

AD _____

Award Number: DAMD17-95-2-5012

TITLE: Postdoctoral Research Associateship Program with USAMRMC

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

CONTRACTING ORGANIZATION: National Academy of Sciences
Washington, DC 20418

REPORT DATE: October 2000

TYPE OF REPORT: Annual

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

DISTRIBUTION STATEMENT: Approved for public release;
Distribution unlimited

The views, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision unless so designated by other documentation.

DTIC QUALITY INSPECTED 4
20010216 021

REPORT DOCUMENTATION PAGEForm Approved
OMB No. 074-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE October 2000	3. REPORT TYPE AND DATES COVERED Annual (4 Sep 99 - 4 Sep 00)	
4. TITLE AND SUBTITLE Postdoctoral Research Associateship Program with USAMRMC			5. FUNDING NUMBERS DAMD17-95-2-5012	
6. AUTHOR(S) Judith K. Nyquist, Ph.D.				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) National Academy of Sciences Washington, DC 20418 E-MAIL: jnyquist@nas.edu			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012			10. SPONSORING / MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; Distribution unlimited				12b. DISTRIBUTION CODE
13. ABSTRACT (Maximum 200 Words)				
14. SUBJECT TERMS Postdoctoral research, associateship program, USAMRMC				15. NUMBER OF PAGES 45
				16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified		20. LIMITATION OF ABSTRACT Unlimited

Table of Contents

Cover.....	
SF 298.....	
Introduction.....	
Body.....	
Appendices.....	

NATIONAL RESEARCH COUNCIL

Postdoctoral Research Associateship Program

with the

U.S. Army Medical Research and Materiel Command

Annual Status Report

October 1, 1999 to September 30, 2000

DAMD17-95-2-5012

PUBLICITY

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

REQUESTS

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

COMPETITION

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

	<u>Oct 99</u>	<u>Feb 00</u>	<u>Jun 00</u>	<u>Total</u>
Total Applications	8	16	14	38
Actions taken on the applications:				
Incomplete/Missing Documentation	-	-	1	-
Active Application Pending Lab Response	-	-	4	-
 Number of Applications Reviewed	 8	 16	 9	 33
Actions taken on the reviewed applications:				
Non-Recommended	-	-	-	-
Recommended	8	16	9	33
Actions taken on Recommended Applications:				
Applicant Accepted Award	6	12	7	25
Applicant Declined the Award	-	2	-	2
Applicant Withdrew After Review/Recommended	2	-	-	2
Alternate with Final Turndown	-	2	2	4

ASSOCIATES' ACTIVITIES

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

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

23	Domestic Presentations	8	Published Articles in Refereed Journals
2	International Presentations	1	Patents applied for

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

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

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

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

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

4	Knowledge in Field	4.5	Research Techniques
5	Independence	4.8	Motivation

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

4 100% Yes

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

ASSOCIATES' Citizenship

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

Albania	1	Israel	6
Australia	1	Kenya	1
Croatia	1	Mexico	1
Ecuador	1	People's Republic of China	4
France	1	Peru	1
Ghana	1	Portugal	1
Hungary	3	Russia	2
India	3	United States	28

Description of Attachments

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

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

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

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

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

The *Appendix* contains the copies of the "Final Reports" received from Associates completing their awards during this reporting period.

Associates Who Ended Tenure 10/1/1999 - 9/30/2000

Attachment 1

U.S. Army Medical Research and Materiel Command

11/21/2000 Page 1 of 1

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

12 Associates Listed

+ (S) indicates the associate was a Senior.

Associates On Tenure

October 1, 2000

Attachment 2

U.S. Army Medical Research and Materiel Command

11/21/2000 Page 1 of 3

Associate Name+ Adviser	Center Citizenship	Starting Date	Ending Date
Allon, Nahum (S) Dr. Bhupendra P. Doctor	Walter Reed Army Institute of Research Israel	8/01/00	7/31/01
Ayyagari, Vijay Lakshmi Naga Dr. Jayasree Nath	Walter Reed Army Institute of Research India	7/03/00	7/02/01
Babai, Ilan Dr. Bhupendra P. Doctor	Walter Reed Army Institute of Research Israel	7/17/00	7/16/01
Baker, Robert Owen Dr. John W. Huggins	Medical Research Institute of Infectious Diseases United States	1/06/00	1/05/01
Baranyi, Lajos (S) Dr. Bhupendra P. Doctor	Walter Reed Army Institute of Research Hungary	6/22/98	3/21/01
Biba, Edmond Dr. Ai J. Lin	Walter Reed Army Institute of Research US Permanent Resident	6/28/99	6/27/01
Bodo, Michael Mihaly (S) Dr. Frederick J. Pearce	Walter Reed Army Institute of Research Hungary	2/14/00	2/13/01
Bosio, Catharine Mans Dr. Alan L. Schmaljohn	Medical Research Institute of Infectious Diseases United States	9/11/00	9/10/01
Bosio, Christopher Francis Dr. Alan L. Schmaljohn	Medical Research Institute of Infectious Diseases United States	2/04/99	2/03/01
Byrd, Wyatt (S) Dr. Frederick J. Cassels	Walter Reed Army Institute of Research United States	1/20/98	1/19/01
Darko, Christian Asare Dr. Jeffrey A. Lyon	Walter Reed Army Institute of Research Ghana	11/09/98	11/08/01
Dekonenko, Alexander Evgenievich Dr. Connie S. Schmaljohn	Medical Research Institute of Infectious Diseases Russia	11/02/98	11/01/01
Dillman, James F., III Dr. John J. Schlager	Medical Res Inst of Chemical Defense United States	11/29/99	11/28/01
Dow, Geoffrey Stuart Dr. Rodger K. Martin	Walter Reed Army Institute of Research Australia	8/07/00	8/06/01
Duncan, Judith Alicia Dr. James L. Meyerhoff	Walter Reed Army Institute of Research United States	8/15/00	8/14/01
Dutta, Sheetij Dr. David E. Lanar	Walter Reed Army Institute of Research India	7/27/98	7/26/01
Erwin, James Lawrence Dr. Tran C. Chanh	Medical Research Institute of Infectious Diseases United States	8/10/98	8/09/01
Grogan, Case Kyn Dr. Alan L. Schmaljohn	Medical Research Institute of Infectious Diseases United States	6/26/00	6/25/01
Guerrero-Ontiveros, Maria de Lour Dr. Luther E. Lindler	Walter Reed Army Institute of Research Mexico	2/16/99	2/15/01
Hensley, Lisa Ellen Dr. Peter B. Jahrling	Medical Research Institute of Infectious Diseases United States	9/01/98	11/30/00
Hulet, Stanley Warren Dr. Tsung-Ming A. Shih	Medical Res Inst of Chemical Defense United States	1/10/00	1/09/01
Jenner, Jennifer Louise Dr. Harris R. Lieberman	U.S. Army Research Institute of Environmental United States	6/01/98	5/31/01

*Indicates that the associate started tenure between 10/2/1999 and 9/30/2000.

(S) Associate is a Senior.

