

DEPARTMENT OF THE AIR FORCE 59TH MEDICAL WING (AETC) JOINT BASE SAN ANTONIO - LACKLAND TEXAS

23 NOV 2016

MEMORANDUM FOR ST

ATTN: DR SANDRA VALTIER

FROM: 59 MDW/SGVU

SUBJECT: Professional Presentation Approval

- 1. Your poster, entitled <u>Center for Advanced Molecular Detection Capabilities</u> presented at <u>Medical Research Acquisition Work Group Meeting 29-30 November 2016</u> in accordance with MDWI 41-108, has been approved and assigned local file #16402.
- 2. Pertinent biographic information (name of author(s), title, etc.) has been entered into our computer file. Please advise us (by phone or mail) that your presentation was given. At that time, we will need the date (month, day and year) along with the location of your presentation. It is important to update this information so that we can provide quality support for you, your department, and the Medical Center commander. This information is used to document the scholarly activities of our professional staff and students, which is an essential component of Wilford Hall Ambulatory Surgical Center (WHASC) internship and residency programs.
- 3. Please know that if you are a Graduate Health Sciences Education student and your department has told you they cannot fund your publication, the 59th Clinical Research Division may pay for your basic journal publishing charges (to include costs for tables and black and white photos). We cannot pay for reprints. If you are 59 MDW staff member, we can forward your request for funds to the designated wing POC.
- 4. Congratulations, and thank you for your efforts and time. Your contributions are vital to the medical mission. We look forward to assisting you in your future publication/presentation efforts.

LINDA STEEL-GOODWIN, Col, USAF, BSC Director, Clinical Investigations & Research Support

Linda Steel-Goodwin

	PROCESSING OF P	ROFESSIONAL ME	EDIC	AL RESEARCH PUBLICAT	IONS/PF	RESENTATIONS							
		FROM: Author's Name,	Rank	k, Grade, Office Symbol	PROTOCOL NUMBER:								
(59 MDW/SGVU) Sandra Valtier, PhD, G					NA								
PROTOCOL TITLE - [NOTE: For each new release of medical research or technical information as a publication/presentation, a new 59 MDW Form 3039 must be submitted for review and approval.]													
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1. TITLE	OF MATERIAL TO BE PUBLI	SHED OR PRESENTED)										
Center for	Advanced Molecular Detection	n Capabilities											
2. FUND	ING RECEIVED FOR THIS ST	UDY? YES N	10	FUNDING SOURCE: NA									
3. IS THIS MATERIAL CLASSIFIED? YES NO 4. IS THIS MATERIAL SUBJECT TO ANY LEGAL RESTRICTIONS FOR PUBLICATION OR PRESENTATION THROUGH A COLLABORATIVE													
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\boxtimes	POSTER (To be demonstrated at meeting/Name of Meeting, City, State, and Date of Meeting) Medical Research Acquisition Work Group Meeting 29-30 November 2016												
	PLATFORM PRESENTATION (At civilian institutions/Name of Meeting, State, Date of Meeting)												
	OTHER (Describe: Name of Meeting, City, State, and Date of Meeting)												
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			-	T OF CONTACT			<u> </u>						
 WHO IS THE PRIMARY 59 MDW POINT OF CONTACT? (Valtier, Sandra, sandra.valtier@us.af.mil 			Last, First, Ml.) (Include email)			DUTY PHONE/PAGER No. 210-671-3057							
LAST	AUTHORSH NAME, FIRST NAME AND M	IIP AND CO-AUTHOR(S		st in the order they will appear in the SQUADRON/GROUP/OFFICE		cript) INSTITUTION (If not 59 MD	MA						
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b. Manuel Y. Caballero		GS 12		59MDW/ST									
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Center for Advanced Molecular Detection

Science & Technology, Chief Scientist's Office 59 Medical Wing, JBSA-Lackland



MISSION AND OPERATIONS

The Center for Advanced Motecular Detection (CAMD) is Located at J89 A Lackland. CAMD operation within 5 dierus & Technology, under the Chief Sciential's Office. The Center is a multifaceted blomedical research, development, isselling, and evaluation (PDTSE) facility. The overall mission of CAMD is Locarry out blomedical PDT SE projects of Sciential and more broadly the Department of Detecte, e.g., JPCs. In that spirit, and to effectively carry out its mission, the Center collaborates with various DDD and other Government entities, as well as chillen institutions. A notable thrust of CAMD operations and titure direction is research stosed lowerd such titure lattern applications as personalized and agenerative med dns. Research at CAMD spans genetic, generally, biodisential, and cell and mid-deviate biological disciplines.

CAMD polieds fall into two general categories. Collaborative projects in little et al. CAMD or other research and made at learners facilities (N TPs), and projects developed and done at the Center from concept to completion. Another superior work that is part of CAMD mission is one of service and guidance, whereby the Center staff render satelitance in developing grant proposals, as well as the RB protocols. As CAMD enhances its research endeavors, the Center sant desires that a significant part of its funding will come from compdishes course, and such sources are now rigorously sought.

RESEARCH PROJECTS

CAMD Data & Tissue Repositories

The Center maintains two IRD-approved fluxus and data repositions. The collection includes unprocessed upper respiratory tract samples, while blood, and mudelo acids.

Disease Genetics & Genomics

Immedical research, anders efforts are under very all over the World to find genetic, genomic, potentic, and other biometiers of disease. Buth misthers individually or in patients evoud be potentially predictive, diagnostic, and prognostic for classes. CANO, too, either to algorithm by pursue research in this research field. The current flows is on genetic and genomic biometicals. Several polysis of high impact for the reflace community are under very More are opposited as the Cantier expands is capabilities.

