The Historical Development of the International Network on Appropriate Technology (INAT) and the International Conferences on Appropriate Technology (ICAT)
John Trimble, Chair of 4th ICAT International Planning Committee

We welcome all the participants to Accra Ghana for the 4th International Conference on Appropriate Technology (4th ICAT). Some of you are new to our conferences and this short history is designed to bring you on board to this 'appropriate technology (AT) movement'. Many of you are returning participants and played a significant role in the development of our international network on appropriate technology.

The 1st ICAT was held in July 2004 in Bulawayo Zimbabwe. This effort was largely possible through the support of the academic staff at the National University of Science and Technology (NUST). However, it built on years of work by a network of academics and practitioners that saw a need for an alternative approach to technology development and deployment. A key group of these academics at Howard University, in 1998, formed the Howard University Project on Appropriate Technology (HUPAT). HUPAT had been involved with local and national conferences as well as educational trip to Cuba to study that nation's work on appropriate technology.

The 1st ICAT addressed the theme "A Knowledge Management Approach to the Development of Appropriate Technology, with a focus on sustainable land-based projects". This was a timely theme since Zimbabwe was concerned with projects that would assist new farmers following their land reclamation process. The role of NUST was critical because of the university's involvement in agricultural and industrial development. It took place in July, 2004. Our 1st ICAT had paper sessions addressing: water, agriculture and environment, and knowledge management and appropriate computing.

We expanded are network of organizers for the 2nd ICAT. The role of Howard University increased and the Northern California Council of Black Professional Engineers (NCCBPE) became an active cosponsor. The current interest in health in underdeveloped countries was addressed with the theme "Sharing the Knowledge from Research and Practice in Appropriate Technology, with a focus on Health-related projects". Once again the conference was hosted by NUST in Bulawayo. It took place in July 2006, two years after the 1st ICAT. The highlight of the conference was the 'health related' paper session and special talks by health experts, particularly information on Niosan, a malaria pharmaceutical developed in Nigeria Other paper sessions included: knowledge management; energy and physics; water and agriculture; environment and small-scale industry.

Active organization for the 3rd ICAT began in April 2007. We expanded our international planning committee to include 12 countries. For the first time we involved multiple universities in the host country,: Kigali Institute of Science and Technology (KIST); the National University of Rwanda (NUR); Umutara Polytechnic University; Universite Libre de Kigali (ULK) and Kigali Health Institute (KHI). From the start of our efforts, the Ministry of Science and Technology in the President's Office in Rwanda provided strong support.

The theme of the 3rd ICAT was: "Promoting Research and Practice in Appropriate Technology: Energy Solutions in the Era of Climate Change". It took place November 12-15, 2008 in downtown Kigali at the Serena Hotel with workshops taking place at KIST. The conference included a tour of the largest PV Solar facility in Africa as well as a trip across

Rwanda to Lake Kivu to view the Methane gas production facility. Much of the success of this conference was due to the strong support from Professor Romain Murenzi Minister of Science and Technology in Rwanda.

The 3rd ICAT generated an intense interest in building our international network on appropriate technology. The Conference was preceded. by presentations and workshops on appropriate technology in Guyana in 2007 and Trinidad and the Sudan in 2008. Participants left the 3rd ICAT with an increased sense of purpose. A group of women from the Sudan were trained in India to install solar electric panels as a result of connections made with Conference keynote speaker, Bunker Roy, who directs the Barefoot College. A series of Conference follow-up meetings among the organizers led to the development of the International Network on Appropriate Technology, INAT. At Howard University, we initiated an Annual National Spring Symposium on appropriate technology in 2009 that was expanded from a one day symposium to two days in the Spring of 2010. With funding support from Howard University, we were able to bring Bunker Roy from India as a featured speaker. At that symposium we issued our first declaration on appropriate technology (AT) which embodies the group's AT vision.

