. Date: 1999
Citizenship: United States  Case Western Reserve Univ/OH
Adviser: Dr. Connie S. Schmaljohn  Actual Starting Date: 3/01/00
Research Field: Molecular Virology  Termination Date: 2/28/01
Research Title: Evaluation of DNA Vaccine Strategies for Ebola Virus Immunization
Recommended Candidates 10/1/1999 - 9/30/2000
U.S. Army Medical Research and Materiel Command

W- Withdrew after Review/Recommend (2 Applicants listed)

CRAIG, TRACY L
Citizenship: United States
Adviser: Dr. Patrick E. Duffy
Research Field: Immunoparasitology
Research Title: Identification and Validation of In Vitro Assays of Antibody-Mediated Biological Activities which Correlate with Protective Immune Responses to Plasmodium Vivax
Ph.D. Date: 1999
University of Nevada

WENG, CHING-FENG
Citizenship: Taiwan
Adviser: Dr. Jeenan Tseng
Research Field: Experimental Pathology
Research Title: Combined Use of the Duffy Antigen and Chlorpromazine or Dexamethasone for Treatments of SE Intoxication in Mice
Ph.D. Date: 1994
University of Maryland

February 2000

A- Accepted Award (12 Applicants listed)

ALLON, NAHUM
Citizenship: Israel
Adviser: Dr. Bhupendra P. Doctor
Research Field: Pharmacology Toxicology
Research Title: Induction of Protection Against Organophosphorous Poisoning by Liposome Mediated Delivery of Human Butyrylcholinesterase Gene to the Lungs
Ph.D. Date: 1980
Tel Aviv University/Israel
Actual Starting Date: 8/01/00
Termination Date: 7/31/01

AYYAGARI, VIJAY LAKSHMI N
Citizenship: India
Adviser: Dr. Jayasree Nath
Research Field: Cellular Biology
Research Title: Development of Therapeutic Strategies for Regulation of Leukocyte-Endothelial Interactions During Acute Pulmonary Injury
Ph.D. Date: 2000
Osmania University/India
Actual Starting Date: 7/03/00
Termination Date: 7/02/01

BABAI, ILAN
Citizenship: Israel
Adviser: Dr. Bhupendra P. Doctor
Research Field: Immunology
Research Title: Immunogenicity of Squalene, a Precursor of Cholesterol
Ph.D. Date: 2000
Hebrew Univ of Jerusalem/Israel
Actual Starting Date: 7/17/00
Termination Date: 7/16/01

BOSIO, CATHARINE M
Citizenship: United States
Adviser: Dr. Alan L. Schmaljohn
Research Field: Viral Immunology
Research Title: Identification of Correlates of Immunity Following Vaccination Against Marburg Virus
Ph.D. Date: 1998
Colorado State University
Actual Starting Date: 9/11/00
Termination Date: 9/10/01
DOW, GEOFFREY S  
Citizenship: Australia  
Adviser: Dr. Rodger K. Martin  
Research Field: Parasitology  
Research Title: Analysis of Surrogate Markers Associated with Induced Neurotoxicity from Antimalarial Endoperoxides  
Ph.D. Date: 2000  
Murdoch University  
Actual Starting Date: 8/07/00  
Termination Date: 8/06/01

DUNCAN, JUDITH A  
Citizenship: United States  
Adviser: Dr. James L. Meyerhoff  
Research Field: Neuropharmacology  
Research Title: Potential Role of NPY in the Modulation of Social Defeat and Defeat-induced Behavior in DBA/2 and C57BL/6 Mice  
Ph.D. Date: 2000  
University of Georgia  
Expected Starting Date: 8/15/00  
Termination Date: 8/14/01

GROGAN, CASE K  
Citizenship: United States  
Adviser: Dr. Alan L. Schmaljohn  
Research Field: Viral Immunology  
Research Title: Characterization of Marburg and Ebola Virus Glycoprotein Domains Important in Vaccine Efficacy  
Ph.D. Date: 2000  
University of Florida  
Actual Starting Date: 6/26/00  
Termination Date: 6/25/01

KWIK, JEANNE F  
Citizenship: United States  
Adviser: Dr. Sina Bavari  
Research Field: Immunology  
Research Title: Bacterial Superantigen Affinity and Specificity for the Human T cell Receptor and Human Major Histocompatibility Complex Class II Molecule: A Quantitative Analysis Using Surface Plasmon Resonance  
Ph.D. Date: 2000  
Johns Hopkins University/MD  
Actual Starting Date: 6/05/00  
Termination Date: 6/04/01

MILOSEVITS, JANOS  
Citizenship: Hungary  
Adviser: Dr. Bhupendra P. Doctor  
Research Field: Immunology  
Research Title: Role of Natural Anti-Lipid Antibodies in Complement-Mediated Physiological and Pathological Processes  
Ph.D. Date: 1999  
Semmelweis U of Medicine/Hungary  
Actual Starting Date: 7/03/00  
Termination Date: 7/02/01

