Proteos Proposers' Day Brief

Dr. Kristen Jordan, Program Manager
Intelligence Advanced Research Projects Activity

Office of the Director of National Intelligence

IARPA

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Proteos Proposers' Agenda

Time	Topic	Speaker
9:00 – 9:15am	Logistics, Proposer's Day Goals	Kristen Jordan Program Manager, IARPA
9:15 – 9:30am	IARPA Overview	Jason Matheny Director, IARPA
9:30 – 10:00am	Proteos Technical and BAA Overview	Kristen Jordan Program Manager, IARPA
10:00 – 10:30am	Break	
10:30 – 11:00am	Proteos T&E Approaches	Deon Anex, Program Manager, LLNL
11:00 – 11:20am	Doing Business with IARPA	Acquisition Team, IARPA
11:20 – 11:50pm	Break	
11:50 – 12:20pm	Proteos Questions & Answers	Kristen Jordan Program Manager, IARPA
12:20 – 3:00pm	Poster Session, Networking, and Teaming Discussions	Attendees (No Government)

Announcements / Facilities

- Restrooms
- Please put your cell phones in silent mode
- Lunch is on your own

Disclaimer

- This Proposers' Day Conference is provided solely for information and planning purposes
- The Proposers' Day Conference does not constitute a formal solicitation for proposals or proposal abstracts
- Nothing said at Proposers' Day changes the requirements set forth in a Broad Agency Announcement (BAA)

Proposer's Day Goals

- Familiarize participants with IARPA's interest in development of novel protein-based identification capabilities
- Familiarize participants with IARPA's mission and how to do business with IARPA
- Provide answers to participants' questions
- Foster discussion of synergistic capabilities among potential program participants, i.e., facilitate teaming
  - Take a chance – someone might have a missing piece of your puzzle

Important Points

- Proposers' Day slides will be posted on IARPA.gov
- Please save questions for the end, write on notecards
- Posters are available for browsing during breaks/lunch
- Government will not be present during the poster/teaming session
- Discussions with PM allowed until BAA release
  - Once BAA is published, questions can only be submitted and answered in writing via the BAA guidance
- Name/email list of Proposers' Day participants provided to the group with permission

IARPA Overview

Jason Matheny
Director, IARPA

Office of the Director of National Intelligence

IARPA

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IARPA Mission and Method

IARPA's mission is to envision and lead high-risk, high-payoff research that delivers innovative technology for future overwhelming intelligence advantage

- **Bring the best minds to bear on our problems**
  - Full and open competition to the greatest possible extent, funding scientists and engineers in academia and industry, through contracts, grants, OTs, and prize challenges
  - World-class, rotational Program Managers
- **Define and execute research programs that:**
  - Have goals that are clear, measureable, ambitious and credible
  - Employ independent and rigorous Test & Evaluation
  - Involve IC partners from start to finish
  - Run from three to five years
  - Publish peer-reviewed results and data, to the greatest possible extent

IARPA's Customers

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IARPA Highlights

"One of the government's most creative agencies."

– David Brooks, NYT

- Best known for quantum computing, superconducting compu
  tournaments; but our portfolio is diverse -- math, CS, physics
  neuroscience, linguistics, political science, cognitive psychol
  Zika."
- Research highlights include:
  - White House BRAIN Initiative, National Strategic Comp
  - Nobel Prize for Physics
  - Science "Breakthrough of the Year"
  - MacArthur "Genius"
  - 2,000+ journal articles
- >70% of completed research transitioned to USG partners

Current IARPA Research

Collection

- Amon-Hen (space SA)
- FELIX (syn bio)
- FunGCAT (syn bio)
- Ithildin (chem detection)
- HFGeo (HF geolocation)
- MAEGLIN (CBRN)
- MOSAIC (pattern of life)
- Odin (biometrics)
- Proteos (human ID)
- SILMARILS (chem)
- SLiCE (RF tracking)
- UnderWatch (undersea)
- Seedlings and Studies

Analysis

- Aladdin (video search)
- Babel (speech recognition)
- CORE3D (3D modeling)
- DIVA (surveillance video)
- Finder (geolocate images)
- Janus (facial recog)
- KRNS (neuroimaging)
- MATERIAL (translation)
- SHARP (training)
- Seedlings and Studies

Computing

- C3 (cryogenic computing)
- HECTOR (encryption)
- LogiQ (quantum)
- MICrONS (neuromorphic)
- QEO (quantum)
- RAVEN (chip analysis)
- SuperTools (cryogenic)
- TIC (chip security)
- VirtUE (cloud security)
- Seedlings and Studies

Anticipatory Intel

- CAUSE (cyber I&W)
- CREATE (crowdsourcing)
- FUSE (S&T intel)
- Hybrid Forecasting (I&W)
- Mercury (SIGINT I&W)
- SCITE (insider threats)
- Seedlings and Studies

Prize Challenges

- Nail-to-Nail Fingerprinting
- Unconstrained Face Recognition
- Functional Map of the World
- MORGOTH'S CROWN

How to engage with IARPA

- **Website: www.IARPA.gov**
  - Reach out to us, especially the IARPA PMs. Contact information on the website.
  - Schedule a visit if you are in the DC area or invite us to visit you.
- **Opportunities to Engage**:
  - **Research Programs**
    - Multi-year research funding opportunities on specific topics
    - Proposers' Days provide opportunities to learn what is coming, and to influence programs
  - **IARPA-Wide BAA "Seedlings"**
    - Typically a 9-12 month study; you can submit your research proposal at any time
    - Strongly encouraged: informal discussion with a PM before proposal submission
  - **Prize Challenges**
    - No proposals required
    - Submit solutions to our problems; if your solutions are the best, you receive a cash prize and bragging rights
  - **Requests for Information (RFIs) and Workshops**
    - Provide input while IARPA is planning new programs