With the success of our work came increased support from Howard University and other technical organizations such as the National Technical Association, the oldest minority technical organization in the US. This year the Offices of President and Provost provided the principal funding for the 4th ICAT. With additional support from various Deans at Howard, our affiliate sponsor Chicago State University, CSIR, African University College of Communications and KNUST we are certain to advance our efforts. Our theme this year "Appropriate Technology for Water and Sanitation: Solutions for a Thirsty Planet" extends our conference efforts to relate appropriate technology to critical basic global needs.

Our ongoing work on AT must be seen as a process to bring 'appropriate technology' to the forefront of discussion and practice regarding science and technology - <u>education, policy, research, development and deployment</u>. Public education on 'what is appropriate technology' is central to the mission of INAT. The cornerstone of our platform on AT is 'AT is technology to empower people'. The more the world population is empowered the more the potential of the world's human resources can be utilized. The more the world population is empowered, the better equipped the mass of human society is to exercise democracy.

The nature of 'appropriate technology' is technology that is culturally sensitive yet ecologically sound and economically sustainable. Science and technology are not philosophically and ideologically neutral. To fully embrace appropriate technology, one must be driven by compassion for humankind and Mother Earth. To fully embrace Appropriate Technology, one must be philosophically rooted in the belief that humanism, collectivism and egalitarianism are abiding human characteristics that heighten a collective conscience across human society. To fully embrace Appropriate Technology, one must be ideologically committed to organize for appropriate technologies to replace all unproductive and war centered technologies in the realm of education, policy and practice.

This process must move Appropriate Technology from the general pronouncement of the goal of appropriate technology advocates, to a reality where Appropriate Technology dominates in all realms of science and technology.   Strategic detailed planning is required.

The educational aspect of this Appropriate Technology goal centers in our world network of higher education. While the private sector and government control the bulk of technology research, development and deployment resources, institutions of higher education are the direct and indirect sources for the leading research and development of technology practice and deployment as well as technology policy investigation and technology policy promotion.

Focusing on technologies that are human-centered promote: better health, better education, improved access to clean water, necessary shelter and safe food, as well as transportation and energy solutions that are do not cause ecological imbalance. Driven by fear and the inequitable access to resources, today's world governments focus a disproportionate amount of our resources on war technology, policing, and security.

Advances in science and engineering presents INAT and regional efforts with opportunities to solve global health and education problems and meet the basic water, food, and shelter needs of the world population. Unjust control of the planet's natural and developed resources stand in the way of achieving these people-centered goals of forwarding science, engineering and resource distribution to end poverty and human suffering.

In addition to redirecting higher education to focus on appropriate technology, we must mandate civic, worker and professional organizations across society to call for and work toward redirecting science and technology toward meeting the needs of the masses of humankind and an ecologically balanced planet. A populace versed in the benefits of appropriate technology as well as the disadvantages of the current direction of technology will be motivated to engage civic society, worker and professional organizations and government at all levels on issues of fair resource allocation. As part of the broader project a series of documents researching science and technology development and its impacts will be developed. This deeper research effort will be accompanied with the development of a series of 'appropriate technology declarations' that can be examined and embraced by educational institutions, worker and professional organizations, and civil society organizations.

Once a larger audience's consciousness is heightened with respect to global human-centered technology needs of our world, an appropriate technology manifesto can provide more detail on how to redirect our planet's resources toward appropriate technology. This manifesto can be the tool to get organizations to reallocate resources to this people-centered cause. Reallocation of resources will allow detailed demonstration of the validity of 'appropriate technology' as a solution to impoverished and disempowered societies. This manifesto will establish the grounds for a yet more comprehensive and challenging 'Appropriate Technology Protocol' to be addressed to international agencies and world governments calling for the global redirection of our resources to empower our planet's masses through appropriate technology development and deployment. The first step is the Declaration on Appropriate Technology developed by INAT. It was presented publicly for the first time at the Howard University 2010 Spring Symposium where participants signed the Declaration as an indication of support of its mandates. Further discussions and support for the Declaration will be pursued at this conference. Also, discussions on ways to strengthening the network infrastructure to deploy the mandate will be an important part of the Conference outcomes. INAT seeks ways to expand its influence on AT development beyond awareness and strives to position itself to assist more AT project development. The ultimate goal is to empower people to take control of their own destiny to improve their quality of life. The success of the Conference can be measured not only by the attendance and presentations, but by the AT work inspired and accomplished after the conference.