MYERS, TODD M  
Citizenship: United States  
Adviser: Dr. Richard A. Bauman  
Research Field: Behavioral Sciences  
Research Title: Percentile Schedules of Reaction Time Reinforcement in the Serial Probe Recognition Procedure: Toward a More Sensitive Assay of Cognitive and Behavioral Functioning  
Ph.D. Date: 2000  
West Virginia University  
Actual Starting Date: 5/15/00  
Termination Date: 5/14/01

RAYNER, JONATHON O  
Citizenship: United States  
Adviser: Dr. Jonathan F. Smith  
Research Field: Virology  
Research Title: RNA Polymerase I-Based VEE Replicon Production System  
Ph.D. Date: 1998  
Colorado State University  
Actual Starting Date: 5/01/00  
Termination Date: 10/31/00
ROBERSON, MELINDA R  
Citizenship: United States  
Adviser: Dr. John H. McDonough  
Research Field: Neurosciences  
Research Title: The Potential Neurotoxic Effects of Low-Dose Sarin Exposure in a Guinea Pig Model  
Ph.D. Date: 2000  
University of Alabama-Birmingham  
Actual Starting Date: 5/02/00  
Termination Date: 5/01/01

**8- Declined (2 Applicants listed)**

CARLSON, KENT R  
Citizenship: United States  
Adviser: Dr. Steven I. Baskin  
Research Field: Toxicology  
Research Title: Cardiomyopathic Effects of Military Organophosphorus Compounds  
Ph.D. Date: 2000  
Virginia Polytech Inst & State U

EBEL, GREGORY D  
Citizenship: United States  
Adviser: Dr. Michael J. Turell  
Research Field: Virology and Epidemiology  
Research Title: Assessment of Public Health Risk Posed by Domestic and Introduced Tick-Borne Flaviviruses  
Ph.D. Date: 2000  
Harvard Univ Medical School/MA

**Y- Alternate with Final Turndown (2 Applicants listed)**

FISHER, ROBERT W, IV  
Citizenship: United States  
Adviser: Dr. Kevin Anderson  
Research Field: Molecular Pathology  
Research Title: Use of Differential Gene Expression as an Early Diagnostic Indicator Following Hemorrhagic Fever Virus Exposure  
Ph.D. Date: 2000  
U of North Carolina-Chapel Hill

OKUMURA, ATSUSHI  
Citizenship: Japan  
Adviser: Dr. Connie S. Schmaljohn  
Research Field: Molecular Virology  
Research Title: Properties of Hantavirus Persistence in a Natural Rodent Reservoir  
Ph.D. Date: 1992  
Japan Unknown

**June 2000**

**1- Recommended (4 Applicants listed)**

GODKAR, PRAFUL B  
Citizenship: India  
Adviser:  
Research Field: Neurotoxicology  
Research Title: Acetylcholinesterase, Inhibitors and Neuroprotection  
Ph.D. Date: 1999  
University of Mumbai/India
HILLIER, COLLETTE J
Citizenship: Australia
Adviser: Dr. David E. Lanar
Research Field: Immunoparasitology
Research Title: Development of Liver-Stage Antigen 1 as a Vaccine for Malaria

Ph.D. Date: 2000
New S Wales, U

SCHMIDT, DOROTHY E
Citizenship: United States
Adviser: Dr. Harris R. Lieberman
Research Field: Nutritional Physiology
Research Title: Impact of Two Dietary Supplements on Food Intake, Plasma Amino Acids, and Cognitive Function in the Field

Ph.D. Date: 1998
Ohio State University

YUAN, HUIJUN
Citizenship: People's Republic of China
Adviser: Dr. Bhupendra P. Doctor
Research Field: Biological Chemistry
Research Title: Cloning and Expression of Genes Encoding Butyrylcholinesterase and its Mutants on the Surface of E.coli for the Decontamination of Organophosphorus Nerve Agents

Ph.D. Date: 1995
Academy of Military Med Sci/China

A- Accepted Award (7 Applicants listed)

GONZALEZ, LIZA M
Citizenship: Paraguay
Adviser: Dr. Connie S. Schmaljohn
Research Field: Virology
Research Title: Production of Recombinant Antigens for Detection of Antibodies to Hantaviruses

Ph.D. Date: 2000
New Mexico State University
Expected Starting Date: 12/04/00
Termination Date: 12/03/01

GORBOUNOV, NIKOLAI V
Citizenship: Russia
Adviser: Dr. Jayasree Nath
Research Field: Biomedical Science
Research Title: Development of Biomarkers for Early Detection of Blunt Trauma- Associated Injury: Possible Preventive Strategies

Ph.D. Date: 2000
University of Pittsburgh/PA
Actual Starting Date: 10/10/00
Termination Date: 10/09/01

HELLER, ELIMELECH D
Citizenship: Israel
Adviser: Dr. Marcia K. Wolf
Research Field: Medical Microbiology
Research Title: Search for Common Virulence Genes in Human and Rabbit Enteropathogenic Escherichia coli

