Award Number: DAMD17-00-2-0002

TITLE: Support for the Resident Research Associateship Program with the U.S. Army Medical Research and Materiel Command

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

CONTRACTING ORGANIZATION: National Academy of Sciences
Washington, DC 20418-0006

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

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Support for the Resident Research Associateship Program with the U.S. Army Medical Research and Materiel Command

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7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
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U.S. Army Medical Research and Materiel Command
Fort Detrick, Maryland 21702-5012

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Approved for Public Release; Distribution Unlimited

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Unclassified

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Unclassified

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Unclassified

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Unlimited
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The National Academies Research Associateship Programs for the report period were announced to the scientific community, beginning in the fall of the preceding year. Publicity materials describing the National Research Council-U.S. Army Medical Research and Materiel Command (AMRMC) Programs were distributed in November to presidents, graduate deans, and heads of appropriate science and engineering departments and minority-affairs offices of all academic degree-granting institutions in the United States. An e-mail announcement of the programs was sent to these same contact points prior to each review deadline. Promotional materials were sent to Laboratory Program Representatives, Associateship Advisers, and other interested persons. General advertisements of programs were placed in leading scientific and engineering publications. Publicity materials and other related information were made available on the internet. Research Associateship Programs staff attended numerous society meetings and minority recruitments 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 AMRMC Research 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 Research Associateship Programs, including those with the U.S. Army Medical Research and Materiel Command, are conducted four times each year. The following is a breakdown of the action taken with the applications to the U.S. Army Medical Research and Materiel Command during the reporting period.

<table>
<thead>
<tr>
<th>Mar review of Feb app-04</th>
<th>May review of June app-04</th>
<th>Sept review of Aug app-04</th>
<th>Jan review of Nov app-04</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL APPLICATIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>Number of Applications Reviewed</td>
<td></td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Applications not recommended (did not pass Review)</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Applications Recommended (passed Review)</td>
<td>0</td>
<td>10</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Awards offered</td>
<td>0</td>
<td>8</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Awards accepted</td>
<td>0</td>
<td>7</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Awards declined</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Awards withdrawn by RAP (NRC officially withdrew award after it had been accepted.)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Associates’ Citizenship

Associates on tenure between 1/24/2004 and 1/23/2005 were citizens of the following countries:

<table>
<thead>
<tr>
<th></th>
<th>41 U.S. citizens</th>
<th>11 J-1 research scholars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14 Non U.S. citizens</td>
<td>2 Australia</td>
</tr>
<tr>
<td>1 Pending Permanent Resident</td>
<td>1 Brazil</td>
<td>1 France</td>
</tr>
<tr>
<td>1 India</td>
<td>2 Israel</td>
<td>1 Italy</td>
</tr>
<tr>
<td>2 Non J-1 research scholars</td>
<td>1 People’s Republic of China</td>
<td></td>
</tr>
<tr>
<td>1 Australia</td>
<td>2 Russia</td>
<td></td>
</tr>
<tr>
<td>1 Bangladesh</td>
<td>1 Ukraine</td>
<td></td>
</tr>
</tbody>
</table>
Associates’ Activities

Associates who ended tenure during the report period were on tenure for an average of 29 months, ranging from 11 months to 44 months.

Of the 18 Associates who ended tenure during the report period, 10 submitted final reports. In the final reports, Associates indicated the following scholarly activity while on tenure.

- 11 Articles published in peer-reviewed journals
- 4 Patent applications
- 5 International presentations
- 21 Domestic presentations
- 2 Awards

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

- 2 Remain at host agency as perm. employee
- 3 Remain at host agency as contract employee
- 0 Research position at other US gov’t. lab
- 0 Administrative position at US gov’t. lab
- 1 Research position at foreign gov’t. lab
- 1 Research/teaching-US college/university
- 0 Research/teaching-foreign college/university
- 2 Research/admin in industry
- 0 Research/admin in non-profit organization
- 1 Postdoctoral research
- 0 Self employed
- 0 Other (may include unemployed)

In their final reports, 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:

- 7.8 Short-term value: Development of knowledge, skills, and research productivity
- 8.7 Long-term value: How your Research Associateship affected your career to date
- 8.3 Laboratory: Quality of the support you received from the federal laboratory
- 9.1 RAP: Quality of the support you received from the Research Associateship Programs

Advisers also were asked to complete an evaluation of the Associate. The following summarizes the Adviser evaluations for Associates ending tenure during the report period. Of the 18 Associates who ended tenure, 10 Adviser evaluations were completed. Assessments were made on six 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:

- 3.7 Knowledge of field
- 3.7 Innovative thinking
- 3.7 Research techniques
- 3.8 Independence
- 3.8 Motivation
- 3.9 Overall scientific ability

The Adviser was asked, “Would you like this Associate as a professional colleague?” The Advisers responded in the following manner:

- 7 Yes
- 1 No
- 1 No Comment
- 1 No Answer
Additional information about the Associates' activities can be found in the attachments described below and the Appendix.

**Attachment 1:** Associates who were on tenure between 1/24/2004 and 1/23/2005. Included are the Associate’s laboratory center/division location, the starting and termination dates, and the names of their advisers. For those Associates who ended tenure during the report period, it is noted if the final and adviser evaluation reports have been received. Associates are required to submit final reports upon termination of tenure, and advisers are asked to submit a final evaluation of each Associate. Associates who have not submitted a final report have received follow-up correspondence.

**Attachment 2:** All recommended candidates by category (e.g., Recommended, Accepted, No Funding, Declined, etc.). This report includes information about citizenship, the PhD institution, the title of proposed research, proposed or actual starting date, and adviser.

**Attachment 3:** Summaries of Associate patent activity, if any, and Associate research during tenure as reported on the Associates’ termination reports. The summary of patent activity includes the patent application title, inventor(s), and date of application.

**Appendix:** Final reports received from the Associates who ended tenure during the report period.
### Associates On Tenure

1/24/2004 - 1/23/2005

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

<table>
<thead>
<tr>
<th>Associate Name+ Adviser</th>
<th>Center</th>
<th>Tenure Dates Start/End</th>
<th>Termination Report</th>
<th>Adviser Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beitzel, Brett Forrest Dr. Connie S. Schmaljohn</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>1/12/2004 - 1/11/2006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bhonsle, Jayendra Bhausaheb Dr. Aparva K. Bhattacharjee (S)</td>
<td>Walter Reed Army Institute of Research</td>
<td>7/6/2004 - 7/5/2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brittingham, Katherine Tracey Cecil Dr. Sina Bavari</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>9/11/2003 - 9/10/2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chen, Yue-Qin Dr. Thomas H. Hudson</td>
<td>(S) Walter Reed Army Institute of Research</td>
<td>2/11/2003 - 8/10/2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coberley, Sadie Shea Dr. Alan L. Schmaljohn</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>7/29/2002 - 8/27/2004</td>
<td>Received</td>
<td>Received</td>
</tr>
<tr>
<td>Cote, Christopher Kevin Dr. Susan L. Welkos</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>4/29/2002 - 4/28/2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curtis, Kristopher Michael Dr. Thomas W. Geisbert</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>8/15/2003 - 8/14/2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dupuy, Lesley Conrad, Jr Dr. Connie S. Schmaljohn</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>5/2/2003 - 5/1/2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emerson, Ginny Leigh Dr. M. S. Ibrahim</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>3/1/2004 - 2/28/2006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher, Robert Walt St. George, IV Dr. Lisa E. Hensley</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>3/14/2001 - 11/5/2004</td>
<td>Not Recd</td>
<td>Not Recd</td>
</tr>
<tr>
<td>Goff, Arthur James Dr. Lisa E. Hensley</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>8/20/2004 - 8/19/2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonzales, Liza Marie Dr. Connie S. Schmaljohn</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>1/8/2001 - 3/7/2004</td>
<td>Not Recd</td>
<td>Not Recd</td>
</tr>
<tr>
<td>Gooch, Jan Woodall Dr. Michael A. Dubick</td>
<td>(S) U.S. Army Institute of Surgical Research</td>
<td>7/23/2001 - 7/22/2004</td>
<td>Received</td>
<td>Not Recd</td>
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<tr>
<td>Hillier, Collette Jane Dr. David E. Lanar</td>
<td>Walter Reed Army Institute of Research</td>
<td>2/12/2001 - 8/11/2004</td>
<td>Not Recd</td>
<td>Received</td>
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<tr>
<td>Hoard-Fruche, Heidi Marie Dr. Michael Adler</td>
<td>U.S. Army Medical Research Institute of Chemical Defense</td>
<td>7/19/2004 - 7/18/2005</td>
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<tr>
<td>Islam, Dilara Dr. Ladaporin Bodhidatta</td>
<td>(S) Walter Reed Army Institute of Research</td>
<td>9/4/2001 - 9/3/2004</td>
<td>Received</td>
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<tr>
<td>Jensen, Victoria Margaret Dr. Jay W. Hooper</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>7/19/2004 - 7/18/2005</td>
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<tr>
<td>Jung, Bruce John Dr. Tsung-Ming A. Shih</td>
<td>U.S. Army Medical Research Institute of Chemical Defense</td>
<td>7/14/2003 - 7/13/2005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

+ (S) indicates the associate was a Senior.

Highlighted entries indicate no entry on the Award Init Screen but data on the Post Tenure Screen.
### Associates On Tenure 1/24/2004 - 1/23/2005

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

<table>
<thead>
<tr>
<th>Associate Name+ Adviser</th>
<th>Center</th>
<th>Tenure Dates Start/End</th>
<th>Termination Report</th>
<th>Adviser</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keener, William Kelvin</td>
<td>(S) U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>10/1/2004 - 9/30/2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keller, Michael Anthony</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>12/9/2002 - 3/19/2004 Received Not Recd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Klas, Sheri Denet</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>12/6/2004 - 12/5/2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lackner, Daniel Francis</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>6/3/2002 - 6/2/2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LaJambe, Cynthia Marie</td>
<td>Walter Reed Army Institute of Research</td>
<td>1/3/2001 - 1/2/2004 Not Recd Not Recd</td>
<td></td>
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</tr>
<tr>
<td>Langston, Jeffrey Lamar</td>
<td>U.S. Army Medical Research Institute of Chemical Defense</td>
<td>5/12/2003 - 5/11/2005</td>
<td></td>
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<tr>
<td>Leader, Haim Nissan</td>
<td>(S) Walter Reed Army Institute of Research</td>
<td>11/4/2002 - 7/2/2005</td>
<td></td>
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</tr>
<tr>
<td>Manley, Heather</td>
<td>U.S. Army Medical Research Institute of Chemical Defense</td>
<td>9/9/2002 - 8/4/2004 Received Not Recd</td>
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<tr>
<td>Minsavage, Gary Dominic</td>
<td>U.S. Army Medical Research Institute of Chemical Defense</td>
<td>9/1/2004 - 8/31/2005</td>
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<tr>
<td>Moran, Daniel S.</td>
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<td>9/22/2003 - 8/20/2004 Received Received</td>
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<tr>
<td>Morefield, Garry Lee</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>5/12/2004 - 5/11/2005</td>
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<td>Mores, Christopher Nicolas</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>8/1/2002 - 7/31/2004 Received Received</td>
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<td>Walter Reed Army Institute of Research</td>
<td>5/15/2000 - 5/14/2004 Received Not Recd</td>
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<tr>
<td>Nephew, Benjamin C.</td>
<td>U.S. Army Research Institute of Environmental Medicine</td>
<td>10/12/2004 - 10/11/2005</td>
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<tr>
<td>O'Brien, David Kenneth</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>7/1/2003 - 6/30/2005</td>
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<td>Olinger, Gene Garrard, Jr</td>
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<td>6/4/2001 - 6/3/2004 Received Received</td>
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<td>Peachman, Kristina Kathryn</td>
<td>Walter Reed Army Institute of Research</td>
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<tr>
<td>Pearson, Brooke</td>
<td>U.S. Army Medical Research Institute of Infectious Diseases</td>
<td>7/14/2003 - 7/13/2005</td>
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<td>Russell, Bruce</td>
<td>Walter Reed Army Institute of Research</td>
<td>4/11/2002 - 6/12/2004 Not Recd Received</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

+ (S) indicates the associate was a Senior.

