Appendix XI - ASSIST Center Strategic Diversity & Inclusion Plan

Overview and Objectives

In order for the U.S. to remain technologically competitive, it is critically important to build a diverse workforce that attracts individuals from historically under-represented groups to engineering professions. The ASSIST values diversity as an important characteristic of a healthy, vibrant, and ultimately successful research, education, and innovation ecosystem; one that will attract the best talent and lead to the achievement of organizational objectives as well as the personal fulfillment of all those involved with the Center. The benefits of creating a diverse professional organization are well documented. These benefits include greater productivity, a more creative and innovative workforce, better problem-solving ability, and better decision-making.

ASSIST seeks to create a Center that enjoys broad participation from diverse cultures and backgrounds. The Leadership Team, including the Diversity Director, will be responsible for developing the programs and promulgating the policies that will help meet the diversity objectives. The Center will pursue several strategies that will lead to this outcome. An important part of this process is to raise awareness of the importance of diversity to the entire organization and to reward those who make tangible contributions.

The objectives of the ASSIST diversity plan are:

- To improve the Center's diversity climate by enhancing the skills of the Center's faculty and students in mentoring students from all gender, racial, ethnic, cultural, and disability backgrounds.

- To increase the diversity of the Center's graduates and undergraduates through comprehensive, diversity-focused recruiting efforts.

- To work with deans and department heads to increase the diversity of the Center faculty through new faculty hires and collaborative projects.

In regard to these objectives several challenges, or what the center chooses to view as opportunities for improvement, were identified. These five areas for improvement include the 1) Promoting a Common Understanding of Diversity and Inclusion throughout the Center and the affiliated institutions, 2) Promoting a Diverse Community of Inclusiveness across ASSIST- NERC Partner Institutions, 3) Recruitment and Retention of Students, 4) The Representation of Diversity Among Faculty and Staff, and 5) Achieving Center-wide Synergy and Sustaining Diversity Efforts. Each of these five challenges will be discussed in further detail next.

Challenge 1. **Promoting a Common Understanding of Diversity and Inclusion**

The promotion of a common understanding of diversity and inclusion establishes a foundation from which the Center and all of its constituents and stakeholders can build a community that will excel in its achievement of Center goals. Thus, the first challenge is to agree on what diversity and inclusion mean within the Center and its partner institutions. In this section both a foundational statement of how diversity is conceptualized by Center constituents, as well as an overview of how this will be promoted at the leadership level, and the types of information that will be disseminated are discussed.

> **A Common Understanding of Diversity and Inclusion.** The National Science Foundation ASSIST Center represents a partnership between the National Science Foundation, industry partners, and the academic institutions that provide the administrators, faculties, and students that constitute the collective community that advances the educational and research goals of the ERC. Therefore, the definition of diversity must be representative of the respective organizations that comprise the Center while attending to the expectations of the National Science Foundation, and industry partners. To that end, a review of the diversity statements and plans for each of the core partner institutions provides a vision for diversity that is reflected in the following statement.

> The ASSIST Center recognizes that it is through diverse perspectives that innovative advancements and the optimization of our future technical workforce will be realized. Thus, the Center will continually seek to be a diverse and inclusive community of administrators, faculty, and students

that will celebrate the differences of its constituents while harnessing their collective experiences, knowledge, and skills to advance the Center goals. While diversity, can at times be narrowly defined as ethnicity, race, and or gender, true diversity is conceptually broader than only those few human characteristics. Therefore, the Center seeks to promote the valuing of all of its constituents regardless of their ethnicity, race, gender identification, physical abilities, religion, sex, sexual preference, and or veteran status. (Drafted in spring 2015 for review and ratification by Center partners)

Additionally, the critical activity of valuing diversity is the cornerstone of inclusiveness. The terms inclusion and inclusiveness are used to describe the practice of promoting a sense of belonging among all community members through the recognition and celebration of individual differences and similarities. The goal of inclusion will require continued efforts across all Center partner institutions to maintain welcoming and safe environments that promote the full engagement of all Center constituents.