Ph.D. Date: 1970
Hebrew Univ of Jerusalem/Israel
Actual Starting Date: 10/02/00
Termination Date: 7/01/01
HURRELBRINK, ROBERT J  
Citizenship: Australia  
Adviser: Dr. Kevin Anderson  
Research Field: Virology  
Research Title: Reverse Genetic Studies on Ebola Virus: Minireplicon and Infectious cDNA Clone Systems for Rational Vaccine Design  
Ph.D. Date: 2000  
Expected Starting Date: 7/01/01  
Termination Date: 6/30/02

STEFFEN, SCOTT E  
Citizenship: United States  
Adviser: Dr. Connie S. Schmaljohn  
Research Field: Biochemistry  
Research Title: Characterization of the Ebola RNA-Dependent RNA Polymerase  
Ph.D. Date: 2000  
Expected Starting Date: 1/02/01  
Termination Date: 1/01/02

VELAYUDHAN NAIR, LALITHA P  
Citizenship: India  
Adviser: Dr. David E. Lanar  
Research Field: Immunology  
Research Title: Cloning, Expression and Protective Efficacy Studies of Apical Membrane Antigen (AMAI) from Plasmodium Falciparum  
Ph.D. Date: 1993  
Actual Starting Date: 10/11/00  
Termination Date: 10/10/01

WINTER, DAVID B  
Citizenship: United States  
Adviser: Dr. George C. Tsokos  
Research Field: Molecular Immunology  
Research Title: Modulation of the Immune Response to Malaria Utilizing a Novel Vaccine Approach  
Ph.D. Date: 1993  
Actual Starting Date: 7/28/00  
Termination Date: 7/27/01

Y- Alternate with Final Turndown  (2 Applicants listed)

FISHER, ROBERT W, IV  
Citizenship: United States  
Adviser: Dr. Kevin Anderson  
Research Field: Molecular Pathology  
Research Title: Use of Differential Gene Expression as an early Diagnostic Indicator Following Hemorrhagic Fever Virus Exposure  
Ph.D. Date: 2000  
U of North Carolina-Chapel Hill

QIN, ZHENYU  
Citizenship: People's Republic of China  
Adviser: Dr. Luther E. Lindler  
Research Field: Bacteriology  
Research Title: Molecular Analysis of Genetic Differences Between Yersinia Pestis and Yersinia Pseudotuberculosis  
Ph.D. Date: 2000  
Chinese Academy of Medical Sci
# U.S. Army Medical Research and Materiel Command

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<td>U.S. Army Institute of Surgical Research</td>
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<td>Walter Reed Army Institute of Research</td>
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| Total                                                    | 37      | 34      | 35     | 36     | 41     | 44      |
USMA FINAL REPORT FORM

If you have downloaded this form, enter the information electronically.
Return this form directly to the NRC as an e-mail attachment or print out and mail.

1) NAME
   S. Ashraf Ahmed

2) DATE
   May 18, 2000

3) Program / Agency    Lab / Center    Lab Location
   USMA/ARL        AMRMC/AMRIID    Fort Detrick

4) DATES OF TENURE
   August 18, 1997 -- to -- January 28, 2000

5) NAMES OF RESEARCH ADVISER AND TEACHING MENTOR
   Dr. Leonard A. Smith

6) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE
   None

7) PROFESSIONAL TRAVEL DURING TENURE
   List location(s) and date(s) of travel to scientific meetings; group into domestic and foreign.
   Foreign: 1. Pattaya/Bangkok, Thailand, October 12-16, 27-28

8) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES
   National Institutes of Health, Bethesda, MD, February 05, 2000

9) TITLE OF RESEARCH PROPOSAL
   Structural and Functional Characterization of Botulinum Neurotoxin Domains

10) SUMMARY OF RESEARCH DURING TENURE
    Itemize significant findings in concise form (25 words/250 characters.)
    Utilize concepts and key words.
    1) Devised method to obtain gram amounts of recombinant Botulinum neurotoxin A (rBoNT/A) light chain (LC) from inclusion bodies
    2) Stabilized and characterized rBoNT/A LC
    3) Identified a cyst residue in rBoNT/A LC as a potential target for drug design
    4) Through collaboration, provided additional support to the physical hypothesis of signal transduction
    5) Concentrated and crystallized rBoNT/B heavy chain e-domain

11) RESEARCH IN PROGRESS
    Briefly describe in 100 words or less.
    Characterization of a new rBoNT/A LC expressed as a soluble protein. This preparation is less stable than the one obtained from inclusion bodies, but is more useful because of native structure and higher catalytic activity. Some success to improve stability and activity have already been achieved. Once stabilized, attempts will be made to crystallize the protein with and without inhibitors in order to determine its three-dimensional structure.

12) SUMMARY OF TEACHING DURING TENURE
    Include the classes taught.
    1) None
    2)
3)
4)
5)
6)

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.
(a) Publications in peer-reviewed journals:
None
(b) Books or book chapters:
None
(c) Manuscripts in preparation, manuscripts submitted:

14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. Group into domestic and foreign.
None

15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
Provide titles, authors, and dates of application.
Ahmed, S.A. and Smith, L.A.: An application for the synthetic gene of BoNT/A I.C and its product is being prepared this week.

