

1. DATE ISSUED MM/DD/YYYY 09/04/2020  
1a. SUPERSEDES AWARD NOTICE dated 07/07/2020  
except that any additions or restrictions previously imposed  
remain in effect unless specifically rescinded

2. CFDA NO.  
97.061 - Cooperative Agreements

3. ASSISTANCE TYPE Cooperative Agreement

4. GRANT NO. 17STCIN00001-04-02  
Formerly 2017-ST-061-CINA01

5. TYPE OF AWARD  
Other

4a. FAIN 17STCIN00001

5a. ACTION TYPE Post Award Amendment

6. PROJECT PERIOD MM/DD/YYYY  
From 08/15/2017

Through 06/30/2027

7. BUDGET PERIOD MM/DD/YYYY  
From 07/01/2020

Through 06/30/2021

8. TITLE OF PROJECT (OR PROGRAM)  
CINA COE

Department of Homeland Security

DHS Grants and Financial Assistance Division (GFAD)

245 Murray Lane, SW  
Mail Stop 0115  
Washington, DC 20528

NOTICE OF AWARD

AUTHORIZATION (Legislation/Regulations)  
Homeland Security Act of 2002, Public Law 107-296, 6 U.S.C 188

9a. GRANTEE NAME AND ADDRESS  
GEORGE MASON UNIVERSITY  
4400 University Dr  
Fairfax, VA 22030-4422

9b. GRANTEE PROJECT DIRECTOR  
4400 University Dr  
Fairfax, VA 22030-4422

10a. GRANTEE AUTHORIZING OFFICIAL

4400 University Dr  
Fairfax, VA 22030-4422

10b. FEDERAL PROJECT OFFICER

7th and D Street, SW  
Washington, DC 20407

ALL AMOUNTS ARE SHOWN IN USD

11. APPROVED BUDGET (Excludes Direct Assistance)

I Financial Assistance from the Federal Awarding Agency Only

II

II Total project costs including grant funds and all other financial participation

a. Salaries and Wages	618,327.00
b. Fringe Benefits	188,664.00
c. Total Personnel Costs	804,991.00
d. Equipment	22,410.00
e. Supplies	123,995.00
f. Travel	35,774.00
g. Construction	0.00
h. Other	612,519.00
i. Contractual	3,656,105.00
j. TOTAL DIRECT COSTS	5,255,794.00
k. INDIRECT COSTS	977,242.00
l. TOTAL APPROVED BUDGET	6,233,036.00
m. Federal Share	6,233,036.00
n. Non-Federal Share	0.00

12. AWARD COMPUTATION

a. Amount of Federal Financial Assistance (from item 11m)	6,233,036.00
b. Less Unobligated Balance From Prior Budget Periods	2,491,531.00
c. Less Cumulative Prior Award(s) This Budget Period	3,600,000.00
d. AMOUNT OF FINANCIAL ASSISTANCE THIS ACTION	141,505.00
13. Total Federal Funds Awarded to Date for Project Period	14,817,109.00

14. RECOMMENDED FUTURE SUPPORT

(Subject to the availability of funds and satisfactory progress of the project):

YEAR	TOTAL DIRECT COSTS	YEAR	TOTAL DIRECT COSTS
a. 5		d. 8	
b. 6		e. 9	
c. 7		f. 10	

15. PROGRAM INCOME SHALL BE USED IN ACCORD WITH ONE OF THE FOLLOWING ALTERNATIVES:

- a. DEDUCTION  
b. ADDITIONAL COSTS  
c. MATCHING  
d. OTHER RESEARCH (Add / Deduct Option)  
e. OTHER (See REMARKS)

b

16. THIS AWARD IS BASED ON AN APPLICATION SUBMITTED TO, AND AS APPROVED BY, THE FEDERAL AWARDING AGENCY ON THE ABOVE TITLED PROJECT AND IS SUBJECT TO THE TERMS AND CONDITIONS INCORPORATED EITHER DIRECTLY OR BY REFERENCE IN THE FOLLOWING:

- a. The grant program legislation  
b. The grant program regulations.  
c. This award notice including terms and conditions, if any, noted below under REMARKS  
d. Federal administrative requirements, cost principles and audit requirements applicable to this grant.

In the event there are conflicting or otherwise inconsistent policies applicable to the grant, the above order of precedence shall prevail. Acceptance of the grant terms and conditions is acknowledged by the grantee when funds are drawn or otherwise obtained from the grant payment system.

