Below you will find an example of what one CON faculty member wrote for her NIH grant application section on facilities and other resources. The SF424 instructions are below. Please note that the section on facilities and resources needs to be tailored to your specific grant application. General boilerplate information on facilities and resources is no longer acceptable.

SF424 APPLICATION INSTRUCTIONS1

10. Facilities & Other Resources (excerpt from).
This information is used to assess the capability of the organizational resources available to perform the effort proposed. Identify the facilities to be used (Laboratory, Animal, Computer, Office, Clinical and Other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Provide any information describing the Other Resources available to the project (e.g., machine shop, electronic shop) and the extent to which they would be available to the project. Please click the Add Attachment button to the right of this field to complete this entry.

No special form is required but this section must be completed and attached for submissions to NIH and other PHS agencies unless otherwise noted in an FOA. Describe how the scientific environment in which the research will be done contributes to the probability of success (e.g., institutional support, physical resources, and intellectual rapport). In describing the scientific environment in which the work will be done, discuss ways in which the proposed studies will benefit from unique features of the scientific environment or subject populations or will employ useful collaborative arrangements.

For Early Stage Investigators, describe institutional investment in the success of the investigator, e.g., resources for classes, travel, training; collegial support such as career enrichment programs, assistance and guidance in the supervision of trainees involved with the ESI’s project, and availability of organized peer groups; logistical support such as administrative management and oversight and best practices training; and financial support such as protected time for research with salary support.

If there are multiple performance sites, describe the resources available at each site.

Describe any special facilities used for working with biohazards or other potentially dangerous substances. Note: Information about Select Agents must be described in the Research Plan, Section 11 (Select Agent Research).

EXAMPLE

FACILITIES & OTHER RESOURCES: COLLEGE OF NURSING

Environment – Contribution to Success

The College of Nursing (CON) is an integral part of Wayne State University, which is one of the nation's pre-eminent public research universities in an urban setting. The National Science Foundation ranks it in the top 52 of all public universities for research and development expenditures. The university’s commitment to research is clearly evident within the CON. The college provides an environment that strongly supports and encourages rigorous scientific inquiry. Resources within the college include a Center for Health Research (CHR) dedicated to assisting faculty in all aspects of grant preparation (see Other Resources below), internal grant funding from the Dean to support pilot work, grant opportunities developed in conjunction with local health systems to fund collaborative clinical research projects, and the biophysical...
laboratory that supports CON faculty in implementing cutting-edge bio-behavioral research projects. In addition, the CON is situated in the heart of Detroit where 83% of the population is African American. The greater metropolitan Detroit area includes cities within Wayne, Oakland, Macomb and Washtenaw counties that also have large populations of African Americans with varying socioeconomic status. As a result, the CON location provides easy access to a large pool of potential subjects for the proposed study.

The environment in the College of Nursing (primary performance site) provides the PI and research team all the facilities and resources needed to complete the proposed project. The biophysical laboratory, academic and research office space, secretarial and information technology support services are all housed within the three-story CON building. There are two parking lots (surface and structure) adjacent to the CON providing easy access for participants.

In addition to the physical facilities and resources (which are detailed below), the CON also provides a stimulating intellectual environment. The PI’s academic office is located on the north end of the third floor of the CON building. In the same wing, 12 other PhD-prepared faculty are engaged in research activities, offering opportunity for ongoing scholarly discussion and support. The CHR with its support staff and three statisticians is located just down the hall on the same floor. Further, the PI is in a department in which there is bi-monthly research meetings to discuss project and ideas with other colleagues located in other parts of the building.

Institutional Commitment to Early Stage Investigators

The PI qualifies as both a new and early stage investigator. There is extensive evidence of institutional commitment to the development of the PI as an academic researcher. Her workload includes a minimum of 30% time dedicated to research and scholarship activities that will not be diminished if this proposal is funded. Instead, salary support will be used to increase the percentage of release time from her teaching responsibilities. The PI’s research skills have been supported and developed through internal funding programs. College of Nursing funds supported research related to kidney disease awareness among African Americans with hypertension and diabetes and also funded the pilot work for the current application. A DMC Scholar Award (a joint venture between the College of Nursing and the Detroit Medical Center) supported a study examining the effect of racism on trust in providers and satisfaction with care among hypertensive African Americans. The PI also received funding from INPHAASE (the Institute for Population Sciences, Health Assessment, Administration, Services and Economics) which is a joint venture between Wayne State University and Henry Ford Health Systems to examine the effect of racism and chronic stress on birth outcomes of African American women. Each of these awards was competitive in nature. Further, the PI’s departmental chair (Dr. J. Davis) is fully supportive of the work proposed in this application, and will be a collaborator on the project (see Other Resources below and support letter). Support for the post-doctoral research fellow requested in this application will be provided by the CON. The CON also offers support for dissemination of findings as the PI has received the assistance of manuscript technicians, editors, and travel awards for presentations at regional, national, and international meetings. Thus, the faculty and administration in the CON have already demonstrated their commitment to ensuring a successful research career for the PI, and this level of support will continue should this application be funded.