Associates On Tenure

October 1, 2000

Attachment 2

U.S. Army Medical Research and Materiel Command

11/21/2000 Page 2 of 3

Associate Name+ Adviser	Center Citizenship	Starting Date	Ending Date
Kan, Robert Kwai Dr. John P. Petrali	Medical Res Inst of Chemical Defense United States	5/10/99	5/09/01
Kanjilal, Partha Partim (S) Dr. Richard R. Gonzalez	U.S. Army Research Institute of Environmental India	8/02/99	8/01/01
Korolev, Sergey Vasilyevich Dr. Jeenan Tseng	Walter Reed Army Institute of Research Russia	9/01/99	4/14/01
Kwik, Jeanne Frieda Dr. Sina Bavari	Medical Research Institute of Infectious Diseases United States	6/05/00	6/04/01
Leader, Haim Nissan (S) Dr. Richard K. Gordon	Walter Reed Army Institute of Research Israel	5/10/99	11/09/00
Leon Villalba, Luis Renato Dr. Michael J. Turell	Medical Research Institute of Infectious Diseases Ecuador	5/25/00	5/24/01
Liu, Liang Ming Dr. Michael A. Dubick	U.S. Army Institute of Surgical Research People'S Republic Of China	4/08/99	4/07/01
Markotic, Alemka Dr. Connie S. Schmaljohn	Medical Research Institute of Infectious Diseases Croatia	10/25/99	10/24/00
Marvaud, Jean-Cristophe Dr. Leonard A. Smith	Medical Research Institute of Infectious Diseases France	12/01/99	11/30/00
Mendelson, Itai (S) Dr. Arthur M. Friedlander	Medical Research Institute of Infectious Diseases Israel	4/24/00	4/23/01
Milosevits, Janos (S) Dr. Bhupendra P. Doctor	Walter Reed Army Institute of Research Hungary	7/03/00	7/02/01
Myers, Todd Matthew Dr. Richard A. Bauman	Walter Reed Army Institute of Research United States	5/15/00	5/14/01
Peng, Daizhi (S) Dr. Albert T. McManus	U.S. Army Institute of Surgical Research People'S Republic Of China	1/05/99	1/04/01
Rayner, Jonathan Ole Dr. Jonathan F. Smith	Medical Research Institute of Infectious Diseases United States	5/01/00	10/31/00
Riemenschneider, Jenny Lynn Dr. Connie S. Schmaljohn	Medical Research Institute of Infectious Diseases United States	3/01/00	2/28/01
Roberson, Melinda Rice Dr. John H. McDonough	Medical Res Inst of Chemical Defense United States	5/02/00	5/01/01
Troyer, Jill Michelle Dr. Daniel A. Strickman	Walter Reed Army Institute of Research United States	1/04/99	1/03/01
Waitumbi, John Njenga (S) Dr. Jose A. Stoute	Walter Reed Army Institute of Research Kenya	2/09/98	2/08/01
Weeks, Steven Douglas Dr. Susan L. Welkos	Medical Research Institute of Infectious Diseases United States	5/04/98	5/03/01
Weyand, Peter Gregory (S) Dr. Reed W. Hoyt	U.S. Army Research Institute of Environmental United States	9/20/99	9/19/01
Winter, David Bicknell (S) Dr. George C. Tsokos	Walter Reed Army Institute of Research United States	7/28/00	7/27/01
Zhang, Peng (S) Dr. Peter K. Chiang	Walter Reed Army Institute of Research People'S Republic Of China	2/01/99	1/31/01

*Indicates that the associate started tenure between 10/2/1999 and 9/30/2000.

(S) Associate is a Senior.

Associates On Tenure

October 1, 2000

Attachment 2**U.S. Army Medical Research and Materiel Command**

11/21/2000 Page 3 of 3

Associate Name+ Adviser	Center Citizenship	Starting Date	Ending Date
Zhu, Shuren Dr. Ai J. Lin	Walter Reed Army Institute of Research US Permanent Resident	11/01/99	10/31/01

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

**Name/
Research Title**

October 1999 Awardees

Awardees Listed 6

Baker, Robert O

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

Bodo, Michael M

Determination of the Functionality of Rheoencephalography as a Non-Invasive Measure of Cerebral Blood Flow

Dillman, James F, III

Proteomic Analysis of Sulfur Mustard Toxicity

Hulet, Stanley W

Effects of Chronic Low Dose Soman Exposure on Extracellular NT Levels and Resultant Neurobehavioral Deficits

Mendelson, Itai

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

Riemenschneider, Jenny L

Evaluation of DNA Vaccine Strategies for Ebola Virus Immunization

February 2000 Awardees

Awardees Listed 12

Allon, Nahum

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

Ayyagari, Vijay Lakshmi N

Development of Therapeutic Strategies for Regulation of Leukocyte-Endothelial Interactions During Acute Pulmonary Injury

Babai, Ilan

Immunogenicity of Squalene, a Precursor of Cholesterol

Bosio, Catharine M

Identification of Correlates of Immunity Following Vaccination Against Marburg Virus

Dow, Geoffrey S

Analysis of Surrogate Markers Associated with Induced Neurotoxicity from Antimalarial Endoperoxides

Duncan, Judith A

Potential Role of NPY in the Modulation of ** Social Defeat and Defeat-induced Behavior in DBA/2 and C57BL/6 Mice

Name/
Research Title

Grogan, Case K
Characterization of Marburg and Ebola Virus Glycoprotein Domains Important in Vaccine Efficacy

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

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

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

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

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

June 2000 Awardees

Awardees Listed 7

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

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

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

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

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

Velayudhan Nair, Lalitha P
Cloning, Expression and Protective Efficacy Studies of Apical Membrane Antigen (AMAI) from Plasmodium Falciparum

Applicants Who
Received Awards **U.S. Army Medical Research and Materiel Command**

10/1/1999 - 9/30/2000

Attachment 3

11/21/2000 Page 3 of 3

Name/
Research Title

Winter, David B
Modulation of the Immune Response to Malaria Utilizing a Novel Vaccine Approach

Total Associates Listed for Lab 25

Recommended Candidates 10/1/1999 - 9/30/2000
U.S. Army Medical Research and
Materiel Command

Attachment 4

11/21/2000 Page 1 of 6

October 1999

A- Accepted Award (6 Applicants listed)

BAKER, ROBERT O	Ph.D. Date: 1999
Citizenship: United States	University of Arizona
Adviser: Dr. John W. Huggins	Actual Starting Date: 1/06/00
Research Field: Virology	Termination Date: 1/05/01
Research Title: Expression and Purification of the DNA Polymerases from Pox Viruses: Development of a Cell-Free Drug Screening System	
BODO, MICHAEL M	Ph.D. Date: 1990
Citizenship: Hungary	Inst Evol Phsyio & Biochem/Russia
Adviser: Dr. Frederick J. Pearce	Actual Starting Date: 2/14/00
Research Field: Physiology	Termination Date: 2/13/01
Research Title: Determination of the Functionality of Rheoencephalography as a Non-Invasive Measure of Cerebral Blood Flow	
DILLMAN, JAMES F, III	Ph.D. Date: 1996
Citizenship: United States	University of Virginia
Adviser: Dr. John J. Schlager	Actual Starting Date: 11/29/99
Research Field: Toxicology	Termination Date: 11/28/01
Research Title: Proteomic Analysis of Sulfur Mustard Toxicity	
HULET, STANLEY W	Ph.D. Date: 1999
Citizenship: United States	The Pennsylvania State University
Adviser: Dr. Tsung-Ming A. Shih	Actual Starting Date: 1/10/00
Research Field: Pharmacology Toxicology	Termination Date: 1/09/01
Research Title: Effects of Chronic Low Dose Soman Exposure on Extracellular NT Levels and Resultant Neurobehavioral Deficits	
MENDELSON, ITAI	Ph.D. Date: 1993
Citizenship: Israel	Hebrew Univ of Jerusalem/Israel
Adviser: Dr. Arthur M. Friedlander	Actual Starting Date: 4/24/00
Research Field: Medical Microbiology	Termination Date: 4/23/01
Research Title: Directed Signature-Tagged Mutagenesis (DSTM) of Bacillus anthracis Genome-Identification of New Targets for Future Anthrax Vaccines and for Antibacterial Therapy	
RIEMENSCHNEIDER, JENNY L	Ph.D. Date: 1999
Citizenship: United States	Case Western Reserve Univ/OH
Adviser: Dr. Connie S. Schmaljohn	Actual Starting Date: 3/01/00
Research Field: Molecular Virology	Termination Date: 2/28/01
Research Title: Evaluation of DNA Vaccine Strategies for Ebola Virus Immunization	