REMARKS (Other Terms and Conditions Attached -

☒ Yes

☐ No)

\*\*ATTACHED STATEMENT OF WORK IS APPROVED\*\* \$141,505 IN UNRESTRICTED SUPPLEMENTAL FUNDS ARE PROVIDED UNDER THE CONTRACTUAL LINE ITEM\*\*

\*\*THE RECIPIENT IS REMINDED THAT PER ARTICLE I, SECTION G, OF THE CINA TERMS AND CONDITIONS FROM THE 2020 BASE AWARD FFR/PPR REPORTS SHALL BE SUBMITTED VIA GRANTSOLUTIONS USING THE MANAGE REPORTS - FEATURE WITHIN THE SYSTEM.\*\*

\*\*ALL OTHER AWARD TERMS AND CONDITIONS ARE UNCHANGED\*\*

GRANTS MANAGEMENT OFFICIAL:

7th and D Street, SW  
Washington DC , DC 20407

17. OBJ CLASS	4102	18a. VENDOR CODE	540836354	18b. EIN	540836354	19. DUNS	077817450	20. CONG. DIST.	11
FY-ACCOUNT NO.		DOCUMENT NO.		ADMINISTRATIVE CODE		AMT ACTION FIN ASST		APPROPRIATION	
21. a.	U02J70020803	b.	STCIN00001A	c.	CIN1	d.	\$141,505.00	e.	
22. a.		b.		c.		d.		e.	
23. a.		b.		c.		d.		e.	

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## NOTICE OF AWARD (Continuation Sheet)

PAGE 2 of 2

DATE ISSUED

09/04/2020

GRANT NO. 17STCIN00001-04-02

## Federal Financial Report Cycle

Reporting Period Start Date	Reporting Period End Date	Reporting Type	Reporting Period Due Date
08/15/2017	11/14/2017	Quarterly	12/14/2017
11/15/2017	02/14/2018	Quarterly	03/16/2018
02/15/2018	05/14/2018	Quarterly	06/13/2018
05/15/2018	06/30/2018	Quarterly	07/30/2018
07/01/2018	09/30/2018	Annual	12/29/2018
10/01/2018	12/31/2018	Quarterly	01/30/2019
01/01/2019	03/31/2019	Quarterly	04/30/2019
04/01/2019	06/30/2019	Quarterly	07/30/2019
07/01/2019	09/30/2019	Quarterly	10/30/2019
10/01/2019	12/31/2019	Quarterly	01/30/2020
01/01/2020	03/31/2020	Quarterly	04/30/2020
04/01/2020	06/30/2020	Quarterly	07/30/2020
07/01/2020	09/30/2020	Quarterly	10/30/2020
10/01/2020	12/31/2020	Quarterly	01/30/2021
01/01/2021	03/31/2021	Quarterly	04/30/2021
04/01/2021	06/30/2021	Final	09/28/2021

## Performance Progress Report Cycle

Reporting Period Start Date	Reporting Period End Date	Reporting Type	Reporting Period Due Date
01/01/2020	06/30/2020	Semi-Annual	07/30/2020
07/01/2020	12/31/2020	Semi-Annual	01/30/2021
01/01/2021	06/30/2021	Final	09/28/2021
08/15/2017	02/14/2018	Semi-Annual	03/16/2018
02/15/2018	06/30/2018	Semi-Annual	07/30/2018
07/01/2018	12/31/2018	Semi-Annual	01/30/2019
01/01/2019	06/30/2019	Semi-Annual	07/30/2019
07/01/2019	12/31/2019	Semi-Annual	01/30/2020

## AWARD ATTACHMENTS

George Mason University

17STCIN00001-04-02

- 
1. UPDATED\_DHS Award -Restriction and Release Chart \_CINA\_Yr4\_9\_4\_2020 Mod 1 Rev2
  2. Sept4\_MOD2\_FY2020\_CINA\_AWARD\_LETTER\_141505\_Signed
  3. SOW\_CINA\_141K

Remarks continued: Date Issued- September 4, 2020

D. The approved budget includes authority to carry forward \$2,491,531.00 from the Year 3 budget, \$141,505.00 in supplemental funds, bringing the total approved Year 4 budget to \$6,233,036.00.

**Fiscal Year 2020 Approved Budget**

(1) Year 4 Base	\$3,600,000.00
(2) Year 3 Carry Forward	\$2,491,531.00
(3) Year 4 Supplemental Funding	\$141,505.00

**1) Year 4 Base:** Of the total \$3,600,000 base budget request, \$3,600,000 in base funding is approved and released.

RESTRICTIONS	DATE ISSUED	DATE LIFTED
a) None		

**2) Year 3 Carryover and Restriction:** Of the total \$2,491,531.00 carry forward request, \$2,093,765.00 was previously released but unspent. \$2,093,765.00 is hereby approved for award and released to continue research portfolio activities, to plan and conduct communication/outreach events, and in support of education activities as outlined in CINA's workplan and budget narrative submission.