Facilities:
**Biophysical Laboratory:** The Biophysical Laboratory provides equipment, personnel, and services that are essential to the completion of this project. Located on the ground floor in the College of Nursing, the laboratory consists of a subject data collection room, subject waiting area, and a wet lab. Participants can easily access the laboratory as parking is immediately adjacent to the CON, and there is a ground-level entrance to the CON that is less than 10 feet away from the subject waiting room.

The subject data collection room is 8 feet by 9 feet and is outfitted with a sink with running hot and cold water, cupboards, counter space, phlebotomy chair, crash cart, and equipment to obtain EKG, EEG, EMG, blood pressure, temperature, height, weight, anthropometric measures, and blood, urine, and saliva samples. This is where the data for the study (other than at-home salivary specimens) will be collected. The subject waiting area is a 7 foot by 7 foot space adjacent to the data collection room, separated by a door. The waiting area has comfortable seating with direct access to the hallway and restrooms.

The wet lab is a state-of-the-art facility that encompasses a 32 by 33 foot space specifically designed to provide investigators with the space and equipment necessary to make biological and physical measures that support their research studies. The laboratory is equipped with a built in stainless steel sink, extensive counter space, running hot and cold water, fume hood, bio safety cabinet, fire extinguisher, and emergency shower and eyewash. It houses a commercial refrigerator and a large capacity -70 degree freezer. All equipment to conduct radioimmunoassays is in the lab including a centrifuge, plate rotator, 37 degree incubator/shaker, vortex, plate reader, plate washer and pipettes. A technician trained in all aspects of conducting radioimmunoassays will run all salivary and blood specimens collected in this study. The laboratory has a director, Dr. Jean Davis, a lab manager, and meets all of the federal requirements for safety and for conducting laboratory research. The biophysical laboratory provides all needed resources to collect data and run the bio-assays required for the completion of this study. Its location within the CON provides easy access for participants as well as for the research team members and will facilitate implementation of the study procedures.

**Animal:** Not applicable to this application

**Clinical:** Not applicable to this application

**Office:** All investigators have offices located on the campus of Wayne State University. Drs. Peters and Templin and the research assistants have office space in the CON, Drs. Boutros and Gjini have offices in the University Psychiatric Clinic (UPC) facility, Dr. Yeragani (adjunct professor) has space available for his use within the UPC. The UPC is located approximately 2 miles from the WSU main campus and the CON is easily accessible to the co-investigators. The PI has both an academic and research office. The research office will be the administrative office for this project. The academic office is located on the third floor, down the hall from the research office, and two floors above the biophysical laboratory. The office is equipped with a desk, table and chairs, two long two-drawer file cabinets, one four-drawer file cabinet, computer, Hewlett Packard laser printer, hardwired high-speed internet access and a telephone. The research office is also on the third floor and is equipped with desk, credenza, computer, printer, telephone, and file cabinets with locks. There is a conference table for meeting with research associates. The post-doctoral fellow and the research assistant on the grant will be given office space and each will have their own desk, credenza, computer, and telephone, and will share the printer. All of the investigators and
research assistants will have their own desktop computers with all necessary software and internet connections, with data protected by the university’s security and backup systems. There will be a telephone line dedicated to the study for participants to leave a message. In addition, there will be a website created to advertise the study with direct email access to the PI as well as telephone number to call for more information. These facilities assure that the PI and the immediate research assistants will be in close proximity to each other, the biophysical laboratory, and the Center for Health Research, and that the team will have the necessary space and equipment to implement the study, analyze data, and prepare manuscripts and presentations for dissemination of results.