Proteos Technical and BAA Overview

Kristen Jordan
Program Manager, IARPA

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Proteos Overview

- The Proteos Program seeks to develop novel approaches for human identification and the ability to correlate an individual with objects, events, and locations based on polymorphisms in amino acids in proteins.
- Protein-based methodologies could be for cases and scenarios where traditional forensic DNA analysis methods are precluded or not sufficiently informative – mixtures, partial profiles, degraded DNA, or no DNA available.
- Proteos will focus on shed skin cells (touch samples).
- Explore the relationship between polymorphisms in the skin proteome of genetically variable peptides (GVPs) and their underlying non-synonymous single nucleotide polymorphisms (SNPs).

How is it done now?

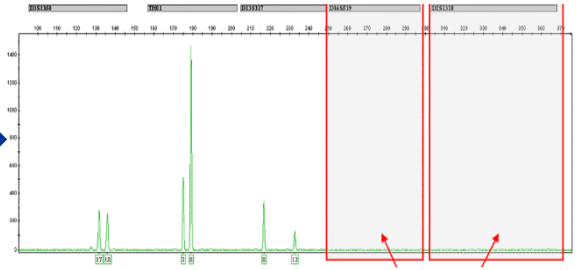
- Goal: Develop a protein-based methodology to augment DNA human identification and correlation capabilities and overcome challenges associated with DNA forensic analysis

Challenges with DNA

- DNA for forensic purpose can be degraded, present in a complex mixture, or at concentrations too low for a meaningful result
- DNA is found in low quantities or degraded

Trace and/or degraded sample

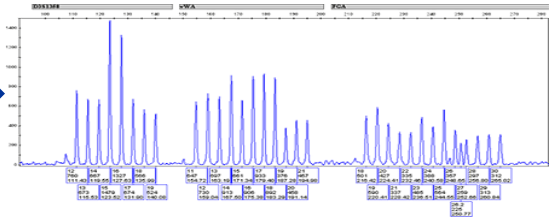
Partial DNA profile



Missing info at these loci

- DNA is often found as part of a complex mixtures from several contributors

Unknown number of contributors in complex mixed samples



Human ID cannot be determined

Challenges with DNA

Reference	Sample challenges
NIST study (E. Butts, 2012)	~70-85% of initial DNA sample is lost during the extraction process
DNA from firearms and cartridge casings (S. Nunn, *J For Sci* 2013, 58 (3): 601-608)	28% single source profiles (mostly partial), 30% mixtures and 43 % negative for DNA
Center for Forensic Science, University of Technology (J. Raymond et *al*., *For Sci Int: Genetics* 4 (2009) 26–33)	An STR profile was not obtained in 48% of cases, mixture was observed in 20% and partial (<12) was obtained in 18%
Leiden University Medical Center study (P. Dieltjes et *al*., *Int J Legal Med* 2011, 125:597-602)	Average success rate for obtaining any type of DNA result, including partial and mixed profiles, was only 7% for ammunition-related items

Bullet casings

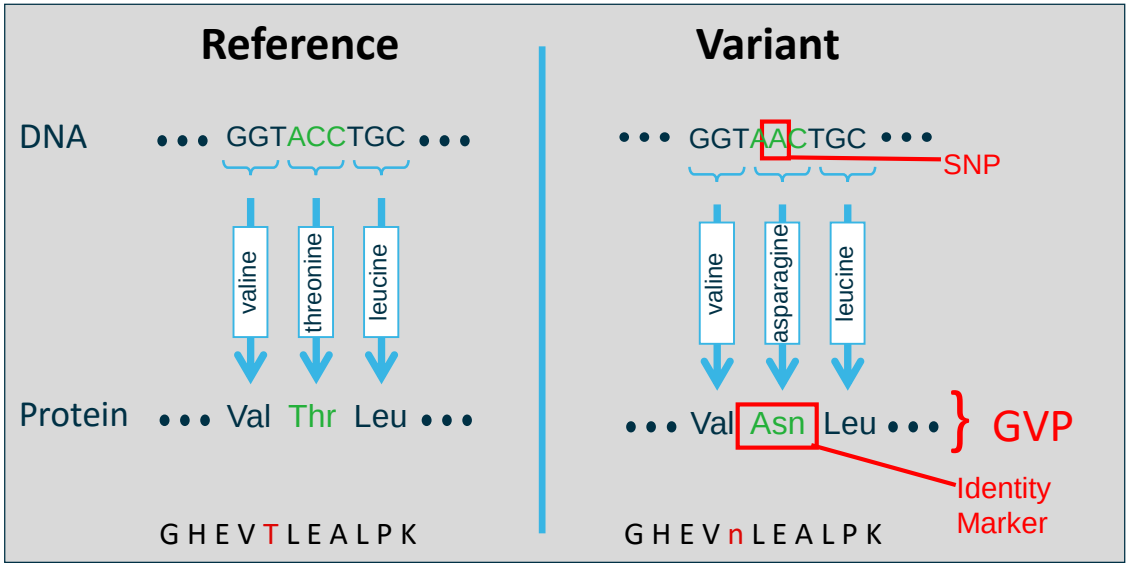
Firearms

Fingerprints/skin cells

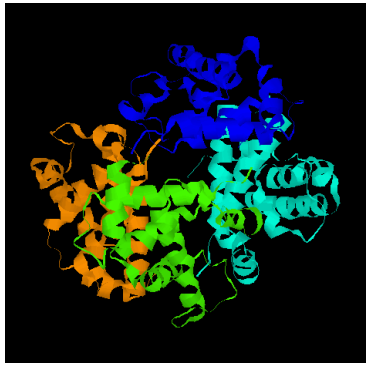
Current Research

- G.J. Parker et al., *PLOS* One (2016)
  - LLNL proof-of-concept study using hair proteins
  - Correlated changes in exomic DNA (nsSNPs) with genetically variable peptides (GVPs)