Of the total \$2,491,531.00 carry forward request, \$397,766.00 in previously restricted funds is hereby approved for award and released to continue research portfolio activities, to plan and conduct communication/outreach events, and in support of education activities as outlined in CINA's workplan and budget narrative submission.

RESTRICTIONS	DATE ISSUED	DATE TO BE LIFTED
a) None		

**3) Year 4 Supplemental Funding:** Of the total \$141,505.00 supplemental funds is issued to support the approved CINA project workplan.

RESTRICTIONS	DATE ISSUED	DATE TO BE LIFTED
a) None		



Homeland  
Security

September 4, 2020

[REDACTED]  
4400 University Dr  
Fairfax, VA 22030-4422  
Phone: 703-993-9237

Re: MOD 2\_Grant Number: 17STCIN00001 "Center of Excellence in Criminal Activity  
Investigations and Network Analysis"

Dear [REDACTED]

The Department of Homeland Security (DHS) has approved FY 20 supplemental funding in the amount of \$141,505 for Identity Sciences Interdisciplinary Research. This workplan is received and approved by DHS. The total amount awarded is \$14,817,109. See attached restrictions document which summarizes the award funding for the CINA program.

Please also refer to Section G. Performance Reports for information regarding submitting your Semi-Annual Performance Reports. If you have questions concerning this award, please contact me at [REDACTED]

[REDACTED]  
Office of the Chief Procurement Officer

REL0001347839

## Table Of Contents

Applicant: George Mason University  
Application Number: CIN2020000016  
Project Title: CINA COE  
Status: Submitted (Post Award)

**Please verify if all attachments in the application package appear as expected.**

### Online Forms

### Additional Information to be Submitted

1. SF-424 Application for Federal Assistance Version 2
2. SF-424A Budget Information - Non-Construction
3. Research & Related Budget (Upload)
  - (Upload #1): RR Budget
  - (Upload #0): BudgetNarrative
  - (Upload #0): WorkPlan
4. Budget Narrative (Upload)
  - (Upload #0): RR Budget
  - (Upload #2): BudgetNarrative
  - (Upload #0): WorkPlan
5. Project Narrative (Upload)
  - (Upload #0): RR Budget
  - (Upload #0): BudgetNarrative
  - (Upload #3): WorkPlan
6. Miscellaneous Information (SF-425, etc)

Note: Upload document(s) printed in order after online forms.

## Disclosures

It appears that all attachments in the application have been processed correctly. Please review the application to ensure that the attached files display correctly as uploaded.



Version 02

<b>* 1. Type of Submission:</b> <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application		<b>* 2. Type of Application:</b> <input type="checkbox"/> New <input type="checkbox"/> Continuation <input checked="" type="checkbox"/> Revision		<b>* If Revision, select appropriate letter(s):</b> Increase Award <b>* Other (Specify)</b> 
<b>* 3. Date Received:</b> 09/02/2020		<b>4. Applicant Identifier:</b> 		
<b>5a. Federal Entity Identifier:</b> 		<b>* 5b. Federal Award Identifier:</b> 17STCIN00001		
<b>6. Date Received by State:</b> 		<b>7. State Application Identifier:</b> 		
<b>* a. Legal Name:</b> George Mason University				
<b>* b. Employer/Taxpayer Identification Number (EIN/TIN):</b> 540836354		<b>* c. Organizational DUNS:</b> 077817450		
<b>* Street1:</b> 4400 UNIVERSITY DR <b>Street2:</b> <b>* City:</b> FAIRFAX <b>County:</b> <b>* State:</b> Virginia <b>Province:</b> <b>* Country:</b> UNITED STATES <b>* Zip / Postal Code:</b> 22030-4422				
<b>Department Name:</b> 		<b>Division Name:</b> 		
<b>Prefix:</b> Ms. <b>* First Name:</b> <b>Middle Name:</b> <b>* Last Name:</b> <b>Suffix:</b> <b>Title:</b> Associate Director, Proposal and Grant Manage <b>Organizational Affiliation:</b> <b>* Telephone Number:</b> <b>Fax Number:</b> <b>* Email:</b>				

Version 02

Public/State Controlled Institution of Higher Education

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

-Science and Technology (S&T)

97.061

CFDA Title:

Cooperative Agreements

Not Applicable

\* Title:

Not Applicable

Not Applicable

Title:

Not Applicable

CINA COE

Attach supporting documents as specified in agency instructions.