Interactions with Center Leadership and Partner Institution Engineering Leadership. The effort to have an inclusive Center community begins with key personnel supporting and promoting the vision and mission of diversity. To that end, the Diversity Director, will work closely with Center leadership to ensure agreement with the collective vision, as well as the promotion of diversity across the Center partner institutions. Additionally, the Center leadership operate within larger institutional organizations and the shared diversity vision and goals of the Center will be discussed with key personnel (e.g. deans, department chairs) to ensure that Center diversity goals align with partner institution goals, and resources across the institutions are properly leveraged for mutual success.

Dissemination of Information. The effectiveness of the diversity initiatives will in part be due to the dissemination of information that will help to increase the awareness and inclusiveness in support of Center diversity goals. To that end, diversity-focused information (e.g. Center awareness flyers, trade journal articles, research articles) will be shared with Center constituents through various forms of communication (e.g. email, intranet, web-conferences, and social media) regularly. This approach will assist in both bridging the geographical distance of Center member institutions and mitigating the challenge of programmatic timing that may exclude members of the community due to the lack of availability. The advantage of access to various technological mediums is that they are not restricted by time; thus, Center constituents will be able to review and engage with diversity related materials at their convenience.

Development of Online Intranet Resource on Diversity Related Topics. While several mediums of communication are available, given that the knowledge-base on diversity and inclusion is increasing, the creation of central repository for related information will enhance the Center efforts consistently to promote diversity and inclusion. In order to support the Center diversity goals, and to assist in the development of best practices, various references and resources will be gathered and made available to all members of the Center community through a shared online space. The goal will be to supplement programming with the opportunity for members of the Center community to engage diversity focused resources in order to support both personal development as well as efforts to promote diversity on a larger scale.

Challenge 2. Promoting a Diverse Community of Inclusiveness across Center Partner Institutions

The Center is comprised of a variety of constituents, each of whom contribute to the diversity of the Center, and each of whom have a role to play in promoting an inclusive space. To that end, the Center seeks to encourage the full engagement of all faculty, staff, and students in all aspects of the Center. In support of the diversity and inclusion goals of the Center a variety of programming will be employed to promote the valuing of all members of the community, as well as those whom Center personnel will interact with outside of the Center. To date, diversity programming has been delivered through Center-wide programming events connected to the Translational Engineering Skills Program (TESP), and this practice will continue. The programming will continue to take the form of webcast discussions and workshops that increase exposure to the challenges to realizing an inclusive environment, as well strategies that will promote both personal and organizational development. Programs will promote diversity through the delivery of technical

presentations by individuals from diverse backgrounds, as well as addressing known challenges to diversity through discussions and workshops on topics such as micro-aggressions, imposter phenomenon, unconscious bias, and group dynamics. Additionally, as discussions and workshops alone will not best promote diversity and inclusion, opportunities will be offered for Center members to interact socially, and an increase in promoting the Center educational goals as a means for increased exposure to people of diverse backgrounds will occur. The latter, educational goals, is important to mention as engineering research Centers are charged with carrying out activities that will promote the fields of science, technology, engineering, and mathematics (STEM) across a spectrum education spaces that are composed of diverse communities of individuals. These educational outreach activities represent mutually beneficial opportunities for increasing diversity awareness as both the Center personnel and those they interact with have an opportunity to engage individuals of varying differences in the shared interest of technology and innovation. These various types of Center programming will provide members several opportunities to not only increase their knowledge, but also gain experience in promoting diversity throughout their time with the Center.

One significant sub-challenge to achieving this goal is the decentralized structure of an engineering research Center. Given that the Center is comprised of partner institutions in the Northeast, Mid-Atlantic and Southeast regions of the United States, building a sense of community across all sites is difficult. Whereas, delivering content on diversity topics is conducted over the internet, simply delivering the information does not necessarily promote feelings of inclusiveness. Thus, social media platforms are being investigated as possible solutions to bridging the geographical distance through which a more personal understanding of who are members of the Center, as well as creating opportunities for increased interaction. Though, the distance presents a challenge, there are opportunities throughout the year in which Center members are in the same location, and events are planned to promote community building during those opportunities. Additionally, the Diversity Director will visit partner institutions throughout the year to collaborate with center and school personnel and engage center constituents by conducting localized programming. Thus, while the decentralized structure of the center presents a challenge, it also presents an opportunity to tailor diversity efforts to the context of each of the respective institutions through targeted interactions.