16) NEW POSITION STATUS/CATEGORY
Please indicate only one.
☒ Research -- National Government (U.S. or Foreign)
☐ Administration -- U.S. Govt. (Fed., State, or Local)
☐ Continuation at Host Lab/Center
☐ College/University
☐ Postdoctorate
☐ Non Profit
☐ Self Employment
☐ Industry
☐ Other
Abbreviate name of Host Lab/Center: USAMRIID
Please specify: ___

16) NEW POSITION TITLE AND NAME (not address) OF ORGANIZATION
Research Chemist, Toxinsology Division, USAMRIID, 1425 Porter Street, Fort Detrick, MD 21702

18) FORWARDING ADDRESS (to which your tax statement will be mailed)
11608 Queen Nicole Terrace, Germantown, MD 20876

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM
Please evaluate each of the following on a scale of 1 (poor) to 10 (excellent):
8   a) Of what value was this experience to your career?
8   b) What is your evaluation of your experience in the laboratory?
8   c) What is your evaluation of your interaction with the NRC?
8   d) What is your evaluation of your experience at USMA?

Please provide any additional comments on the usefulness of the Associateship Program to you, including suggestions for improvements.
COMMENTS: 1. Enjoyed excellent help and support from the Program Coordinator, Ms. Lisa E. Bevel. 2. The stipend was/is not sufficient/competitive for a Senior Associate with my background; 3. Had extremely hard time in getting medical reimbursement from Aetna US Healthcare; 4. On two occasions, NAT selected inconvenient air travel route and quoted airfares that were much higher than I could get by directly calling the airlines.

S. A. Ahmad 5-16-00

USPS Mailing Address
Associate Programs [TJ 2114]
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, NW
Washington, DC 20418

FAX Number
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1000 Thomas Jefferson Street, NW
Washington, DC 20007

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ID. # Copy To / Date Cost-Center #
FINAL REPORT FORM

If you have downloaded this form, enter the information electronically. Return this form directly to the NRC as an e-mail attachment or print out and mail.

1) NAME
   Douglas Cerasoli

2) DATE
   July 21, 2000

3) Program / Agency   Lab / Center   Location
   AMRMC               AMRICD      Aberdeen Proving Grounds

4) DATES OF TENURE
   July 20, 1998 -- to -- July 17, 2000

5) NAME OF RESEARCH ADVISER
   Dr. David E. Lenz

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?
   ☐ Yes     ☒ No

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE

8) PROFESSIONAL TRAVEL DURING TENURE List locations and dates of travel to scientific meetings; group into domestic and foreign.
   Hunt Valley MD, May 31-June 4, 1998 - Bioscience Review
   Washington DC, April 17-21, 1999 - FASEB Experimental Biology 99
   Boston MA, June 4-8, 2000 - ASBMB/ASPET Meeting 2000

9) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES List location(s) and date(s).

10) TITLE OF RESEARCH PROPOSAL
    Analysis of the Structure and Function of Anti-Organophosphorus Catalytic Antibodies / Generation of Genetically Modified Mice with Low Serum Carboxylesterase Activity

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form (25 words/250 characters each item.) Utilize concepts and key words.
    1) No catalytic anti-nerve agent activity was detected in a large panel of B cell hybridomas
    2) 14 monoclonal antibodies with different fine specificities for nerve agents or analogs thereof were characterized
    3) Three monoclonal antibodies with appropriate binding characteristics were identified for use in diagnostic devices of nerve agent exposure
    4) The complete nucleotide sequence of the coding region of the serum carboxylesterase gene (Es-1) from 129-background mice was determined
    5) The nucleotide sequence of substantial portions of the genomic Es-1 gene (including five introns) was determined

12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.
    Currently, I am determining the nucleotide sequence of more of the genomic Es-1 gene, in anticipation of generating a recombination substrate for use in making Es-1 knockout mice. At the same time, I am involved in efforts to enhance/alter
the binding characteristics of anti-nerve agent antibodies through site-directed mutagenesis, to improve their utility in diagnostic assays.

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.
(a) Publications in peer-reviewed journals:


(b) Books or book chapters:


(c) Manuscripts in preparation, manuscripts submitted:


14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. Group into domestic and foreign.


15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
Provide titles, authors, and dates of applications.

16) NEW POSITION STATUS/CATEGORY
Please indicate only one.

☐ Research -- National Government (U.S. or Foreign) ☐ College/University ☐ Non Profit
☐ Administration -- U.S. Govt. (Fed., State, or Local) ☐ Postdoctorate ☐ Industry
☐ Continuation at Host Lab/Center ☐ Self Employment ☐ Other
Abbreviate Host Lab/Center:

17) NEW POSITION TITLE AND NAME (not address) OF ORGANIZATION

Research Microbiologist at USAMRICD

18) FORWARDING ADDRESS (to which your tax statement will be mailed)

3012 Rosalie Avenue
Baltimore, MD 21234
19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM

Please evaluate each of the following on a scale of 1 (poor) to 10 (excellent):

9 a) Of what value was this experience to your career?
9 b) What is your evaluation of your experience in the laboratory?
9 c) What is your evaluation of your interaction with the NRC?