Version 02

\* a. Applicant \* b. Program/Project: 

Attach an additional list of Program/Project Congressional Districts if needed.

\* a. Start Date: \* b. End Date: 

* a. Federal	<input type="text" value="141505"/>
* b. Applicant	<input type="text" value="0"/>
* c. State	<input type="text" value="0"/>
* d. Local	<input type="text" value="0"/>
* e. Other	<input type="text" value="0"/>
* f. Program Income	<input type="text" value="0"/>
* g. TOTAL	<input type="text" value="141505"/>

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on ☒ b. Program is subject to E.O. 12372 but has not been selected by the State for review.☐ c. Program is not covered by E.O. 12372.☐ Yes ☒ No

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Prefix:  \* First Name:

Middle Name:

\* Last Name:

Suffix:

\* Title: \* Telephone Number:  Fax Number: \* Email: \* Signature of Authorized Representative:  \* Date Signed: 

Authorized for Local Reproduction

Standard Form 424 (Revised 10/2005)

Prescribed by OMB Circular A-102

**Application for Federal Assistance SF-424**

Version 02

**\* Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. Criminal Investigations &	97.061			\$141,505.00		\$141,505.00
2. Criminal Investigations &						
3. Criminal Investigations &						
4. Criminal Investigations &						
5. Totals				\$141,505.00		\$141,505.00
6. Object Class Categories						
		Criminal Investigations &	Criminal Investigations &	vestigations & Network An	vestigations & Network An	
a. Personnel						
b. Fringe Benefits						
c. Travel						
d. Equipment						
e. Supplies						
f. Contractual		\$141,505.00				\$141,505.00
g. Construction						
h. Other						
i. Total Direct Charges (sum of 6a-6h)		\$141,505.00				\$141,505.00
j. Indirect Charges						
k. TOTALS (sum of 6i and 6j)		\$141,505.00				\$141,505.00
7. Program Income						

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8				
9.				
10.				
11.				
12. TOTAL (sum of lines 8-11)				
13. Federal	\$141,505.00	\$35,376.25	\$35,376.25	\$35,376.25
14. Non-Federal				
15. TOTAL (sum of lines 13 and 14)	\$141,505.00	\$35,376.25	\$35,376.25	\$35,376.25
(a) Grant Program	FUTURE FUNDING PERIODS (Years)			
	(b) First	(c) Second	(d) Third	(e) Fourth
16.				
17.				
18.				
19.				
20. TOTAL (sum of lines 16-19)				
21. Direct Charges: 141505		22. Indirect Charges: 0		
23. Remarks:				

## Upload #1

Applicant: George Mason University  
Application Number: CIN2020000016  
Project Title: CINA COE  
Status: Submitted (Post Award)  
Document Title: RR Budget



RESEARCH & RELATED BUDGET - Budget Period 1

OMB Number: 4040-0001  
Expiration Date: 12/31/2022

ORGANIZATIONAL DUNS:  Enter name of Organization:

Budget Type: ☒ Project ☐ Subaward/Consortium Budget Period: 1 Start Date:  End Date:

A. Senior/Key Person

Prefix	First	Middle	Last	Suffix	Base Salary (\$)	Months			Requested Salary (\$)	Fringe Benefits (\$)	Funds Requested (\$)
						Cal.	Acad.	Sum.			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Project Role:

Additional Senior Key Persons:

Add AttachmentDelete AttachmentView Attachment

Total Funds requested for all Senior Key Persons in the attached file

Total Senior/Key Person

B. Other Personnel

Number of Personnel	Project Role	Months			Requested Salary (\$)	Fringe Benefits (\$)	Funds Requested (\$)
		Cal.	Acad.	Sum.			
<input type="text"/>	Post Doctoral Associates	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	Graduate Students	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	Undergraduate Students	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	Secretarial/Clerical	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Total Number Other Personnel

Total Other Personnel

Total Salary, Wages and Fringe Benefits (A+B)



Page 12 of 25

**C. Equipment Description**

List items and dollar amount for each item exceeding \$5,000

Equipment item	Funds Requested (\$)
<input type="text"/>	<input type="text"/>

Additional Equipment:

Total funds requested for all equipment listed in the attached file

Total Equipment

**D. Travel**

Funds Requested (\$)

1. Domestic Travel Costs ( Incl. Canada, Mexico and U.S. Possessions)	<input type="text"/>
2. Foreign Travel Costs	<input type="text"/>
Total Travel Cost	<input type="text"/>