Challenge 3. Recruitment and Retention of Students

The recruitment and retention of domestic and diversity students is a complex set of activities. The Center will engage in these activities in a methodical manner that will maximize the potential for success by leveraging Center and institutional partner resources effectively. This work requires increased outreach to raise awareness of the Center, a dynamic and evolving approach to understanding the market and focusing outreach efforts, and coordinated efforts in the admittance and support of affiliated students throughout their undergraduate and graduate careers. The identified ways in which the Center can accomplish these tasks are outlined in the sub-sections below.

> **Increased Awareness of ERC and Associated Research.** The first sub-challenge to the recruitment of diverse students, faculty and staff to the Center is the level of awareness of the existence of the Center and the research conducted within it. It is imperative that the domestic and global profile of the Center be increased. Without increased promotion of the Center, the success of all other activities will be diminished. In response to this need, available technology will be utilized in several ways to promote the Center. First, we will continually review the information available on the website to keep the information current and engaging. Second, the Center will increase its social media profile by leveraging a variety of resources (e.g. Facebook, YouTube, Pinterest, Twitter) to make the Center related material more widely available. The use of social media platforms will allow for the propagation of Center related information to a global audience at a scale that otherwise would be cost-prohibitive. Moreover, the internet also provides a platform for delivering Center content (i.e. webinars) in real-time via web-conferencing applications. This opportunity is especially promising, as webinars are a regular component of Center activities and allow for the discussion of current research, which can assist in identifying potential students. Thus, these webinars will be promoted via direct outreach to target institutions from which the Center hopes to attract future undergraduate research and graduate students.

Understanding the Market. The identification of prospective students requires an understanding of the pool of prospective students available from the targeted academic disciplines. Unlike many other engineering specialties, the educational training area of nanotechnology has only recently gained in popularity. According to the National Nanotechnology Initiative it was in 2004 that the first college-level education program in nanotechnology was launched at SUNY-Albany (www.nano.gov/timeline). Thus, while nanotechnology research has occurred at institutions of higher education previously, it is only in the past decade that nanotechnology has widely been promoted as a field of study in the U.S. More specifically, considering that ASSIST represents a sub-area of research within nanotechnology (i.e. nanosystems for health applications) to which students most likely have had limited exposure, it is necessary promote opportunities in this area in order to increase the pool of prospective applicants. With this insight, the increased awareness campaign described in the previous section, along with the identification of nano-technology programs, and other programs that have the capacity to provide students with the academic background and interest for Center related graduate opportunities will be necessary to affect our representation through targeted efforts. While traditional programs will be able to provide access to domestic students, when attempting to reach individuals from underrepresented groups, outreach efforts will require establishing sound relationships with institutions that serve those targeted populations.

Institutions with High Representation of Underrepresented Students. National statistics on the participation of individuals from diverse backgrounds indicate a low participation rate for underrepresented minority students and women in engineering. Thus, it is imperative that the diversity director identify potential sources that offer significant access to target groups. Those institutions that provide greater access to targeted underrepresented populations include Historically Black Colleges & Universities (HBCU), Hispanic Serving Institutions (HSIs), Tribal Colleges & Universities (TCUs), Women's Colleges (WCs), and those institutions that primarily serve individuals with Disabilities. Additionally, an institution such as American Military University, given that it touts that it is preparing 65,000 active-duty military may be a resource for identifying military veterans. Institutions within these categories are being cross-referenced with resources such as Diverse.com 100 Top Degree Producers to identify sources for recruitment efforts. Also, the engineering curriculums at identified institutions are being reviewed for alignment with the needs of Center institutions. Furthermore, some schools will have the infrastructure to provide students who are ready for the transition to graduate level study in Center related research, other institutions may require assistance in promoting nanotechnology research among their students. In specific cases, institutions may have significant potential in reaching target students but lack the curriculum to expose students to Center related research. In those cases, the Center will explore ways in which it may be able to supplement the academic training of students (i.e. co-taught distance education courses, online seminars) at those institutions to increase awareness of power and energy research for advanced academic training at Center affiliated institutions. Ultimately, the Center will seek to establish mutually beneficial partnerships with institutions that are either top producers of target students or have a focused mission which serves specific smaller populations (i.e. women's colleges, tribal colleges and universities) that align with Center goals.