Highlighted entries indicate no entry on the Award Init Screen but data on the Post Tenure Screen.

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

<table>
<thead>
<tr>
<th>Associate Name+</th>
<th>Center</th>
<th>Tenure Dates Start/End</th>
<th>Termination Report</th>
<th>Adviser</th>
</tr>
</thead>
</table>
| Sallum, Maria Anice  
  Dr. Richard C. Wilkerson | (S) Walter Reed Army Institute of Research | 8/4/2003 - 8/27/2004 | Received | Received |
| Sharkey, Curtis Matthew  
  Dr. Sina Bavari | U.S. Army Medical Research Institute of Infectious Diseases | 7/12/2004 - 7/11/2005 | | |
| Shurtleff, Amy Christine  
  Dr. Mary C. Guttieri | U.S. Army Medical Research Institute of Infectious Diseases | 5/21/2002 - 5/20/2005 | | |
| Silvestri, Lynn Shiels  
  Dr. Alan L. Schmaljohn | U.S. Army Medical Research Institute of Infectious Diseases | 9/7/2004 - 9/6/2005 | | |
| Swenson, Dana Linne  
  Dr. Sina Bavari | (S) U.S. Army Medical Research Institute of Infectious Diseases | 3/13/2002 - 3/12/2005 | | |
| Tonduli, Laura Sabina  
| Ulrich, Ricky Lee  
  Dr. David DeShazer | U.S. Army Medical Research Institute of Infectious Diseases | 7/16/2001 - 11/26/2004 | Not Recd | Received |
| Warfield, Kelly Lyn  
  Dr. Sina Bavari | U.S. Army Medical Research Institute of Infectious Diseases | 6/17/2002 - 6/16/2005 | | |
| Wenke, Joseph Carl  
  Dr. Victor A. Convertino | U.S. Army Institute of Surgical Research | 5/29/2003 - 6/28/2004 | Received | Received |
| Yershov, Andrey Lvovich  
  Dr. Michael A. Dubick | (S) U.S. Army Institute of Surgical Research | 10/15/2001 - 4/12/2005 | | |
| Zollner, Gabriela Elaine  
  Dr. James W. Jones | Walter Reed Army Institute of Research | 4/22/2002 - 2/21/2005 | | |

55 Associates Listed

+S (S) indicates the associate was a Senior.

Highlighted entries indicate no entry on the Award Init Screen but data on the Post Tenure Screen.
3- Withdrew before Review

BUCHANAN, JESSICA B
Citizenship: United States
Adviser: Dr. Lisa R. Leon
Research Field: Animal Physiology
Research Title: Mechanisms of Heat Stress Recovery in Mice

1- Recommended (2 Applicants listed)

GALLO, STEPHEN A
Citizenship: United States
Adviser: Dr. Sina Bavari
Research Field: Biochemistry Biophysics
Research Title: Elucidation of Filoviral Entry Mechanism

NICOLL, WILLIAM S
Citizenship: New Zealand
Adviser: Dr. David E. Lanar
Research Field: Biochemistry
Research Title: Characterization of Plasmodium Falciparum Liver Stage Antigen LSA-1

A- Accepted Award (7 Applicants listed)

GOFF, ARTHUR J
Citizenship: United States
Adviser: Dr. Lisa E. Hensley
Actual Starting Date: 8/20/04
Research Title: Clinical Management Plan for Orthopox Virus Infection

HOARD-FRUCHEY, HEIDI M
Citizenship: United States
Adviser: Dr. Michael Adler
Actual Starting Date: 7/19/04
Research Title: Characterization of Botulinum Toxin Light Chain Stability and Endoprotease Activity

KALINA, WARREN V
Citizenship: United States
Adviser: Dr. Alan L. Schmaljohn
Actual Starting Date: 9/10/04
Research Title: The Efficacy of using Dendritic Cell Binding Peptides in a Vaccine to Enhance Protective Immune Responses to Marburg Virus
<table>
<thead>
<tr>
<th>Candidate Name</th>
<th>Degree Date</th>
<th>Citizenship</th>
<th>Advisor</th>
<th>Start Date</th>
<th>Field</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>KEENER, WILLIAM K</td>
<td>1995</td>
<td>United States</td>
<td>Dr. Mark A. Poli</td>
<td>10/01/04</td>
<td>Biochemistry</td>
<td>Development of Assays for N-glycosylases</td>
</tr>
<tr>
<td>MINSAVAGE, GARY D</td>
<td>2004</td>
<td>United States</td>
<td>Dr. James F. Dillman, III</td>
<td>9/01/04</td>
<td>Pharmacology Toxicology</td>
<td>Proteomic Analysis of Low-Level Exposure to the Chemical Warfare Agent Sarin</td>
</tr>
<tr>
<td>SHARKEY, CURTIS M</td>
<td>2003</td>
<td>United States</td>
<td>Dr. Sina Bavari</td>
<td>7/12/04</td>
<td>Virology</td>
<td>Design of Antisense Oligonucleotide Drugs to Treat Filoviral Infection</td>
</tr>
<tr>
<td>SILVESTRI, LYNN S</td>
<td>2001</td>
<td>United States</td>
<td>Dr. Alan L. Schmaljohn</td>
<td>9/07/04</td>
<td>Virology</td>
<td>Identification of Inhibitors of Filovirus RNA Polymerases</td>
</tr>
<tr>
<td>GHOSH, KASHINATH</td>
<td>1992</td>
<td>India</td>
<td>Dr. Russell E. Coleman</td>
<td></td>
<td>Infectious Diseases</td>
<td>Transmission of Leishmaniasis by Phlebotomine Sand Flies</td>
</tr>
</tbody>
</table>

**August 2004**

**Recommended/No Funding** (2 Applicants listed)

<table>
<thead>
<tr>
<th>Candidate Name</th>
<th>Degree Date</th>
<th>Citizenship</th>
<th>Advisor</th>
<th>Field</th>
<th>Title</th>
</tr>
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<tbody>
<tr>
<td>GHOSH, KASHINATH</td>
<td>1992</td>
<td>India</td>
<td>Dr. Russell E. Coleman</td>
<td>Infectious Diseases</td>
<td>Transmission of Leishmaniasis by Phlebotomine Sand Flies</td>
</tr>
</tbody>
</table>
SONG, GUANHONG  Ph.D. Date: 1994
Citizenship: People's Republic of China  Uniformed Services U Hlth Sci/MD
Adviser: Dr. Russell E. Coleman
Research Field: Parasitology
Research Title: Real-time PCR Assay for the Detection of Leishmania Parasites in Sand Flies

A- Accepted Award  ( 3 Applicants listed)

JOHNSON, ERIK A  Ph.D. Date: 2004
Citizenship: United States  University of Florida
Adviser: Dr. Gary A. Rockwood  Actual Starting Date: 1/03/05
Research Field: Neurosciences  Termination Date: 1/02/06
Research Title: Investigation of the Biochemical Basis of Behavioral Deficits Seen after Exposure to Low Level Chemical Warfare Nerve Agents in Guinea Pigs.

NEPHEW, BENJAMIN C  Ph.D. Date: 2003
Citizenship: United States  Tufts University/MA
Adviser: Dr. Lisa R. Leon  Actual Starting Date: 10/12/04
Research Field: Pathophysiology  Termination Date: 10/11/05
Research Title: Mechanisms of Heat Stress Recovery in Mice

RICKARDS, CAROLINE A  Ph.D. Date: 2004
Citizenship: Australia  Melbourne I Tec
Adviser: Dr. Victor A. Convertino  Expected Starting Date: 3/31/05
Research Field: Physiology  Termination Date: 3/30/06
Research Title: The Effects of Inspiratory Impedance on Cerebral Blood Flow Velocity during Simulated Haemorrhage with Lower Body Negative Pressure

November 2004

1- Recommended  ( 2 Applicants listed)

CASHMAN, KATHLEEN A  Ph.D. Date: 2004
Citizenship: United States  Georgetown University/DC
Adviser: Dr. Mary C. Guttieri
Research Field: Molecular Virology
Research Title: Evaluation of the Protective Role of Cell-Mediated Immunity during Lassa Virus Infection

GOLDEN, JOSEPH W  Ph.D. Date: 2004
Citizenship: United States  U of Minnesota Medical School
Adviser: Dr. Jay W. Hooper
Research Field: Virology
Research Title: Generation of a Highly Potent Poxvirus Immunogen Through the Identification of Neutralizing Epitopes of Vaccinia Virus L1R Protein
A- Accepted Award

BRADFUTE, STEVEN B
Citizenship: United States
Adviser: Dr. Thomas W. Geisbert
Research Field: Viral Immunology
Research Title: The Role of Lymphocyte Populations in Successful Immune Responses to Ebola Virus Infection

Ph.D. Date: 2005
Baylor College of Medicine/TX
Expected Starting Date: 2/21/05
Termination Date: 2/20/06
U.S. Army Medical Research and Materiel Command


1  Patent Title: Design, Expression, Purification and Uses of a Plasmodium falciparum Liver Stage Antigen 1 Fragment That Contains Multiple T- and B-cell Epitopes

Co-authors: David Ervin Lanar, Collette Jane Hillier, Evelina Angov, Jeffrey a. Lyon, Sanjai Kumar, and William Rol

Date Applied For:  11/12/2002  Date Approved For:
1 Characterized mouse and human monoclonal antibodies in vitro.
2 Wrote and defended animal protocol before LACUC required for future in vivo testing.
3 Developed and evaluated new methodologies for screening human antibody phage display library.
4 Plaque-picked Marburg virus strains for VLP construct starting material and future experiments.
5 Began planning and building of dual expression vectors for changing isotype and species of antibodies.

Gooch, Jan Woodall  7/23/2001  7/22/2004
1 Barrier dressings for wounds, liquid and particulate applied.
2 Antimicrobial emulsions for surfaces, broad spectrum and liquid applied.
3 Photopolymerizable tissue adhesives for in vitro/in vivo applications.
4 Investigation of topical antimicrobial agents and their mechanisms of activity.
5 Automatic and one-hand operated combat tourniquets.