- No acute abstact of assum and in jury. This is the targest project of its kind at CAMO, and for the long-terms it is especial to encompass two phases. Please 1, now in progress, bourses on penetric and percent characteristics. Itself appear to associate with MS is disease. For this work, the Center has procured over 2000 inch dustaped to CMAssemptes, which represent such at intents as osteoer this, the unsated artifals, and caterporeals. Phase 2 will aim to do the analysis on certain active duty military trainees to identify genetic and genomic visitations that my predict properties to MSs. Injury during training.
- Plost-treat matter 5 frees. Discorder (PTSD) This is a highly the posteril project, one of
 great at graticative for DOD. The work is collaborative with clinical investigations, and it
 has servest major aims. SIMPs that appear to associate with PTSD; perchyping of
 associative with PTSD; perchyping of
 associative with PTSD; perchyping of
 control transporter gene variations that may confir associatively to PTSD; before
 (cfrom operations segments) length researcher with grid. PM in effected on status (to be
 done at this Carrier Research Diskon, 59 Medical Wings).
- Type 2 Disb stee Nei Rus (T2DW). This project size to see sees correlation of single reacted de variations or polymorphisms (SNP) with T2DM. The Center recently finished teeting for eact of 18 SNPs innextly 800 both kides samples from the rifficary correctnity. Work is in progress to test for additional variations. The samples were collected at the Wiffort Hell Anticision's Surgical Center 50 Medical Wing, Kidly Althone Center, 358 Auckland.
- Gardiovascular disease. This project sine to away military community earnples for cedain SNPs that reportedly correlate with cardiovascular conditions.

RESEARCH PROJECTS (CONT.)

Stem Cell Research

CAM Discusses a dedicated maternatism cell culture lab. The current work is with hours an stem calls, notably means by many present and calls (MEC). The MEC collection at CAMD includes all times common sources of these cells—adjoined listue, bone matros and until facilities. Done mistros and until facilities cost. These includes expectic cells were procured from several commercial sources. The Center has propagated MSCs for collaborative animal states in progress at the University of Texas Health Siderice Center at San Antonio, Agreeder goal of the Center is to develop authorpositions and clonal lines of atem cells that have highly destrable properties for therapeut o purposes, including those highly significant for the relitary peaconnel, such as itsues agreemention, wound healing, and immune system modulation.

To enhance these seconds capabilities, CAMD is procuring a PACS machine, a largescale geneichlp analysis machine, and a state-of-the-ori fluorecence microscope. All three instruments will greatly find flate not only the stem call work, but will also prove crucial in other biom adical reasanth endeavors at the Center.

Virulent Pathogens

As a long-term ongoing effort, CAMO tests for about 24 common upper respiratory tract bad ental and what pathogons, such as the influence virtues, certain advanced as eas, and some factors faces, and come representations of the testing is the military community members who skill the Willbrd Hall Clinic. But in the past the major focus was on the basic military trainees (BMTs) at the Base. Obsential Lactional AF Base is the coloridad by where the BMTs are trained, CAMO as peda that in the future the pathogeniseting effort will once again facus on BMTs. The pathogenisted did duty.

CAMD CAPABILITIES

Personnel |

The Center is staffed with well-qualified research number, coordinators, bench scientists, and an Air Force officer. The staff qualifications spen bedietors, mester's and doctoral degrees. The research number conditions of all expensions are considered as a special subjects, obtaining well-enconsent, collecting sequind samples, managing/maintaining study file-statabases, and administration of regulatory affairs I reducting preparation of protect documents for RB approval. The bench scientists' so pedies a spension as specially of molecular and cell to logical, blocherical, recombinant DNA, genetic, and genomic betrifuses. A complement of personnel is professionally cell field medical technologists.

Equipment

CAMD has excelent laboratory capabilities that span is diverse army of instruments, technologies, and biotechniques. The Center houses state-of-the-art equipment to accompletable metal-on. The major instruments include 9 laboratores PCR machines, a high throughput automated robotic DNA and RNA purification machine, a neal-persention sequencing machine, an advanced digital pd limiting system, a multipleo fluorescence potein analysis machine, and one UMAtable and 2 fluorescence appointments. An advanced gene drip energiate machine, a fluorescence microscope, and a PACS machine are in procurement. And a large capacity deep sequending machine is being sought for the near fluore. The cell culture tables a 891.2 cabinet, 2 incubators, and a liquid nitrogenitarit for mannellanced stealers.

Techniques

Major biotechniques at the Center include all aspects of cell outure and various cell asseps, CNIA & RNA publication, UVM table and fluorescence spectrophotometry, resistence PCR, BLBA, get electrophotometric bioteting, and CNIA electrophotometry, resistence produced aspecting. PACS analysis, fluorescence inferencepy, and other-based gene expression analysis appabilities are stated to be in place in the manifestion. Disciplional expertise in recombinated DNAI electricipus in fluorescence analysis of the Center.

MISSION









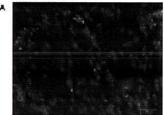


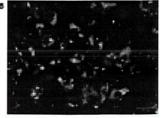




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A, romai, undifferentiated ad pose mesenchyrasi cells. B, Following induction, differentiation into adjocytes, as selfected by staining of light droplets green fluorescences.

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