**E. Participant/Trainee Support Costs**

Funds Requested (\$)

1. Tuition/Fees/Health Insurance	<input type="text"/>
2. Stipends	<input type="text"/>
3. Travel	<input type="text"/>
4. Subsistence	<input type="text"/>
5. Other <input type="text"/>	<input type="text"/>
<input type="text"/> Number of Participants/Trainees	<input type="text"/>
Total Participant/Trainee Support Costs	<input type="text"/>

F. Other Direct Costs		Funds Requested (\$)
1.	Materials and Supplies	
2.	Publication Costs	
3.	Consultant Services	
4.	ADP/Computer Services	
5.	Subawards/Consortium/Contractual Costs	141,505.00
6.	Equipment or Facility Rental/User Fees	
7.	Alterations and Renovations	
8.		
9.		
10.		
Total Other Direct Costs		141,505.00

G. Direct Costs	Funds Requested (\$)
Total Direct Costs (A thru F)	141,505.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)
MTDC	57.00	0.00	0.00
Total Indirect Costs			0.00

Cognizant Federal Agency  
(Agency Name, POC Name, and POC Phone Number)

I. Total Direct and Indirect Costs	Funds Requested (\$)
Total Direct and Indirect Institutional Costs (G + H)	141,505.00

J. Fee	Funds Requested (\$)

K. Total Costs and Fee	Funds Requested (\$)
Total Costs and Fee (I + J)	141,505.00

L. Budget Justification

(Only attach one file.)

CINA Budget Narrative MSU

Add Attachment

Delete Attachment

View Attachment

## RESEARCH &amp; RELATED BUDGET - Cumulative Budget

		Totals (\$)
Section A, Senior/Key Person		
Section B, Other Personnel		
Total Number Other Personnel		
Total Salary, Wages and Fringe Benefits (A+B)		
Section C, Equipment		
Section D, Travel		
1. Domestic		
2. Foreign		
Section E, Participant/Trainee Support Costs		
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other		
6. Number of Participants/Trainees		
Section F, Other Direct Costs		141,505.00
1. Materials and Supplies		
2. Publication Costs		
3. Consultant Services		
4. ADP/Computer Services		
5. Subawards/Consortium/Contractual Costs	141,505.00	
6. Equipment or Facility Rental/User Fees		
7. Alterations and Renovations		
8. Other 1		
9. Other 2		
10. Other 3		
Section G, Direct Costs (A thru F)		141,505.00
Section H, Indirect Costs		0.00
Section I, Total Direct and Indirect Costs (G + H)		141,505.00
Section J, Fee		
Section K, Total Costs and Fee (I + J)		141,505.00

## Upload #2

Applicant: George Mason University  
Application Number: CIN2020000016  
Project Title: CINA COE  
Status: Submitted (Post Award)  
Document Title: BudgetNarrative

**Michigan State University  
BUDGET JUSTIFICATION**

**PERSONNEL**

*The PoP for this project is October 1, 2020 to September 30, 2021.*

Principal Investigators:

Dr. Arun Ross will dedicate 1 summer month (May 15<sup>th</sup> – June 15<sup>th</sup> 2021).

Dr. Anil Jain will dedicate 0.55 summer month (June 15<sup>th</sup> – July 1<sup>st</sup> 2021).

Graduate Research Assistant (GRA):

One GRA is requested for 20,983.93 in total during the academic year and 6,995.63 in total over the summer.

**FRINGE BENEFITS**

MSU fringe benefits are based on a specifically identified rate for all employees. Under this system, costs are identified into four categories and accounts will be charged only to the extent that an employee receives those benefits. Categories are: Retirement; FICA; Other/ Miscellaneous; and Health Costs. Summer salaries for Academic Year (AY) appointment faculty are calculated at a rate of 7.65% to cover FICA and Medicare. Graduate assistant fringe consists of health care coverage and is a university-negotiated benefit. Graduate assistant fringe calculations increase by 7% each year. MSU charges fringe benefits as direct costs and charges sponsors for actual costs only.

The total fringe amount is \$6,781.84

**DOMESTIC TRAVEL**

All travel will be in accordance with University travel regulations and mileage will be charged at the current rate on the date of travel. Travel estimates are based on costs that were incurred on previous projects of a similar nature for federal and state agencies. \$5,000 is requested for domestic travel to technical conferences to present the results of our work, as well as for travel to meet with primary sponsor as needed.

**TUITION**

Funds are requested to support the Graduate Assistant Tuition and Fees of 1 PhD student. Tuition and Fees are set by the MSU Board of Trustees and anticipated to increase 7% per year.