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

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

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

February 2000

A- Accepted Award (12 Applicants listed)

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

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

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

BOSIO, CATHARINE M		Ph.D. Date: 1998	
Citizenship:	United States	Colorado State University	
Adviser:	Dr. Alan L. Schmaljohn	Actual Starting Date:	9/11/00
Research Field:	Viral Immunology	Termination Date:	9/10/01
Research Title:	Identification of Correlates of Immunity Following Vaccination Against Marburg Virus		

Recommended Candidates 10/1/1999 - 9/30/2000
U.S. Army Medical Research and
Materiel Command

Attachment 4

11/21/2000 Page 3 of 6

DOW, GEOFFREY S	Ph.D. Date: 2000
Citizenship: Australia	Murdoch University
Adviser: Dr. Rodger K. Martin	Actual Starting Date: 8/07/00
Research Field: Parasitology	Termination Date: 8/06/01
Research Title: Analysis of Surrogate Markers Associated with Induced Neurotoxicity from Antimalarial Endoperoxides	
DUNCAN, JUDITH A	Ph.D. Date: 2000
Citizenship: United States	University of Georgia
Adviser: Dr. James L. Meyerhoff	Expected Starting Date: 8/15/00
Research Field: Neuropharmacology	Termination Date: 8/14/01
Research Title: Potential Role of NPY in the Modulation of ** Social Defeat and Defeat-induced Behavior in DBA/2 and C57BL/6 Mice	
GROGAN, CASE K	Ph.D. Date: 2000
Citizenship: United States	University of Florida
Adviser: Dr. Alan L. Schmaljohn	Actual Starting Date: 6/26/00
Research Field: Viral Immunology	Termination Date: 6/25/01
Research Title: Characterization of Marburg and Ebola Virus Glycoprotein Domains Important in Vaccine Efficacy	
KWIK, JEANNE F	Ph.D. Date: 2000
Citizenship: United States	Johns Hopkins University/MD
Adviser: Dr. Sina Bavari	Actual Starting Date: 6/05/00
Research Field: Immunology	Termination Date: 6/04/01
Research Title: Bacterial Superantigen Affinity and Specificity for the Human T cell Receptor and Human Major Histocompatibility Complex Class II Molecule: A Quantitative Analysis Using Surface Plasmon Resonance	
MILOSEVITS, JANOS	Ph.D. Date: 1999
Citizenship: Hungary	Semmelweis U of Medicine/Hungary
Adviser: Dr. Bhupendra P. Doctor	Actual Starting Date: 7/03/00
Research Field: Immunology	Termination Date: 7/02/01
Research Title: Role of Natural Anti-Lipid Antibodies in Complement-Mediated Physiological and Pathological Processes	
MYERS, TODD M	Ph.D. Date: 2000
Citizenship: United States	West Virginia University
Adviser: Dr. Richard A. Bauman	Actual Starting Date: 5/15/00
Research Field: Behavioral Sciences	Termination Date: 5/14/01
Research Title: Percentile Schedules of Reaction Time Reinforcement in the Serial Probe Recognition Procedure: Toward a More Sensitive Assay of Cognitive and Behavioral Functioning	
RAYNER, JONATHAN O	Ph.D. Date: 1998
Citizenship: United States	Colorado State University
Adviser: Dr. Jonathan F. Smith	Actual Starting Date: 5/01/00
Research Field: Virology	Termination Date: 10/31/00
Research Title: RNA Polymerase I-Based VEE Replicon Production System	

Recommended Candidates 10/1/1999 - 9/30/2000
U.S. Army Medical Research and
Materiel Command

Attachment 4

11/21/2000 Page 4 of 6

ROBERSON, MELINDA R
Citizenship: United States
Adviser: Dr. John H. McDonough
Research Field: Neurosciences
Research Title: The Potential Neurotoxic Effects of Low-Dose Sarin Exposure in a Guinea Pig Model
Ph.D. Date: 2000
University of Alabama-Birmingham
Actual Starting Date: 5/02/00
Termination Date: 5/01/01

8- Declined (2 Applicants listed)

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

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

Y- Alternate with Final Turndown (2 Applicants listed)

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

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

June 2000

1- Recommended (4 Applicants listed)

GODKAR, PRAFUL B
Citizenship: India
Adviser:
Research Field: Neurotoxicology
Research Title: Acetylcholinesterase, Inhibitors and Neuroprotection
Ph.D. Date: 1999
University of Mumbai/India

Recommended Candidates 10/1/1999 - 9/30/2000
U.S. Army Medical Research and
Materiel Command

Attachment 4

11/21/2000 Page 5 of 6

HILLIER, COLLETTE J
Citizenship: Australia
Adviser: Dr. David E. Lanar
Research Field: Immunoparasitology
Research Title: Development of Liver-Stage Antigen 1 as a Vaccine for Malaria

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

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

Ph.D. Date: 1998
Ohio State University

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

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

A- Accepted Award (7 Applicants listed)

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

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

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

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

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

Ph.D. Date: 1970
Hebrew Univ of Jerusalem/Israel
Actual Starting Date: 10/02/00
Termination Date: 7/01/01

11/21/2000 Page 6 of 6

QIN, ZHENYU
Citizenship: People's Republic of China
Adviser: Dr. Luther E. Lindler
Research Field: Bacteriology
Research Title: Molecular Analysis of Genetic Differences Between *Yersinia Pestis* and *Yersinia Pseudotuberculosis*

Ph.D. Date: 2000
Chinese Academy of Medical Sciences

**On Tenure Report
by Quarter and Center**

For the year starting
October 1, 1999

Attachment 5
11/21/2000 Page 1 of 1

U.S. Army Medical Research and Materiel Command

Center	Number of Associates on tenure as of					
	10/1/98	10/1/99	1/1/00	4/1/00	7/1/00	10/1/00
Medical Res Inst of Chemical Defense	3	3	4	5	5	4
Medical Research Institute of Infectious Diseases	14	11	10	10	15	15
U.S. Army Institute of Surgical Research	-	2	2	2	2	2
U.S. Army Research Institute of Environmental Medicine	2	3	3	3	3	3
Walter Reed Army Institute of Research	18	15	16	16	16	20
	37	34	35	36	41	44

USMA FINAL REPORT FORM

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



1) NAME

S. Ashraf Ahmed

2) DATE

May 18, 2000

3) Program / Agency

USMA/ARL

Lab / Center

AMRMC/AMRIID

Lab Location

Fort Detrick

4) DATES OF TENURE

August 18, 1997 -- to -- January 28, 2000

5) NAMES OF RESEARCH ADVISER AND TEACHING MENTOR

Dr. Leonard A. Smith

6) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE

None

7) PROFESSIONAL TRAVEL DURING TENURE List location(s) and date(s) of travel to scientific meetings; group into domestic and foreign.

Domestic: 1. Bethesda, MD, November 12-14, 1997; 2. Fort Washington, PA, November 2-4, 1998; 3. Washington, DC, December 11-15, 2000

Foreign: 1. Pattaya/Bangkok, Thailand, October 12-16, 27-28

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

National Institutes of Health, Bethesda, MD, February 05, 2000

9) TITLE OF RESEARCH PROPOSAL

Structural and Functional Characterization of Botulinum Neurotoxin Domains

10) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form (25 words/250 characters.)

Utilize concepts and key words.

1) Devised method to obtain gram amounts of recombinant Botulinum neurotoxin A (rBoNT/A) light chain (LC) from inclusion bodies

2) Stabilized and characterized rBoNT/A LC

3) Identified a cys residue in rBoNT/A LC as a potential target for drug design

4) Through collaboration, provided additional support to the physical hypothesis of signal transduction

5) Concentrated and crystallized rBoNT/B heavy chain c-domain

11) RESEARCH IN PROGRESS Briefly describe in 100 words or less.