Educational Opportunities Programs and Initiatives. There are a variety of education opportunities programs such as the Louis Stokes Alliance for Minority Participation (LS- AMP), Alliance for Graduate Education and the Professoriate (AGEP), Centers for Research Excellence in Science and Technology (CREST), and Ronald E. McNair Scholars Program, and various honors support programs (e.g. Meyerhoff Scholars Program, Dozoretz National Institute for Mathematics and Applied Sciences (DNIMAS)) that are promoting STEM related education and careers among targeted underrepresented and underserved populations. The Center recognizes these programs as a significant resource for identifying students who are being groomed for opportunities like what it is offering at both the undergraduate and graduate levels. Thus, targeted outreach like that mentioned in the previous two sections will be carried out with this special population of EOP students nationally.

REU Opportunities. While the promotion of Center related research through outreach efforts and active graduate student recruitment has the potential to increase the participation of domestic,

women, and underrepresented minorities in the Center, the opportunity that is most promising for increasing representation from those groups is that of undergraduate research. The Center will continue to engage undergraduate research activities through two specific initiatives, the Summer Research Education for Undergraduates (SREU) program, and the academic term undergraduate research program. The SREU program will seek out potential undergraduates from institutions that are not affiliated with the Center while the Undergraduate Research Fellows Program will provide opportunities during the academic year to students at Center partner institutions. Students for these programs will be identified through the focused recruitment efforts outlined above, and the establishment of strategic partnerships with institutions that have significant promise in producing students interested in Center related research. For those specific institutions, opportunities will be sought to collaborate on efforts such as joint REU grants to further formalize the relationship between the Center and the institutions.

Educational Outreach. The last recruitment related outreach effort represents a long- term investment in the Center mission. Through Center educational outreach efforts, future students who are currently in k-12 grade levels will gain exposure to the areas of STEM, as well as be able to associate that exposure to the Center given their interaction with Center personnel. These outreach efforts will be minimally 2-4 year investments in any given year, as the most senior of the students engaged will most likely require two years of college-level study before re-engaging with the Center through REU opportunities. However, the prolonged exposure to STEM and the Center, may reward the Center efforts with individuals who seek out opportunities at Center affiliated institutions for their college level training. Regardless, of Center benefits, the outreach activities of the Center will promote the idea of engaging in STEM-related fields, Center related education and research, and related professions.

Graduate Program Admissions Collaboration. Admissions decisions remain under the purview of each respective institution and their affiliated departments, however when possible the Center diversity director, and or collaborating diversity officials at the respective institutions, will provide support to the admission and yield processes at the respective institutions. As the diversity director is based at North Carolina State University, the support available from this staff member will comply with, but possibly be limited by, the Family Educational Rights and Privacy Act (FERPA) regulations across Center partner institutions. In cases where the disclosure of prospective student information to a non-institutional employee limits the coordinated efforts of the Center, all other identifiable means of support (i.e. familiarity with student, institution, and or faculty through recruitment activities) will be provided to partner institutions during the decision-making process.

Supporting Access. One significant obstacle attracting domestic and diverse students to graduate level study is the lack of understanding about how graduate education is financed, and subsequently the amount of financial support provided. Thus the Center will seek to not only provide education regarding the financing of graduate education to targeted students, but also for those students who are admitted to Center affiliated departments with the intention of working with Center faculty, Diversity Fellowship Awards will be made available on a competitive basis. These fellowships are funded through the Center grant, but efforts will be ongoing to identify additional resources to expand the fellowship program and sustain it post Year 10.

Student Support Services. Students can face difficult challenges while pursuing their education. As part of the education and diversity initiatives of the Center, students will have access to student focused professionals in addition to the faculty and student support services at their respective institutions and programs. These directors for education and diversity will be available to discuss with students the various strategies for managing needs and or challenges as they arise. As some of the issues students face may arise as a result of their involvement with the Center, it is important that this support be available from within the Center resources so that student needs and matters that require additional attention within the Center are managed effectively and expeditiously. This level of responsiveness is particularly important for underrepresented minority students who can find themselves faced with additional challenges (e.g. cultural capital, micro-aggressions, isolation).