Tuition fee is \$ 10,425.04

**MATERIALS AND SUPPLIES**

\$2,000 per year is requested for supplies and services. This includes costs for crowd-sourcing studies and data annotation, external disks, relevant software, books, services, and other related cost that may incur during the course of this project.

**FACILITIES AND ADMINISTRATIVE COSTS (F&A)**

MSU's negotiated rate effective through 6/30/23 is 56.5%. MSU utilizes a Modified Total Direct Costs consisting of all salaries and wages, fringe benefits, materials and supplies, services, travel and up to the first \$25,000 of each subaward (regardless of the period of performance of the subawards under the award). Modified total direct costs shall exclude equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs,

and the portion of each subcontract in excess of \$25,000. Other items may only be excluded when necessary to avoid a serious inequity in the distribution of indirect costs, and with the approval of the cognizant agency for indirect costs. This agreement was negotiated through the Department of Health and Human Services, Matthew Dito, telephone 214-767-3261.

The F&A for the proposed project is \$47,323.

**TOTAL AMOUNT REQUESTED: \$141,505**

### Upload #3

Applicant: George Mason University  
Application Number: CIN2020000016  
Project Title: CINA COE  
Status: Submitted (Post Award)  
Document Title: WorkPlan

**Project Title: Identity Sciences Interdisciplinary Research**

**Principal Investigator(s)/ Other Personnel:**

Name	Institution/Organization	Title	Email
	Michigan State University	PI	
	Michigan State University	Co-PI	

**Overall Budget:**a spending plan by quarter.

Institution (primary and sub awards)	Cost		
	Direct	Indirect	Total Cost
Michigan State University	94,182.20	47,322.80	
			<b>\$141,505</b>

**Background and Purpose (2-4 pages):**

**Purpose:**

The definition of “identity” and the “evidence” used for establishing identity have undergone rapid changes over the past few decades. Identity is the “human capacity to know who’s who”.<sup>1</sup> The identity of a person can be classified at multiple levels. On one hand, attributes such as name, date of birth, place of birth, current residence, sex, gender, race, etc. may be used to identify a person. On the other hand, the anatomical and behavioral attributes of an individual, such as face, fingerprints, iris, the way a person walks (gait), the way they talk (speech), etc. may be used for identification purposes. Furthermore, one’s religious identity, cultural disposition, fashion choices, etc. also contribute to a person’s identity. Indeed, the definition of identity is complex and has multiple components, some of which may change over a period of time.

Thus, the different layers<sup>2</sup> that make up an identity are **national identity** such as passport, social security number; **biographical identity** such as occupation, gender, religion; **social identity** such as ethnic background, age, cultural beliefs, hobbies, relationships; **physical and biometric** attributes such as height, fingerprint, DNA, etc.

In the context of this proposal, we consider the elements of identity that can be used to unambiguously “recognize” an individual for the efficient functioning of society from a safety, security and law enforcement standpoint. Traditionally, identity for this purpose has been established using documents such as passports, driver licenses, national ID cards, and other physical tokens. To create a stronger link between an individual and these tokens of identity, the physical attributes of an individual, such as height, weight, and eye color have been considered, along with a picture of the person’s face. More recently, the biometric identifiers

<sup>1</sup> R. Jenkins, “Social Identity,” Routledge Publishers, 2014

<sup>2</sup> P. Gleason, “Identifying identity: A semantic history,” The Journal of American History, Vol. 69, No. 4, pp. 910–931, 1983. [Online]. Available: <http://www.jstor.org/stable/1901196>



of a person, such as face, fingerprints and irides, have also been used to associate documents with a unique individual. But what type of information has to be included in these documents or tokens in order to facilitate “recognition”?

The goal of this project is to review the literature in order to define identity from a homeland security perspective; to determine the components of an identity; and to enumerate methods for proving one’s identity. Given the multiple components of a person’s identity, it is also necessary to determine which of these components are relevant for a specific application. Moreover, methods to impart security and enhance privacy will be reviewed.

**Objective:** Define and formalize Identity Sciences and Research as an interdisciplinary discipline, and identify opportunities to leverage relevant work from related disciplines such as biometrics, privacy, cryptography, computer vision, and pattern recognition.

**Operational Need:**

DHS S&T is responsible for sponsoring Research, Development, Test, and Evaluation (RDT&E) to promote the development of mature, accurate, and effective identity and biometric technical capabilities that will enable new and more effective capabilities in support of the broad DHS missions. The concept of “Identity” is core to many DHS missions and operations; however, this topic remains ill-defined, especially given rapid changes in how information is collected, stored, and exchanged in both the physical and cyber domains.

