NJIT Seventh International Undergraduate Summer Research Symposium

July 31, 2014

NJIT®
New Jersey's Science & Technology University

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New Jersey's Science & Technology University

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Ronald E. McNair
Postbaccalaureate Achievement Program

July 31, 2014

Welcome to New Jersey Institute of Technology's Seventh International Undergraduate Summer Research Symposium. It is indeed an honor and a pleasure to be the Chair of the 2014 International Undergraduate Summer Research Symposium and join with Program Director Dr. Durgamadhab Misra as well as other individuals that contribute to the success of the event.

The 2014 Research Symposium is the Seventh such event showcasing the research efforts of undergraduate students from the NJIT Ronald E. McNair Program, students from HIT and BRCM Colleges of Engineering and Technology, Bahal, Haryana, India as well as students from eight other programs. One hundred one participants from the ten (10) programs will present posters describing their research accomplishments under the guidance of NJIT Faculty. This research symposium is the largest such event ever held at NJIT. We are extremely proud of the research efforts of all these students, the quality of the research presentations and the strong support of the NJIT faculty and staff in contributing to the success of today's event.

Angelo J. Perna, PhD
Symposium Chair and
McNair Program Director

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It is an honor and a pleasure that undergraduate engineering students from Heritage Institute of Technology (HIT), Kolkata, India are participating at the Seventh International Summer Research Symposium of New Jersey Institute of Technology along with students from several other summer research programs including NJIT's Ronald E. McNair Program. This gives the HIT students an opportunity to present their research accomplishments that they have completed under the supervision of NJIT faculty.

The Summer Research Symposium became International Summer Research Symposium seven years ago when the HIT students participated in the annual summer research symposium for the first time.

HIT and NJIT have established an inter-institutional cooperation since 2008 where every summer several talented undergraduate students from HIT and BRCM College of Engineering and Technology, Bahal, Haryana, India attend NJIT and conduct research with NJIT faculty members for a six-week summer research program. The purpose of this exchange program is to promote international understanding, scholarly collaboration, cultural interaction and friendship by supporting educational, professional and cultural activities among faculty and students of the two institutions.

The outstanding achievement of the students would not have been possible without the time and effort of NJIT faculty mentors. Staff members of several administrative offices including Office of International Students, Budget Office, Physical Plant, McNair Program and ECE Department contributed significantly to the success of the HIT-NJIT Summer Research Program.

We are proud of the research efforts of all the students and wish them all the best for their presentation at the Seventh International Summer Research Symposium of 2014.

Sincerely,

Durgamadhab Misra, PhD
Symposium Co-Chair and HIT-NJIT Program Director
Professor and Associate Chair for Graduate Programs
Department of Electrical and Computer Engineering

Ronald E. McNair Postbaccalaureate Achievement Program

Row I : L to R (Kneeling) : Joshua Ortega, Nazmul Hossain
Row II : L to R (Standing): Ms. Zara Williams (Assistant Director) , Michael De La Cruz, Alex Nyamweya, Noor Aly, Jaelynne King, Pierre Mbe Fokam, Dr. Angelo J. Perna (Director)
Row II : L to R (Sitting on top): Anthony Quarato, Erole Alexandre, Jose Chacon

Erole Alexandre (NJIT) – Computer Engineering
Research: High-K Dielectric Material (HfALO) - Si Interface Quality Studied by Mos-Capacitance Conductance Techniques
Advisor: Dr. Durgamadhab Misra

Noor Aly (NJIT) – Chemical Engineering
Research: Heterogeneous Impact Initiation of Tungsten-based Reactive Materials
Advisor: Dr. Edward L. Dreizin

Jose Chacon (NJIT) – Chemical Engineering
Research: Effects of Turbulence on Burn Rate of Reactive Material Particles
Advisor: Dr. Edward L. Dreizin

Michael De La Cruz (NJIT) – Business & Information Systems
Research: Collaborative Learning through Assessment: Literature Review on Motivation and Assignment Editor
Advisor: Dr. Michael Bieber

Pierre Mbe Fokam (NJIT) – Computer Engineering/Minor Computer Science
Research: Indoor System Involving Wi-FI and Visible Light
Advisor: Dr. Abdallah Khreishah

Nazmul Hossain (NJIT) – Chemical Engineering
Research: Spark Ignition of Nanocomposite Thermite Powders
Advisor: Dr. Edward L. Dreizin

Jaelynne King (NJIT) – Chemical Engineering
Research: Conversion of Carbon Dioxide to Useful Liquid Chemicals Using A Novel Organic Based Catalytic System
Advisor: Dr. Xianqin Wang

Alex Nyamweya (NJIT) – Electrical Engineering/Minor Applied Mathematics
Research: Developing Interpersonal Skills and Facilitating Integration of a New Learning Method
Advisor: Dr. Michael Bieber

Joshua Ortega (NJIT) – Information Technology
Research: Collaborative Learning Through Assessment (CLASS) Facilitating of a Flexible Framework and Literature Review

Anthony Quarato (NJIT) – Chemical Engineering
Research: Impact of Polymer Molecular Weight on the Physical Stability of Milled Drug Suspensions
Advisor: Dr. Ecevit A. Bilgili

Heritage Institute of Technology – NJIT Summer Research Program

Row I : L to R : Saba Bano, Aruja Rustagi, Sourav Dutta, Vikas Mital, Swapnadeep Poddar, Sunil Kadian, Sunadan Dhar, Saptadwipa Ganguly, Poulami Chakraborty, Polley Bhunia.