Please provide any additional comments on the usefulness of the Associateship Program to you, including suggestions for improvements.

The Associateship Program was very helpful to me, especially with regard to establishing a position for long-term career. I would recommend more aggressive advertising of the program, directed towards graduate students in their third and fourth years of graduate school.
FINAL REPORT FORM

If you have downloaded this form, enter the information electronically. Return this form directly to the NRC as an e-mail attachment or print out and mail.

1) NAME
   Yacov Ashani

2) DATE
   June 23, 2000

3) Program / Agency or enter abbreviation  Lab / Center  Location
   AMRMC  AMRMC  WRAIR  Silver Spring MD

4) DATES OF TENURE
   August 1, 1999 – to – July 6, 2000

5) NAME OF RESEARCH ADVISER
   Dr. B.P. Doctor/Dr. A. Saxena

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?
   Yes  [ ]  No  [ ]

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE
   N/A

8) PROFESSIONAL TRAVEL DURING TENURE List locations and dates of travel to scientific meetings; group into domestic and foreign.

9) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES
   List location(s) and date(s).
   N/A

10) TITLE OF RESEARCH PROPOSAL
    Chemical Modification of Human Butyrylcholinesterase

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form (25 words/250 characters each item.)
    Utilize concepts and key words.
    1) A new affinity chromatography resin was synthesized for the purification of HuBChE from Cohn's Fraction IV, and from out-dated human plasma. The gel is currently under evaluation.
    2) The reactivation potency of the oxime candidate to be coupled to HuBChE was defined. This established a baseline information for the evaluation of oxime-HuBChE covalent conjugates.
    3) A water soluble carbodiimide was examined as linking agent for the chemical modification of HuBChE by a specific oxime reactivator. EqBChE was utilized as a model protein. More experiments are needed to explore this chemical route.
    4) Theoretical calculations and experimental data established SAR among phosphorylated oximes. Results advance our understanding the mechanism of oxime-induced reactivation and provide a lead for computer-designed improved reactivator.
    5) Charged organophosphate inhibitors were characterized by use of mutant AChEs and BChEs. This study highlights the differences between three groups of positively charged OPs in terms of their interaction with the active site center of ChEs.

12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.
    To further advance the idea of converting HuBChE to an OP hydrolyzing esterase by covalent linking of oxime reactivators to the enzyme, two lines of efforts are currently being pursued in parallel.
Large quantities of enzyme are required to develop a suitable protocol for the chemical modification of HuBChE. A new affinity chromatography resin developed during my tenure is being examined as a replacement gel for the purification of HuBChE. Parametric studies are being conducted with outdated human plasma and an alternative source of HuBChE, Cohn’s fraction IV.

To select the optimal oxime reactivator for the envisaged chemical modifications we initiated a study on 12 newly synthesized phosphorylated oximes (POXs). These compounds are produced during reactivation of OP-inhibited ChE and their accumulation reduces the rate and extent of reactivation. The characterization of POXs is now almost complete.

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.

(a) Publications in peer-reviewed journals:
N/A

(b) Books or book chapters:
N/A

(c) Manuscripts in preparation, manuscripts submitted:


14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. Group into domestic and foreign.


A. Saxena, Y. Ashani, P. Taylor, D.M. Maxwell, and B.P. Doctor “Recombinant Cholinesterases: Developing an Ideal Bioscavenger For Protection Against Organophosphate Nerve Agents” CB Medical Treatment Symposium, 7-12 May 2000, Spiez Switzerland
15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
Provide titles, authors, and dates of applications.

16) NEW POSITION STATUS/CATEGORY Please indicate only one.
    ☒ Research -- National Government (U.S. or Foreign)
    ☐ Administration -- U.S. Govt. (Fed., State, or Local)
    ☐ Continuation at Host Lab/Center
    Abbreviate Host Lab/Center: ______

    ☐ College/University
    ☐ Postdoctorate
    ☐ Self Employment
    ☐ Non Profit
    ☐ Industry
    ☐ Other
    Please specify:

17) NEW POSITION TITLE AND NAME (not address) OF ORGANIZATION
    N/A. Returning to my home laboratory at Israel

18) FORWARDING ADDRESS (to which your tax statement will be mailed)
    5 Shaar HaGolan St.
    Rishon-Lezion
    ISAREL

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM
    Please evaluate each of the following on a scale of 1 (poor) to 10 (excellent):
    9 a) Of what value was this experience to your career?
    9 b) What is your evaluation of your experience in the laboratory?
    9 c) What is your evaluation of your interaction with the NRC?