Islam, Dilara  9/04/2001  9/03/2004
1 During the 1st 6th month, equipment and reagents were purchased for the new Immunology Section. Lab technichans were hired and trained. Different immunological techniques were established. From April 2002 we started to run projects.
2 The study "Establishment of a non-human primate Campylobacter disease model prior to the pre-clinical evaluation of Campylobacter vaccine formulations" was conducted during 2001 to 2003. Analysis of data is finished and the manuscript has submitted.
3 The study "Application of the rhesus monkey intragastric challenge model of shigellosis for study of virulent and attenuated S. flexneri 2a strains" finished recently. The established monkey model will be used for evaluation of Shigella vaccines.

4 Project "Travelers' Diarrhea Among US Forces Deployed to Thailand" was completed for years 2002-2004. Data are being analyzed for year 02 & 03, analyses of 04 samples are going on.

5 Phase I of the study "Evaluation of the Immunogenicity of the Intranasal Shigella Invaplex vaccine administered to rhesus monkeys using the Accuspray device" is completed recently and phase II is going on.

1 Generation of shuttle plasmids containing Ebola genes NP, VP30, and VP35 under the control of the T7 promoter.

2 Generation of adenoviral plasmids containing Ebola genes NP, VP30, and VP35.

3 Generation of a reporter construct containing the GFP gene under the control of the Ebola virus genomic promoter and the RFP gene under control of an IRES.

1 Characterization of model cell systems to examine trafficking of BoNTs. Primary spinal cord cells and NS-26 neuroblastoma cells are good models for the study of BoNT intoxication-each having particular advantages and disadvantages.

2 Examination of mutations of the BoNT light chain and effects on subcellular trafficking. Mutation of putative palmitoylation sites has no effect on membrane localization of BoNT light chain.

3 Characterization of the use of FM1-43 as a replacement for use of radiolabeled neurotransmitter to examine effect of BoNTs on synaptic vesicle release.

Moran, Daniel S. 9/22/2003 8/20/2004
1 Organizing database and analysis from a previous study.

2 Development of a new concept for construction of a new cold strain index (CSI).
3 Constructing a new stress index for peripheral cold strain (CSIp) and hypothermia.

4 Revising CSIp for different metabolic rates and exercise during cold strain (CSIexe).

Mores, Christopher Nicolas 8/01/2002 7/31/2004
1 Characterized S and partial M segments of novel bunyamwera viruses.

2 Discovered numerous stop codons within NSs open reading frame of bunyaviruses from study area.

3 Apparent reassortment of S segment among bunyaviruses of different serogroups within study area.

4 Performed vector competency testing for Karshi virus in soft ticks, arthropod-as-reservoir surmised.

5 Performed biosafety study on inactivation of level 3 and level 4 viruses, reported recommendations.

Myers, Todd Matthew 5/15/2000 5/14/2004
1 Percentile schedules were effective in producing relatively and absolutely short or long reaction times in all subjects.

2 Sample-stimulus responding was shown to vary as a function of reinforcer proximity and choice reaction-time criteria.

3 Accuracy was reduced below baseline levels by percentile schedules, whether selecting for shorter or longer reaction times, making them suitable for dissociating speed and accuracy effects.

4 The serial-probe recognition procedure was sensitive to cognitive-behavioral disruptions wrought by various drugs.

5 Percentile schedules were effective at producing/preventing/mitigating biases for particular choice stimuli.

Associate Research

U.S. Army Medical Research and Materiel Command

Olinger, Gene Garrard, Jr 6/04/2001 6/03/2004
1 Identified multiple Ebola VP protein specific CD8 and CD4 T lymphocyte responses generated by vaccination in mice.

2 Demonstrated lytic function of epitope specific responses and their role in protection against Ebola infection.

3 Demonstrated efficacy of a cocktail vaccine, simultaneous vaccination with VEE replicons expressing six Ebola proteins.

4 Route and dose evaluation of cocktail vaccine in rodents, and demonstrated single low dose efficacy of vaccine strategy.

5 Initiated non-human primates vaccine studies, evaluating cellular and humoral responses and efficacy in challenge model.

Peachman, Kristina Kathryn 6/01/2001 11/30/2004
1 DNA vaccination through transcutaneous immunization (TCI) is feasible and induces broad immunological responses.

2 GM1 binding peptides serve as a novel adjuvant for transcutaneous immunization.

3 Soluble and particulate antigens traffic to the trans-Golgi in human and murine dendritic cells, whereas, in human and in murine macrophages only particulate antigens traffic to the trans-Golgi.

4 Cholesterol is needed for the presentation of liposome-encapsulated antigen on MHC class I in murine macrophages.

5 Provisional Patent "Penetration of Skin by Smart Cells for Delivery of Drugs and Vaccines." (Submitted in May 2004).

Sallum, Maria Anice 8/04/2003 8/27/2004
1 One paper has been submitted and is accepted for publication in Medical and Veterinary Entomology, U.K. Regarding the description of six new species of the leucosphyrus group of anopheles (cellia) (diptera: culicidae). This is a morphological study.

2 The complete revisionary study of the leucosphyrus group is done and at this moment is being friendly reviewed by mosquito taxonomists. It is going to be submitted in September 2004. The manuscript is 320 pages, 64 illustrations, 46 tables.
3 Another manuscript regarding anopheles albitarsis is also done and is going to be submitted for publication in September 2004. The group involved in the study is anopheles albitarsis complex. This is a molecular study.

4 For the leucosphyrus group, sequences of two mitochondrial genes (cox1 and nadh6) have been made and now is being analyzed, 19 species for the cox1 and 15 species for the nadh6.

1 Bioreabsorable bone graft substitutes that have osteoinductive and osteoconductive characteristics are capable of preventing infection in contaminated bone defects as well as the current standard of care.

2 A model for evaluating different irrigation fluids and devices have been developed.

3 Pulse lavage irrigation reduces more bacteria than pulse lavage.

4 Adding a surfactant to irrigation fluids reduces the bacteria quantity more than the current standard of care (saline).
APPENDIX

THE NATIONAL ACADEMIES
Advisors to the Nation on Science, Engineering, and Medicine

Research Associateship Programs

FINAL REPORT

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

1) Associate Last or Family Name
Coberley

2) FORWARDING Address (for tax statement / final stipend check)
420 Ellington Avenue #117, Nashville, TN 37205

3) Today's Date
August 20, 2004

4) Agency / Laboratory or NASA Center / Division / Branch / Directorate
AMRMC / Virology

5) NAME OF RESEARCH ADVISER
Dr. Alan L. Schmaljohn

6) TITLE OF RESEARCH PROPOSAL
Evaluation of Filovirus Specific Antibodies as Potential Prophylactic or Therapeutic Agents

7) SUMMARY OF RESEARCH DURING TENURE
Itemize significant findings in concise form, utilizing key concepts/words.

1) Prepared antibodies for passive transfer experiments
2) Evaluated human monoclonal antibodies for their ability to protect guinea pigs from lethal filovirus infection
3) Evaluated mouse monoclonal antibodies for their ability to protect guinea pigs from lethal filovirus infection
4) Constructed the kappa leader sequence as part of the antibody cassette to change antibody isotypes
5) Evaluated neutrophils as host cell for Marburg and effect virus has on signal transduction cascades

8) RESEARCH IN PROGRESS
Describe in no more than 100 words.
Passive transfer of monoclonal antibodies is one mechanism to provide immediate immunity to an individual exposed to a viral infection. Several human and mouse monoclonal antibodies were evaluated for their ability to provide protection against multiple strains of filovirus in a guinea pig model. Monoclonal were identified that provided partial or complete protection against multiple strains of Marburg. Progress has also been made on the construction of antibody cassettes for the purpose of isotype switching antibodies. Finally, studies were conducted to evaluate the effect of filoviruses on neutrophils.

9) PUBLICATIONS AND PAPERS RESULTING FROM THE NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH
Provide complete citations: author(s), title, full name of Journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals
None.
b) Books, book chapters, other publications

None.

c) Manuscripts in preparation, manuscripts submitted

Development and Characterization of Human Monoclonal Antibodies to Multiple Strains of Marburg Virus. In preparation

10 Patent or copyright applications resulting from the National Academies Associateship research

Provide titles, inventors, and dates of applications.

None.

11) Presentations at scientific meetings or conferences

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

None.
12) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES  Include dates, names and locations of seminars.

None.

13) PROFESSIONAL AWARDS RECEIVED DURING TENURE

None.

14) POST-TENURE POSITION TITLE

To be determined.

15) POST-TENURE ORGANIZATION  Provide name and city of organization.

To be determined.

16) POST-TENURE POSITION STATUS / CATEGORY  Please indicate only one.

☐ Remain at Host Agency as Permanent Employee
☐ Remain at Host Agency as Contract/Temporary Employee
☐ Research Position at Another US Government Laboratory
☐ Administrative Position at US Government Laboratory
☐ Research Position at Foreign Government Laboratory
☐ Research/Teaching at US College/University
☐ Research/Teaching at Foreign College/University
☐ Research/Administration in Industry
☐ Research/Administration in Non-Profit Organization
☐ Postdoctoral Research
☐ Self Employed
☐ Other: specify  TBA

17) APPRAISAL OF THE ASSOCIATESHIP PROGRAM  Please rate each of the following

Your experience as a National Academies Research Associate in this federal Laboratory  1 (poor) to 10 (excellent)

☐ 8  Short-term value: development of knowledge, skills, and research productivity

Comments:

I have received valuable experience working in biosafety level 3 & 4 laboratories at USAMRIID and in redesigning experiments to deal with the restrictions of these environments. I have gained information about generating and evaluating antibodies to filoviruses and am learning how to get around the difficulties of conducting research in this field. Drs. Alan Schmaljohn and Sina Bavari have been great mentors to this process.
Long-term value: how your NRC Associateship award affected your career to date
Comments:
I have gained insight in how to conduct research in such a unique environment as USAMRIID.

Administrative Support 1 (poor) to 10 (excellent)
8. Quality of the support you received from the federal Laboratory
8. Quality of the support you received from the National Academies staff (Leave blank, if not applicable - e.g., NIST)
Comments on both/either:

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT
None.
Gooch

FORWARDING Address (to which your tax statement will be mailed)
Res. or Inst. Dr. Jan W. Gooch
Street 2020 Howell Mill Road, Suite C227
City, State Zip Atlanta, GA 30318

3) Today's Date
July 6, 2004

4) Agency
AMRMC ISR

Laboratory or NASA Center
US Army Institute of Surgical Research

5) Name of Research Associateship Programs Adviser
COL John Holcomb/Dr. Albert T. McManus

6) TITLE OF RESEARCH PROPOSAL
Biocompatible hydrophobic films from acrylic emulsions: Protection of burns and wounds

7) SUMMARY OF RESEARCH DURING TENURE
Itemize significant findings in concise form, utilizing key concepts/words.
1) Barrier dressings for wounds, liquid and particulate applied
2) Antimicrobial emulsions for surfaces, broad spectrum and liquid applied
3) Photopolymerizable tissue adhesives for in vitro/in vivo applications
4) Investigation of topical antimicrobial agents and their mechanisms of activity
5) Automatic and one-hand operated combat tourniquets

8) RESEARCH IN PROGRESS
Describe in no more than 100 words.
I am in the process of continuing the development of the automatic and one-hand operated combat tourniquet

9) PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH
Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.
a) Publications in peer-reviewed journals
b) Books, book chapters, other publications
c) Manuscripts in preparation, manuscripts submitted
   I have applied for publication (pending permission from ISR) to publish the research results at Kluwer Academic/Plenum Publishing in New York under the title "Advanced Biocompatible Polymeric Materials Applied to Combat Casualty Care," and also represented in US Army Technical Reports

10) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH
Provide titles, inventors, and dates of applications.

11) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.
   International
   Domestic
"New Barrier Dressings" and "Automatic Combat Tourniquets" present at Advanced Technology Application for Combat Casualty Care, St. Petersburg, FL, August 2001, 2002 and 2003

12) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES Include dates, names and locations of seminars.

13) PROFESSIONAL AWARDS RECEIVED DURING TENURE

14) POST-TENURE POSITION TITLE
Professor/Project Director

15) POST-TENURE ORGANIZATION Provide name and address of organization.
Georgia Institute of Technology, School of Chemical and Biomolecular Engineering

16) POST-TENURE POSITION STATUS / CATEGORY Please indicate only one.

- Remain at Host Agency as Permanent Employee
- Research/Teaching at US College/University
- Research/Teaching at Foreign College/University
- Research/Administration in Industry
- Research/Administration in Non-Profit Organization
- Postdoctoral Research
- Self Employed
- Other: specify

17) APPRAISAL OF RESEARCH ASSOCIATESHIP PROGRAM Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

Your experience as a National Academies Research Associate in this federal Laboratory

- Short-term value: development of knowledge, skills, and research productivity
  Comments: I received excellent practical education and training in biomedical technology at ISR that will provide me with experience to continue research in polymeric materials and devices for healing wounds

- Long-term value: how the National Academies Associateship award affected your career to date
  Comments: I intend to continue research in cooperation with NIH, NSF and NIST for combat casualty care using the valuable experience I gained at ISR.

Administrative Support

- Quality of the support you received from the federal Laboratory
- Quality of the support you received from the on-site and off-site Research Associateship Programs' representatives (Leave blank, if not applicable – e.g., NIST)
  Comments on both/either: Response: Excellent on both

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.

I recommend a visit to NRC in Washington, DC for a seminar and briefing following this program or a visit from NRC representatives to ISR

US Postal Service mailing address
Research Associateship Programs
The National Academies
500 Fifth Street, NW [GR 322A]
Washington, DC 20001

fax
202 – 334 – 2759

Express Delivery address
Research Associateship Programs
The National Academies
2001 Wisconsin Avenue, NW [GR 322A]
Washington, DC 20007

website
www.national-academies.org/rap

ID# Research Associateship Programs

Rev. 09/2003

cc: cost-center #
### FINAL REPORT

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

<table>
<thead>
<tr>
<th>1) Associate Last or Family Name</th>
<th>First Name</th>
<th>M.I.</th>
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<td>Islam</td>
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<tr>
<th>2) FORWARDING Address (to which your tax statement will be mailed)</th>
<th>FORWARDED Phone(s) and E-Mail (if known)</th>
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<tbody>
<tr>
<td>Res. or Inst. AFRIMS Street 315/6 Rajvithi Road</td>
<td>Phone: 662 644 6125</td>
</tr>
<tr>
<td>City, State Zip Bangkok, Thailand; 10400</td>
<td>Phone:</td>
</tr>
<tr>
<td></td>
<td>E-mail: <a href="mailto:IslamD@afirms.org">IslamD@afirms.org</a></td>
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<th>3) Today's Date</th>
<th>Dates of Tenure</th>
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<tr>
<td>August 6, 2004</td>
<td>from September 1, 2001 to August 31, 2004</td>
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<th>4) Agency</th>
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<th>Division / Branch / Directorate</th>
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<tr>
<td>AMRMC</td>
<td>AFRIMS</td>
<td>Department of Enteric Diseases</td>
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<th>5) Name of Research Associateship Programs Adviser</th>
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<tbody>
<tr>
<td>Bodhidatta, Ladaporn</td>
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<tr>
<th>6) TITLE OF RESEARCH PROPOSAL</th>
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<tr>
<td>Establishment of the immunological assays for Shigella-vaccine trial and explore the role of specific and innate mechanisms of immune responses in vaccinees</td>
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<th>7) SUMMARY OF RESEARCH DURING TENURE</th>
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</tr>
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</tr>
<tr>
<td>2) The study &quot;Establishment of a non-human primate Campylobacter disease model prior to the pre-clinical evaluation of Campylobacter vaccine formulations&quot; was conducted during 2001 to 2003. Analysis of data is finished and the manuscript has submitted.</td>
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<td>3) The study &quot;Application of the rhesus monkey intragastric challenge model of shigellosis for study of virulent and attenuated S. flexneri 2a strains&quot; finished recently. The established monkey model will be used for evaluation of Shigella vaccines.</td>
</tr>
<tr>
<td>4) Project &quot;Travelers' Diarrhea Among US Forces Deployed to Thailand&quot; was completed for years 2002-2004. Data are being analyzed for year 02 &amp; 03, analyses of 04 samples are going on.</td>
</tr>
<tr>
<td>5) Phase I of the study &quot;Evaluation of the Immunogenicity of the Intranasal Shigella Invaplex vaccine administered to rhesus monkeys using the Accuspray device&quot; is completed recently and phase II is going on.</td>
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<th>8) RESEARCH IN PROGRESS</th>
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<tr>
<td>Describe in no more than 100 words.</td>
</tr>
<tr>
<td>Phase II of the study &quot;Evaluation of the Immunogenicity of the Intranasal Shigella Invaplex vaccine administered to rhesus monkeys using the Accuspray device&quot;. Analysis of samples from the study Cobra-Gold-04. Analysis of samples from WRSD1 clinical trial at JHU.</td>
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<tr>
<th>9) PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH</th>
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<tr>
<td>Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.</td>
</tr>
<tr>
<td>a) Publications in peer-reviewed journals</td>
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<td>X</td>
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<tr>
<td>b) Books, book chapters, other publications</td>
</tr>
<tr>
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<tr>
<td>c) Manuscripts in preparation, manuscripts submitted</td>
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<tr>
<td>2 in preparation and 1 submitted.</td>
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</table>

| 10 PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH |
4

Provide titles, inventors, and dates of applications.

X

11) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Dilara Islam*, PhD; Michael D. Lewis*, LTC, MC; Ladaporn Bodhidatta*, MD; Daniel Scott**, CAPT; Shahida Baqar**, PhD; Carl J. Mason*, COL, MC.

* Department of Enteric Diseases, Armed Forces Research Institute of Medical Sciences (AFRIMS), Bangkok, Thailand.
** Naval Medical Research Center (NMRC), Silver Spring, MD, USA.

POSTER TITLE: Establishment of a non-human primate Campylobacter disease model prior to the pre-clinical evaluation of Campylobacter vaccine formulations.
The 3rd International Conference on Vaccines for Enteric Diseases, Jamaica, 28-30 April 2004. It will be published in Journal "Vaccine".

Domestic

X

12) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES

Include dates, names and locations of seminars.

Lectures delivered at HHMI training course on Infectious Disease Research at ICDDR,B, Dhaka, September 8 – 23, 2003.

13) PROFESSIONAL AWARDS RECEIVED DURING TENURE

X

14) POST-TENURE POSITION TITLE

Scientist

15) POST-TENURE ORGANIZATION

Provide name and address of organization.

AFRIMS, 315/6 Rajvithi Rd, Bangkok-10400, Thailand

16) POST-TENURE POSITION STATUS / CATEGORY

Please indicate only one.

☐ Remain at Host Agency as Permanent Employee
☐ Remain at Host Agency as Contract/Temporary Employee
Abbreviate Host Laboratory/Center AFRIMS
☐ Research Position at Another US Government Laboratory
☐ Administrative Position at US Government Laboratory
☐ Research Position at Foreign Government Laboratory

☐ Research/Teaching at US College/University
☐ Research/Teaching at Foreign College/University
☐ Research/Administration in Industry
☐ Research/Administration in Non-Profit Organization
☐ Postdoctoral Research
☐ Self Employed
☐ Other: specify

17) APPRAISAL OF RESEARCH ASSOCIATESHIP PROGRAM

Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

Your experience as a National Academies Research Associate in this federal Laboratory

10 Short-term value: development of knowledge, skills, and research productivity

Comments:

I developed the knowledge how to build a Research Laboratory. Working at AFRIMS gave me opportunity to work with animal model for different enteric vaccine development.

10 Long-term value: how the National Academies Associateship award affected your career to date

Comments:

Able to establish Immunology Section, at Department of Enteric Diseases, AFRIMS and able to conduct few research studies.

Administrative Support

10 Quality of the support you received from the federal Laboratory

10 Quality of the support you received from the Research Associateship Programs staff (Leave blank, if not applicable – e.g., NIST)

Comments:

Support from the Department and from NRC was adequate, and I appreciate.

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.
NRC support should continue

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<th>US Postal Service mailing address</th>
<th>fax</th>
<th>Express Delivery address</th>
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<tbody>
<tr>
<td>Research Associateship Programs</td>
<td>202 – 334 – 2759</td>
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<tr>
<td>The National Academies</td>
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<td>The National Academies</td>
</tr>
<tr>
<td>500 Fifth Street, NW [GR 322A]</td>
<td>website</td>
<td>2001 Wisconsin Avenue, NW [GR 322A]</td>
</tr>
<tr>
<td>Washington, DC 20001</td>
<td><a href="http://www.national-academies.org/rap">www.national-academies.org/rap</a></td>
<td>Washington, DC 20007</td>
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Rev. 09/2003
cost-center #
# Research Associateship Programs

## FINAL REPORT

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<tr>
<th>1) Associate Last or Family Name</th>
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<td><strong>First Name</strong></td>
<td>Dilara</td>
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<tr>
<th>2) FORWARDING Address (to which your tax statement will be mailed)</th>
<th>Res. or Inst. AFRIMS</th>
</tr>
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<tbody>
<tr>
<td><strong>FORWARDING Phone(s) and E-Mail (if known)</strong></td>
<td>Street 315/6 Rajvithi Road</td>
</tr>
<tr>
<td>Phone: 662 644 6125</td>
<td>City, State Zip Bangkok, Thailand; 10400</td>
</tr>
<tr>
<td>Phone:</td>
<td>City, State Zip</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:IslamD@afirms.org">IslamD@afirms.org</a></td>
<td><strong>Dates of Tenure</strong></td>
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<table>
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<td>from September 1, 2001 to August 31, 2004</td>
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<tr>
<th>4) Agency</th>
<th>Laboratory or NASA Center</th>
<th>Department of Enteric Diseases</th>
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<tbody>
<tr>
<td>AMRMC</td>
<td>AFRIMS</td>
<td></td>
</tr>
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</table>

| 5) Name of Research Associateship Programs Adviser | Bodhidatta, Ladaporn |

| 6) TITLE OF RESEARCH PROPOSAL | Establishment of the immunological assays for Shigella-vaccine trial and explore the role of specific and innate mechanisms of immune responses in vaccinees |