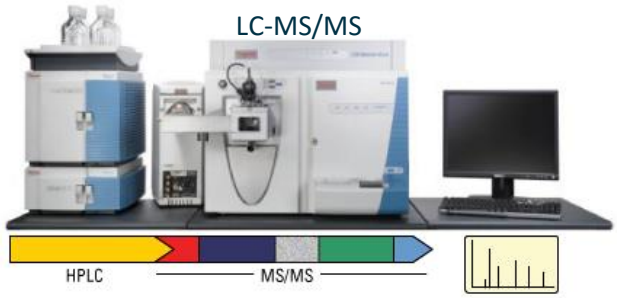
Differences in protein sequence reflect variation in DNA for an individualized signature



Protein-based Proof-of-Concept



Hair shaft proteins

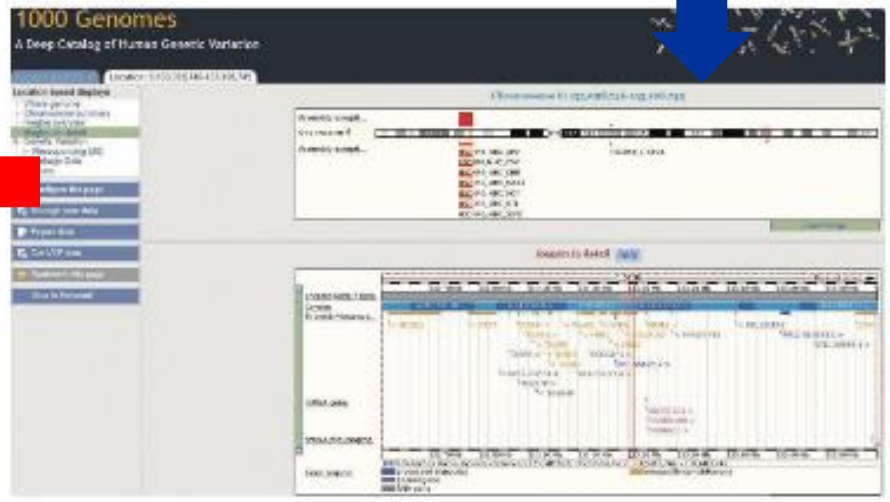


Identification of Genetically Variant Peptides (GVP)

Protein	Genetically Variant Peptide (GVP)	SAP
HEXB	APSVSAKPGPALWPLPLLVK	L62S
	APSVSAKPGPALWPLPpLVK	
KRT32	LEGEINTYRSLLENEDCK	N402S
	LEGEINTYRSLLEsEDCK	
KRT39	DSQECILTETEAR	T341M
	DSQECILmETEAR	
KRT36	TVNALEIELQAQHSMR	T315M
	mVNALEIELQAQHSMR	
KRTAP2-1	GSCCGSTFSSLSYGGGCCQrCCCR	
KRT82	GARLYEPCGVSTPVLSTGVLR	T458M
	GARLYEPCGVSmPVLSTGVLR	
	GARLYEPCGVSTPVLSTGVLR	E452D
	GARLYdPCGVSTPVLSTGVLR	

GVP List

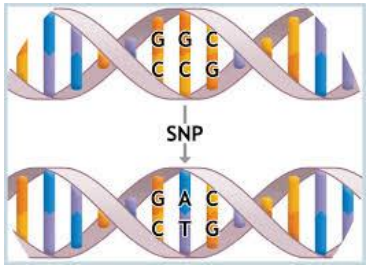
Individual protein-based signature



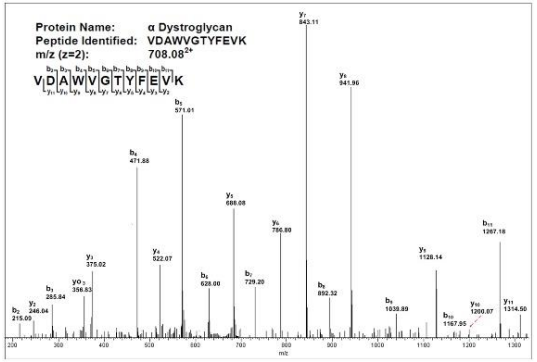
G.J. Parker *et al.*, PLOS One (2016).