Declaration on Appropriate Technology
April 30, 2010

We declare that, the resources of our planet Earth must be used to develop the technologies needed to meet the needs of our total population.

We declare that priority must be given to meeting the basic needs of all humankind. Clean air and water, food security, healthcare, shelter, energy needs and education are basic human rights that can be provided for all of humankind **today** by devoting the planet's natural, financial and human resources to appropriate technology.

We declare that technology development and deployment must foster cultural sensitivity, ecological balance and economic sustainability.

We declare that priority must be given to providing technology focusing on empowering people directly. An empowered population can more effectively use their creativity and critical thinking to improve the state of the planet and society. An empowered population is most capable of exercising democracy in all local, national and global contexts.

We declare that in this process of implementing Appropriate Technology, that the most disadvantaged populations must be given priority. We must dedicate special attention to the technological needs of the 'Global South' - the most underdeveloped countries.

We declare that in this process of implementing Appropriate Technology, that special attention must be given to the least empowered sectors of all communities - women, children and oppressed minorities.

We declare that a primary goal of the 'Appropriate Technology movement' is to use science and technology research, development, deployment and policy to work toward worldwide egalitarianism. We envision – a social reality where all women, men and children of our planet have equal access to resources to meet their basic needs and a controlling voice in how resources are to be distributed and technology is to be developed.

The Critical Need for Appropriate Technology[1]

John Tharakan, Chair of the Scientific Review Committee
Department of Chemical Engineering, Howard University, Washington, DC 20059, USA
E-mail: jtharakan@howard.edu

Appropriate Technology, or AT, is ultimately about empowering people at the grass roots community level. Since the dawn of the human-technology relationship, starting with the adoption of primitive tools and implements, the needs and rationale for the development of technologies have become increasingly complex. As we enter the beginning of the second decade of the twenty-first century in this increasingly globalized and technology intensive space, the notion that there can be "appropriate" technologies may seem increasingly quaint and improbable. However, we must look at this complex socio-technological relationship in the context of over two thousand years of social and technological development that have resulted in some of the most advanced and sophisticated technologies developed in science, medicine and other areas of human endeavor. Despite this tremendous progress on a global scale in science and technology research, development, and deployment, of the six-plus billion people inhabiting this planet, almost one in six have no regular and consistent access to clean, potable water and almost one in three lack access to hygienic and sanitary waste and sewage disposal. Another two-thirds lack access to the world-wide web and are left on the wrong side of the digital divide – effectively being left out of the conversation and cut off from the immense wealth of resources available on-line.

The disconnect between what exists for a minority of the world's population and the harsh realities of inequitable resource distribution and technology access compared to the amazing, extraordinary technological developments and advances of the previous two centuries, speaks clearly to a desperate need for a renewed focus and emphasis on technology that is appropriate to the establishment of a just, equitable and fair global social order. This must be a global social order defined by a human-technology relationship that seeks to harness the immense creativity of the human species in their ability to respond to their environment and engineer it to their benefit for a sustainable existence within their own socio-geographical spaces.

This disparity in resource allocation, resource distribution, technology access and capabilities is the on-going driver for the continuing and critical need for appropriate technology development and deployment to address both basic needs for water and sanitation, but also to address needs for alternative, renewable and sustainable energy, information and communication technologies. It is also the continuing driver and rationale for this on-going series of conferences (1st through 4th International Conference on Appropriate Technology - ICAT). These conferences seek to tackle this problem from the perspective of empowering people with the right capacity building efforts that will enable them to take control over their own lives and environments and work together to improve them. Empowering people means providing them the informational, material, technological and human resources necessary to address the problems that they might face in the various areas of life needs. Hence, the conference organizers' division of the conference focus areas into the various critical areas of human need including water, sanitation and environment, energy, health and engineering and information technology. The rationale for these divisions is straightforward. Humans need clean potable water to survive and thrive. Adequate sanitation and hygiene is critical to maintaining a safe and healthy environment. Third,