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

12) SUMMARY OF TEACHING DURING TENURE Include the classes taught.

1) None

2)

S. A. Ahmed
5-18-00

- 3)
- 4)
- 5)
- 6)

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.

(a) Publications in peer-reviewed journals:

None

(b) Books or book chapters:

None

(c) Manuscripts in preparation, manuscripts submitted:

Ahmed, S.A. and Smith, L.A. (2000): The Light Chain of Botulinum A Neurotoxin Expressed as an Inclusion Body from a Synthetic Gene is Catalytically and Functionally Active. To be submitted to J. Biol. Chem.

14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. Group into domestic and foreign.

None

15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide titles, authors, and dates of application.

Ahmed, S.A. and Smith, L.A. : An application for the synthetic gene of BoNT/A LC and its product is being prepared this week.

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

- ☒ Research -- National Government (U.S. or Foreign)
☐ Administration -- U.S. Govt. (Fed., State, or Local)
☐ Continuation at Host Lab/Center

- ☐ College/University
☐ Postdoctorate
☐ Self Employment

- ☐ Non Profit
☐ Industry
☐ Other

Abbreviate name of Host Lab/Center: USAMRIID

Please specify: _____

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

Research Chemist, Toxinology Division, USAMRIID, 1425 Porter Street, Fort Detrick, MD 21702

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

11608 Queen Nicole Terrace, Germantown, MD 20876

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM

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

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

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

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

S. A. Ahmed 5-18-00

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

FAX Number
 202 - 334 - 2759
 INTERNET
 national-academies.org/rap

Express-Delivery Address
 Associateship Programs [Suite 2114]
 NATIONAL RESEARCH COUNCIL
 1000 Thomas Jefferson Street, NW
 Washington, DC 20007

This shaded area is for the Associateship Programs Office use only. Rev: 5/1999

ID. #

Copy To / Date

Cost-Center #

FINAL REPORT FORM

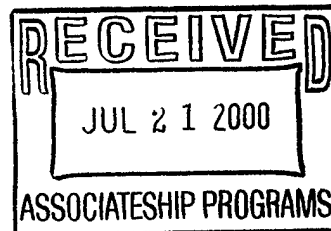
If you have downloaded this form, enter the information electronically.
Return this form directly to the NRC as an e-mail attachment or print out and mail.

1) NAME

Douglas Cerasoli

2) DATE

July 21, 2000



3) Program / Agency

or enter abbreviation

Lab / Center

Location

AMRMC

AMRICD

Aberdeen Proving Grounds

4) DATES OF TENURE

July 20, 1998 -- to -- July 17, 2000

5) NAME OF RESEARCH ADVISER

Dr. David E. Lenz

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?

☐ Yes ☒ No

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE

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

Hunt Valley MD, May 31-June 4, 1998 - Bioscience Review
Washington DC, April 17-21, 1999 - FASEB Experimental Biology 99
Boston MA, June 4-8, 2000 - ASBMB/ASPET Meeting 2000

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

10) TITLE OF RESEARCH PROPOSAL

Analysis of the Structure and Function of Anti-Organophosphorus Catalytic Antibodies / Generation of Genetically Modified Mice with Low Serum Carboxylesterase Activity

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form (25 words/250 characters each item.) Utilize concepts and key words.

- 1) No catalytic anti-nerve agent activity was detected in a large panel of B cell hybridomas
- 2) 14 monoclonal antibodies with different fine specificities for nerve agents or analogs thereof were characterized
- 3) Three monoclonal antibodies with appropriate binding characteristics were identified for use in diagnostic devices of nerve agent exposure
- 4) The complete nucleotide sequence of the coding region of the serum carboxylesterase gene (Es-1) from 129-background mice was determined
- 5) The nucleotide sequence of substantial portions of the genomic Es-1 gene (including five introns) was determined

12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.

Currently, I am determining the nucleotide sequence of more of the genomic Es-1 gene, in anticipation of generating a recombination substrate for use in making Es-1 knockout mice. At the same time, I am involved in efforts to enhance/alter

the binding characteristics of anti-nerve agent antibodies through site-directed mutagenesis, to improve their utility in diagnostic assays.

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.

(a) Publications in peer-reviewed journals:

Cerasoli, D.M., Miller, J.K., Schlager, J. J., Clark, J.H., Moriarty R., Brimfield , A.A. and Lenz, D.E. (1999) Binding Properties of Antibodies Raised Against Structurally Different Transition State Analogue Immunogens. FASEB J., 13(4), A333.

Miller, J.K., Cerasoli, D.M., Brimfield, A.A. and Lenz, D.E. (1999) A Model System for Examining the role of Epitope Structure in Determining Monoclonal Antibody Specificity. FASEB J., 13(4), A333.

Cerasoli, D.M., Maxwell, D.M. and Lenz, D.E. (2000) Generation of Genetically Modified Mice with Low Serum Carboxylesterase. FASEB J., 14(8), A1476.

Miller, J.K., Cerasoli, D.M., and Lenz, D.E. (2000) Characterization of Antibodies Towards a Biologically Active Hapten. FASEB J., 14(6), A956.

(b) Books or book chapters:

Lenz, D.E., Broomfield, C.A., Maxwell, D.M. and Cerasoli, D.M. (2000) "Nerve Agent Bioscavengers" in Chemical Warfare Agents: Low Level Toxicology, Somani et al, Eds.

(c) Manuscripts in preparation, manuscripts submitted:

Lenz, D.E. and Cerasoli, D.M. (2000) Nerve Agent Bioscavengers: Protection with Reduced Behavioral Effects. Military Psychology (In Press).

Cerasoli, D.M., Miller, J.K., Schlager, J. J., Clark, J.H., Moriarty R., Brimfield , A.A. and Lenz, D.E. (2000) Antibodies Raised Against Transition State Analogues of Soman Hydrolysis (In Preparation)

Miller, J.K., Cerasoli, D.M., and Lenz, D.E. (2000) Characterization of Monoclonal Antibodies Raised Against Organophosphorus Compounds (In Preparation)

14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. Group into domestic and foreign.

Cerasoli, D.M., Miller, J.K., Schlager, J. J., Clark, J.H., Moriarty R., Brimfield , A.A. and Lenz, D.E. (1999) Binding Properties of Antibodies Raised Against Structurally Different Transition State Analogue Immunogens. FASEB J., 13(4), A333. Presented at FASEB Experimental Biology 99, Washington DC

Cerasoli, D.M., Maxwell, D.M. and Lenz, D.E. (2000) Generation of Genetically Modified Mice with Low Serum Carboxylesterase. FASEB J., 14(8), A1476. Presented at ASBMB/ASPET Meeting 2000, Boston MA

15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide titles, authors, and dates of applications.

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

☒ Research -- National Government (U.S. or Foreign)
☒ Administration -- U.S. Govt. (Fed., State, or Local)
☒ Continuation at Host Lab/Center
Abbreviate Host Lab/Center: ICD

☐ College/University
☐ Postdoctorate
☐ Self Employment

☐ Non Profit
☐ Industry
☐ Other
Please specify:

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

Research Microbiologist at USAMRICD

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

3012 Rosalie Avenue
Baltimore, MD 21234

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM

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

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

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

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

USPS Mailing Address

Associateship Programs [TJ 2114]
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, NW
Washington, DC 20418

FAX Number

202 - 334 - 2759

INTERNET

national-academies.org/rap

Express-Delivery Address

Associateship Programs [Suite 2114]
NATIONAL RESEARCH COUNCIL
1000 Thomas Jefferson Street, NW
Washington, DC 20007

This shaded area is for the Associateship Programs Office use only. Rev: 5/1999

ID. #

Copy To / Date

Cost-Center #



FINAL REPORT FORM

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

1) NAME

Yacov Ashani

2) DATE

June 23, 2000

3) Program / Agency

Lab / Center

Location

or enter abbreviation

AMRMC

AMRMC

WRAIR

Silver Spring MD

4) DATES OF TENURE

August 1, 1999 -- to -- July 6, 2000

5) NAME OF RESEARCH ADVISER

Dr. B.P. Doctor/Dr. A. Saxena

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?