**Computer:** The PI has a Dell Optiplex desk-top computer in both her academic and research office. Each computer is equipped with MS Office 2007, PASW SPSS and AMOS (v. 18), and Norton Antivirus. All software products are licensed and renewed based on the expiration date set by the vendor. The CON has a 4 member informational technology staff on-site to ensure operational quality for desktop computers, software, and tele-communication equipment. Both of the PI’s computers are hard-wired to the CON internal network, and the CON is connected to the University mainframe via a fiber optic backbone which supplies access to the university-wide applications such as a browser based email system and internet access. The Pls computers have at least 1 GB of memory, but data stored on the Pl’s computers can also be saved to a dedicated site on the university’s mainframe. Each Wayne faculty has a minimum 1 GB of space on the mainframe that can be increased as needed. Further, the PI will be able to create space on the shared network storage or G: drive that will be dedicated to this study. This secure server allows access via several remote network options. All access to data stored on the storage drives uses 128 bit encryption so that data is fully encrypted as it leaves and comes into the network via local or remote network access. The CON provides a dual layer of security to protect the network infrastructure; several measures are in place to protect the integrity of the data by providing not only encryption, but firewall and antivirus protection. Users are required to authenticate using a secure login ID and password. Passwords are required to be reset every 60-90 days. If password is not reset when prompted the user is locked out of the network and must then contact the network administrator. Thus large volumes of EEG and EKG data collected in the CON biophysical laboratory can be easily and securely shared with the co-investigators (Boutros, Gjini, & Yeragain). To further protect the data, security for the CON internal network is provided on the front end by a university-supported Juniper firewall, and the CON offers an additional layer of support. Each workstation in the CON is required to run Norton antivirus and apply all Microsoft updates using automated installation. The WSU email system (WebMail) uses industry-standard SSL encryption. The CON has other built in security measures to further ensure the protection of any electronic data. The CON has weekly scheduled maintenance for the servers: there are 10 servers total that are backed up daily (incremental backups Monday – Thursday, full back up on Friday). Backup tapes are stored off-site at the School of Social Work in a secured fire box. All systems are integrated with one another. Novell is run as the primary file sharing system for the College. The College has also implemented a clustering system to prevent any downtime in the event of a server failure. If a server fails, utilizing the clustering method, another server will seamlessly pick up the load and will run as the primary server. The combination of these computer services and technologies contributes to the success of this application. The computer programs are sufficient to run all planned analysis, the network system protects against data loss, and ensures safety in data sharing and storage.

**Other Resources:**
Clinical Electrophysiology Laboratory (CEL): The CEL is directed by Dr. Boutros, housed within the UPC, and affiliated with the School of Medicine, which has the unique distinction of being the largest medical school in the country. In the current project, EEG data will be acquired at the primary performance site (CON) and then made available to the CEL via the network drive created for this study. The CEL has the necessary technical and clinical expertise to fully support the processing and analyses of EEG data to determine sensory gating status and CNS reactivity. In addition, the CEL offers a second laboratory if needed to obtain subject data. The CEL has five recording chambers in addition to large work space for research associates. It has four fully functional EEG recording systems (16, 32, 40, and 64 channels). Visual and auditory stimuli are generated and presented using STIM software (Compumedics Neuroscan). Neuroscan Edit, Curry, Brain Vision Analyzer and MATLAB-based analysis programs (EEGLAB, Fieldtrip) are available for data processing and analysis. Additionally, fully functional equipment is available for eye movement (Eye-Link II system), prepulse inhibition (PPI), single / paired pulse and repetitive transcranial magnetic stimulation (TMS) studies. The CEL has 16 personal computers interconnected by a 100/1000 Mbps LAN to a Windows Compute Cluster Server 1Gbps NIC (2 Quad Core Intel Xeon, 2x6MB Cache, 3.16GHz, 1333MHz FSB, 32GB 667MHz (8x4GB), Dual Ranked DIMMs). All EEG acquisition systems are connected to the computer network, which allows transfer of data to the lab for archiving and processing. PC software packages for statistical analysis, graphics, preparation of manuscripts and scientific presentations include, Microsoft Office, SAS, SPSS, MATLAB, SigmaPlot, EndNote, Adobe Photoshop, Adobe Illustrator.

Center for Health Research (CHR): The CHR is housed within the CON and links CON faculty with all the post-award services provided by WSU’s Sponsored Program Administration (SPA) and assists CON recipients to assume the responsibilities incumbent in the acceptance and utilization of an NIH award. The Center includes the Director, Dr. Nancy T. Artinian, Associate Director, Dr. Gail Brumitt, Grant and Contract Administrator, Penelope Kopka, Progrm Coordinator, Ruth Jensen and three statisticians and research faculty, Drs. Yarandi, Templin, and Nordstrom. Dr. Templin is a co-investigator on this grant and has been actively involved in preparing the design, methods and statistical analyses for the primary and secondary aims. In addition, the CHR provides additional support such as literature searches and editorial support. The CHR is also dedicated to creating an environment supportive of research through the following efforts. It provides formal monthly seminars regarding topics of research interest, monthly informal “brown bag” meetings for collegial discussions of research ideas, monthly grant writers meetings, individual consultation for grant development, support for the preparation of all documents needed, and arranges for internal and external mock review of grants prior to submission. The CHR and its support staff are located on the third floor of the CON in close proximity to the PI's research and academic office. SPA assists the CHR and broader University community by providing information on University procedures and resources and informing PIs of the requirements of NIH sponsors.

