



May 31, 1995

OFFICE OF NAVAL RESEARCH
BUILDING 5, CAMERON STATION
ALEXANDRIA, VIRGINIA 22304-6145

ATTN: DEFENSE TECHNICAL INFORMATION CENTER

SUBJECT: Grant No: N00014-94-1-0330
University of Utah Account No : 5-28218

Enclosed are the following closing documents for the project entitled, "1994 WINTER CONFERENCE ON NEUROBIOLOGY OF LEARNING AND MEMORY ", under the direction of Dr. Raymond Kesner, Department of Psychology .

These documents are as follows: 1 copy Contractor's Release Form
1 copy Contractor's Assignment of Refunds, Rebates and Credits
1 Financial Status Report
1 Final Report

If further information is required, please advise.

Sincerely,

Nancy V. Dyke
Associate Director
801-581-8536

enclosures

1997 0717 130

DTIC QUALITY INSPECTED 5

Office of Sponsored Projects

1471 Federal Way
Salt Lake City, Utah 84102
(801) 581-6903

Fax Machine (801) 581-3007



DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
SEATTLE REGIONAL OFFICE
1107 NE 45TH STREET, SUITE 350
SEATTLE WA 98105-4631

IN REPLY REFER TO:

4330
ONR 247
11 Jul 97

From: Director, Office of Naval Research, Seattle Regional Office, 1107 NE 45th St., Suite 350, Seattle, WA 98105

To: Defense Technical Center, Attn: P. Mawby, 8725 John J. Kingman Rd., Suite 0944, Ft. Belvoir, VA 22060-6218

Subj: RETURNED GRANTEE/CONTRACTOR TECHNICAL REPORTS

1. This confirms our conversations of 27 Feb 97 and 11 Jul 97. Enclosed are a number of technical reports which were returned to our agency for lack of clear distribution availability statement. This confirms that all reports are unclassified and are "APPROVED FOR PUBLIC RELEASE" with no restrictions.
2. Please contact me if you require additional information. My e-mail is silverr@onr.navy.mil and my phone is (206) 625-3196.


ROBERT J. SILVERMAN

CONTRACTOR'S ASSIGNMENT OF REFUNDS, REBATES AND CREDITS

Pursuant to the terms of Contract No. N00014-94-1-0330 and in consideration of the reimbursement of costs and payment of fee, as provided in the said contract and any assignment thereunder, the UNIVERSITY OF UTAH, SALT LAKE CITY, UTAH 84112 (Hereinafter called the Contractor) does hereby: (Contractor's Name and Address)

- 1. Assign, transfer, set over and release to the UNITED STATES OF AMERICA (hereinafter called the Government), all right, title and interest to all refunds, rebates, credits or other amounts (including any interest thereon) arising out of the performance of the said contract, together with all the rights of action accrued or which may hereafter accrue thereunder.
2. Agree to take whatever action may be necessary to effect prompt collection of all refunds, rebates, credits or other amounts (including any interest thereon) due or which may become due, and to promptly forward to the Contracting Officer checks (made payable to the Treasurer of the United States) for any proceeds so collected.
3. Agree to cooperate fully with the Government as to any claim or suit in connection with refunds, rebates, credits or other amounts due (including any interest thereon); to execute any protest, pleading, application, power of attorney or other papers in connection therewith; and to permit the Government to represent it at any hearing, trial or other proceeding arising out of such claim or suit.

IN WITNESS WHEREOF, this assignment has been executed this 3rd day of May, 19

UNIVERSITY OF UTAH (Contractor)

WITNESSES:

BY

TITLE

Nancy J. Dyke Assoc. Director

NOTE: In the case of a corporation, witnesses are not required, but the following certificate must be completed.

CERTIFICATE

I, Mary L. Ward, certify that I am the Asst. Admin. OSP of the corporation named as Contractor in the foregoing assignment; that Nancy J. Dyke who signed said assignment on behalf of the Contractor was then Assoc. Director of said corporation; that said assignment was duly signed for and in behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

(CORPORATE SEAL)

Mary L. Ward

CONTRACTOR'S RELEASE

Pursuant to the terms of Contract No. N00014-94-I-0330 and in consideration of the sum of Five thousand twenty-four dollars and no/100----- (\$5,024.00),

which has been or is to be paid under the said contract to the UNIVERSITY OF UTAH, SALT LAKE CITY, UTAH 84112 (Hereinafter called the Contractor) or to its assignees, if any,
(Contractor's Name and Address)

the Contractor, upon payment of the said sum by the UNITED STATES OF AMERICA (hereinafter called the Government), does remise and discharge the Government, its officers, agents, and employees, of and from all liabilities, obligations, claims, and demands whatsoever under or arising from the said contract, except:

1. Specified claims in stated amounts or in estimated amounts where the amounts are not susceptible of exact statement by the Contractor as follows:
2. Claims, together with reasonable expenses incidental thereto, based upon the liabilities of the Contractor to third parties arising out of the performance of the said contract, which are not known to the Contractor on the date of the execution of this release and of which the Contractor gives notice in writing to the Contracting Officer within the period specified in the said contract.
3. Claims for reimbursement of costs (other than expenses of the Contractor by reason of its indemnification of the Government against patent liability), including reasonable expenses incidental thereto, incurred by the Contractor under the provisions of the said contract relating to patents.

The Contractor agrees, in connection with patent matters and with claims which are not released as set for the above, that it will comply with all of the provisions of the said contract, including without limitation those provisions relating to notification to the Contracting Officer and relating to the defense or prosecution of litigation.

IN WITNESS WHEREOF, this release has been executed this 3rd day of May, 1995

UNIVERSITY OF UTAH
(Contractor)

WITNESSES:

BY

TITLE

Nancy V. Dyke
Assoc. Director

NOTE: In the case of a corporation, witnesses are not required, but the following certificate must be completed.

CERTIFICATE

I, Mary L. Ward, certify that I am the ASST. Admin of the
(Official Title)

corporation named as Contractor in the foregoing release; that Nancy V. Dyke who signed said
release on behalf of the Contractor was then Assoc. Director of said corporation; that said release
(Official Title)

was duly signed for and in behalf of said corporation by authority of its governing body and is within the scope of its corporate powers.

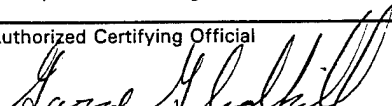
(CORPORATE SEAL)

Mary L. Ward

FINANCIAL STATUS REPORT

(Short Form)

(Follow instructions on the back)

1. Federal Agency and Organizational Element to which Report is Submitted ONR		2. Federal Grant or Other Identifying Number Assigned By Federal agency N00014-94-1-0330		OMB Approval No. 0349-0039	Page 1	of 1 pages
3. Recipient Organization (Name and complete address, including ZIP code) University of Utah 406 Park Building Salt Lake City UT 84112						
4. Employer Identification Number 87 6000 525		5. Recipient Account Number or Identifying Number 5-28218		6. Final Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		7. Basis <input checked="" type="checkbox"/> Cash <input type="checkbox"/> Accrual
8. Funding/Grant Period From: (month, day, Year) 1/1/94		To: (Month, Day, Year) 12/31/94		9. Period Covered by this Report From: (month, day, Year) 1/1/94		To: (Month, Day, Year) 12/31/94
10. Transactions:				I Previously Reported	II This Period	III Cumulative
a. Total outlays				\$0.00	\$5,024.00	\$5,024.00
b. Recipient share of outlays				\$0.00	\$0.00	\$0.00
c. Federal share of outlays				\$0.00	\$5,024.00	\$5,024.00
d. Total unliquidated obligations				\$0.00	\$0.00	\$0.00
e. Recipient share of unliquidated obligations				\$0.00	\$0.00	\$0.00
f. Federal share of unliquidated obligations				\$0.00	\$0.00	\$0.00
g. Total Federal share (Sum of lines c and f)				\$0.00	\$5,024.00	\$5,024.00
h. Total Federal funds authorized for this funding period				\$0.00	\$5,024.00	\$5,024.00
i. Unobligated balance of Federal funds (line h minus line g)				\$0.00	\$0.00	\$0.00
11. Indirect Expense	a. Type of Rate (Place "X" in appropriate box)					
	Provisional		Predetermined		Final	
	b. Rate	c. Base	d. Total Amt		e. Federal Share	
12. Remarks:						
13. Certification: I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award documents						
Typed or Printed Name and Title Gary Gledhill, Manager					Telephone (Area code, number and extension) (801)581-7343	
Signature of Authorized Certifying Official 					Date Report Submitted 4/18/95	

Final Report: Grant No: N00014-94-1-0330

The nineteenth annual Neurobiology of Learning and Memory conference was held in Park City, January 8-11, 1994. The conference was organized by Raymond Kesner, John Disterhoft, Jim McGaugh, Elisabeth Murray, Aryeh Routtenberg and Larry Squire. The conference was well attended with 70 scientists from all parts of the United States as well as 20 graduate and/or postdoctoral students.