Rare or Private GVPs

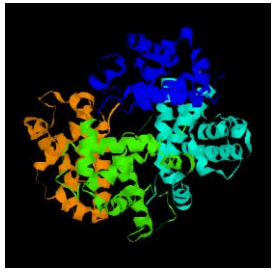
Target or reference DNA



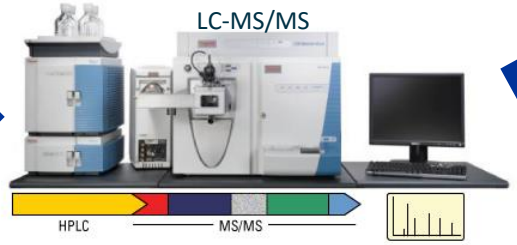
Identification of Rare SNPs and corresponding GVPs



Detection of **Rare** GVPs in sample



Pure/complex mixed sample proteins



search

Key BAA Highlights

- Offeror team must address all of program requirements within the two thrust areas; no partial proposals, such as development of specific component technology, will be accepted
- The Government anticipates that proposals submitted under this BAA will be unclassified
- Multiple awards are expected
- Government T&E team will be LLNL

Program Overview

- Discovery and characterization of GVPs in skin proteome (touch samples)
- Discovery of nsSNPs in DNA to predict rare GVPs
  - Rare SNPs present in < 0.1% of the general population
- Performers will develop and optimize an extraction protocol for *both* protein and DNA from touch samples
- Demonstrate the ability to distinguish contributors from complex samples
  - Mixed contributors at different concentrations
  - Various surfaces, interferences, varying environmental conditions

Two Technical Thrust Areas

- Technical Thrust 1 – GVP discovery
  - Develop common and rare GVP discovery/identification pipelines

- Technical Thrust 2 – extraction protocol development
  - Develop and optimize protein and DNA extraction protocol for touch samples
  - Goal is to recover both protein and DNA in quantity and quality for GVP and STR analysis

Program Structure

- **Phase 1/Thrust 1** - Common GVP discovery

Phase 1A (9 months): Develop Common GVP Panel			
Discover maximum # of common GVPs	Validate GVP discovery	Optimize total protein recovery	Provide list of skin proteins identified
Phase 1B (3 months): Common GVP Panel Evaluation			
Minimize false positives		Calculate random match probability	

- Phase 1A: Performers will discover common GVPs using their in-house skin samples, 25 samples of a single biogeographic origin
- Phase 1B: Performers will recover GVP profiles from 25 Government-provided cell suspension samples

Program Structure

- **Phase 1/Thrust 2** – Protein and DNA extraction protocol

Phase 1A (9 months): Protein and DNA Extraction Protocol Development		
Protein coverage by proteomic analysis	% protein recovery	STR analysis
Phase 1B (3 months): Protocol Evaluation		
Calculate random match probability	% protein recovery	STR analysis

- Phase 1A: Performers will develop a dual protein/DNA extraction and processing protocol suitable for GVP identification and STR analysis using their own skin samples
- Phase 1B: Performers will recover GVP profiles and DNA from Government-provide touch samples deposited on a glass surface at n=3 concentrations

Program Structure

- **Phase 2/Thrust 1** – Rare GVP discovery

Phase 2A (9 months): Rare GVP Discovery				
Calculate random match probability		Rare GVPs supported by data (e.g. MSMS spectra)		
Phase 2B (3 months): Rare GVP Panel Evaluation				
False positive rate	True positive rate	Rare GVPs supported by data (e.g. MSMS spectra)	Identification of each target individual	GVP panel identification prediction power

- Phase 2A: Performers will predict rare GVPs from Government-provided exomic sequence data from 25 individuals of a single biogeographic origin
- Phase 2B: Performers will deduce a single contributor using rare GVP marker(s) within a mixture of Government-provided touch samples deposited on glass substrates

Program Structure

- **Phase 2/Thrust 2** – Protein and DNA extraction protocol

Phase 2A (9 months): Extraction Protocol Optimization			
GVP reproducibility			
Phase 2B (3 months): Optimized Protocol Evaluation			
Common GVP reproducible detection	% DNA and protein recovery	Calculate random match probability	STR analysis

- Phase 2A: Performers will recover relevant GVPs using in-house skin samples from brass shell casings, polypropylene, and common desktop-material coupons for protocol optimization
- Phase 2B: Performers will recover GVP profiles and DNA from Government-provided touch samples deposited in a controlled manner on brass, polypropylene, and desktop surface materials at n=3 concentrations

Program Structure

- **Phase 3/Thrusts 1 & 2** – Operational scenarios evaluation

Phase 3 (6 months): Operational Scenarios Evaluation			
False positive rate	True positive rate	Rare GVPs supported by data (e.g. MSMS spectra)	Identification of each target individual in mixed contributor

- Optimized protein and DNA extraction protocols and GVP panel identification workflow will be tested against multiple surfaces, mixed contributors, different environmental conditions (humidity, heat), interferences, and varying times post deposition on Government-provided samples
- Performers will be evaluated on the ability to successfully conclude a match between the reference GVP panel predicted from the genetic sequence reference data and the proteins extracted from mixed contributor touch samples

Anticipated Metrics for Phase 1/Thrust 1 – Common GVP

Phase 1	Metrics
Phase 1A: Common GVP Discovery	• A GVP panel consisting of > 60 unique GVPs with allele frequencies >1% • GVP panel shall include at least 10 proteins with at least 50% coverage and with peptides detected in 100% of samples
Phase 1B: Common GVP Evaluation	• Random match probability ≤ 10^{-6} • False positive rate ≤ 5 % for markers

Anticipated Metrics for Phase 1/Thrust 2 – Extraction Protocol

Phase 1	Metrics
Phase 1A: Extraction Protocol Development	• Protein coverage such that a total of > 15,000 amino acids are covered by proteomic analysis • Recovery > 80% for protein deposited on glass surfaces • Recovery of sufficient DNA to obtain 13 STR loci using standard techniques
Phase 1B: Extraction Protocol Evaluation	• Random match probability better than 10^{-5} from detected common GVPs from Government-provided glass surface samples • Recovery > 90% of protein • 13 STR loci from Government-provided samples