☒ Yes ☐ No

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE

N/A

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

Bioscience 2000, US Army Medical Defense Bioscience Review held at Hunt Valley, MD, 4 June-9 June, 2000.

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

N/A

10) TITLE OF RESEARCH PROPOSAL

Chemical Modification of Human Butyrylcholinesterase

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form (25 words/250 characters each item.)

Utilize concepts and key words.

1) A new affinity chromatography resin was synthesized for the purification of HuBChE from Cohn's Fraction IV, and from out-dated human plasma. The gel is currently under evaluation.

2) The reactivation potency of the oxime candidate to be coupled to HuBChE was defined. This established a baseline information for the evaluation of oxime-HuBChE covalent conjugates.

3) A water soluble carbodiimide was examined as linking agent for the chemical modification of HuBChE by a specific oxime reactivator. EqBChE was utilized as a model protein. More experiments are needed to explore this chemical route.

4) Theoretical calculations and experimental data established SAR among phosphorylated oximes. Results advance our understanding the mechanism of oxime-induced reactivation and provide a lead for computer-designed improved reactivator.

5) Charged organophosphate inhibitors were characterized by use of mutant AChEs and BChEs. This study highlights the differences between three groups of positively charged OPs in terms of their interaction with the active site center of ChEs.

12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.

To further advance the idea of converting HuBChE to an OP hydrolyzing esterase by covalent linking of oxime reactivators to the enzyme, two lines of efforts are currently being pursued in parallel.

(1) Large quantities of enzyme are required to develop a suitable protocol for the chemical modification of HuBChE. A new affinity chromatography resin developed during my tenure is being examined as a replacement gel for the purification of HuBChE. Parametric studies are being conducted with out-dated human plasma and an alternative source of HuBChE, Cohn's fraction IV.

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

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.

(a) Publications in peer-reviewed journals:

N/A

(b) Books or book chapters:

N/A

(c) Manuscripts in preparation, manuscripts submitted:

Y. Ashani, A.K. Bhattacharjee, H. Leader, A. Saxena, C. Hinrichs, and B.P. Doctor "Experimental And Theoretical Studies of Phosphorylated Oximes Containing The Phosphorus Moieties of G- and V-type Nerve Agents", Proceedings of the Bioscience 2000 Meeting, Hunt Valley MD, June 4-9, 2000 (US Army Medical Defense Bioscience Review)

H. Leader, Y. Ashani, C.M. Arroyo, R.K. Gordon, and B.P. Doctor "Synthesis and Structural elucidation of Phosphorylated Oximes Containing the Organophosphorous Moiety of Nerve Agents " Proceedings of the Bioscience 2000 Meeting, Hunt Valley MD, June 4-9, 2000 (US Army Medical Defense Bioscience Review)

A. Saxena, Y. Ashani, P. Taylor, D.M. Maxwell, and B.P. Doctor " Recombinant Cholinesterases: Developing an Ideal Bioscavenger For Protection Against Organophosphate Nerve Agents" in: Proceedings of CB Medical Treatment Symposium, 7-12 May 2000, Spiez Switzerland

B.P. Doctor, D.M. Maxwell, Y. Ashani, A. saxena, and R.K. Gordon " New Approaches to Medical Protection Against Chemical Warfare Nerve Agents" in Chemical Warfare Treatment(S. Somani & J.Romano, Eds) CRC Publication

B.P. Doctor, A. Saxena, Y. Ashani, R.K. Gordon, D.E. Lenz, and D.M. Maxwell, " Scavenger Protection Against Organophosphorus Chemical Warfare by Cholinesterases" in: Proceedings of CB Medical Treatment Symposium, 7-12 May 2000, Spiez

14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. Group into domestic and foreign.

Y. Ashani, A.K. Bhattacharjee, H. Leader, A. Saxena, C. Hinrichs, and B.P. Doctor "Experimental And Theoretical Studies of Phosphorylated Oximes Containing The Phosphorus Moieties of G- and V-type Nerve Agents", Bioscience 2000 Meeting, Hunt Valley MD, June 4-9, 2000 (US Army Medical Defense Bioscience Review)

Y. Ashani, H. Leader, Z. Radic, P. Taylor, A. K. Bhattacharjee, R. S. Sikorski, A. Saxena, and B.P. Doctor "The Role of D74 and W86 in the Inhibition of Acetylcholinesterase by Cationic Aromatic Organophosphates" Bioscience 2000 Meeting, Hunt Valley MD, June 4-9, 2000 (US Army Medical Defense Bioscience Review)

H. Leader, Y. Ashani, C.M. Arroyo, R.K. Gordon, and B.P. Doctor " Synthesis and Structural Elucidation of Phosphorylated Oximes Containing the Organophosphorous Moiety of Nerve Agents "Bioscience 2000 Meeting, Hunt Valley MD, June 4-9, 2000

B.P. Doctor, A. Saxena, Y. Ashani, R.K. Gordon, D.E. Lenz, and D.M. Maxwell, " Scavenger Protection Against Organophosphorus Chemical Warfare by Cholinesterases" CB Medical Treatment Symposium, 7-12 May 2000, Spiez Switzerland

A. Saxena, Y. Ashani, P. Taylor, D.M. Maxwell, and B.P. Doctor " Recombinant Cholinesterases: Developing an Ideal Bioscavenger For Protection Against Organophosphate Nerve Agents" CB Medical Treatment Symposium, 7-12 May 2000, Spiez Switzerland

15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide titles, authors, and dates of applications.

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

☒ Research -- National Government (U.S. or Foreign)

☐ Administration -- U.S. Govt. (Fed., State, or Local)

☐ Continuation at Host Lab/Center

Abbreviate Host Lab/Center: _____

☐ College/University

☐ Postdoctorate

☐ Self Employment

☐ Non Profit

☐ Industry

☐ Other

Please specify:

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

N/A. Returning to my home laboratory at Israel

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

5 Shaar HaGolan St.

Rishon-Lezion

ISAREL

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM

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

2 a) Of what value was this experience to your career?

2 b) What is your evaluation of your experience in the laboratory?

2 c) What is your evaluation of your interaction with the NRC?

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

The administration of the Program by the Associateship Office was of great help to me. Prompt and precise responses to a variety of questions are held in high regard. The expertise and dedication of the Associateship Office Staff is to their credit. Only one reservation needs to be raised here. Because of the 20% co-payment plan and the deductible amount, I found the health insurance plan a huge financial burden to those who need medical attention during the tenure. Also, I experienced unexpectedly long delays in reimbursement of medical expenses that were due to me.

USPS Mailing Address

Associateship Programs [TJ 2114]
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, NW
Washington, DC 20418

FAX Number

202 - 334 - 2759

INTERNET

national-academies.org/rap

Express-Delivery Address

Associateship Programs [Suite 2114]
NATIONAL RESEARCH COUNCIL
1000 Thomas Jefferson Street, NW
Washington, DC 20007

This shaded area is for the Associateship Programs Office use only. Rev: 5/1999

ID. #

Copy To / Date

Cost-Center #



FINAL REPORT FORMAT

[vers. 1.1.99]

ID#

Regular mail

Fax

Express mail

Associateship Prgrms. [TJ 2114]
NAT'L. RESEARCH COUNCIL
2101 Constitution Ave, NW
Washington, DC 20418

202 -
334 -
2759

Associateship Prgrms. [TJ 2114]
NAT'L. RESEARCH COUNCIL
1000 Thomas Jefferson St., NW
Washington, DC 20007

1) NAME Carmen Fernandez-Prada, Ph.D.