<table>
<thead>
<tr>
<th>7) SUMMARY OF RESEARCH DURING TENURE</th>
<th>Itemize significant findings in concise form, utilizing key concepts/words.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) During the 1st 6th month, equipment and reagents were purchased for the new Immunology Section. Lab technichans were hired and trained. Different immunological techniques were established. From April’2002 we started to run projects.</td>
<td></td>
</tr>
<tr>
<td>2) The study &quot;Establishment of a non-human primate Campylobacter disease model prior to the pre-clinical evaluation of Campylobacter vaccine formulations&quot; was conducted during 2001 to 2003. Analysis of data is finished and the manuscript has submitted.</td>
<td></td>
</tr>
<tr>
<td>3) The study &quot;Application of the rhesus monkey intragastric challenge model of shigellosis for study of virulent and attenuated S. flexneri 2a strains&quot; finished recently. The established monkey model will be used for evaluation of Shigella vaccines.</td>
<td></td>
</tr>
<tr>
<td>4) Project &quot;Travelers' Diarrhea Among US Forces Deployed to Thailand&quot; was completed for years 2002-2004. Data are being analyzed for year 02 &amp; 03, analyses of 04 samples are going on.</td>
<td></td>
</tr>
<tr>
<td>5) Phase I of the study “Evaluation of the Immunogenicity of the Intranasal Shigella Invaplex vaccine administered to rhesus monkeys using the Accuspray device” is completed recently and phase II is going on.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8) RESEARCH IN PROGRESS</th>
<th>Describe in no more than 100 words.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase II of the study “Evaluation of the Immunogenicity of the Intranasal Shigella Invaplex vaccine administered to rhesus monkeys using the Accuspray device”. Analysis of samples from the study Cobra-Gold-04. Analysis of samples from WRSD1 clinical trial at JHU.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9) PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH</th>
<th>Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Publications in peer-reviewed journals</td>
<td>X</td>
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<tr>
<td>b) Books, book chapters, other publications</td>
<td>X</td>
</tr>
<tr>
<td>c) Manuscripts in preparation, manuscripts submitted</td>
<td>2 in preparation and 1 submitted.</td>
</tr>
</tbody>
</table>
Provide titles, inventors, and dates of applications.

11) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Dilara Islam*, PhD; Michael D. Lewis*, LTC, MC; Ladaporn Bodhidatta*, MD; Daniel Scott**, CAPT; Shahida Baqar**, PhD; Carl J. Mason*, COL, MC.

* Department of Enteric Diseases, Armed Forces Research Institute of Medical Sciences (AFRIMS), Bangkok, Thailand.

** Naval Medical Research Center (NMRC), Silver Spring, MD, USA.

POSTER TITLE: Establishment of a non-human primate Campylobacter disease model prior to the pre-clinical evaluation of Campylobacter vaccine formulations.

The 3rd International Conference on Vaccines for Enteric Diseases, Jamaica, 28-30 April 2004. It will be published in Journal "Vaccine".

Domestic

X

12) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES

Include dates, names and locations of seminars.

Lectures delivered at HHMI training course on Infectious Disease Research at ICDDR,B, Dhaka, September 8 – 23, 2003.

13) PROFESSIONAL AWARDS RECEIVED DURING TENURE

X

14) POST-TENURE POSITION TITLE

Scientist

15) POST-TENURE ORGANIZATION

Provide name and address of organization.

AFRIMS, 315/6 Rajvithi Rd, Bangkok-10400, Thailand

16) POST-TENURE POSITION STATUS / CATEGORY

Please indicate only one.

☑ Remain at Host Agency as Permanent Employee
☑ Remain at Host Agency as Contract/Temporary Employee
☐ Research Position at Another US Government Laboratory
☐ Administrative Position at US Government Laboratory
☐ Research Position at Foreign Government Laboratory
☐ Research/Teaching at US College/University
☐ Research/Teaching at Foreign College/University
☐ Research/Administration in Industry
☐ Research/Administration in Non-Profit Organization
☐ Postdoctoral Research
☐ Self Employed
☐ Other: specify

17) APPRAISAL OF RESEARCH ASSOCIATESHIP PROGRAM

Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

Your experience as a National Academies Research Associate in this federal Laboratory

10 Short-term value: development of knowledge, skills, and research productivity

Comments:

I developed the knowledge how to built a Research Laboratory. Working at AFRIMS gave me opportunity to work with animal model for different enteric vaccine development.

10 Long-term value: how the National Academies Associateship award affected your career to date

Comments:

Able to establish Immunology Section, at Department of Enteric Diseases, AFRIMS and able to conduct few research studies.

Administrative Support

10 Quality of the support you received from the federal Laboratory

10 Quality of the support you received from the Research Associateship Programs staff

(Leave blank, if not applicable – e.g., NIST)

Comments:

Support from the Department and from NRC was adequate. and I appreciate.

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.
NRC support should continue

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<tr>
<th>US Postal Service mailing address</th>
<th>fax</th>
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<td>The National Academies</td>
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<tr>
<td>500 Fifth Street, NW [GR 322A]</td>
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<td>2001 Wisconsin Avenue, NW [GR 322A]</td>
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<td>Washington, DC 20001</td>
<td></td>
<td>Washington, DC 20007</td>
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**FINAL REPORT**

**RETURN FORM TO THE NATIONAL ACADEMIES**

**Print Layout View**

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

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<td>Keller</td>
<td>Michael</td>
<td>A</td>
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</table>

2) **FORWARDING Address** (to which your tax statement will be mailed)

Res. or Inst. 1817 Vernon Street, NW
Street
City, State Zip Washington D.C., 20009

3) **Today's Date**

February 27, 2004

4) **Agency** | **Laboratory or NASA Center** | **Division / Branch / Directorate**

AMRMC | RIID | Virology

5) **Name of Research Associateship Programs Adviser**

Alan Schmaljohn

6) **TITLE OF RESEARCH PROPOSAL**

Therapeutic Targeting of the Ebola virus RNA-Dependent RNA Polymerase

7) **SUMMARY OF RESEARCH DURING TENURE**

Itemize significant findings in concise form, utilizing key concepts/words.

1) Generation of shuttle plasmids containing Ebola genes NP, VP30, and VP35 under the control of the T7 promoter.
2) Generation of adenoviral plasmids containing Ebola genes NP, VP30, and VP35.
3) Generation of a reporter construct containing the GFP gene under the control of the Ebola virus genomic promoter and the RFP gene under control of an IRES.

4)

5)

8) **RESEARCH IN PROGRESS**

Describe in no more than 100 words.

Currently, the adenoviral plasmids containing the Ebola genes are being used to generate recombinant adenoviruses needed for the high throughput assay. Also, the reporter construct containing the GFP and RFP genes is being tested in transfection/infection experiments. Efforts are continuing to clone the L gene of Ebola virus into the shuttle plasmid. Progress has been hampered due to the size of the L gene, which is over 6600 nucleotides.

9) **PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH**

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

0

b) Books, book chapters, other publications

0

c) Manuscripts in preparation, manuscripts submitted

0

10) **PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH**

Provide titles, inventors, and dates of applications.

0

11) **PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES**

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International
12) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES
Include dates, names and locations of seminars.

13) PROFESSIONAL AWARDS RECEIVED DURING TENURE

14) POST-TENURE POSITION TITLE
In progress

15) POST-TENURE ORGANIZATION
Provide name and address of organization.

16) POST-TENURE POSITION STATUS / CATEGORY
Please indicate only one.

- Remain at Host Agency as Permanent Employee
- Remain at Host Agency as Contract/Temporary Employee
- Research/Teaching at US College/University
- Research/Teaching at Foreign College/University
- Research/Teaching at US College/University
- Research/Teaching at Foreign College/University
- Research/Teaching at Foreign College/University
- Research/Teaching in Non-Profit Organization
- Research/Teaching in Industry
- Research/Teaching at Foreign Government Laboratory
- Research/Teaching at Foreign Government Laboratory
- Self Employed
- Other: specify Consulting

17) APPRAISAL OF RESEARCH ASSOCIATESHIP PROGRAM
Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

Your experience as a National Academies Research Associate in this federal Laboratory

2 Short-term value: development of knowledge, skills, and research productivity
Comments:

All knowledge and skills used were acquired during my time in graduate school at Wake Forest University. The project I was working on at USAMRIID was very similar to work I did in graduate school. Additionally, the virus I worked on in graduate school is a -RNA virus, like Ebola, and therefore most knowledge was developed and acquired at Wake Forest. Research productivity was at times inhibited by problems encountered with cloning the Ebola gen products into the proper vector.

8 Long-term value: how the National Academies Associateship award affected your career to date
Comments:
The Associateship has given me an opportunity to see how research is conducted in a government/military environment.

Administrative Support

5 Quality of the support you received from the federal Laboratory

8 Quality of the support you received from the on-site and off-site Research Associateship Programs' representatives (Leave blank, if not applicable – e.g., NIST)
Comments on both/either:
Everyone at the Research Associateship Programs office were very helpful during the entire process.

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.
Intramolecular trafficking of Botulinum Neurotoxin (BoNT).

SUMMARY OF RESEARCH DURING TENURE

1) Characterization of model cell systems to examine trafficking of BoNTs. Primary spinal cord cells and NS-26 neuroblastoma cells are good models for the study of BoNT intoxication—each having particular advantages and disadvantages.

2) Examination of mutations of the BoNT light chain and effects on subcellular trafficking. Mutation of putative palmitolyation sites had no effect on membrane localization of BoNT light chain.

3) Characterization of the use of FM1-43 as a replacement for use of radiolabeled neurotransmitter to examine effect of BoNTs on synaptic vesicle release.

RESEARCH IN PROGRESS

Current research is characterizing the use of FM1-43 as a marker of synaptic activity. Previous studies used radiolabeled neurotransmitter precursors; the current approach attempts to replace the use of radioactivity with a fluorescent-based assay. Dye uptake and release were studied in two model cell systems for botulinum neurotoxin (BoNT): primary dissociated spinal cord cultures and a continuous cholinergic neuroblastoma cell line (NS-26). Other studies use these cell systems to examine the role of signal sequences in BoNT light chain (putative dileucine, palmitoylation and tyr-phosphorylation motifs) in trafficking and anchoring to the plasma membrane of synaptic active release zones.

PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH

a) Publications in peer-reviewed journals


b) Books, book chapters, other publications


c) Manuscripts in preparation, manuscripts submitted

10) **PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH**
Provide titles, inventors, and dates of applications.

11) **PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES**
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

   **International**

   Manley HA, Clark M and Adler M (2004) Characterization of the neuronal cell line NS-26 as a model system to study intoxication by Clostridium botulinum. Presented at the Bioscience 2004 meeting in Hunt Valley MD and at the 2003 Society for Neuroscience meeting in New Orleans, LA.