Anticipated Metrics for Phase 2/Thrust 1 – Rare GVP

Phase 2	Metrics
Phase 2A: **Rare GVP Discovery**	• Predicted random match probability ≤ 10^{-9} for rare GVP panel • Rare GVPs supported by MSMS spectra with match factor to theoretical spectra ≥ 800 (or other appropriate supporting data)
Phase 2B: **Rare GVP Evaluation**	• False positive rate ≤ 2% for markers • True positive rate > 80% for markers • Rare GVPs supported by MSMS spectra with match factor to theoretical spectra ≥ 900 (or other appropriate supporting data) • Correct identification of each target individual in samples where present with 0% false positive rate and ≤ 15% false negative

Anticipated Metrics for Phase 2/Thrust 2 – Extraction Protocol

Phase 2	Metrics
Phase 2A: Extraction Protocol Optimization	• Reproducibility of GVP detection from triplicate extractions (brass, plastic, and desktop surfaces)
Phase 2B: Optimized Protocol Evaluation	• Reproducible detection of 90% of common GVPs from triplicate extractions (brass, plastic, and desktop surfaces) • Recovery > 90% of deposited DNA and protein from Government-provided brass, plastic, and desktop surfaces • Random match probability better than 10^{-5} from detected common GVPs from Government-provided brass, plastic, and desktop surfaces • Consistent STR profile of 13 loci from Government-provided brass, plastic, and desktop surfaces in all samples

Anticipated Metrics for Phase 3 Operational Scenarios Evaluation

Phase 3	Metrics
Phase 3: Operational Scenarios Evaluation	For samples with interferences, environmental stress, low sample quantity and/or challenging surfaces: • False positive rate ≤ 2% for rare GVP profile • True positive rate ≥ 80% • Rare GVPs supported by MSMS spectra with match factor to theoretical spectra ≥ 900 (or other appropriate supporting data) • Correct identification of each target individual in mixed contributor samples where present with 0% false positive rate and ≤ 5% false negative

Milestones and Waypoints

- **Milestones** are Government-defined progress metrics that must be met by the end of each phase
- **Waypoints** are offeror-defined, task-driven intermediate steps towards a milestone
  - Depending on an offeror's specific approach, progress towards a milestone is not expected to be linear in all areas
  - Waypoints are how the offeror clearly explains to the Government the quantitative and timely progress that must be made for their overall concept to meet the end-of-phase Milestones – performance against these waypoints is reviewed throughout program
- **Site visits**
- **PI meetings**
- **Monthly technical reports**

Anticipated Program Schedule

	CY2017				CY2018				CY2019				CY2020			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Pre-program																
New Start Pitch		3/31														
Proposers' Day				7/25												
BAA released				8/25												
Proposals due					10/20											
Source selection																
Proteos Program																
Kick-off																
Phase 1 (Thrusts 1&2)																
Phase 2 (Thrusts 1&2)																
Phase 3 (Thrusts 1&2)																
Transition																
Progam reviews/site visits																
T&E																
Phase 1																
Phase 2																
Phase 3																

Anticipated Deliverables

Month	Deliverable
1	IRB approvals
10	Phase 1A (Thrust 1): A list of proteins in the skin proteome and the protein coverage, a panel of identified common GVPs that can be used for identification meeting the T&E Metrics, the discovery protocol used, as well as the methodology used for validation
10	Phase 1A (Thrust 2): Developed extraction/purification protocol for both DNA and proteins from skin cells
13	Phase 1B (Thrust 1): Results of the common GVP evaluation including the list of detected GVPs, supporting data, and calculated random match probabilities
13	Phase 1B (Thrust 2): Results of the developed extraction/purification protocol evaluation to recover GVP and DNA from Government-provided samples
21	Phase 2A (Thrust 1): A panel of identified rare GVPs with frequency, the corresponding nsSNPs, and supporting data for each of the 25 samples
21	Phase 2A (Thrust 2): Optimized extraction/purification protocol for both DNA and proteins from skin cells for single and multiple contributor rare GVP samples
25	Phase 2B (Thrust 1): Results of the rare GVP evaluation including the list of detected GVPs, supporting data, and calculated random match probabilities.
25	Phase 2B (Thrust 2): Results of the developed extraction/purification protocol evaluation to recover GVP and DNA from Government-provided samples
31	Final report including the optimized and validated protocol for processing of protein- and DNA-containing samples for operational specifications required for technology transfer
Monthly	Monthly technical and financial report due to Government

Proteos T&E Approaches

Deon Anex
Lawrence Livermore National Laboratory

Office of the Director of National Intelligence

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Test and Evaluation Strategy: Evaluate Accomplishments in Each Thrust Area

	Phase 1		Phase 2		Phase 3
	1A	1B	2A	2B	
Thrust 1: GVP Panel Discovery	Common GVPs	Testing	Rare GVPs	Testing	Operational Testing
Thrust 2: Sample Preparation	Development	Testing	Development	Testing	

GVP Panel Discovery

- Characterize skin proteome
- Discover GVPs in skin samples
- Develop identity panel and statistics