As an example, the Real ID Act of 2005, “is an Act of Congress that modifies U.S. federal law pertaining to security, authentication, and issuance procedure standards for drivers’ licenses and identity documents, as well as various immigration issues pertaining to terrorism.” A Real ID-compliant form of identification would require elements of a person’s identity embedded in it (e.g., Name, Signature, Date of birth, Gender, Address, Face Photo). Further, such a form may be used in a wide variety of applications thereby requiring only specific aspects of a person’s identity to be divulged. For example, in some applications only the face image and name may be necessary, while in other applications the date of birth and gender information may be pertinent. However, in every scenario, the form must be irrefutably linked to an individual, while only revealing information that is necessary for the application. Such a framework demands the careful construction of an “identity document” that is practically valuable while at the same time being secure and privacy sensitive.

Further, the widespread use of the Internet and social media has resulted in the notion of “online” or “digital” identity. This has necessitated the merging of the physical identity of a person with their digital identity. This must be taken into account when creating profiles of individuals in identity management systems.

To help address these issues, Michigan State University will conduct research to support analysis in collaboration with the Science & Technology Directorate Biometric and Identity Technology Center.

**Impact:**

One of the immediate impacts is a comprehensive understanding of identity and the methods for establishing identity in different applications. The output of this project will also allow for the identification of research projects on the topic of (a) Identity Proofing; (b) Self Sovereign Identity; (c) Anonymous Transaction; (d) Cryptography; (e) Security and Privacy.

**Research Objectives and Resulting Products (1-2 pages):**

The primary focus will be on an extensive literature review that answers the following questions:

1. What is identity? What aspects of identity would benefit homeland security?
2. What are the various levels of identity?
3. How can identity proofing be conducted?
4. What is the role of biometrics in identity proofing?
5. How can the biometric templates of an individual be secured?
6. How can the privacy of an individual be enhanced?
7. How can the notion of Self Sovereign Identity be leveraged for identity proofing?
8. What project priorities can be pursued in the near future to address the lapses in current identity proofing techniques?

Output/Product	Type	Description	Threshold	Objective
Peer Reviewed Academic Publications	AP	Publications addressing the above questions will be developed	2	Public dissemination of findings will be crucial to broaden the impact of this project
Presentations	P	At the request of the primary sponsor, various presentations will be developed. A summary of the final report (see below) will also be presented in this form	3	These periodic presentations will keep the sponsor updated on the status of the project, as well as offer an opportunity to regulate direction of the project, if needed
Knowledge Products	KP	Results and Recommendations Report + Communication Strategy: 1. A report recommending potential set of future projects, as well as findings that emerge from the literature review. 2. A report effectively communicating the recommendations resulting from the research to socialize recommendations within DHS and with relevant stakeholders	1	This deliverable would summarize the findings of the project and the ensuing recommendations

**Technical Approach and Risks (2-4 pages):** Describe the technical approach including

The project will entail a detailed literature review on the following topics:

1. Identity management
2. Biometrics as an identity management tool
3. Security of biometrics
4. Differential privacy of biometric templates
5. Combining biometric cues with other tokens of identity
6. Decentralized Identifiers, Verifiable Credentials, Self-Sovereign Identity use, including t

**A. Task 1. Project Management**

- 1.1 Develop Project Management Plan (PMP): MSU will prepare a Project Management Plan (PMP) that will detail the expected project outcomes in collaboration with the Biometric and Identity Technology Center (BI-TC) subject-matter experts.
- 1.2 Conduct Management Meetings: MSU researchers will meet on a monthly basis with the BI-TC subject matter experts. MSU researchers will present current status along with action item tracking.
- 1.3 Report activities and progress: MSU will prepare progress reports on a quarterly basis that, at a minimum, describe budget expenditure and task progress.
- 1.4 Closeout Meeting: MSU will conduct a Closeout Meeting with relevant DHS stakeholders that reviews and summarizes the findings of the project.

**B. Task 2. Literature Review**

In this task, MSU will gather information pertaining to current and emerging topics related methods to collect, transmit, verify, authenticate, non-repudiate, and assess trustworthiness of identity information, processes, and ecosystems. The research will also include emerging approaches such as Decentralized Identifiers, Verifiable Credentials, Self-Sovereign Identity, and mobile Drivers Licenses. This information will contribute to and form the foundation for analyses and recommendations to organize these identity related concepts, review trends, identify nexuses to related disciplines, and make recommendations to DHS SMEs.