2) DATE 03/10/00

3) NAME OF LABORATORY/CENTER AND LOCATION AMRMC / WRAIR-DC

4) DATES OF TENURE March 13, 1997 to March 12, 2000

5) TITLE OF RESEARCH PROPOSAL

6) NAME OF RESEARCH ADVISER(S) COL David Hoover

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

8) PROFESSIONAL SOCIETY OFFICES HELD DURING TENURE ASM, AAAS

9) PROFESSIONAL TRAVEL DURING TENURE

List location(s) and date(s) of travel to scientific meetings. List foreign meetings separately.

Please see attached

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

List location(s) and date(s).

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form, utilizing concepts and keywords.

- 1.
- 2.
- 3.
- 4.
- 5.

12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citation(s), including author(s), full name of journal, volume number, page number(s), year of publication.

Please list separately:

- (a) Publications in peer-reviewed journals;
- (b) Books or book chapters; and,
- (c) Manuscripts in preparation, manuscripts submitted.

14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

Provide complete reference with author(s), title, abstract or proceeding citation, and meeting name and location.

15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

16) NEXT POSITION TITLE, ORGANIZATION and ADDRESS

17) NEXT POSITION STATUS

Research -- National Government (U.S. or Foreign)

Administration -- U.S. Govt. (Fed., State, or Local)

Remain at Host Lab/Center (Please provide name of Lab/Center.)

College/University Professor

Postdoctoral

Uncertain

Self-Employed

Industry

Other

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

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM

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

Of what value was this experience to your career?

What is your evaluation of your experience in the laboratory?

What is your evaluation of your interaction with the NRC?

Additional comments on the usefulness of the Associateship Program to you, including suggestions for improvements:

**NRC
FINAL REPORT**

(1) NAME Carmen M. FERNANDEZ-PRADA

(2) DATE 03/10/00

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

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

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

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

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

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

(9) PROFESSIONAL TRAVEL DURING TENURE

1. 97th General Meeting, ASM. Miami Beach, Florida, May 3-8, 1997.
2. Microbial Pathogenesis and Host Response Meeting of the Cold Spring Harbor Laboratory. Cold Spring Harbor, New York, Sep., 1997.
3. 50th Brucellosis Research Conference, Chicago, Nov. 7-9, 1997.
4. 98th General Meeting, ASM. Atlanta, Georgia. May 17-21, 1998.
5. 3rd National Symposium. Basic Aspects of Vaccines. Washington DC. April 29-May 1, 1998.
6. Second Louis Pasteur conference on Molecular signals and infectious diseases. Paris, France. 8-10 October 1998.
7. 4th National Symposium Basic Aspects of Immunology. Bethesda, MD. Oct. 21-23, 1998.
8. 51st Brucellosis Research Conference, Chicago, Nov., 1998.
9. Microbial Pathogenesis and Host Response Meeting of the Cold Spring Harbor Laboratory. Cold Spring Harbor, New York, Sep., 1999.
10. 52nd Brucellosis Research Conference, Chicago, Nov., 1999.
11. 35th Joint Conference U.S.-Japan Cooperative Medical Science Program Cholera and other Bacterial Enteric Infections. Baltimore, MD, 1999.

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

- a) At the 3rd Annual Chesapeake Area - Microbial Pathogenesis (CAMP) Meeting, University of Maryland at Baltimore : Interaction of *S. flexneri* strains with human monocyte-derived macrophages (HMDM) in tissue culture. June, 1997.
- b) At WRAIR : Interaction of *S. flexneri* strains with cultured human monocyte-derived macrophages (HMDM). July, 1997.
- c) At WRAIR: Comparative Complement-Mediated Killing and Complement Deposition Between Smooth and Rough Mutant *Brucella abortus* and *Brucella melitensis* Strains. November, 1999.

(11) SUMMARY OF RESEARCH DURING TENURE

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

(12) RESEARCH IN PROGRESS

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

(13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

3. Publications in peer-reviewed journals:

- **Fernandez-Prada C.**, D.L. Hoover, B.D. Tall, S. Elliot, J. Nataro and M.M. Venkatesan. 1998. Hemolysin-positive enteroaggregative and cell detaching *Escherichia coli* causes oncosis of human monocyte-derived macrophages and apoptosis of murine J774 cells. Infect. Immun. 66:3918-3924.

- **Fernandez-Prada C.**, D.L. Hoover, B.D. Tall, J. Kopelowitz, A.A. Hartman and M.M. Venkatesan. 2000. *Shigella flexneri ipaH_{7,8}* facilitates escape of virulent bacteria from the endocytic vacuoles of mouse and human monocytes and macrophages. Infect. Immun. In press (June)

(b) Books or book chapters: None

(c) Manuscripts in preparation, manuscripts submitted:

- Hartman A.B., **C. Fernandez-Prada**, J.L. Puryear, and M.M. Venkatesan. Genetic polymorphism and variation in virulence phenotype in *Shigella flexneri* Y strains: origin of Y strains and serotype change in nature. Submitted to Mol. Microbiol.

- **Fernandez-Prada C.M.**, M. Nikolich, R. Vemulapalli, N. Sriranganathan, S. Boyle, G. Schurig, D.L. Hoover. Comparative Complement-Mediated Killing and Complement Deposition Between Smooth and Rough Mutant *Brucella abortus* and *Brucella melitensis* Strains. Manuscript in preparation.

(14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

1. **Fernandez-Prada C.**, S. Elliot, J. Nataro and M.M. Venkatesan. Heterogeneity in the interaction of enteroaggregative *Escherichia coli* strains with human monocyte-derived macrophages. Abstracts of the 97th General Meeting, ASM. Miami Beach, Florida, 1997.
2. **Fernandez-Prada C.**, S. Elliot, J. Nataro and M.M. Venkatesan. Heterogeneity in the interaction of enteroaggregative *Escherichia coli* strains with human monocyte-derived macrophages. Gordon Meeting, 1997.
3. **Fernandez-Prada C.**, D.L. Hoover, J. Kopelowitz and M.M. Venkatesan. Behavior of *Shigella flexneri ipaH* mutants in mouse J774 cells and in human monocyte-derived macrophages. Abstracts of the Microbial Pathogenesis and Host Response Meeting of the Cold Spring Harbor Laboratory. Cold Spring Harbor, New York, 1997.
4. **Fernandez-Prada C.**, D.L. Hoover, and M.M. Venkatesan. Survival of *Shigella ipaH* -mutants and cytokine synthesis in human monocyte-derived macrophages and J774 mouse macrophages.

First Joint Meeting of the American Association of Immunologists, American Academy of Allergy, Asthma and Immunology, and the Clinical Immunology Society. San Francisco, California, 1997.

5. **Fernandez-Prada C.**, D.L. Hoover, B.D. and M.M. Venkatesan. Cell death in *S. flexneri ipaH*-infected human monocytes and human monocyte-derived macrophages depends on the stage of differentiation of the phagocytic cell. Abstracts of the 98th General Meeting, ASM. Atlanta, Georgia, 1998.

6. Clerge G., M.D. Miliotis, S. Fall, A. Slajegeheh, R. Aznar, L. Hoi, B.E. Eribo, E. Benediksdottir, A.J. Schoeffield, **C.M. Fernandez-Prada**, and B.D. Tall. Adherence and invasion of marine vibrios: a comparative summary. Abstract submitted to the 99th General Meeting, ASM. Chicago, IL, 1999.

7. Clerge G., M.D. Miliotis, M.H. Kothary, D. E. Hanes, J.W. Bier, D.J. Kopecko, X. Huang, **C. Fernandez-Prada**, S. Fall, K.A. Shangraw, B.E. Eribo, D.B. Shah, and B.D. Tall. *Vibrio vulnificus* invasion and cytotoxicity are independent events, both of which involve protein tyrosine kinase activity. Abstract submitted to the 35th Joint Conference U.S.-Japan Cooperative Medical Science Program Cholera and other Bacterial Enteric Infections. Baltimore, MD, 1999.