Library Resources: Literature searches for the development of this proposal and creation of manuscripts for dissemination of findings would not be possible without the support of a highly-developed library system. Wayne State University Libraries rank among the top 60 libraries in the Association for Research Libraries, and has five separate libraries including the Science and Engineering library which houses the nursing collection, and the Schifffman Medical library. The library collection includes more than 3.5 million volumes, over 56,000
serials, and 514 electronic databases. All library information is available online and accessible from faculty and staff offices as well as from outside the university through the internet. Additionally, Wayne’s library has an interlibrary loan system that links us to multiple other universities both nationally and internationally. Additional scholarship assistance is available, in that the CON has a librarian dedicated to assisting nursing faculty. This Library Liaison is housed within the CON every Wednesday for individual consultation, as well as available daily by email, or in person in the Science and Engineering library which is less than a 5 minute walk from the College of Nursing.

**Intellectual /Collaborative Resources:** In addition to the expertise of the co-investigators on the research team, the PI has access to collaborators within the college of nursing as well as in the larger university who have extramural funding, are doing complementary research, and/or have been a resource for the PI in the past. The table below lists five such collaborators who offer support, encouragement, and scholarly exchange regarding causes and consequences of hypertension, and who would be able to discuss interpretation of results with the PI.

<table>
<thead>
<tr>
<th>Collaborator</th>
<th>Area of Research</th>
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<tbody>
<tr>
<td>Nancy Artinian, PhD, RN, FAHA (College of Nursing)</td>
<td>In addition to being the director of the CHR in the College of Nursing, Dr. Artinian also serves as Co-Principal Investigator for the Center for Urban and African American Health Studies housed within the School of Medicine. Her research focuses on tele-monitoring and social support for hypertension control. She has also done a great deal of work related to depression and hypertension, all of which is pertinent to the current proposal. NIH/NINR - R01 NR007682-04 - Nurse-managed BP tele-monitoring with African Americans. NIH/NINR - Minority supplement for R01 NR007682-02S1 for a graduate research assistant. NIH/NIES 1 P50 ES012395-01Center for Urban and African American Health</td>
</tr>
<tr>
<td>Jean Davis, PhD, RN, FAAN (College of Nursing)</td>
<td>Dr. Davis is the Director of the Biophysical Laboratory in the CON, and the PI’s department chairperson. She has a dual doctorate in nursing and physiology. Her area of research interest is in sleep disorders among menopausal women. In her research studies she has done extensive work with biomarkers including cytokinines, cortisol, and DHEA-S that are particularly relevant to the current proposal. NIH/NINR – RO1 Exercise and Sleep: A Clinical Trial in Menopausal Women</td>
</tr>
<tr>
<td>Ramona Benkert, PhD, ANP-BC (College of Nursing)</td>
<td>Dr. Benkert’s research focus is on the effect of racism on the patient-provider relationship and how that affects health outcomes including hypertension outcomes. The PI and Dr. Benkert have been co-PIs on a project and are co-authors on several peer-reviewed publications. NHLBI - BAA NHLBI-HR-0304Tuberculosis Curriculum Coordinating Center ANF – Cultural Competence of Nurse Practitioners</td>
</tr>
</tbody>
</table>
John M. Flack, MD, MPH  
(School of Medicine)

Dr. Flack is a Specialist in Clinical Hypertension and the other Co-Principal Investigator of the Center for Urban and African American Health. He is Chair of the Department of Internal Medicine and Chief of the Division of Translational Research and Clinical Epidemiology in the School of Medicine and also Specialist in Chief for Internal Medicine at the Detroit Medical Center. Dr. Flack is a member of the Cardio-renal Advisory Panel for the Food and Drug Administration. The PI and Dr. Flack have done collaborative research and have published together in the past.

Mark Lumley, PhD  
(Department of Psychology)

Dr. Lumley heads the Stress and Health laboratory in the Department of Psychology at Wayne. His research focuses on emotions, stress, and physical health, with an emphasis on individual differences in emotional abilities and deficits. He does interventional research related to the effect of emotional awareness and expression on stress-related health outcomes. The PI and Dr. Lumley have published together in the past.

The resources described above demonstrate that there are substantial and significant physical and intellectual resources available to the PI that will support the completion of the proposed study.