Sample Preparation

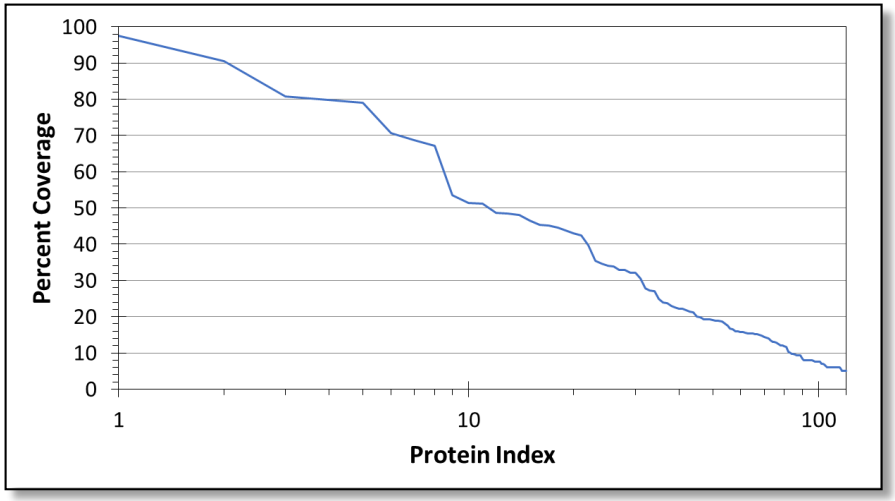
- Extract skin proteins from realistic samples
- Preserve DNA evidence

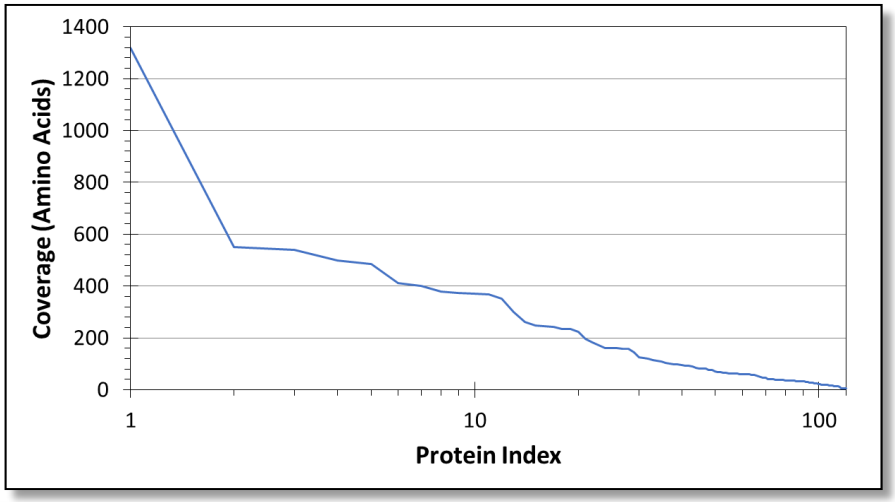
Operational Testing

- Evaluate sample collection and identification in operationally relevant scenarios
- Challenge developed methods with increasing difficulty

Metrics for Protein Coverage

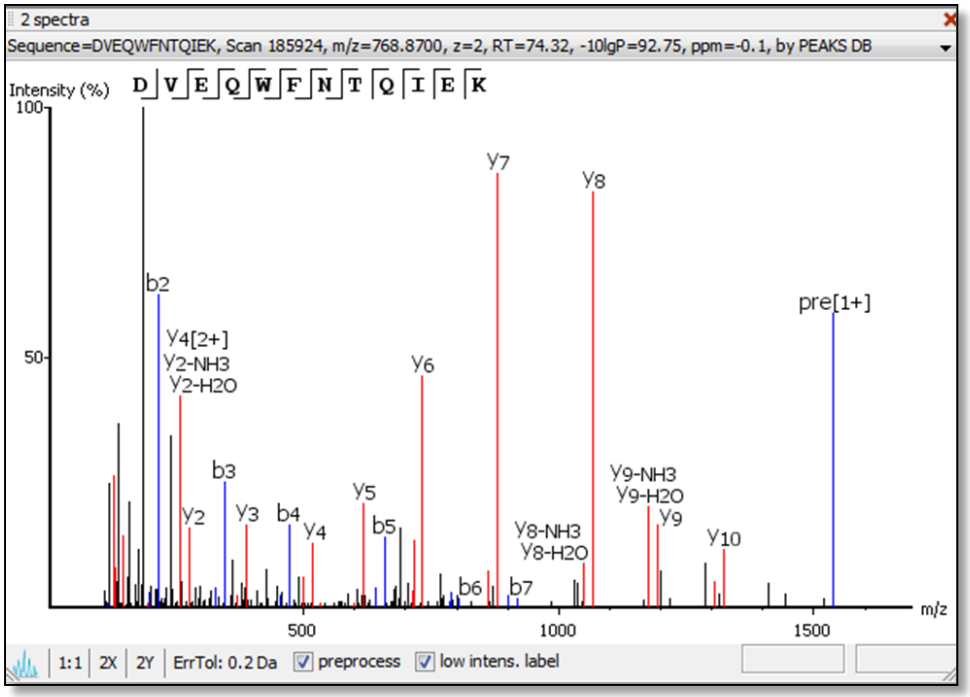
- Protein coverage defines “space” for finding protein markers (GVPs)
- Coverage varies for the proteins detected
- Total number of amino acids covered provides a useful metric



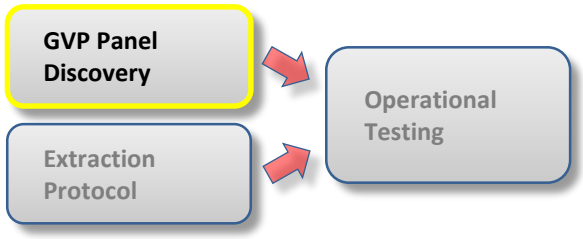


Metrics for Data Quality

- Existence of a rare GVP is predicted by genomic data
- Rare GVPs need to be supported by high quality data
- Example:
  - Match factor (0-1000) reflects overlap between observed spectrum and theoretical or library spectrum