---

[1] Please also see Tharakan, "The Relevance of Appropriate Technology" in Tharakan and Trimble (eds), *Proc. 3rd ICAT*, Kigali, Rwanda, November 2008.

energy is a critical necessity, without which communities cannot power progress and address needs to improve the quality of life and standard of living. Fourth, it is important for communities to be able to address health issues from a public health perspective as well as in the research and development of relevant health care practices and appropriate drugs and medicines. Finally, and not least in this increasingly digitized age, access to engineering, information and information technology will be critical to communities' ability to keep pace with the world and relevant developments and staying connected locally, nationally and globally.

The conference organizers received a total of seventy-three abstracts in response to the Call for Papers for the 4th International Conference on Appropriate Technology publicized in November of 2009. Of the abstracts received, ten full papers were submitted in the area of water, nine in sanitation and environment, seven in energy, ten in engineering and information technology and five in the area of health. Full papers were subject to a double-blind peer review process and the papers that were evaluated high were accepted for oral presentation. A total of five papers in the area of water were accepted for oral presentation. Four oral papers in the area of sanitation and environment, four oral papers in the area of appropriate energy technologies, five papers in the area of engineering and information technology, and four papers in the area of health were accepted, after peer review, for oral platform presentation. These papers will be presented as oral platform papers over the course of the next three days. There are also over twenty-five poster papers that have been accepted for presentation and these will be on display throughout the conference. The poster papers are published in the accompanying CD.

The objective of this conference is information and knowledge transfer and exchange, the continuation and growth of old, and initiation of new, partnerships and networks committed to the development and deployment of appropriate technologies that will address critical problems of resource scarcity – both from the human capital perspective as well as the natural resource perspective.

AT could never have been more relevant or critical, and especially so in the areas of water and sanitation. The diverse set of technologies that are part of the different focus areas of the conference demonstrates the variegated needs that appropriate technologies can be developed and implemented in a sustainable manner to address, and speaks to the ever-present need to develop and extend these efforts.

We hope that this conference will continue the tradition of discourse and information and technology exchange and transfer and lessons learned will be shared as we come together to move our project of dispersing appropriate technologies where they are needed most and developing the best practices to ensure successful and sustainable deployment of these appropriate technologies.

We thank our sponsors for their support of the 4th ICAT. The following pages provide a brief description of each sponsoring organization.

Howard University: Its Mission, Legacy, and Philosophy

Introduction to Howard's History

The philosophical ground of Howard University is social justice. Howard's founders chartered the University with the United States Congress in 1867 to provide a first rate education for those who would not otherwise have the opportunity.

In 1867 only a few colleges like Oberlin in Ohio in the US opened their doors to women and minorities. Howard's founders were Congregationalist ministers who wanted a university-level education for their daughters, as well as for Native Americans, Chinese, and Africans.

A friend to those ministers, General Oliver Otis Howard, pointed out that those most urgently in need of higher education in the United States were the enslaved African Americans freed through the Civil War. Howard was a Civil War hero appointed by the United States Congress to head the Freedmen's Bureau, the federally funded organization directing the post-war transition from slavery to freedom in the American South.

Through General Howard's efforts, the US Congress directed federal funds toward the University's establishment. Howard's founders recognized his contribution to the University by naming it after him. The Freedmen's Bureau provided most of the early financial support of the University. In 1879, Congress approved a special appropriation for the University. The charter was amended in 1928 to authorize an annual federal appropriation for construction, development, improvement and maintenance of the University.

Howard's very founding was a solution to a problem of social justice: university education for those systematically denied that opportunity. The university's second greatest solution to a social justice problem was its contribution to the legal architecture of the Brown *v.* Board US Supreme Court case. This legal case set the foundation for the desegregation of education in the US, and set a Howard Law School professor on his path to the Supreme Court: Thurgood Marshall. Marshall worked together with Charles Hamilton Houston, the dean of the Howard School of Law at the time of Brown *v.* the Board, and James Nabrit, a law professor who subsequently became president of the University.