8. **Fernandez-Prada C.M.**, M.M. Venkatesan, A.A. Franco, A.B. Hartman, C. Lanata, B. Sack and W. Spira. Molecular epidemiology of *Shigella* spp. in an endemic area of shigellosis in Lima-Peru. Abstract submitted to the 35th Joint Conference U.S.-Japan Cooperative Medical Science Program Cholera and other Bacterial Enteric Infections. Baltimore, MD, 1999.

9. **Fernandez-Prada C.M.**, M. Nikolich, R. Vemulapalli, N. Sriranganathan, S. Boyle, G. Schurig, D.L. Hoover. Comparative Complement-Mediated Killing and Complement Deposition Between Smooth and Rough Mutant *Brucella abortus* and *Brucella melitensis* Strains. Abstracts of the Microbial Pathogenesis and Host Response Meeting of the Cold Spring Harbor Laboratory. Cold Spring Harbor, New York-USA. 1999.

10. **Fernandez-Prada C.M.**, M. Nikolich, R. Vemulapalli, N. Sriranganathan, S. Boyle, G. Schurig, D.L. Hoover. Comparative Complement-Mediated Killing and Complement Deposition Between Smooth and Rough Mutant *Brucella abortus* and *Brucella melitensis* Strains. Abstracts submitted to the 52nd Brucella Meeting. Chicago, IL-USA. 1999.

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

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

(17) NEXT POSITION STATUS
Self-employed

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

(19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM

Of what value was this experience to your career? 9

What is your evaluation of your experience in the laboratory? 9

What is your evaluation of your interaction with the NRC? 9

Additional comments on the usefulness of the Associateship Program to you, including suggestions for improvements: To improve the health insurance.

FINAL REPORT FORM

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

1) NAME

Elvis O. Price

2) DATE

June 20, 2000

3) Program / Agency

or enter abbreviation

Lab / Center

Location

AMRMC

USAMRICD

3100 Ricketts Pt. Rd. APG, MD

4) DATES OF TENURE

January 14, 1998 -- to -- June 30, 2000

5) NAME OF RESEARCH ADVISER

Dr. William J. Smith

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?

☐ Yes ☒ No

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE

None

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

(1) Orlando, FL, June 1998; (2) Hunt Valley, MD, June 1998; (3) Anaheim, CA, March 1999 (4) Hunt Valley, MD June 2000; (5) Long Beach, CA, June 2000.

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

(1) Joint U.S./Israeli Detection Symposium Lecture, APG, MD February 2000; (2) Howard University Seminar, Washington DC, February 2000; (3) USAMRICD Seminar, APG, May 2000; (4) Bioscience Conference Lecture, Hunt Valley, MD June 2000;

10) TITLE OF RESEARCH PROPOSAL

Investigations of Sulfur Mustard Adducts to Proteins via Matrix-Assisted Laser Desorption Ionization/Time-of-flight Mass Spectrometry

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form (25 words/250 characters each item.) Utilize concepts and key words.

- 1) Demonstrated that MALDI-TOF/MS could be used to study the in vitro interactions of sulfur mustard with biomolecules.
- 2) Sulfur mustard (SM)-Hemoglobin (Hb) alkylated specie(s) could be observed using MALDI as low as a 5 mM in vitro whole blood exposure.
- 3) Markers of SM exposure were observed in the MALDI spectra of the soluble extract of the in vivo SM exposure of live mouse ear tissue.

4)

5)

12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.

Present research efforts are focused on isolating the SM-Hb adducts from whole blood using 2-D gel electrophoresis and/or

lower SM exposure levels (below 5 mM). Additionally, mouse ear tissue will be exposed to a variety of vesicating nonalkylating agents as well as nonvesicating alkylating agents in an effort to determine whether the markers of SM exposure of mouse ear skin tissue is specific.

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.

(a) Publications in peer-reviewed journals:

(1) Elvis O. Price, J. Richard Smith, Connie R. Clark, John J. Schlager and Ming L. Shih. MALDI-TOF/MS as a Diagnostic Tool for the Confirmation of Sulfur Mustard Exposure. Manuscript accepted to Journal of Applied Toxicology, December, 1999.

(2) J. Richard Smith, Ming L. Shih, Elvis O. Price, Gennady E. Plattoff and John J. Schlager. Army Medical Laboratory Telemedicine: Role of Mass Spectrometry in Telediagnosis for Chemical and Biological Defense. Manuscript accepted to Journal of Applied Toxicology, December, 1999

(b) Books or book chapters:

None

(c) Manuscripts in preparation, manuscripts submitted:

(1) Elvis O. Price, Ming L. Shih, Michael C. Babin, Karen M. Ricketts, Michelle Gazaway, Peter L. Norton and Rudy Macalalag. Application of MALDI-TOF/MS for the Verification of Sulfur Mustard Exposure. Manuscript in preparation.

(2) Elvis O. Price, J. Richard Smith and John J. Schlager. Matrix-Assisted Laser Desorption Ionization Time-Of-Flight Mass Spectrometric Analysis of Sulfur Mustard-Metallothionein Adducts. Manuscript in preparation.

14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. Group into domestic and foreign.

(1) Elvis O. Price, J. Richard Smith and John J. Schlager. MALDI-TOF Mass Spectrometric Detection of Sulfur Mustard Metallothionein Adducts. Proceedings of The 46th ASMS Conference on Mass Spectrometry and Allied Topics, June 1-6, 1998, Orlando, FL. pp. 1007. (2) Elvis O. Price, J. Richard Smith, Connie R. Clark, John J. Schlager and Ming L. Shih. MALDI-TOF/MS as a Diagnostic Tool for the Confirmation of Chemical Agent Exposure. Proceedings of the 1998 Medical Defense Bioscience Review, June, 1998, Hunt Valley, MD. (3) Elvis O. Price, J. Richard Smith, Connie R. Clark, John J. Schlager and Ming L. Shih. MALDI-TOF/MS as a Diagnostic Tool for the Confirmation of Chemical Agent Exposure. American Chemical Society National Meeting, March 1999, Anaheim, California. (4) Elvis O. Price, Ming L. Shih, Michael C. Babin, Karen M. Ricketts, Michelle Gazaway, Peter L. Norton and Rudy Macalalag. Application of MALDI-TOF/MS for the Verification of Sulfur Mustard Exposure. Bioscience Conference, June 2000, Hunt Valley, MD. (5) Elvis O. Price, Ming L. Shih, Michael C. Babin, Karen M. Ricketts, Michelle Gazaway, Peter L. Norton and Rudy Macalalag. Application of MALDI-TOF/MS for the Verification of Sulfur Mustard Exposure. American Society of Mass Spectrometry Conference, June 2000, Long Beach, CA.

15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide titles, authors, and dates of applications.

None

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

☐ Research -- National Government (U.S. or Foreign)

☒ Administration -- U.S. Govt. (Fed., State, or Local)

☐ Continuation at Host Lab/Center

☐ College/University

☐ Postdoctorate

☐ Self Employment

☐ Non Profit

☐ Industry

☐ Other

Please specify: _____

Abbreviate Host Lab/Center: _____

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

Patent Examiner/US Patent and TradeMark Office

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

5018 Round Tower Place
Columbia, MD 21044

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM

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

1 a) Of what value was this experience to your career?

- 6) What is your evaluation of your experience in the laboratory?
8 c) What is your evaluation of your interaction with the NRC?