The topics that were covered included 1) a "data blitz" which was led by John Disterhoft and Elisabeth Murray. The data blitz was designed to provide people the opportunity to tell the group what is most exciting, so that the information can be used as a basis for further discussion throughout the days of the conference. Each of the thirty people presented their latest exciting results for a 5 minute period. 2) "DNA transcription and mRNA stabilization factors in synaptic plasticity" which was led by Aryeh Routtenberg and with Larry Benowitz and Nora Perrone-Bizzozero as major participants. The session primarily dealt with the F1/GAP43 gene, which is a neuron-specific protein related to synaptic growth and plasticity. 3) "The glycine site of the NMDA receptor" which was led by John Disterhoft and with Jon Johnson, John Kemp, Joseph Moskal and Lucien Thompson as major participants. The session dealt with a variety of approaches emphasizing the importance of the glycine site for normal operation of the NMDA channel and the suggestion that modulators of this site may be powerful activators of behavioral learning and plasticity. 4) "Mossy fiber potentiation: Mechanisms of plasticity and memory" which was led by Ursula Staubli with Matthew Shapiro, Bryan Derrick, Joe Martinez and Ursula Staubli as major participants. The session dealt with work from different laboratories suggesting that plasticity of the mossy fibers and LTP are substrates for distinctly different forms of memory. 5) "Functional organization of limbic memory systems: Current views" was led by Elisabeth Murray with Larry Squire, Norman White, Howard Eichenbaum and David Gaffan as major participants. The session dealt with comparing and contrasting the mnemonic contributions of the amygdala, hippocampus and surrounding periallocortical and neocortical fields in both rodents and nonhuman primates. 6) "Configural association theory" was led by Peter Holland with Jerry Rudy, Mark Gluck and Michela Gallagher as major participants. This session discussed the issues of "Configural Association Theory" and considered its relation to other theories of hippocampal function and behavior. 7) "Controversies in the cognitive neuroscience of memory development" was led by Jeri Janowsky with Jocelyne Bachevalier, Patricia Bauer and Carolyn Rovee-Collier as major participants. This session highlighted controversies on a) whether there are multiple forms of memory during development, b) the time course of memory development, c) whether the neurobiology of learning and memory during development is different than that mediating different forms of memory in the adult animal. Evidence was presented from research on human memory development in infants and children, as well as neurobiological and behavioral data from studies using animal models.

All of the sessions of the conference were well attended and resulted in extensive discussion within each session as well as discussion throughout the conference period. It is hoped that many new ideas were generated as a result of the many excellent presentations and the ensuing discussions.

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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

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 the 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	3. REPORT TYPE AND DATES COVERED	
			Final 1/1/94 12/31/94	
4. TITLE AND SUBTITLE			5. FUNDING NUMBERS	
Neurobiology of Learning and Memory Conference			N00014-94-1-0330	
6. AUTHOR(S)				
Raymond P. Kesner				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)			8. PERFORMING ORGANIZATION REPORT NUMBER	
University of Utah Dept. of Psychology 502 Beh. Sci. Bldg. Salt Lake City, UT 84112				
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
Office of Naval Research Ballston Tower One 800 North Quincy Street Arlington, VA 22217-5660				
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 700 words)				
<p>The nineteenth annual Neurobiology of Learning and Memory conference was held in Park City, January 8-11, 1994. The conference was organized by Raymond Kesner, John Disterhoft, Jim McGaugh, Elisabeth Murray, Aryeh Routtenberg and Larry Squire. The conference was well attended with 70 scientists from all parts of the United States as well as 20 graduate and/or postdoctoral students. The topics that were covered included 1) a "data blitz" which was led by John Disterhoft and Elisabeth Murray, 2) "DNA transcription and mRNA stabilization factors in synaptic plasticity" which was led by Aryeh Routtenberg, 3) "The glycine site of the NMDA receptor" which was led by John Disterhoft, 4) "Mossy fiber potentiation: Mechanisms of plasticity and memory" which was led by Ursula Staubli, 5) "Functional organization of limbic memory systems: Current views" which was led by Elisabeth Murray, 6) "Configural association theory" which was led by Peter Holland, and 7) "Controversies in the cognitive neuroscience of memory development" which was led by Jeri Janowsky. All of the sessions of the conference were well attended and resulted in extensive discussion within each session as well as discussion throughout the conference period. It is hoped that many new ideas were generated as a result of the many excellent presentations and the ensuing discussions.</p>				
14. SUBJECT TERMS			15. NUMBER OF PAGES	
Learning, Memory, Brain			1	
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17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT	

OFFICE OF NAVAL RESEARCH
CODE ONR 251:JWK
BALLSTON TOWER ONE
800 NORTH QUINCY STREET
ARLINGTON, VIRGINIA 22217-5660
CFDA NO: 12.300