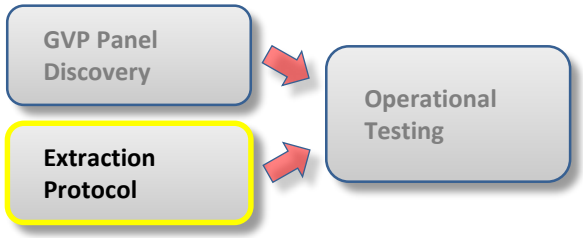
Thrust 1: GVP Panel Discovery



- Focus on development of identity panels
- Not sample-limited
- Common versus R are
  - Common GPV: >1%
  - Rare GPV: < 0.1%
- Key metrics
  - Protein coverage
  - Number of GVPs
  - Random match probabilities
  - Accuracy of identification
- Samples
  - 1A and 2A: Performer-acquired
  - 1B and 2B: Provided by T&E team

Thrust 1 Phase	Metrics
1A: Common GVP Discovery	• A GVP panel consisting of > 60 unique GVPs with allele frequencies >1% • GVP panel shall include at least 10 proteins with at least 50% coverage and with peptides detected in 100% of samples
1B: Common GVP Evaluation	• Random match probability ≤ 10^{-6} • False positive rate ≤ 5% for markers
2A: Rare GVP Discovery	• Predicted random match probability ≤ 10^{-9} for rare GVP panel • Rare GVPs supported by high-quality data (e.g. high match factor for MSMS)
2B: Rare GVP Evaluation	• Markers: – False positive rate ≤ 2% – True positive rate > 80% • Individual identification: – False positive rate of 0% – False negative rate of ≤ 15% • Rare GVPs supported by high-quality data

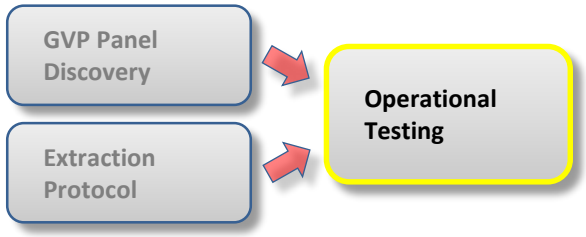
Thrust 2: Extraction Protocol



- Focus on protein and DNA recovery
  - Optimize protein recovery without compromising DNA evidence
- Variety of surfaces
- Key metrics
  - Protein recovery
  - Quality of STR profiles
  - Random match probabilities
- Samples
  - Provided by T&E team

Thrust 2 Phase	Metrics
1A: Development of Extraction Protocol	• Protein coverage such that >15,000 amino acids are covered by proteomic analysis • Recovery > 80% for protein deposited on glass • Recovery of sufficient DNA to obtain 13 loci STR profiles using standard techniques
1B: Evaluation of Extraction Protocol	• Random match probability ≤10^{-5} from detected common GVPs from glass surfaces • Recovery > 90% of protein • STR profile (13 loci, 10 ng deposited DNA)
2A: Optimization of Extraction Protocol	• Reproducibility of GVP detection from triplicate extractions (brass, plastic, and desktop surfaces)
2B: Evaluation of Optimized Protocol	• From brass, plastic, and desktop surfaces: – Reproducible detection of 90% of common GVPs from triplicate extractions – Recovery > 90% of deposited DNA and protein – Random match probability ≤10^{-5} (common GVPs) – Consistent STR profile of 13 loci, 1 ng DNA

Phase 3: Operational Testing



- Focus on tests and evaluations for transition partners
- Progressively increasing challenges
  - Environmental (heat, humidity, light exposure …)
  - Sample quantity
  - Sample complexity (multiple contributors, confounding contaminants…)
  - Surfaces (compatibility, porosity…)

Thrust 1/2 Phase	Metrics
3: Operational Scenarios Evaluation	For samples with interferences, environmental stress, low sample quantity and/or challenging surfaces: • False positive rate ≤ 2% for rare GVP profile • True positive rate ≥ 80% • Rare GVPs supported by MSMS spectra with match factor to theoretical spectra ≥ 900 (or other appropriate supporting data) • Correct identification of each target individual in mixed contributor samples where present with 0% false positive rate and ≤ 5% false negative

Doing Business with IARPA

Acquisition Team, IARPA

Office of the Director of National Intelligence

IARPA

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Proteos Proposers' Agenda

Time	Topic	Speaker
9:00 – 9:15am	Logistics, Proposer's Day Goals	Kristen Jordan Program Manager, IARPA
9:15 – 9:30am	IARPA Overview	Jason Matheny Director, IARPA
9:30 – 10:00am	Proteos Technical and BAA Overview	Kristen Jordan Program Manager, IARPA
10:00 – 10:30am	Break	
10:30 – 11:00am	Proteos T&E Approaches	Deon Anex, Program Manager, LLNL
11:00 – 11:20am	Doing Business with IARPA	Acquisition Team, IARPA
11:20 – 11:50pm	Break	
11:50 – 12:20pm	Proteos Questions & Answers	Kristen Jordan Program Manager, IARPA
12:20 – 3:00pm	Poster Session, Networking, and Teaming Discussions	Attendees (No Government)