Howard's Mission

Howard's mission is to "provide an educational experience of exceptional quality at the undergraduate, graduate, and professional levels to students of high academic standing and potential, with particular emphasis upon educational opportunities for Black students."

Howard is a "culturally diverse, comprehensive, research intensive and historically Black private university, Howard University History." With the exception of a university for the deaf in Washington, DC (Gallaudet), Howard is the only federally funded private university in the US.

Howard justifies its federal funding through its execution of its mission: "the discovery of solutions to human problems in the United States and throughout the world. With an abiding interest in both domestic and international affairs, the University is committed to continuing to produce leaders for America and the global community."

## Howard's Contribution to Global Justice and Sustainability

The University's support of the International Network for Appropriate Technology (INAT) and the four international conferences on appropriate technology held in Zimbabwe, Rwanda, and Ghana is an example of its commitment to the "solutions to human problems …throughout the world."

Howard is particularly committed to the solutions of the most basic problem that over one sixth of the world's nearly seven billion people face: survival itself. The conditions for survival are self-evident. Howard's aim through its support of the fourth International Conference on Appropriate Technology is to examine sustainable technologies for the provision of clean water and sanitation. Contaminated drinking water causes millions of deaths throughout the world, particularly among children. Nearly one third of the world's population has no access to toilets. Lack of sanitation is a primary cause of unnecessary deaths in the Global South.

Howard Today

Howard University is one of only 48 U.S. private, Doctoral/Research-Extensive universities, comprising 12 schools and colleges with 10,500 students. The University continues to attract the nation's top students and produces more on-campus African-American Ph.D.s than any other university in the world. Since 1998, the University has produced a Rhodes Scholar, A Truman Scholar, six Fulbright Scholars and nine Pickering Fellows.

Howard's notable alumni include: the late U.S. Supreme Court Justice Thurgood Marshall; the first African-American governor L. Douglas Wilder; Nobel Laureate and Pulitzer Prize-winning author Toni Morrison; Emmy Award-winning actress Phylicia Rashad; opera singer Jessye Norman; actress, producer and director Debbie Allen; the first African-American president of the American College of Surgeons, Dr. LaSalle Leffall, Jr.; attorney, civil rights leader and Wall St. executive Vernon Jordan; former mayor and United Nations Ambassador Andrew Young; and the first female mayor of Atlanta, Shirley Franklin. A list of Howard distinguished faculty members through the years reads like a "Who's Who in Black America." Among them: Ralph J. Bunche, Political Science; Charles R. Drew, Medicine; E. Franklin Frazier, Sociology; Alain J. Locke, Philosophy; Carter G. Woodson, History; and Lois Mailou Jones, Art.
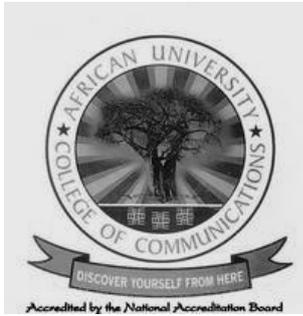
African University College of Communications
Host of the 4ᵗʰ ICAT Opening Reception

The African University College of Communications (AUCC) is an autonomous private institution dedicated mainly to the study of media and communication. AUCC started off as the Africa Institute of Journalism & Communications (AIJC), which was established in 2001 by Hon Kojo Yankah, former editor of Ghana's widest circulation newspaper, the Daily Graphic, one-time director of the Ghana Institute of Journalism, and former Member of Parliament and Minister of State. The diploma-awarding Institute admitted its first batch of 60 students in October 2002 under a collaboration arrangement with the Ghana Institute of Journalism. In 2007, the Africa Institute of Journalism & Communications received approval from the National Accreditation Board to offer a four-year BA degree programme in affiliation with the University of Ghana, Legon and became The African University College of Communications. The institution is currently petitioning the National Accreditation Board to expand its offerings in complementary areas in an effort to Ghana's the growing needs . .