GRANT NO: N00014-94-1-0330
R&T PROJECT: 342k024---01
ACO CODE: N63374
CAGE CODE: 3T624
DISBURSING CODE: N00179
P.I.: Raymond Kesner

SYMPOSIUM GRANT

GRANTEE: NRECWASH EDI EFT VENDOR NUMBER 2287AE
UNIVERSITY OF UTAH
OFFICE OF SPONSORED PROJECTS
1471 FEDERAL WAY
SALT LAKE CITY, UT 84102

DUPLICATE ORIGINAL

APPROPRIATION: AA 1741319 .WIAE
Object Class: 000
Unit Ident Code: RA343
Suballotment: 0
Auth. Acct. No: 068342
Transaction Type: 2B
Prop. Acct. Act.: 000000
Cost Code: 041050000400
Amount: \$5,024.00
FRC: 3416

EDI/EFT

R&T Project Code: 342k024---01, Dated: 08 DEC 1993

TOTAL GRANT AMOUNT: \$5,024.00

AUTHORITY: 10 USC 2358 as amended, and 31 USC 6304.

GRANT PURPOSE: The Purpose of this Grant is to provide partial funding to support 1994 Winter Conference on Neurobiology of Learning and Memory, at which international leaders in the fields of neurobiological mechanisms of learning and memory will meet to discuss the state-of-the-art in memory models. The conference is scheduled for January 8-11, 1994 at Park City, Utah.

The conduct of the workshop, the personnel and effort and the use of funds for direct and indirect expenses shall generally be as set forth in the Grantee's proposal entitled "1994 Winter Conference on Neurobiology of Learning and Memory", dated 18 NOV 1993, which proposal is incorporated herein by reference. The Grantee agrees to obtain concurrence of the Grantor for any desired deviation from the proposal.

PERIOD: The Grant is for the period 01 JAN 1994 through 31 DEC 1994.

PRINCIPAL INVESTIGATOR: The Principal Investigator, Dr. Raymond P. Kesner shall be continuously responsible for the conduct of the project. The Grantee agrees to obtain approval of the Grantor before changing the Principal Investigator.

SCIENTIFIC OFFICER: The Scientific Officer representing the United States Government under this Grant is Terry T. Allard, Code 342CS, Office of Naval Research, Ballston Tower One, 800 North Quincy Street, Arlington, Virginia 22217-5660.

GRANTS ADMINISTRATOR: The Grants Administrator for this Grant is:
Office of Naval Research
RESIDENT REPRESENTATIVE SEATTLE N63374
SUITE 350 1107 NE 45TH STREET
SEATTLE, WA 98105-4631

PAYMENTS: Upon submission of invoices by the Grantee in accordance with the provisions of this Grant, the amount specified herein shall be paid as follows: \$3,768.00 upon receipt of invoice and the balance of \$1,256.00 upon receipt of the final report. Invoices hereunder shall be submitted by the Grantee in original (SF 270) plus two copies to the Grants Administrator for certification and transmittal to the Defense Finance and Accounting Service, Defense Accounting Office - Cleveland Center, 1931 Crystal Mall Bldg. 3, Washington, D.C. 20371-5280, where payment will be made.

The Grantee is participating in the cost of this effort.

PERFORMANCE REPORTS AND/OR PROCEEDINGS: (a) The Grantee shall submit to the attached distribution list the following documents within 60 days after the end date of this grant:

5 copies of the Proceedings.

(b) The Grantee shall include a complete "Report Documentation Page (SF 298) as the last page of each copy of every scientific and technical report prepared under this Grant. The form contains instructions for preparation. The cognizant Government Grant Administrator will provide assistance to the Grantee in obtaining the required forms. Administrative type reports, managerial (status) reports, and reprints submitted as technical reports are excluded from this requirement.

PATENTS AND COPYRIGHTS: (a) With respect to patents and other rights arising out of inventions, improvements or discoveries conceived or first actually reduced to practice during the effort, Grantee shall (1) give and hereby does grant to the United States Government an irrevocable, non-exclusive, non-transferable royalty-free license to practice or have practiced for its benefit, each invention (whether or not patentable) throughout the world, (2) advise Grantor of the filing of each patent application in any country and furnish a copy thereof to Grantor, (3) give Grantor the right to file patent application(s) for any invention on which Grantee does not intend to file, as to which inventions the Government is hereby granted sole and exclusive title, and (4) on request, furnish grantor duly executed instruments fully confirmatory of said license and/or title rights.