Doing Business with IARPA – Recurring Questions

- Read IARPA FAQs
  - http://www.iarpa.gov/index.php/faqs
  - Eligibility info
  - Intellectual property
  - Pre-publication review
  - Preparing the proposal
- Electronic Proposal Delivery
  - https://iarpa-ideas.gov
- Organizational Conflicts of Interest
  - http://www.iarpa.gov/index.php/working-with-iarpa/iarpas-approach-to-oci

Responding to Q&As

- Streamlining the Award Process
  - Accounting system
  - Key personnel
- IARPA Funds Applied Research
- RECOMMENDATION: Please read the entire BAA
- Send your questions as soon as possible
  - Proteos BAA: dni-iarpa-baa-17-03@iarpa.gov
  - Write questions as clearly as possible
  - Do NOT include proprietary information

Eligible Applicants

- Collaborative efforts/teaming strongly encouraged
  - Content, communications, networking, and team formation are the responsibility of Proposers

Ineligible Organizations

Other Government Agencies, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and any organizations that have a special relationship with the Government, including access to privileged and/or proprietary information, or access to Government equipment or real property, are not eligible to submit proposals under this BAA or participate as team members under proposals submitted by eligible entities.

Intellectual Property (IP)

- Unless otherwise requested, Government rights for data first produced under IARPA contracts will be UNLIMITED
- At a minimum, IARPA requires Government Purpose Rights (GPR) for data developed with mixed funding
- Exception to GPR
  - State in the proposal any restrictions on deliverables relating to existing materials (data, software, tools, etc.)

Pre-Publication Review

- Funded Applied Research efforts, IARPA encourages:
  - Publication for Peer Review of **UNCLASSIFIED** research

- Prior to public release of any work submitted for publication, the Performer will:
  - Provide courtesy copies to the IARPA PM and Contracting Officer Representative (COR/COTR)
  - Ensure shared understanding of applied research implications between IARPA and Performers

Preparing the Proposal

- Note restrictions on proposal submissions
  - Interested Offerors must register electronically IAW instructions on: **https://iarpa-ideas.gov**
  - Interested Offerors are strongly encouraged to register in IDEAS at least 1 week prior to proposal "Due Date"
  - Offerors must ensure the version submitted to IDEAS is the "Final Version"
- BAA to be released is established to answer most questions; Check FBO.gov for BAA announcement, amendments, Q&As
- BAA – Read Evaluation Criteria carefully
  - e.g. "The technical approach is credible and includes a clear assessment of primary risks and a means to address them"

Preparing the Proposal

- Read IARPA's Organizational Conflict of Interest (OCI) policy: **http://www.iarpa.gov/index.php/working-with-iarpa/iarpas-approach-to-oci**

- See also eligibility restrictions on use of Federally Funded Research and Development Centers, University Affiliated Research Centers, and other similar organizations that have a special relationship with the Government
  - Focus on possible OCIs of your institution as well as the personnel and subcontractors on your team
  - It specifies the non-Government (e.g., SETA, FFRDC, UARC, etc.) support we will be using. If you have a potential or *perceived* conflict, request a waiver as soon as possible

Organizational Conflict of Interest (OCI)

- If a prospective offeror, or any of its proposed subcontractor teammates, believes that a potential conflict of interest exists or may exist (whether organizational or otherwise), the offeror should promptly raise the issue with IARPA and submit a waiver request by e-mail to the mailbox address for this BAA at **dni-iarpa-baa-17-03@iarpa.gov**

- A potential conflict of interest includes but is not limited to any instance where an offeror, or any of its proposed subcontractor teammates, is providing either scientific, engineering and technical assistance (SETA) or technical consultation to IARPA. In all cases, the offeror shall identify the contract under which the SETA or consultant support is being provided

- Without a waiver from the IARPA Director, neither an offeror, nor its proposed subcontractor teammates, can simultaneously provide SETA support or technical consultation to IARPA and compete or perform as a Performer under this solicitation

Streamlining the Award Process

- Cost Proposal – we only need what we ask for in BAA

- Approved accounting system needed for Cost Reimbursable contracts
  - Must be able to accumulate costs on job-order basis
  - DCAA (or cognizant auditor) must approve system
  - See **http://www.dcaa.mil**, "Audit Process Overview - Information for Contractors" under the "Guidance" tab

- Key Personnel
  - Expectations of time, note the Evaluation Criteria requiring relevant experience and expertise

- Following selection, Contracting Officer may request your review of subcontractor proposals

IARPA Funding

- IARPA funds Applied Research for the Intelligence Community (IC)
  - IARPA cannot waive the requirements of Export Administrative Regulation (EAR) or International Traffic in Arms Regulation (ITAR)
  - Not subject to DoD funding restrictions for R&D related to overhead rates
- IARPA is not DoD

Disclaimer

- This is Applied Research for the Intelligence Community
- Content of the Final BAA will be specific to this program
  - The Final BAA is being developed
  - Following issuance, look for Amendments and Q&As
  - There will likely be changes
- The information conveyed in this brief and discussion is for planning purposes and is subject to change prior to the release of the **Final BAA**

Point of Contact

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Intelligence Advanced Research Projects Activity
Washington, DC 20511
Phone: 301-851-7720 (unsecure)

- Electronic mail: dni-iarpa-baa-17-03@iarpa.gov
- Subject Line: IARPA-BAA-17-03

Questions? Please fill out cards.

Q & A Session

Dr. Kristen Jordan, Program Manager
Intelligence Advanced Research Projects Activity

Office of the Director of National Intelligence

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