Challenge 4. Representation of Diversity among Faculty and Staff

A well-trained and diverse workforce is essential to the future of the U.S economic competitiveness. The leadership of the Center acknowledge that fact as part of its mission and recognizes that this begins with the composition of the Center faculty and staff. The Center seeks to engage actively in activities that bring together a talented team of faculty and staff that effectively manage Center activities and make innovative contributions through Center related research. To that end, in the last year, the position of Diversity Director was created and filled to work with the Center institutions in support of identifying candidates to fill open positions and identify future diverse candidates for forecasted needs. While the desire to move quickly on these activities is present, the reality is that faculty and staff positions are limited and without turnover, strides in this area will take time. Thus, the diversity director will work with Center institution deans, faculty, and staff to identify and or create additional opportunities to enhance the representation of diversity among personnel through short-term appointments (i.e. postdoctoral, visiting researcher). The vision is to ensure that a variety of mechanisms are employed to ensure that the power of diverse perspectives are available and utilized to optimize Center efforts.

Challenge 5: Achieving Center-wide Synergy and Sustaining Diversity Efforts

In order to continually increase the effectiveness of the Center diversity efforts, three key actions will be taken. First, the Center will maintain a dedicated staff position to provide oversight of diversity efforts. Additionally, the Center will take steps to obtain ongoing insight from diversity professionals and Center stakeholders as to the advancement of the diversity initiative through the establishment of an advisory board. Lastly, diversity efforts will be continually evaluated for effectiveness and revision when necessary.

The Role of the Diversity Director. The planning and implementation of the Center diversity efforts will be the responsibility of the Diversity Director. The Diversity Director is an integral member of the Center leadership. In carrying out various activities, the Diversity Director will collaborate with key members of the Center leadership and Center affiliated staff across partner institutions. Occasionally, the director's duties will involve interactions with key administrators at all Center institutions such as deans and department chairs, and individuals within offices related to diversity and inclusion, postdoctoral affairs, disability, and veteran. The success of the diversity initiatives will be a result of having a dedicated diversity leader and their ability to establish strong collaborations across the Center institutions.

Institutionalizing and Sustaining Diversity Efforts. To ensure the long-term success of the Center diversity initiatives, a couple of actions will be taken immediately to best marshal resources across institutions, draw on the broad knowledge-base of the Center, and institutionalize efforts. First a diversity advisory board will be established so that additional input can be obtained. Second, the Center diversity goals will be maintained as a component of planning regarding the sustainability of the Center through and beyond year 10.

Diversity Advisors. In an effort to best leverage the available resources among Center partner institutions, a group of diversity advisors were organized in order to regularly discuss issues of diversity and inclusion across Center partner institutions and optimize the delivery of information and services despite geographical limitations. As it relates to staff, the availability of diversity professionals that are seated within the engineering programs at partner institutions will vary, however, when available individuals will be selected from the respective partner institution engineering programs. As necessary individuals from outside of the affiliated engineering programs will be sought to work with this group. Every effort will be made to select individuals who are a) closely affiliated with the Center and or school/college/department of engineering at each institution, b) individuals who are knowledgeable regarding diversity issues facing Center affiliated faculty, staff, and students at the respective institution, c) are knowledgeable regarding diversity in STEM fields, and or d) are knowledgeable regarding the work of diversity within the engineering research Center context. Additionally, the viewpoints of students will be critical for advancing the Center goals and creating an inclusive community. Thus, the advisory group will include positions for members of the student leadership council, and or individuals with an expressed interest in supporting diversity and inclusion efforts.

Sustaining Diversity Efforts. As the Center must become self-sustaining after year 10, and advancing diversity and inclusion through Center activities is a key component of Center mission, the diversity director will ensure that matters of diversity are maintained as part of the sustainability planning activities of the Center. This will require that the diversity director continually engages Center leadership regarding current and projected diversity needs (e.g. Center goals, workforce needs) and continue to promote the benefit of diversity during discussions among center partner institutions and industry partners regarding the future planning of the Center.