(b) The Government shall have the right to publish, translate, reproduce,

deliver, and dispose of all data, including reports, drawings, blueprints, and technical information which are delivered to the Government under this Grant, and to authorize others to do so. With respect to data which are not originated during the effort Grantee shall give a similar license but only to the extent that Grantee and those in privity with Grantee have the right to give such license without paying compensation to others because of giving the license. At the time of giving or reporting any such data, Grantee shall make all reasonable effort to advise Grantor (1) of all invasions of the right of privacy contained therein and, (2) of all portions of such data copied from work not composed or produced during the effort and not licensed under this provision.

(c) Notwithstanding the provision of the preceding paragraph, the Grantee and the Government may agree that specifically designated data shall not be published for sale by the Government, nor shall the Government authorize others to do so when such data are published by the Grantee, and shall so refrain so long as the data are protected by copyright.

RESTRICTIONS ON PRINTING: Unless otherwise authorized in writing by the Grants Officer, reports submitted hereunder shall be reproduced only by duplicating processes and shall not exceed 5,000 single page reports or a total of 25,000 pages of a multiple-page report. To satisfy the requirement of the Defense Technical Information Center the copy of the technical report submitted to the Defense Technical Information Center must be black typing or reproduction of black on white paper or suitable for reproduction by photographic techniques. Reprints of published technical articles are not within the scope of this paragraph.

PUBLICATIONS:

1. Any publication resulting from work under this Grant shall contain the following on the title page or on the page immediately following the title page:

This work relates to Department of Navy Grant N00014-94-1-0330 issued by the Office of Naval Research. The United States Government has a royalty-free license throughout the world in all copyrightable material contained herein.

2. Any transfer of copyright ownership in such publication will provide that the transfer of copyright ownership is subject to the U.S. Government's royalty-free license throughout the world in all copyrightable material contained in the publication.

CIVIL RIGHTS ACT: This Grant is subject to the compliance requirements of the "Civil Rights Act of 1964," 78 Stat. 241 (Public Law 88-352) relating to nondiscrimination in Federally assisted programs. The Grantee has signed an Assurance Compliance with the nondiscriminatory provisions of the Act.

FINANCIAL RECORDS AND REPORTS: The Grantee shall maintain adequate records to account for the expenditures made under this Grant and, when applicable to this document the actual amount of cost participation. Upon completion or revocation of this Grant, whichever occurs earlier, the Grantee shall furnish to the Grants Administrator, a Financial Status Report in accordance with OMB Circular A-110, Attachment G, Exhibit 1, showing a breakdown of expenditures made in performance of this Grant. Such financial statement may be on a cash or accrual basis depending upon the Grantee's accounting system. Such financial

statement may be in the same detail as contained in the Grantee's approved budget for this Grant and shall be submitted no later than 90 days after the end of the annual reporting period or completion or revocation of the Grant. The Grantee's financial records are subject to audit by the Government when desired by the Grantor.

UNEXPENDED FUNDS AND EARNED INTEREST: After the end of the Grant period, any uncommitted funds and any interest earned by Grant funds on deposit shall be returned to the Office of Naval Research by check made payable to "Office of Naval Research."

RESTRICTION ON TRAVEL: The Grantee must obtain prior written approval from the Grants Officer, before funds provided under this Grant may be expended to provide for travel for persons from Communist Bloc countries or those hostile to the United States.

TRAVEL BY GOVERNMENT EMPLOYEES: Funding of travel by employees of the U. S. Government with funds provided under this Grant is prohibited.

REVOCAION: This Grant may be revoked in whole or in part by the Grants Officer after consultation and agreement with the Grantee, provided that such revocation shall not affect any commitment which, in the judgment of the Grants Officer and the Grantee, has become firm prior to the effective date of the revocation; and funds not committed by the Grantee prior to the revocation shall be returned to the Office of Naval Research.

UNITED STATES OF AMERICA

FOR THE OFFICE OF NAVAL RESEARCH

BY: *Alfred R. Van Meter*
(GRANTS OFFICER)

3/8/94
(DATE)

ATTACHMENT NUMBER 1

Distribution List for Reports

<u>ADDRESSEE</u>	<u>NUMBER OF COPIES</u>
Scientific Officer Code: 342CS Terry T. Allard Office of Naval Research Ballston Tower One 800 North Quincy Street Arlington, Virginia 22217-5660	3 copies of proceedings
Grant Administrator Office of Naval Research RESIDENT REPRESENTATIVE SEATTLE N63374 SUITE 350 1107 NE 45TH STREET SEATTLE, WA 98105-4631	1 copy of proceedings
Defense Technical Information Center Building 5, Cameron Station Alexandria, Virginia 22304-6145	1 copy of proceedings