- 2.1 MSU in collaboration with the BI-TC subject matter expert will identify the optimal sources and balance of sources of information and data, including, but not limited to, existing research and standard.

- 2.3 MSU will conduct a comprehensive literature review to include existing research, standards, policies, and commercial trends deemed necessary to support all of the tasks and objectives of the research.

### C. Task 3 – Analysis and Recommendations

- 3.1 MSU will synthesize and analyze all information and data collected, including existing research/literature, stakeholder interviews, and any other resources used. The analysis will define and formalize concepts for identity, identity sciences, and identity research and provide recommendations for DHS RDT&E to improve the security and integrity of DHS identity related operations and combat fraud. MSU will submit the following knowledge products associated with the research:

- (1) Results and Recommendations report,
- (2) Executive Summary, and
- (3) PowerPoint presentation detailing results.

MSU will provide status and draft versions of the knowledge products as they are developed. The BI-TC Subject Matter Expert will provide feedback. MSU researchers and BI-TC subject matter experts will collaborate to address feedback and incorporate or conduct further research to address, if needed.

### D. Task 4– Communications Strategy

- 4.1 MSU will prepare a knowledge product titled: “Communications Strategy” for effectively communicating the recommendations resulting from the research to socialize recommendations within DHS and with relevant stakeholders. The Strategy will include recommendations for highlighting the work done during Literature Review (Task 2) and Analysis and Recommendations (Task 3) and methods by which this information can be effectively communicated. The Communication Strategy will address the positive outcomes of the recommendations should DHS implement the recommendations. The Communications Strategy will be developed drawing on best practices from the field of communications with consideration of this specific audience. MSU will provide status and draft versions of the knowledge products as they are developed. The BI-TC Subject Matter Expert will provide feedback. MSU and BI-TC subject matter experts will collaborate to address feedback and incorporate or conduct further research to address, if needed.

he scope of access, licensing costs, use restrictions, transferable rights, etc.

Description of Risk	Milestone	Severity	Mitigation Strategies
List of potential topics to be reviewed can change as the project progresses	All	High	Work with COE Director and program manager to identify topics of priority as the project evolves.



## Project Milestones

Task	Outcome	Description	Due Date
<b>1.0</b>		<b>Project Management</b>	
1.1	Project Management Plan	A project management plan that will accomplish the project objectives as outlined by BI-TC personnel. The final version requires approval by the SS-TC Subject Matter Expert.	4 weeks after award
1.2	Management Meetings	Monthly management meetings will be scheduled by the performer	Monthly for the life of the award
1.3	Quarterly Reports	The quarterly report format will be approved as part of the PMP (Task 1.1) but will, at a minimum, include budget expenditure and task progress. The final version requires approval by the BI-TC Subject Matter Expert.	Quarterly for the life of the award
1.4	Closeout Meeting	A closeout meeting with all relevant DHS stakeholders to review and summarize project findings.	15 days prior to expiration of award
<b>2.0</b>		<b>Data Collection</b>	
2.1	Data Collection Strategy	A plan that details the sources that will be used to obtain the data and information needed for analysis.	45 days after award
<b>3.0</b>		<b>Analysis and Recommendations</b>	
3.1.1	Analysis and Recommendations Report DRAFT	Report detailing the findings from, analysis of, and recommendations resulting from data collection.	6 months after award
3.1.2	Analysis and Recommendations Report FINAL	Report detailing the findings from, analysis of, and recommendations resulting from data collection.	10 months after award
3.1.3	Analysis and Recommendations Executive Summary DRAFT	One page overview of the Analysis and Recommendations Report.	10 months after award
3.1.4	Analysis and Recommendations Executive Summary FINAL	One page overview of the Analysis and Recommendations Report.	11 months after award
3.1.5	Analysis and Recommendations PowerPoint Presentation	Presentation detailing Analysis and Recommendations.	11 months after award

4.0		Communications Plan	
4.1	Communications Plan DRAFT	Strategy for effectively communicating the recommendations resulting from the research for adoption by federal courts.	11 months after award
4.2	Communications Plan FINAL	Strategy for effectively communicating the recommendations resulting from the research for adoption by federal courts.	11.5 month after award

Detailed list of monthly milestones that includes the estimated timeframe for completion and associated cost.

**Customer Engagement and Requirements (1 page):** Describe potential customers/end-

Please see "Technical Approach" above.

**Technology Transition Plan and Intellectual property management (1-2 page):** How will this be made available to the government and other end users?

No Technical Transition is expected. Please see "Communications Plan" under "Project Milestones".