Assessment and Evaluation. The assessment and evaluation of the diversity efforts will be conducted in using both formative and summative approaches. The formative evaluation will consist of collecting ongoing feedback from Center constituents and stakeholders on the various diversity efforts delivered each year. Possible forms of data collection include program/event evaluations, surveys, group discussions, and submissions to an anonymous reporting system that will allow for ideas, general feedback, and concerns to be shared by individuals without requiring their identification. Also, the summative NSF reporting requirements will ensure annual benchmarking of efforts and the ability to compare the current activities with previous years. The data gathered through these activities will allow for a constant review of progress, and both the immediate and long-term strategic planning adjustments necessary to achieve the diverse and inclusive community desired. The methods employed for assessment and evaluation activities will align with approved Institutional Review Board (IRB) permissions obtained which outline data collection and analysis methods and the approved personnel for carrying out those activities.

Summary and Action Plan

This diversity plan provides an overview of the approaches that Center personnel will take to promote a culture of diversity and inclusion throughout its constituency. As diversity and inclusion in society represents a complex concept that cannot be expected to be fully articulated, this document is also not intended to be an exhaustive document for achieving the Center diversity goals. To that end, it is important to note that the broad approaches outlined in this document are considered mutable and will continually be reviewed and revised to ensure that the Center is responsive to needs for refinement. With that disclosure, the Center considers this revision to be an advancement in Center thinking and strategy that will better position it for both current and long-term goal achievement. For additional detail of planned activities see the chart below.

ASSIST Center Diversity Strategic Plan Action Items			
Challenge	**Activity**	**Timeframe**	**Outcome**
1. Promoting a Common Understanding of Diversity and Inclusion			
	Engage Center and Engineering leadership in a diversity-specific discussion	ASSIST summer retreat; Ongoing, annual	Ensure collective understanding of Center diversity efforts and discuss potential opportunities for enhanced efforts to achieve Center diversity goals.
	Establish an online repository of information related to diversity issues in higher education and the workforce.	By June 2020; Ongoing	Provide resources across media types that are available 24-hours/day to Center constituents interested in learning more about various aspects of diversity, or in need of specific information for managing issues
	Continue to develop diversity promotional materials for electronic dissemination and posting in common areas that promote Diversity and Inclusion awareness and engagement both at the Center and site level	Summer 2015; Updates in Summer 2020	Provide visual reminders of Diversity related concepts throughout Center facilities in order to encourage constant attention to Meeting the Center goal of inclusiveness
2. Promoting a Diverse Community of Inclusiveness across Center Partner Institutions			
	Visit partner institutions for Diversity related meetings, recruitment, and conducting diversity programming (site-specific or center-wide from partner institutions). This includes the annual diversity mentoring event from previous years	Year round	Engage Center constituents in their local setting; encourage increased awareness and participation in Center diversity efforts; continue to work with Center diversity advisors; address site specific needs as they arise; and conduct center-wide diversity programming from partner institution locations
	Conduct virtual Diversity discussion lunches with constituents at each partner institution	once per year, and as needed	Maintain connections with Center constituents to discuss sitespecific needs between visits.
	Collaborate with and provide support to the Student Leadership Council in programming and promoting events	ongoing	Consistently engage the student leadership of the center and ensure that the appropriate support for SLC sponsored events is provided
	Provide diversity support in the planning and execution of Center activities (e.g. SLC, education, outreach) as needed. Also seek to identify high profile and emerging researchers working on ASSIST-related strategic research to deliver seminars to Center faculty & students	ongoing	Maintain a presence at activities to promote the Center's commitment to diversity; increase awareness of emerging talent and highly successful, diverse researchers in nano-enabled technologies and health applications