VISION
The vision of the founder is for AUCC to become Africa's best centre for journalism, communication, information technology and business management studies, providing opportunities for advanced learning and professional and practical application for the rapid growth and development of the continent of Africa.

MISSION
The mission of the University is education, research and training in the fields of media and communication. AUCC seeks to do the following:

- be a creative leader and trainer, delivering enriched academic and professional learning experience geared towards bringing media training and communication education in the sub-Saharan region of Africa, responding to the demands of the 21st century.
- produce communication professionals with skills, knowledge and understanding of information and communication technologies (ICTs), to help Africa integrate and gain the benefits of the global information age.
- provide opportunities for Africans to specialize in various branches of journalism and communication and to help raise standards of professionalism in the media communication sector in Africa.
- become a center for research and a repository of research, knowledge and training on the role of communication and development in Africa.

Dean of International Relations
Professor of Visual Communications
African University College of Communications
Jones Link Road-Adabraka
Accra, Ghana--
Phone 0205.249.311
Fax 001.617.213.5413
rjackson@aucc.edu.gh

Kwame Nhrumah University of Science and Technology

Kwame Nhrumah University of Science and Technology (NUST), Kumasi was established by a Government Ordinance on October 6. 1961. It, however, opened officially on 22th January, 1952 with 200 Teacher Trainees transferred from Achimota to form the nucleus of the new College, the Art School.

In October 1942, the School of Engineering and the Development of Commerce were established and the first students were admitted. From 1953-1955, the School of Engineering prepared students for professional qualifications only. In 1956, the School embarked on courses leading to the University of London Bachelor of Engineering External Degree Examinations. The Pharmacy, Agriculture and General Studies Departments were established during the same time period.

The University is situated approximately on a sixteen square kilometers campus of undulating land and pleasant surroundings about seven kilometers away from the city of Kumasi. The campus presents a panorama of beautiful and modern building interspersed with verdant lawns and tropical flora which provide a cool and refreshing atmosphere congenial to academic studies. It has within the short period of its existence become an important centre for the training of scientists and technologists

The University started awarding its degrees in June 1964, not only for Ghana but also for other African countries and other parts of the world. All degree examinations are reviewed by external examiners and moderators to ensure that high academic standards are maintained. The University has six Colleges which are made up of Faculties, Departments and Research Institutes. Each college is headed by a Provost. The Colleges are: Technology Consultancy Center (TCC), Bureau of Integrated Rural Development (BIRD), Centre for Cultural and African Studies, Kumasi Center for Collaborative Research into Tropical Medicine (MCCR), Centre for Biodiversity Utilization and Development (CBUD) and Institute for Science and Technology in Africa (STA).

As the College expanded, it was decided to make the Kumasi College of Technology a purely science and technology institution. In pursuit of this policy, the Teacher Training College with the exception of the Art School was transferred in January, 1958 to the Winneba Training College and in 1959 the Commerce Department was transferred to Achimota to form the nucleus of the present University of Ghana Business School, Legon.

In December, 1960, the Government of Ghana appointed a University Commission to advise it on the future development of University Education in Ghana, in connection with the proposal to transform the University College of Ghana and the Kumasi College of Technology into independent universities of Ghana.

Contact:
Kwame Nkrumah University of Science and Technology
Private Mail Bag, Kumasi, Ghana
Phone: 233-3220-60334 Fax: 233-3220-60334
Email: General Enquiries: info@knust.edu.gh

Northern California Council of Black Professional Engineers

On July 12, 1970, 34 concerned African American engineers and *several from* the Caribbean and Africa living in the Bay Area and Sacramento met at the home of Howard Grant in San Francisco. The purpose of the meeting was to establish camaraderie, and to act as a pressure *group* as needed to enhance the professional opportunities of black engineers. Initially, emphasis was placed on becoming registered Professional Engineers. Later the *number* of disciplines represented in the organization began to diversify, *with* no one discipline having a clear majority, and more scientists joined. Today, the organization addresses the needs of scientists and engineers. Although professional development continues to be emphasized, the need to encourage more African Americans to enter technical fields has become more apparent. Activities are designed to motivate youth and to increase public awareness of the impact of technology on their lives and future. The organization has sponsored high school field trips, provided speakers, and hosted conferences mostly for African American college, local high school and middle school students. In 2000, NCCBPE embarks on its more ambitious endeavor to create a permanent museum focused on African American contributions to technology and to create a place where lay people and youth can enjoy the self discovery of science.