    Please provide any additional comments on the usefulness of the Associateship Program to you, including suggestions for improvements.
The administration of the Program by the Associateship Office was of great help to me. Prompt and precise responses to a variety of questions are held in high regard. The expertise and dedication of the Associateship Office Staff is to their credit. Only one reservation needs to be raised here. Because of the 20% co-payment plan and the deductible amount, I found the health insurance plan a huge financial burden to those who need medical attention during the tenure. Also, I experienced unexpectedly long delays in reimbursement of medical expenses that were due to me.
1) NAME Carmen Fernandez-Prada, Ph.D.
2) DATE 03/10/00
3) NAME OF LABORATORY/CENTER AND LOCATION AMRC/WRASR-DC
4) DATES OF TENURE March 13, 1997 to March 12, 2000
5) TITLE OF RESEARCH PROPOSAL
6) NAME OF RESEARCH ADVISER(S) COL David Hoover
7) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER? N/A
8) PROFESSIONAL SOCIETY OFFICES HELD DURING TENURE ASM, AAAS
9) PROFESSIONAL TRAVEL DURING TENURE Please see attached
10) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES
11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form, utilizing concepts and keywords.
12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.
13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
   Please list separately:
   (a) Publications in peer-reviewed journals;
   (b) Books or book chapters; and,
   (c) Manuscripts in preparation, manuscripts submitted.
14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
16) NEXT POSITION TITLE, ORGANIZATION and ADDRESS
17) NEXT POSITION STATUS
    Research -- National Government (U.S. or Foreign) College/University Professor
    Administration -- U.S. Govt. (Fed., State, or Local) Postdoctoral
    Remain at Host Lab/Center (Please provide name of Lab/Center.) Uncertain
    Self-Employed Industry
    Other
18) FORWARDING ADDRESS (to which your tax statement will be mailed)
19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM
   Please evaluate each of the following on a scale of 1 (poor) to 10 (excellent):
   Of what value was this experience to your career?
   What is your evaluation of your experience in the laboratory?
   What is your evaluation of your interaction with the NRC?
   Additional comments on the usefulness of the Associateship Program to you, including suggestions for improvements:
NRC
FINAL REPORT

(1) NAME Carmen M. FERNANDEZ-PRADA

(2) DATE 03/10/00

(3) NAME OF LABORATORY/CENTER AND LOCATION
AMRMC WRAIR, Dept. of Bacterial Diseases
Bldg. 503, Rm. 2N57
Silver Spring, MD 20910

(4) DATES OF TENURE MARCH 13, 1997 - MARCH 13, 2000

(5) TITLE OF RESEARCH PROPOSAL
Characterization of complement activation by Brucella strains and Interaction of Brucella with human monocytes, macrophages and dendritic cells.

(6) NAME OF RESEARCH ADVISER COL David L. Hoover

(7) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER? N/A

(8) PROFESSIONAL SOCIETY OFFICES HELD DURING TENURE
American Society for Microbiology (ASM)
American Association for the Advancement of Science (AAAS)

(9) PROFESSIONAL TRAVEL DURING TENURE
1. 97th General Meeting, ASM. Miami Beach, Florida, May 3-8, 1997.
3. 50th Brucellosis Research Conference, Chicago, Nov. 7-9, 1997.

(10) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES


(11) SUMMARY OF RESEARCH DURING TENURE
1. Comparative bactericidal assays between rough and smooth B. abortus and B. melitensis strains.
2. Comparative complement deposition between these two Brucella species by flow cytometric analysis.
3. Role of the three complement pathways (classical, alternative and MBL-mediated) in the killing of Brucella strains.
4. Study of the interaction of rough and smooth Brucella with monocytes, macrophages and dendritic cells.
5. Use of Brucella strains expressing the GFP (green fluorescent protein) for in vitro studies.

(12) RESEARCH IN PROGRESS
1. Characterization of the mechanism(s) of complement activation of smooth and rough strains by studying the role of the three complement pathways (classical, alternative and MBP-mediated) in the killing of Brucella strains.
2. Analysis in vitro of the ability of these Brucella strains to replicate in human monocytes/ human monocyte-derived macrophages and dendritic cells and how these interactions affect the host in preventing or inducing apoptosis.
3. Study of the cytokine changes in these phagocytic cells after Brucella infection.

(13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
3. Publications in peer-reviewed journals:
(b) Books or book chapters: None
(c) Manuscripts in preparation, manuscripts submitted:

(14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
First Joint Meeting of the American Association of Immunologists, American Academy of Allergy, Asthma and Immunology, and the Clinical Immunology Society. San Francisco, California, 1997.

(15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
None

(16) NEXT POSITION TITLE, ORGANIZATION AND ADDRESS
Consultant
Dept. of Bacterial Diseases
Bldg. 503, Rm. 2N57
WRAIR

(17) NEXT POSITION STATUS
Self-employed

(18) FORWARDING ADDRESS
2311 ROSS RD.
Silver Spring, MD 20910

(19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM
Of what value was this experience to your career? 9
What is your evaluation of your experience in the laboratory? 9
What is your evaluation of your interaction with the NRC? 9
Additional comments on the usefulness of the Associateship Program to you, including suggestions for improvements: To improve the health insurance.
FINAL REPORT FORM

If you have downloaded this form, enter the information electronically. Return this form directly to the NRC as an e-mail attachment or print out and mail.