3. Recruitment and Retention of Students

	Survey all Center faculty to identify anticipated graduated students' needs for the upcoming admissions cycle, and plan and or adjust recruitment strategy as necessary	Ongoing	Appropriate perspective on graduate personnel needs across partner institutions; increased focusing of recruitment efforts to identify best matched candidates; forecasting of potential shifts in Center demographics
	Identify the top BS And MS degree producing institutions for diverse students in each of the feeder disciplines for Center focused research and cross reference with the following criteria: a) Institutions with Established Nanosystems degree programs, b) NSF funded Programs (e.g. AGEP, CREST, LS-Amp) and other Graduate education efforts, c) specialty Honors programs targeting STEM, d) proximity to Center partner institution sites, and e) with a large target population	Ongoing	Identification of target institutions for site visits and distance outreach based on metrics that will focus Diversity efforts for maximized return on investment; Annual re- evaluation of institutions for adjustments to recruitment plan
	Visit at least 3 identified target institutions for recruitment, while conducting distance outreach to other institutions with promising outlooks for producing target populations of students for Center related activities	August-November 2019; 2020; 2021	Optimization of leveraged resources to meet target needs for graduate student personnel; Increased exposure of Center research to prospective REU participants and graduate students; Increased interuniversity relationships with administration and faculty at target institutions, with the potential for established Memorandums of Understanding;
	Identify and visit smaller schools (e.g. small HBCUs, Tribal Colleges & Universities, women's colleges) that serve target populations that may often be overlooked as viable recruitment institutions	Hold; revisit in 2020	Engage smaller specialty institutions that serve and prepare target populations for STEM related academic study and career fields; Establish interuniversity relationships with these institutions with the potential for formalized MOUs that will promote consideration of Center institutions for graduate education; Explore opportunities for the delivery of specialized courses that augment and enhance academic offerings at target schools to promote preparation for Center related research and careers. [HOLD: Given increased outreach at larger events and also community colleges, smaller schools will be engaged with additional personnel and resources.]

	Increase visibility of the Center by attending and/or levering personnel resources across partner institutions to promote Center research at national and regional Conferences that serve large numbers of target populations (e.g. AAAS, AISES, NCUR, NSBE, NSF Emerging Researchers, SACNAS, SHPE, WEPAN).	Conducted Annually since 2016	Increase awareness of the Center research and the associated research field of nanosystems (and health applications) to broad audiences of The target population to both identify prospective students and Provide exposure to additional academic and career possibilities within the STEM fields
	Conduct promotion Of Center research Across identified Target institutions Nationally through participation in the Center student research presentations/seminar webcasts	Hold; Revisit in 2020	Increase awareness of the Center and the associated research across partner institutions by prospective Target populations across the country; Increase interest in Center related REU and graduate programs [Hold: Viability of web-based recruiting is being looked at the College of Engineering level at NCSU. As personnel is shared for this work, web based outreach may be implemented in the future. Need to consider targeting programs with established audience instead of open invitation events.]
	Increase the visibility of Center related research and activities through the use of social media platforms (e.g. Facebook, YouTube)	Ongoing	Increase awareness and attract potential students to the center by harnessing the power of individual interests and social networking
4. Representation of Diversity among Faculty and Staff			
	Discuss with Center Leadership and Partner Institutions engineering leadership regarding faculty diversity efforts	Annually at Center Leadership Retreat [Summers]	Identify current faculty diversity efforts and begin discussions around harnessing the broader network of Center constituents to identify Diverse candidates for various opportunities
	Engage through partner institutions' engineering leadership the appropriate offices (i.e. diversity and inclusion, postdoctoral affairs) the current postdoctoral efforts around diversity and the likelihood of piloting a program related to Center efforts	Ongoing	Exploratory discussions regarding The possibility of identifying resources that can be committed to Creating diversity focused Postdoctoral opportunities within Center efforts.
	Survey Center leadership regarding anticipated research Staff and faculty needs for promotion of opportunities across diversity networks	Quarterly	Identify Center needs and increase promotion of opportunities across Diverse networks to increase likelihood of obtaining diversified candidate pools
5: Achieving Center-wide Synergy and Sustaining Diversity Efforts			

Engage in discussions and collaborations with Diversity advisors	Ongoing	Utilize on-site resources to better understand day-to-day diversity needs across partner institutions; obtain support for various Center programming and leverage personnel and financial resources for recruitment activities
Conduct evaluation activities for Center Diversity programming	Event specific	Ensure the capture of participant feedback to evaluate utility, quality, and effectiveness of programming, as well as planning for future programming
As previously stated, engage in ongoing discussions with Center leadership to promote diversity efforts.	Ongoing	Ensure that diversity is both a current and ongoing (post year 10) part of the Center plan