In the late 1970's, NCCBPE took the leadership role in establishing a regional network with the other two African American engineering organizations in Los Angeles, San Diego and Seattle, Washington. This network became the Western Regional Science and Engineering Council (WRSEC). One of the NCCBPE members founded the Arizona Council of Black Engineers and Scientists. Currently, NCCBPE is a member council of the National Council of Black Engineers and Scientists which superseded the WRSEC.

In the 1990's, NCCBPE strived to work with other technical groups to realize their goals to promote technical awareness and youth motivation. Efforts are not restricted to the United States, but are extended to the African Diaspora. The Northern California Council of Black Professional Engineers (NCCBPE) has been involved in youth motivation programs, which are designed to encourage African Americans and other minorities to pursue technical careers and has developed scholarship programs. NCCBPE is one of the founders of the National Council of Black Engineers and Scientists. It has begun to collaborate with other African American Technical Organizations in events like the Unity Banquet. NCCBPE's International Committee has taken a leadership role in developing a working relationship with the African Regional Technology Center in Dakar, Senegal. The main objective of the relationship is to establish technical links between African and African American engineers and scientists to assist in the science led development of Africa. Projects include the introduction of Solar Technology to villagers in Ghana to improve their quality of life, and a pilot educational exchange between other members of the African Diaspora. It has co-sponsored the international conferences on appropriate technology since 2004.

Contact:
Northern California Council of Black Professional Engineers
P.O, Box 1686, Oakland, CA 94604 510 893-6426
www.ncalifblackengineers.org

Natonal Technical Association, Inc.

On November 12, 1925, Samuel R. Cheevers, F. C. Downs, Charles S. Duke, I. Gough, Howard D. Shaw, Dr. A. D. Watson, and A. T. Weathers met at the Wabash Avenue YMCA in Chicago to discuss formation of an organization for minorities in engineering and technology. It is the oldest minority technical organization in the world and considered to be the .minority technical voice. One of its main goals is to facilitate the formation of an organization for minorities in engineering and technology. It is the oldest minority technical organization in the world e development of black technical talent and achievement.

The National Technical Association (NTA) was founded by Charles S. Duke, who became the first African American to receive an engineering degree from Harvard University. NTA was incorporated in the state of Illinois in 1926. In the 1930s, Charles S. Duke, James A. Parsons, Cornelius L. Henderson, Lewis K. Downing and Paul E. Johnson provided outstanding leadership as presidents.

President Downing was the first engineering dean at Howard University and along with other NTA members played a major role in saving that institution's department of architecture. Most of the science and engineering building on the campus were designed by NTA members.

From the first decade until today, NTA leadership along with its members have had a remarkable history of achievement in the areas of education, research, engineering, science and technology in the U.S. and aboard.

Members of the organization fought for decent housing for African Americans in the 1940's. The membership included some of the most outstanding African American scientists and engineers in the United States. The Editor of the NTA Journal is the co-inventor of the ultra-violet that went to the moon in NASA Apollo Program. Senior Managers of major corporations and government agency, educators, inventors and entrepreneurs are members of NTA.

NTA is a national organization with chapters organized throughout community based education programs. Chapters have been established in the Caribbean and in South Africa. One of its current goals is establish more chapters throughout the African Diaspora.

Contact:
National Technical Association
2705 Bladensburg Rd., NE
Washington, DC 20018
202 575-4NTA or 202 575-4682   www.ntaonline.org

COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH

The Council for Scientific and Industrial Research (CSIR) was established in its present form by NLC Decree 293 of October 10, 1968 and re-established by CSIR Act 1996 (Act 521) on November 26, 1996. However, the Council traces its ancestry to the erstwhile National Research Council NRC) which was established by Government in August 1958 to organize and co-ordinate scientific research in Ghana.