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

USPS Mailing Address

Associateship Programs [TJ 2114]
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, NW
Washington, DC 20418

FAX Number

202 - 334 - 2759

INTERNET

national-academies.org/rap

Express-Delivery Address

Associateship Programs [Suite 2114]
NATIONAL RESEARCH COUNCIL
1000 Thomas Jefferson Street, NW
Washington, DC 20007

This shaded area is for the Associateship Programs Office use only. Rev. 5/1999

ID#

Copy To / Date

Cost Center #

FINAL REPORT FORM

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

1) NAME

Albert L. Ruff

2) DATE

October 21, 1999

3) Program / Agency

or enter abbreviation

Lab / Center

Location

AMRMC

USAMRIID

Fort Detrick, MD

4) DATES OF TENURE

March 30, 1998 -- to -- October 23, 1999

5) NAME OF RESEARCH ADVISER

Dr. Connie Schmaljohn

6) IF YOU ARE ON LEAVE FROM A PROFESSIONAL POST, WILL YOU RETURN TO YOUR PREVIOUS EMPLOYER?

☐ Yes

☐ No

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE

None

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

A. Domestic

1. National Foundation for Infectious Diseases, Bethesda, MD 3/28/99-3/30/99, Second Annual Conference on Vaccine Research

2. U Mass, Amherst, MA 7/10/99-7/14/99, American Society of Virology Annual Conference

B. Foreign

1. Paul Ehrlich Institute, Langen, Germany 10/4/99-10/10/99, Progress and Clinical Development of DNA Vaccines

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

PowderJect Vaccines, Madison, Wisconsin 9/24/99

10) TITLE OF RESEARCH PROPOSAL

Enhancing the Immune Response to Ebola Antigens

11) SUMMARY OF RESEARCH DURING TENURE Itemize significant findings in concise form (25 words/250 characters each item.) Utilize concepts and key words.

1) Significant improvement in the immunogenicity of Ebola DNA gene gun vaccination in mice.

2) In mice, 100% protection against lethal challenge with Ebola virus could be consistently achieved after only 2 vaccinations, and 20-40% protection could be achieved with just one vaccination.

3) Co-administration of cytokine DNA with Ebola DNA in gene gun vaccination modulated the immune response, but had no effect on survival after challenge.

4) Quality control measures were developed and applied to the DNA gene gun vaccines resulting in improved and more consistent immune responses.

5) DNA/gelatin nanosphere coacervates are not a viable delivery vector for DNA vaccines at this time.

12) RESEARCH IN PROGRESS Briefly describe in 100 words or less.

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

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.

(a) Publications in peer-reviewed journals:

none

(b) Books or book chapters:

none

(c) Manuscripts in preparation, manuscripts submitted:

Albert Ruff, Timothy Nelle, Mike Bray, and Connie Schmaljohn. 1999. A Single Gene Gun Vaccination with Ebola GP or NP DNA Protects Mice Against Lethal Challenge. Manuscript in preparation

14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. Group into domestic and foreign.

none

15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide titles, authors, and dates of applications.

none

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

☒ Research -- National Government (U.S. or Foreign)

☐ Administration -- U.S. Govt. (Fed., State, or Local)

☐ Continuation at Host Lab/Center

Abbreviate Host Lab/Center: _____

☐ College/University

☐ Postdoctorate

☐ Self Employment

☐ Non Profit

☐ Industry

☐ Other

Please specify:

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

Microbiologist, USAMRIID

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

1668 Colonial Way
Frederick, MD 21702

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM

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

10 a) Of what value was this experience to your career?

10 b) What is your evaluation of your experience in the laboratory?

8 c) What is your evaluation of your interaction with the NRC?

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

USPS Mailing Address

Associateship Programs [TJ 2114]
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, NW
Washington, DC 20418

FAX Number

202 - 334 - 2759

INTERNET

national-academies.org/rap

Express-Delivery Address

Associateship Programs [Suite 2114]
NATIONAL RESEARCH COUNCIL
1000 Thomas Jefferson Street, NW
Washington, DC 20007

This shaded area is for the Associateship Programs Office use only. Rev: 5/1999

ID. #

Copy To / Date

Cost-Center #

FINAL REPORT FORMAssociateship Programs: Office use only
[Rev. 3/1999]

ID#

USPS Mailing AddressAssociateship Prgrms. [TJ 2114]
NAT'L. RESEARCH COUNCIL
2101 Constitution Ave, NW
Washington, DC 20418**Express-Delivery Address**Associateship Prgrms. [Suite 2114]
NAT'L. RESEARCH COUNCIL
1000 Thomas Jefferson St., NW
Washington, DC 20007

FAX Number: 202 - 334 - 2759

If you have downloaded this, you may print out, enter the information manually, and return via mail. **RECEIVED** If you may enter the information electronically and return as an attachment.

JUN 13 2000

ASSOCIATESHIP PROGRAMS

1) NAME TASHMA, Zev

2) DATE June 12, 2000

3) PROGRAM OR Write-in AMRMC LAB / CENTER WRAIR LOCATION Silver Spring MD

-- Click On --

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

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

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

7) PROFESSIONAL AWARDS RECEIVED, SOCIETY OFFICES HELD DURING TENURE

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

"Bioscience 2000 Medical Defense Review" conference, Hunt Valley MD
June 4-9, 2000.

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

WRAIR Pharmacology group, December 23 1999 and April 6 2000.

10) TITLE OF RESEARCH PROPOSAL

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

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

- 1) While human butyrylcholinesterase can be purified from human serum, it cannot be satisfactorily purified from Cohn's Factor 4 blood fraction.
- 2) Considerable advances were made toward purifying the enzyme by studying the effects of several parameters (like temperature, pH, salt concentration) on overall yield.
- 3) Applying a ion-exchange chromatography using carboxyethylcellulose in (prior to the affinity chromatography step) helps purification, by removing some proteins that stick to this anionic polymer (BChE does not bind strongly).
- 4) Elevated temperature cannot be used as a virucidal method since BChE will totally break down. Other methods, like solvent/detergent (S/D), or applying pH=4 at 37°C, can be used, especially when the protein in accompanied by a big excess of other proteins. The yield, however, is usually under 60%.
- 5) The enzymatic fraction that survives the virucidal treatment is not less thermally stable than the untreated enzyme; it might be even somewhat more stable.

12) RESEARCH IN PROGRESS Briefly describe in 100 words or less. Both topics of this project (the isolation of BCHE from "Factor 4" and finding the least-damaging virucidal procedure) prove to need further research, despite the progress we have achieved. I hope to do more work on these topics in the future.

13) PUBLICATIONS AND PAPERS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

Provide complete citation(s) including author(s), full name of journal, volume number, page number(s), year of publication.

(a) Publications in peer-reviewed journals:

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

(b) Books or book chapters:

(c) Manuscripts in preparation, manuscripts submitted:

14) PRESENTATIONS AT SCIENTIFIC MEETINGS OR CONFERENCES

Provide complete reference with author(s), title, abstract/proceeding citation, meeting name, location. List foreign meetings separately.

15) PATENT OR COPYRIGHT APPLICATIONS RESULTING FROM NRC ASSOCIATESHIP RESEARCH

16) NEW POSITION TITLE, ORGANIZATION and ADDRESS

Senior Scientific Advisor
NBC Branch, Medical Corps HQ,
Israeli Defense Forces, Military Post 02149, ISRAEL

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

- | | | |
|---|---|--|
| <input checked="" type="checkbox"/> Research -- National Government (US or Foreign) | <input type="checkbox"/> College/University Professor | <input type="checkbox"/> Self-Employed |
| <input type="checkbox"/> Administration -- U.S. Govt. (Fed., State, or Local) | <input type="checkbox"/> Postdoctoral | <input type="checkbox"/> Industry |
| <input type="checkbox"/> Remain at Host Lab/Center (Please provide name of Lab/Center.) | <input type="checkbox"/> Uncertain | <input type="checkbox"/> Other |

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

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

19) APPRAISAL OF THE ASSOCIATESHIP PROGRAM

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

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

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