1) NAME
   Elvis O. Price

2) DATE
   June 20, 2000

3) Program / Agency or enter abbreviation  Lab / Center  Location
   AMRMC  USAMRICD  3100 Ricketts Pt. Rd. APG, MD

4) DATES OF TENURE
   January 14, 1998 -- to -- June 30, 2000

5) NAME OF RESEARCH ADVISER
   Dr. William J. Smith

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?
   □ Yes   ☒ No

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE
   None

8) PROFESSIONAL TRAVEL DURING TENURE List locations and dates of travel to scientific meetings; group into domestic and foreign.

9) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES List location(s) and date(s).

10) TITLE OF RESEARCH PROPOSAL
    Investigations of Sulfur Mustard Adducts to Proteins via Matrix-Assisted Laser Desorption Ionization/Time-of-flight Mass Spectrometry

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form (25 words/250 characters each item.) Utilize concepts and key words.
   1) Demonstrated that MALDI-TOF/MS could be used to study the in vitro interactions of sulfur mustard with biomolecules.
   2) Sulfur mustard (SM)-Hemoglobin (Hb) alkylated species(s) could be observed using MALDI as low as a 5 mM in vitro whole blood exposure.
   3) Markers of SM exposure were observed in the MALDI spectra of the soluble extract of the in vivo SM exposure of live mouse ear tissue.
   4)
   5)

12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.
    Present research efforts are focused on isolating the SM-Hb adducts from whole blood using 2-D gel electrophoresis and/or
low SM exposure levels (below 5 mM). Additionally, mouse ear tissue will be exposed to a variety of vesicating nonalkylating agents as well as nonvesicating alkylating agents in an effort to determine whether the markers of SM exposure of mouse ear skin tissue is specific.

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.

(a) Publications in peer-reviewed journals:

(b) Books or book chapters:
None

(c) Manuscripts in preparation, manuscripts submitted:

14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. Group into domestic and foreign.


15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
Provide titles, authors, and dates of applications.
None

16) NEW POSITION STATUS/CATEGORY Please indicate only one.
☐ Research -- National Government (U.S. or Foreign) ☐ College/University ☐ Non Profit
☐ Administration — U.S. Govt. (Fed., State, or Local) ☐ Postdoctorate ☐ Industry
☐ Continuation at Host Lab/Center ☐ Self Employment ☐ Other
Abbreviate Host Lab/Center: __________

17) NEW POSITION TITLE AND NAME (not address) OF ORGANIZATION

18) FORWARDING ADDRESS (to which your tax statement will be mailed)
5018 Round Tower Place
Columbia, MD 21044

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM
Please evaluate each of the following on a scale of 1 (poor) to 10 (excellent):

a) Of what value was this experience to your career?
c) What is your evaluation of your interaction with the NRC?

Please provide any additional comments on the usefulness of the Associateship Program to you, including suggestions for improvements.
FINAL REPORT FORM

If you have downloaded this form, enter the information electronically.
Return this form directly to the NRC as an e-mail attachment or print out and mail.

1) NAME
   Albert L. Ruff

2) DATE
   October 21, 1999

3) Program / Agency   Lab / Center   Location
   AMRMC   USAMRIID   Fort Detrick, MD

4) DATES OF TENURE
   March 30, 1998 -- to -- October 23, 1999

5) NAME OF RESEARCH ADVISER
   dr. Connie Schmaljohn

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?
   □ Yes   □ No

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE
   None

8) PROFESSIONAL TRAVEL DURING TENURE List locations and dates of travel to scientific meetings; group into domestic and foreign.
   A. Domestic
      1. National Foundation for Infectious Diseases, Bethesda, MD 3/28-99-3/30/99, Second Annual Conference on Vaccine Research
      2. U Mass, Amherst, MA 7/10/99-7/14/99, American Society of Virology Annual Conference
   B. Foreign
      1. Paul Ehrlich Institute, Langen, Germany 10/4/99-10/10/99, Progress and Clinical Development of DNA Vaccines

9) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES
   PowderJect Vaccines, Madison, Wisconsin 9/24/99

10) TITLE OF RESEARCH PROPOSAL
    Enhancing the Immune Response to Ebola Antigens

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form (25 words/250 characters each item.)
    Utilize concepts and key words.
    1) Significant improvement in the immunogenicity of Ebola DNA gene gun vaccination in mice.
    2) In mice, 100% protection against lethal challenge with Ebola virus could be consistently achieved after only 2 vaccinations, and 20-40% protection could be achieved with just one vaccination.
    3) Co-administration of cytokine DNA with Ebola DNA in gene gun vaccination modulated the immune response, but had no effect on survival after challenge.
    4) Quality control measures were developed and applied to the DNA gene gun vaccines resulting in improved and more consistent immune responses.
    5) DNA/gelatin nanosphere coacervates are not a viable delivery vector for DNA vaccines at this time.

12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.
We are investigating subcellular targeting strategies to enhance vaccine efficacy of Ebola GP and NP DNA vaccines. We have constructed chimeric Ebola GP and NP antigens that contain targeting signals from the ubiquitin or LAMP (lysosome-associated membrane protein) molecules to increase antigen processing and presentation of the GP or NP antigens in MHC I and MHC II molecules. The increased presentation of antigens in MHC I and MHC II has been shown to result in enhanced immune responses to other antigens.