In 1963, the NRC was merged with the former Ghana Academy of Sciences, a statutory learned society. Following a review in 1966, the Academy was reconstituted into, essentially, its original component bodies, a national research organization redesignated the CSIR and a learned society, the Ghana Academy of Arts and Sciences. It is under the Ghanaian Ministry of Environment, Science &Technology and includes 13 Research Institutes in agriculture, fishery, forestry, industry, environment and health; 600 research scientists and total staff strength of 3000.

CSIR coordinates the scientific R&D of thirteen agricultural research institutes to generate and apply innovative technologies for agriculture, industry, health and the environment. Its work generates and applies technologies which exploit science and technology for socio-economic development. Services are provided to Ghanaian universities; government agencies such as the geological survey, highway and port authorities; industries such as milk, brewing, mills; and neighboring institutes such as the Federal Institute of Industrial Research in Nigeria.

The Water Research Institute has a mandate to conduct research into water and related resources. In pursuance of this mandate, WRI generates and provides scientific information, strategies and services towards the rational development, utilisation and management of the water resources of Ghana in support of the socio–economic advancement of the country, especially in the agriculture,   health, industry, energy, transportation, education and tourism sectors. Staff expertise includes Engineers (Civil, Soil & Water, Irrigation & Drainage, Geological, Water & Waste Water, Agricultural, and Chemical), Hydrologists, Chemists, Environmental and Aquatic Scientists (Limnochemistry, Hydrobiology, Entomology, Parasitology and Fisheries).

CSIR publishes the Ghana Journal of Science jointly with the Ghana Science Association.

Contact:
CSIR, P.O. Box M 32,
Accra, Ghana
Telex: SCIENCES
Telephone: 233-21-777651-4
Fax:233-21-77655
E-mail: csir@ghana.com

International Planning Committee
J. Trimble, USA, Chair

A. Bart-Plange, Ghana
H. Carwell, USA
P. Chatikobo, Rwanda
V. Dzidzineyo, USA
J. Fortunak, USA
J. Gwamuri, Zimbabwe
G. Kadoda, Sudan
K. Madzima, Swaziland
C. Mubaiwa, Botswana
K. Ngige, Kenya
T. Shurn, USA
A. Tejansie, Libéria
C. Verharen, USA
M. Zami, RSA

P. Boakye, Ghana
M. Castro, Puerto Rico
T. Dalgety, Guyana
C. M. Fadel, Senegal
E. Glakpe, USA
S. Ismail, India
M. K-Schutz, Namibia
E. Marks, Guyana
A. B. Nyoni, Zimbabwe
G Obeng, Ghana
V. Sivasubramanian, India
J. Tharakan, USA
K. Yankah, Ghana

Local Organizing Committee
P. Boakye, Ghana Chair

P. Boakye, CSIR
R. Jackson, AUCC
O. Ansa-Asare, CSIR
F. Amu -Mensah, CSIR
J. Ampofo, CSIR

E. Glakpe, Howard University
G. Obeng, KNUST
D. Amrago, KNUST
M. Adjaloo, KNUST
M. Commeh, KNUST

Scientific Review Committee
J. Tharakan, USA, Chair

M. Castro, Puerto Rico
S. Dube, RSA
J. Gwamuri, Zimbabwe
G. Jenkins, USA
P. Keiller, USA
K. Madzima, Swaziland
B. Muchabayiwa, Zimbabwe
K. Ngige, Kenya
V. Sivasubramanian, India
J. Thomas, India
C. Verharen, USA

P. Bofah, USA
J. Fortunak, USA
S. Ismail, India
G. Kadoda, Sudan
M. K-Schutz, Namibia
C. Mubaiwa, Botswana
A.B. Nyoni, Zimbabwe
T. Shurn, USA
M. Smith, Trinidad and Tobago
J. Trimble, USA