   **Domestic**

   Manley HA, Clark M and Adler M (2004) Characterization of the neuronal cell line NS-26 as a model system to study intoxication by Clostridium botulinum. Presented at the Bioscience 2004 meeting in Hunt Valley MD and at the 2003 Society for Neuroscience meeting in New Orleans, LA.

12) **SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES** Include dates, names and locations of seminars.

13) **PROFESSIONAL AWARDS RECEIVED DURING TENURE**

14) **POST-TENURE POSITION TITLE**
Senior Consultant (Level II)

15) **POST-TENURE ORGANIZATION** Provide name and address of organization.
Booz, Allen and Hamilton, 4001 Fairfax Drive, Arlington VA, 22202

16) **POST-TENURE POSITION STATUS / CATEGORY** Please indicate only one.

   - [ ] Remain at Host Agency as Permanent Employee
   - [ ] Remain at Host Agency as Contract/Temporary Employee
   - [ ] Research Position at Another US Government Laboratory
   - [ ] Administrative Position at US Government Laboratory
   - [ ] Research Position at Foreign Government Laboratory
   - [ ] Research/Teaching at US College/University
   - [ ] Research/Teaching at Foreign College/University
   - [ ] Research/Administration in Industry
   - [ ] Research/Administration in Non-Profit Organization
   - [ ] Postdoctoral Research
   - [ ] Self Employed
   - [ ] Other: specify

17) **APPRAISAL OF RESEARCH ASSOCIATESHIP PROGRAM** Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

   **Your experience as a National Academies Research Associate in this federal Laboratory**

   8 Short-term value: development of knowledge, skills, and research productivity

   Comments:
   I brought many skills to my new lab since I am a cell/molecular biologist and chose a physiology laboratory. I found that our areas of expertise complemented each other very well. I had hoped to be more productive, and get more first author publications, however. I think what prevented this was the relatively small size of the lab and the many projects to be accomplished, and my rather short tenure (~2 years).

   10 Long-term value: how the National Academies Associateship award affected your career to date

   Comments:
   The experience that I received working for the DoD is the reason that I was able to attain a career with a consulting firm. I will be working with DoD contracts with DARPA and the Department of Homeland Security. The NRC experience has been an invaluable tool for helping me attain my career goals.

   **Administrative Support**

   9 Quality of the support you received from the federal Laboratory

   10 Quality of the support you received from the on-site and off-site Research Associateship Programs’ representatives (Leave blank, if not applicable – e.g., NIST)

   Comments on both/either:
   I had an excellent experience in my home laboratory and with the NRC.
My only suggestion would be more aggressive recruiting. Being an NRC fellow is a wonderful opportunity for post-doctoral scientists who want to embark upon a career working for or with the federal government. Many graduate students do not know of this opportunity. At many national scientific meetings there are "life after graduate school" type lecture series to give current students ideas of potential career paths. If the NRC sent representatives to some of the larger meetings (a daunting task, I know), it would help promote the program.
**FINAL REPORT**

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<td>Moran</td>
<td>Daniel</td>
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<th>FORWARDING Phone(s) and E-Mail (if known)</th>
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<tr>
<td>Res. or Inst. Heller Institute of Medical Research</td>
<td>Phone: 972-3-5303564</td>
</tr>
<tr>
<td>Street Sheba Medical Center, Tel Hashomer</td>
<td>E-mail: <a href="mailto:dsmoran55@comcast.net">dsmoran55@comcast.net</a></td>
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<td>City, State Zip 52621 ISRAEL</td>
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<td>Biophysics &amp; Biomodeling</td>
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<tr>
<th>5) Name of Research Associateship Programs Adviser</th>
<th>Dr. Larry Berglund</th>
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<tr>
<th>6) TITLE OF RESEARCH PROPOSAL</th>
<th>Enhanced modeling capability of the cold strain index (CSI) for different metabolic rates</th>
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<tr>
<th>7) SUMMARY OF RESEARCH DURING TENURE</th>
<th>Itemize significant findings in concise form, utilizing key concepts/words.</th>
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<tbody>
<tr>
<td>1) Organizing database and analysis from a previous study</td>
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<tr>
<td>2) Development a new concept for construction of a new cold strain index (CSI)</td>
<td></td>
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<tr>
<td>3) Constructing a new stress index for peripheral cold strain (CSIp) and hypothermia</td>
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<tr>
<td>4) Revising CSIp for different metabolic rates and exercise during cold strain (CSIexe).</td>
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<tr>
<th>8) RESEARCH IN PROGRESS</th>
<th>Describe in no more than 100 words.</th>
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<tr>
<td>A new cold strain index for hypothermia as well as for cold peripheral strain (CSIp) was developed and evaluated for different exposures. The CSIp was revised to include cold strain assessment for different metabolic rates and exercise(CSIexe) intensities. However, this index needs to be further validated for different metabolic rates and cold strain exposures.</td>
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<tr>
<th>9) PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH</th>
<th>Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.</th>
</tr>
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</table>
10. Patent or copyright applications resulting from National Academies Associateship research
Provide titles, inventors, and dates of applications.

11. Presentations at scientific meetings or conferences
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International


Domestic

ACSM Scientific Meeting on "Hydration and Physical Activity", Boston, December 2003.

12. Seminars or lectures delivered at universities and/or institutes
Include dates, names and locations of seminars.

13. Professional awards received during tenure

14. Post-tenure position title
Commander, Inst. Mil. Physiol. IDF, Med. Corps

15. Post-tenure organization
Provide name and address of organization.
Heller Institute of Medical Research, Sheba Medical Center, Tel Hashomer 52621 ISRAEL

16. Post-tenure position status/category
Please indicate only one.

- Remain at Host Agency as Permanent Employee
- Remain at Host Agency as Contract/Temporary Employee
- Research Position at Another US Government Laboratory
- Administrative Position at US Government Laboratory
- Research Position at Foreign Government Laboratory

17. Appraisal of research associateship program
Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

Your experience as a National Academies Research Associate in this federal Laboratory

- Short-term value: development of knowledge, skills, and research productivity
  Comments:

- Long-term value: how the National Academies Associateship award affected your career to date
Comments:

Administrative Support:

8 Quality of the support you received from the federal Laboratory

10 Quality of the support you received from the Research Associateship Programs staff (Leave blank, if not applicable - e.g., NIST)

Comments:

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.

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ID#
Enter information electronically in Layout view.

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

1) Associate Last or Family Name
Myers

2) FORWARDING Address (to which your tax statement will be mailed)
83 George Thomas Drive
Frederick, MD 21702

3) Today's Date
April 29, 2003

4) Agency
AMRMC

Laboratory or NASA Center
WRAIR

Division / Branch / Directorate
NEUROSCIENCE/NEUROBEHAVIORAL ASSESSMENT

5) Name of Research Associateship Programs Adviser
Richard A. Bauman, Ph.D.

6) TITLE OF RESEARCH PROPOSAL
Percentile Schedules of Reaction-Time Reinforcement in the Serial-Probe Recognition Procedure: Toward a More Sensitive Assay of Cognitive and Behavioral Functioning

7) SUMMARY OF RESEARCH DURING TENURE
Itemize significant findings in concise form, utilizing key concepts/words.

1) Percentile schedules were effective in producing relatively and absolutely short or long reaction times in all subjects.
2) Sample-stimulus responding was shown to vary as a function of reinforcer proximity and choice reaction-time criteria.
3) Accuracy was reduced below baseline levels by percentile schedules, whether selecting for shorter or longer reaction times, making them suitable for dissociating speed and accuracy effects.
4) The serial-probe recognition procedure was sensitive to cognitive-behavioral disruptions wrought by various drugs.
5) Percentile schedules were effective at producing/preventing/mitigating biases for particular choice stimuli.

8) RESEARCH IN PROGRESS
Describe in no more than 100 words.

Current work is focusing on validating and extending the serial-probe recognition procedure to African green monkeys and to other pharmacological/biochemical agents of military relevance. Furthermore, a newer potentially more sensitive assay invented by Dr. Myers, the Visual-Motor Speed Judgment Task, is soon to undergo validation using pharmacological agents and, possibly, extend percentile schedule technology.

9) PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH
Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals

b) Books, book chapters, other publications


10 PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH
Provide titles, inventors, and dates of applications.
Visual-Motor Speed Judgment Task, Todd M. Myers, Invention Disclosed to WRAIR and NRC on January 8, 2003; Still under review by WRAIR ORTA.

11) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.
International
Domestic

12) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES Include dates, names and locations of seminars.

13) PROFESSIONAL AWARDS RECEIVED DURING TENURE
Edward L. Buescher Outstanding Young Scientist Award (2002)

14) POST-TENURE POSITION TITLE
Behavior Analyst

15) POST-TENURE ORGANIZATION Provide name and address of organization.
Battelle, Columbus Division, 505 King Avenue, Columbus, OH 43201

16) POST-TENURE POSITION STATUS / CATEGORY Please indicate only one.
☐ Remain at Host Agency as Permanent Employee
☐ Research/Teaching at US College/University
☐ Research/Teaching at Foreign College/University
☒ Remain at Host Agency as Contract/Temporary Employee
☐ Research/Administration in Industry
☐ Research/Administration in Non-Profit Organization
☐ Administrative Position at Another US Government Laboratory
☐ Postdoctoral Research
☐ Research Position at US Government Laboratory
☐ Self Employed
☐ Other: specify
☐ Research Position at Foreign Government Laboratory
☐

17) APPRAISAL OF RESEARCH ASSOCIATESHIP PROGRAM Please rate each of the following on a scale of 1 (poor) to 10 (excellent).
Your experience as a National Academies Research Associate in this federal Laboratory
8 Short-term value: development of knowledge, skills, and research productivity
Comments:
I have offered much to the host laboratory and have learned a great deal from my colleagues while receiving competitive post-doc salary. I only wished to have been more productive in publishing my work, which was difficult to do given certain institutional hindrances (e.g., protocol approval, subject procurement).
The award changed my career path from academe to government and provided me with an important background in behavioral pharmacology.

Administrative Support
8 Quality of the support you received from the federal Laboratory
10 Quality of the support you received from the Research Associateship Programs staff (Leave blank, if not applicable – e.g., NIST)
Comments:
Thank you.

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.

Try to provide more rapid and complete travel reimbursement.
Mores

Christopher

FORWARDING Phone(s) and E-Mail (if known)
Phone: 617-694-1928 772-535-7858
Phone: 856-778-4456 772-778-7200 x163
E-mail: cmores@yapham.com cmores@ufld.edu

FORWARDING Address (to which your tax statement will be mailed)
Res. or Inst. FMEL, University of Florida
Street 200 St. Street SE
City, State Zip Vero Beach, FL 32962

August 10, 2004
from August 1, 2002 to July 31, 2004

AMRMC USAMRHID Virology

5) Name of Research Associateship Programs Adviser

Michael Turell

6) TITLE OF RESEARCH PROPOSAL

Genotypic and Phenotypic Analysis of Bunyavirus Reassortants in Iquitos, Peru

7) SUMMARY OF RESEARCH DURING TENURE

I) Characterized S and partial M segments of novel bunyamwera viruses
2) Discovered numerous stop codons within NSs open reading frame of bunyaviruses from study area
3) Apparent reassortment of S segment among bunyaviruses of different serogroups within study area
4) Performed vector competency testing for Karshi virus in soft ticks, arthropod-as-reservoir surmised
5) Performed biosafety study on inactivation of level 3 and level 4 viruses, reported recommendations

8) RESEARCH IN PROGRESS

VEE subtyping analysis of isolates from Peru. Genomic analysis of selected bunyaviruses from Peru underway. Ecological studies of Karshi and CCHF viruses underway in Uzbekistan.

9) PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals


b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted

Phylogenetic analysis of bunyamwera isolates from Peru (J. Gen. Virol.)

Vector competency of Hoduran mosquitoes for WNV (J. Med. Ent.)

Vector competency of Korean mosquitoes for Getah, JE and WN viruses (J. Med. Ent.)
10 PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH
Provide titles, inventors, and dates of applications.

11) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Domestic

12) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES Include dates, names and locations of seminars.
April 2003. Old Dominion University. "Arboviruses".

13) PROFESSIONAL AWARDS RECEIVED DURING TENURE

14) POST-TENURE POSITION TITLE
Assistant professor

15) POST-TENURE ORGANIZATION Provide name and address of organization.
Florida Medical Entomology Laboratory, University of Florida, 200 9th Street SE, Vero Beach, FL 32962

16) POST-TENURE POSITION STATUS / CATEGORY Please indicate only one.

☐ Remain at Host Agency as Permanent Employee
☐ Remain at Host Agency as Contract/Temporary Employee
Abbreviate Host Laboratory/Centers
☐ Research Position at another US Government Laboratory
☐ Administrative Position at US Government Laboratory
☐ Research Position at Foreign Government Laboratory
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☐ Research/Teaching at Foreign College/University
☐ Research/Administration in Industry
☐ Research/Administration in Non-Profit Organization
☐ Postdoctoral Research
☐ Self Employed
☐ Other: specify

17) APPRAISAL OF RESEARCH ASSOCIATESHIP PROGRAM Please rate each of the following on a scale of 1 (poor) to 10 (excellent).
Your experience as a National Academies Research Associate in this federal Laboratory

7 Short-term value: development of knowledge, skills, and research productivity
Comments:
Research productivity hampered by fluid regulations regarding immunizations, suite access, security clearance.

8 Long-term value: how the National Academies Associateship award affected your career to date
Comments:
This award has, and will undoubtedly continue to, figured prominently in my blossoming career.

Administrative Support
5 Quality of the support you received from the federal Laboratory

9 Quality of the support you received from the Research Associateship Programs staff (Leave blank, if not applicable e.g., NIST)
Comments:
As an NRC fellow, I often had difficulties navigating the bureaucratic nightmare at USAMRIID. This seemed to be because I did not fit many of their assumptions/rules regarding "contractors". Ultimately, this lead to my leaving USAMRIID before I was prepared, or desired, to.

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.
Better coordination is needed between the NRC and USAMRIID regarding advanced application for security clearances, select agent registration, and immunization scheduling in order to prevent many months (upto 6) of lost productivity.
Thank you for awarding my fellowship. It was an amazing experience that would have otherwise been impossible. I will cherish the experience always.

1) Identified multiple Ebola VP protein specific CD8 and CD4 T lymphocyte responses generated by vaccination in mice.
2) Demonstrated lytic function of epitope specific responses and their role in protection against Ebola infection.
3) Demonstrated efficacy of a cocktail vaccine, simultaneous vaccination with VEE replicons expressing six Ebola proteins.
4) Route and dose evaluation of cocktail vaccine in rodents, and demonstrated single low dose efficacy of vaccine strategy.
5) Initiated non-human primates vaccine studies, evaluating cellular and humoral responses and efficacy in challenge model.

Early experiments focused on determining the cellular responses generated in mice (two strains) to the VEE replicon Ebola VP vaccine(s) and the role of the cellular responses in protection. With efficacy demonstrated in the rodent model, non-human primates have been vaccinated with the cocktail vaccine by two routes to evaluate the ability of the vaccine platform to induce protective immunity. The use of double promoter VEE replicons expressing two different antigens, which will reduce the total number of replicons used in vaccination, are being developed and will be tested in mice. Lastly we are planning to evaluate cross protection against virus strains that differ from the vaccine.
b) Books, book chapters, other publications

None

c) Manuscripts in preparation, manuscripts submitted


10 Patent or Copyright Applications Resulting from the National Academies Associateship Research

Provide titles, inventors, and dates of applications.


11) Presentations at Scientific Meetings or Conferences

Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International


Role of humoral and cellular responses in protection against Ebola virus infection.


Overall a positive experience. Early delays in research progress (up to four months) could have been avoided with better planning by both the NRC and host laboratory. For example, paperwork for security and medical clearances could have been done in advance.
Long-term value: how your NRC Associateship award affected your career to date

Comments:

The training provided during tenure was necessary for qualifying for the Microbiologist position that I have accepted. Professional development could have been better emphasized by the host laboratory and the NRC. For example; more seminars, professional interactions with other NRC Associates and host laboratory mentors, and more interactions outside of the host laboratory (i.e. NCI, NIH, etc).

Administrative Support  1 (poor) to 10 (excellent)

Quality of the support you received from the federal Laboratory

Quality of the support you received from the National Academies staff (Leave blank, if not applicable - e.g., NIST)

Comments on both/either:

Because of the complexity of the host laboratories procedures, a great deal of time was used inefficiently. It takes at least three years to understand internal processes. In addition, the associate must learn NRC procedures and policies. The staff of at both USAMRIID and National Academies have always been helpful and supportive during my tenure.

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT

A "packet of information" from the host laboratory with various steps, forms, policies, etc. would help associates during early phases of research.

While associates should have training required to perform research before arriving, often there are new technologies/techniques that would benefit the associate and the host laboratory. When travel funds are available, the use of these funds for training should be considered.
Peachman Kristina K.

FORWARDING Phone(s) and E-Mail (if known)
Phone: 301-464-2376
Phone: 301-251-5076
E-mail: kpeachman@hivresearch.org

December 13, 2004

AMRMC WRAIR Biochem/Memb Biochem & Retro/Vaccine Pr

5) Name of Research Associateship Programs Adviser
Carl Alving and Mangala Rao

6) TITLE OF RESEARCH PROPOSAL
Transcutaneous Immunization: Gene-Based / Adjuvant Modalities / DC Trafficking

7) SUMMARY OF RESEARCH DURING TENURE
1) DNA vaccination through transcutaneous immunization (TCI) is feasible and induces broad immunological responses.
2) GM1 binding peptides serve as a novel adjuvant for transcutaneous immunization.
3) Soluble and particulate antigens traffic to the trans-Golgi in human and murine dendritic cells, whereas, in human and in murine macrophages, only particulate antigens traffic to the trans-Golgi.
4) Cholesterol is needed for the presentation of liposome-encapsulated antigen on MHC class I in murine macrophages.

5) Provisional Patent "Penetration of Skin by Smart Cells for Delivery of Drugs and Vaccines". (Submitted in May 2004)

8) RESEARCH IN PROGRESS
Studies are ongoing to further optimize DNA delivery through transcutaneous immunization using pVAX-HIV p-24 as the antigen for the DNA antigen and HIV p-24 as the protein antigen in prime-boost combinations. Additional studies are investigating antigen processing and presentation of fluorescently labeled pathogens in both murine and human macrophages and dendritic cells. The initiation of cellular immune assays for these studies are also in progress. Work is continuing on the provisional patent data on Smart cells for delivery of drugs and vaccines. These studies are evaluating immunization-boosting regimens and optimizing adjuvant usage.

9) PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH
Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.
a) Publications in peer-reviewed journals


b) Books, book chapters, other publications

c) Manuscripts in preparation, manuscripts submitted


10 PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH
Provide titles, inventors, and dates of applications.


11) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Domestic


12) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES  Include dates, names and locations of seminars.

13) PROFESSIONAL AWARDS RECEIVED DURING TENURE


14) POST-TENURE POSITION TITLE

Post-Doctoral Fellow

15) POST-TENURE ORGANIZATION  Provide name and address of organization.

Walter Reed Army Institute of Research, Division of Retrovirology, Department of Vaccine Production and Delivery
13 Taft Court Suite 200
Rockville, MD 20850

16) POST-TENURE POSITION STATUS / CATEGORY  Please indicate only one.

☐ Remain at Host Agency as Permanent Employee
☒ Remain at Host Agency as Contract/Temporary Employee
Abbreviate Host Laboratory/Center  WRAIR
☐ Research Position at Another US Government Laboratory
☐ Administrative Position at US Government Laboratory
☐ Research Position at Foreign Government Laboratory

17) APPRAISAL OF RESEARCH ASSOCIATESHIP PROGRAM  Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

Your experience as a National Academies Research Associate in this federal Laboratory

10 Short-term value: development of knowledge, skills, and research productivity

Comments:
I was quickly and smoothly transitioned in to the lab were I developed my scientific skills in both the laboratory setting and the professional communication setting including speaking at lab meetings, national meetings and by publishing in peer-reviewed scientific journals.

8 Long-term value: how the National Academies Associateship award affected your career to date

Comments:
To date my Associateship award has broadened my networking capacity, my marketability by providing training in the new field of transcutaneous immunization and also in the new and growing area of bioterrorism research.

Administrative Support

10 Quality of the support you received from the federal Laboratory

8 Quality of the support you received from the Research Associateship Programs staff  (Leave blank, if not applicable – e.g., NIST)

Comments:
The quality of support that I received form the lab was outstanding. It was a great environment for scientific development. The lab was supportive of new assay development and was encouraging in publication goals. The environment encouraged the attendance of meeting for finding and gathering of the latest methods and information in areas pertinent in by project. The research associateship program staff at both the local site and at the main office were very helpful.

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.

The information that I was supplied for an extension of an additional year was not consistent between local and national personnel and needs to be presented clearly in a written form not just verbal descriptions. I was told that I should have a project which was slightly like the original project but was mainly different. The application I submitted was following national suggestions which seemed to be the opposite of how reviewers were told to evaluate the application since they said that it was too different from the original project. Additionally, the NRC homepage is very obtuse and hard to navigate. Getting to the associate site and then to the electronic forms was always a challenge and less than a pleasant experience. The electronic forms for travel and reimbursement on the other hand were easy to fill out and very user friendly. The update/Final reports were somewhat limiting in the way the program was written in that it prohibited the length of certain lines such as division/department.
<table>
<thead>
<tr>
<th>Department</th>
<th>IP</th>
<th>Email</th>
<th>ID#</th>
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<tr>
<td>The National Academies</td>
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<td>The National Academies</td>
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<td>500 Fifth Street, NW [GR 322A]</td>
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<td>2001 Wisconsin Avenue, NW [GR 322A]</td>
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**FINAL REPORT**

Return this form directly to the National Academies as an E-mail attachment, or print out and mail or fax.