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.
(a) Publications in peer-reviewed journals:
none

(b) Books or book chapters:
none

(c) Manuscripts in preparation, manuscripts submitted:

14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. Group into domestic and foreign.
none

15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH
Provide titles, authors, and dates of applications.
none

16) NEW POSITION STATUS/CATEGORY
Please indicate only one.
☒ Research -- National Government (U.S. or Foreign)
☐ Administration -- U.S. Govt. (Fed., State, or Local)
☐ Continuation at Host Lab/Center
Abbreviate Host Lab/Center: _______
☐ College/University
☐ Postdoctorate
☐ Self Employment
☐ Non Profit
☐ Industry
☐ Other
Please specify: _______

17) NEW POSITION TITLE AND NAME (not address) OF ORGANIZATION
Microbiologist, USAMRIID

18) FORWARDING ADDRESS (to which your tax statement will be mailed)
1668 Colonial Way
Frederick, MD 21702

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM
Please evaluate each of the following on a scale of 1 (poor) to 10 (excellent):
10 a) Of what value was this experience to your career?
10 b) What is your evaluation of your experience in the laboratory?
8 c) What is your evaluation of your interaction with the NRC?

Please provide any additional comments on the usefulness of the Associateship Program to you, including suggestions for improvements.
1) NAME  TASHMA, Zev

2) DATE  June 12, 2000

3) PROGRAM  AMRMC  LAB/CENTER  WRAIR  LOCATION  Silver Spring, MD

4) DATES OF TENURE  Aug 2, 1999 – June 9th, 2000

5) NAME OF RESEARCH ADVISER  Dr. Richard K. Gordon

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?  ☑ Yes  ☐ No

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE

8) PROFESSIONAL TRAVEL DURING TENURE  List location(s) and date(s) of travel to scientific meetings. List foreign meetings separately.

   • BIOSCIENCE 2000 MEDICAL DEFENSE REVIEW CONFERENCE, Hunt Valley, MD, June 4-9, 2000

9) SEMINARS OR LECTURES GIVEN AT UNIVERSITIES AND/OR INSTITUTES. List locations and dates:


10) TITLE OF RESEARCH PROPOSAL

    Purification of human butyrylcholinesterase, and testing of an appropriate pharmaceutical formulation suitable for human use.

11) SUMMARY OF RESEARCH DURING TENURE. Itemize significant findings in concise form. Utilize concepts and key words.

   1) While human butyrylcholinesterase can be purified from human serum, it cannot be satisfactorily purified from Cohn's Factor 4 blood fraction.

   2) Considerable advances were made toward purifying the enzyme by studying the effects of several parameters (like temperature, pH, salt concentration) on overall yield.

   3) Applying a ion-exchange chromatography using carboxymethylcellulose in (prior to the affinity chromatography step) helps purification, by removing some proteins that stick to this anionic polymer (BChe does not bind strongly).

   4) Elevated temperature cannot be used as a virucidal method since BChe will totally break down. Other methods, like solvent/detergent (S/D), or applying pH=4 at 37°C, can be used, especially when the protein in accompanied by a big excess of other proteins. The yield, however, is usually under 60%.

   5) The enzymatic fraction that survives the virucidal treatment is not less thermally stable than the untreated enzyme; it might be even somewhat more stable.
12) RESEARCH IN PROGRESS  Briefly describe in 100 words or less. Both topics of this project (the isolation of BChE from "Factor 4" and finding the least-damaging vincristine procedure) prove to need further research, despite the progress we have achieved. I hope to do more work on these topics in the future.

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH  Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.

(a) Publications in peer-reviewed journals:

(Paper and presentation regarding this research will be published when the isolation and purification will be completely worked out.)

(b) Books or book chapters:

(c) Manuscripts in preparation, manuscripts submitted:

14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES  Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. List foreign meetings separately.

15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

16) NEW POSITION TITLE, ORGANIZATION and ADDRESS

Senior Scientific Advisor
NRC Branch, Medical Corps HQ,
Israeli Defense Forces, Military Post 0249, ISRAEL

17) NEW POSITION PLANS  You may indicate more than one.

☑ Research -- National Government (Federal or Foreign)  ☐ College/University Professor
☑ Administration -- U.S. Govt (Fed., State, or Local)  ☐ Postdoctoral
☐ Remain at Host Lab/Center (Please provide name of Lab/Center.)  ☐ Uncertain
☐ Self-Employed
☐ Industry
☐ Other

18) FORWARDING ADDRESS (to which your tax statement will be mailed)

Dr. Zev TASHMA
2, SHAHAL STREET
JERUSALEM 93701, ISRAEL

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM

Please evaluate each of the following on a scale of 1 (poor) to 10 (excellent):

☑ a) Of what value was this experience to your career?
☑ b) What is your evaluation of your experience in the laboratory?
☐ c) What is your evaluation of your interaction with the NRC?

Please provide any additional comments on the usefulness of the Associateship Program to you, including suggestions for improvements.