<table>
<thead>
<tr>
<th>1) Associate Last or Family Name</th>
<th>First Name</th>
<th>M.I.</th>
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<tbody>
<tr>
<td><strong>SALLUM</strong></td>
<td><strong>MARIA</strong></td>
<td><strong>A.M.</strong></td>
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<tr>
<th>2) FORWARDING Address (to which your tax statement will be mailed)</th>
<th>FORWARDING Phone(s) and E-Mail (if known)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Res. or Inst. Walter Reed Biosystematics Unit&lt;br&gt;Street 4210 SILVER HILL ROAD&lt;br&gt;City, State Zip SUITLAND, MD, 20746</td>
<td>Phone: 55-11-30667731&lt;br&gt;Phone: 55-11-30812108&lt;br&gt;E-mail: <a href="mailto:masallum@usp.br">masallum@usp.br</a></td>
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<th>3) Today's Date</th>
<th>Dates of Tenure</th>
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<tr>
<td>August 25, 2004</td>
<td>from August 1, 2003 to 27th August 2003</td>
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<th>4) Agency</th>
<th>Laboratory or NASA Center</th>
<th>Division / Branch / Directorate</th>
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<td><strong>CDRH</strong></td>
<td><strong>WRAIR</strong>&lt;br&gt;<strong>WRBU</strong></td>
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<tr>
<th>5) Name of Research Associateship Programs Adviser</th>
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<tbody>
<tr>
<td>Richard C. Wilkerson</td>
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<tr>
<th>6) TITLE OF RESEARCH PROPOSAL</th>
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<tbody>
<tr>
<td><strong>Revision and phylogeny of the Leucosphyrus Group of the Anopheles (Cellia) (Diptera: Culicidae).</strong></td>
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<tr>
<th>7) SUMMARY OF RESEARCH DURING TENURE</th>
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<tr>
<td><strong>1) ONE PAPER HAS BEEN SUBMITTED AND IS ACCEPTED FOR PUBLICATION IN MEDICAL AND VETERINARY ENTOMOLOGY, U.K. REGARDING THE DESCRIPTION OF SIX NEW SPECIES OF THE LEUCOSPHERUS GROUP OF ANOPHELES (CELLIA) (DIPTERA: CULICIDAE). THIS IS A MORPHOLOGICAL STUDY.</strong></td>
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</table>

**2) THE COMPLETE REVISIONARY STUDY OF THE LEUCOSPHERUS GROUP IS DONE AND AT THIS MOMENT IS BEING FRIENDLY REVIEWED BY MOSQUITO TAXONOMISTS. IT IS GOING TO BE SUBMITTED IN SEPTEMBER 2004. THE MS IS 320 PAGES, 64 ILLUSTRATIONS, 46 TABLES.**

**3) ANOTHER MANUSCRIPT REGARDING ANOPHELES ALBITARIS IS ALSO DONE AND IS GOING TO BE SUBMITTED FOR PUBLICATION IN SEPTEMBER 2004. THE GROUP INVOLVED IN THE STUDY IS ANOPHELES ALBITARIS COMPLEX. THIS IS A MOLECULAR STUDY.**

**4) FOR THE LEUCOSPHERUS GROUP, SEQUENCES OF TWO MITOCHONDRIAL GENES (COX1 AND NADH6) HAVE BEEN MADE AND NOW IS BEING ANALYZED, 19 SPECIES FOR THE COI AND 15 SPECIES FOR THE NADH6.**

<table>
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<tr>
<th>8) RESEARCH IN PROGRESS</th>
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<tbody>
<tr>
<td><strong>NUCLEOTIDE SEQUENCES OF TWO MITOCHONDRIAL GENES (COX1 AND NADH6) FOR 15-19 SPECIES OF THE LEUCOSPHERUS GROUP HAVE BEEN COLLECTED AND CURRENTLY ARE BEING ANALYZED. I EXPECT TO FINISH THE ANALYSIS AND A MANUSCRIPT UNTIL END OF OCTOBER 2004 AND SUBMIT FOR PUBLICATION UNTIL END OF NOVEMBER 2004.</strong></td>
<td></td>
</tr>
</tbody>
</table>

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<tr>
<th>9) PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH</th>
</tr>
</thead>
</table>

**b) Books, book chapters, other publications**

**c) Manuscripts in preparation, manuscripts submitted**


10) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH
Provide titles, inventors, and dates of applications.

11) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Domestic

Conference at the 70th Annual Meeting of the American Mosquito Control Association

Molecular phylogeny of the Albitarsis Complex (Diptera: Culicidae) based on mitochondrial and ribosomal DNA sequences.
Richard C. Wilkerson & Maria Anice M. Sallum

Two species of the complex An. albitarsis are of great epidemiological importance as competent vectors of human malaria parasites in Brazil, An. marajoara and An. deaneorum. Because of its medical importance, An. albitarsis l.s. has been the subject of intensive studies aimed at facilitating the identification of species as well as the confirmation of the vector status of its representative. Wilkerson et al. (1995a,b) used RAPD method to confirm the existence of 4 species within the complex An. albitarsis. Nucleotide sequences of the mitochondrial COI and NADH4 genes, and the expansion D2 of the 28S and ITS2 of the nuclear ribosomal RNA were used to estimate phylogenetic relationships within the An. albitarsis complex. Maximum likelihood analysis of the combined ribosomal and mitochondrial data under the TVM + I model yielded a single most likely tree, which is nearly identical with the strict consensus tree determined from parsimony analysis. Bayesian phylogenetic approach strongly supports the same major groups recovered in the parsimony and likelihood analyses. The monophyly of the An. albitarsis complex as well as the sister-group relationship of An. deaneorum and An. marajoara is strongly supported, as is the group consisting of An. albitarsis and An. albitarsisB.

12) SEMINARS OR LECTURES DELIVERED AT UNIVERSITIES AND/OR INSTITUTES Include dates, names and locations of seminars.

13) PROFESSIONAL AWARDS RECEIVED DURING TENURE

14) POST-TENURE POSITION TITLE
PROFESSOR.

15) POST-TENURE ORGANIZATION Provide name and address of organization.
UNIVERSIDADE DE SAO PAULO, BRAZIL

16) POST-TENURE POSITION STATUS / CATEGORY Please indicate only one.

☐ Remain at Host Agency as Permanent Employee
☐ Remain at Host Agency as Contract/Temporary Employee
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☒ Research/Teaching at Foreign College/University
☐ Research/Administration in Industry
☐ Research/Administration in Non-Profit Organization
☐ Postdoctoral Research
☐ Self Employed
☐ Other: specify ________
17) **APPRaisal of RESEARCH ASSOCIATESHIP PROGRAM**  
Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

**Your experience as a National Academies Research Associate in this federal Laboratory**

10 Short-term value: development of knowledge, skills, and research productivity  
Comments:

The Walter Reed Biosystematics Unit has excellent conditions to develop research skills, knowledge and high productivity. The mosquito collection of the target group is complete, and includes specimens from a broad distribution range of each species, the specimens are in excellent condition and very well curated. This provided to me the opportunity to start and finish my project in 13 months of my tenure, and also improved my knowledge in molecular techniques.

10 Long-term value: how the National Academies Associateship award affected your career to date  
Comments:

The results of my studies will have a positive impact in the knowledge of the dynamics of malaria transmission in southeast Asia, since other vector species are, in fact, involved in the epidemiology of the transmission and thus it will be important to be able to identify the vectors correctly in each area. The identification of the species, including those that are vectors of primate Plasmodium parasites, was the main objective of my study.

**Administrative Support**

10 Quality of the support you received from the federal Laboratory  
Comments:

Quality of the support you received from the on-site and off-site Research Associateship Programs' representatives (Leave blank, if not applicable – e.g., NIST)  
Comments on both/either:

XXXXX

18) **PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.**

To increase the salary will be very very important, especially for those who have to pay more than 30% of the income in federal tax in addition to state tax. Also, the fellows are interested in accomplish their project and usually work more than 12 hours a day and give a great contribution to the host laboratory. Not only the contribution of the lab to the NRC fellow but also the contribution of the NRC fellow to the scientific productivity of the laboratory should be considered.
1) Associate Last or Family Name

Wenke

2) FORWARDING Address (to which your tax statement will be mailed)

Res. or Inst.
Street
City, State Zip

3) Today's Date

June 29, 2004

4) Agency

AMRMC

Laboratory or NASA Center

ISR

5) Name of Research Associateship Programs Adviser

Victor A. Convertino

6) TITLE OF RESEARCH PROPOSAL

Antimicrobial Bone Graft Substitutes

7) SUMMARY OF RESEARCH DURING TENURE

Itemize significant findings in concise form, utilizing key concepts/words.

1) Biodegradable bone graft substitutes that have osteoinductive and osteoconductive characteristics are capable of preventing infection in contaminated bone defects as well as the current standard of care.

2) A model for evaluating different irrigation fluids and devices have been developed.

3) Pulse lavage irrigation reduces more bacteria than pulse lavage.

4) Adding a surfactant to irrigation fluids reduces the bacteria quantity more than the current standard of care (saline).

8) RESEARCH IN PROGRESS

Describe in no more than 100 words.

The ability of various bone growth factors (PDGF-BB and FGF-basic) to accelerate bone regeneration is

9) PUBLICATIONS AND PAPERS RESULTING FROM NATIONAL ACADEMIES ASSOCIATESHIP RESEARCH

Provide complete citations: author(s), title, full name of journal, volume number, page number(s), and year of publication.

a) Publications in peer-reviewed journals


b) Books, book chapters, other publications


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Provide titles, inventors, and dates of applications.

11) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES
Provide complete references: author(s), title, abstract/proceeding citation, meeting name and location.

International

Domestic

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☐ Research/Teaching at Foreign College/University
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☐ Research/Administration in Non-Profit Organization
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☐ Self Employed
☐ Administrative Position at US Government Laboratory
☐ Postdoctoral Research
☐ Self Employed
☐ Other: specify

17) APPRAISAL OF RESEARCH ASSOCIATESHIP PROGRAM Please rate each of the following on a scale of 1 (poor) to 10 (excellent).

Your experience as a National Academies Research Associate in this federal Laboratory

7 Short-term value: development of knowledge, skills, and research productivity

Comments:

My primary responsibilities are in an area of research that I have very little experience in (Orthopaedic Trauma). It has taken some time to become familiar with the literature in this area. Also, the research that has traditionally been done at ISR is very applied. The facilities, equipment, and money to perform research is exceptional and the pendulum is starting to swing towards basic research.

10 Long-term value: how the National Academies Associateship award affected your career to date

Comments:

I have taken a permanent position here at ISR, which was my goal when I applied for this fellowship. I believe that we have both the ability and potential to make a big impact on reducing the morbidity associated with combat-related orthopaedic trauma not only through the research that we conduct at ISR but also through collaborations and directing external funding.

Administrative Support

8 Quality of the support you received from the federal Laboratory

☐ Quality of the support you received from the on-site and off-site Research Associateship Programs’ representatives (Leave blank, if not applicable – e.g., NIST)

Comments on both/either:

18) PLEASE PROVIDE ANY SUGGESTIONS FOR PROGRAM IMPROVEMENT.
<table>
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<tr>
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