Row II : L to R (Kneeling): Surajit Laik, Samrat Saha, Gaurab Kar

L to R (Standing): Durgamadhab Misra (Program Director, NJIT), Mitul Khanchandani, Indrasis Banerjee, Clayton M Moses (Academic Adviser, HIT).

Saba Bano (HIT) – Biomedical Engineering
Research: Fabrication of gelatin/glycosaminoglycans (GAG) scaffolds using electrospining technique in tissue
Advisor: Dr. Treena Livingston Arinzeh

Indrasis Banerjee (HIT) – Electrical and Computer Engineering
Research: A Hybrid System: Coexistence of Visible Light Communication (VLC) and Wi-Fi
Advisor: Dr. Abdallah Khreishah

Polley Bhunia (HIT) – Electrical and Computer Engineering
Research: Statistical Modeling of the Received Power in Wireless Networks
Advisor: Dr. Ali Abdi

Poulami Chakraborty (HIT) – Electrical and Computer engineering
Research: Image Statistical Analysis & its application to Information Forensics
Advisor: Dr. Yun Shi

Sunandan Dhar (HIT) – Chemistry and Environmental Science
Research: Engineering CotA Laccase for Acidic pH Stability using *Bacillus subtilis* Spore Display
Advisor: Dr. Edgardo T. Farinas

Sourav Dutta (HIT) – Electrical and Computer Engineering
Research: Characterization of Deep Level Defects in a Thin Film Solar Cell
Advisor: Dr. Durga madhab Misra

Saptadwipa Ganguly (HIT) – Biomedical Engineering
Research: Functional MRI: A Tool For Evaluating Psychiatric Disorders
Advisor: Dr. Bharat Biswal

Sunil Kumar (BRCM CET) – Physics
Research: Analyzing and Finding Solar Radio Burst Events Using IDL
Advisor: Dr. Dale Gary

Gaurab Kar (HIT) – Mechanical and Industrial Engineering
Research: Analysis of Repeatability of an Industrial Robotic Arm
Advisor: Dr. Sanchoy Das

Mitul Khanchandani (HIT) – Mechanical and Industrial Engineering
Research: Analysis of Repeatability of an Industrial Robotic Arm
Advisor: Dr. Sanchoy Das

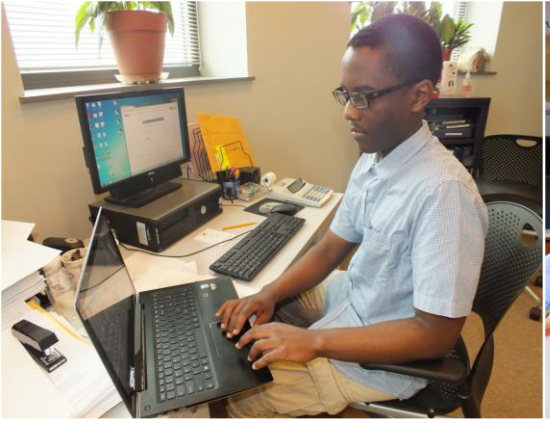
Surajit Laik (HIT) – Electrical and Computer Engineering
Research: Statistical Modeling of the Received Power in Wireless Networks
Advisor: Dr. Ali Abdi

Vikas Mittal (BRCM CET) –Biomedical Engineering
Research: Design and Fabrication of Variable pressure sensing microfluidic valve
Advisor: Dr. Dentcho Ivanov

Swapnadeep Poddar (HIT) – Electrical and Computer Engineering
Research: Understanding Defects in TiN/HfZrO/SiON/Si Gate Stacks
Advisor: Dr. Durgamadhab Misra

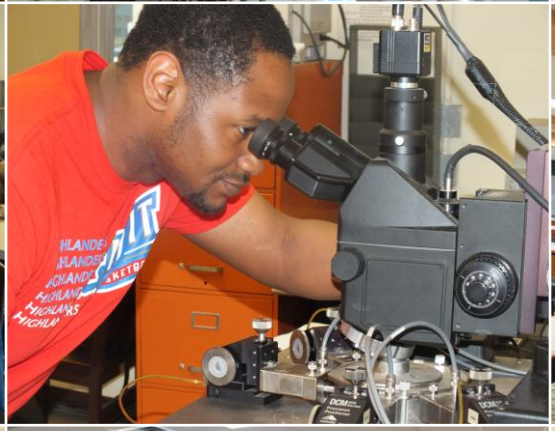
Aruja Rustagi (HIT) – Biomedical Engineering
Research: Fabrication and evaluation of PVDF-TrFE/PEO scaffolds for drug delivery
Advisor: Dr. Treena Livingston Arinzeh

Smarat Saha (HIT) - Electrical and Computer Engineering
Research: A Hybrid System: Coexistence of Visible Light Communication (VLC) and Wi-Fi
Advisor: Dr. Abdallah Khreishah









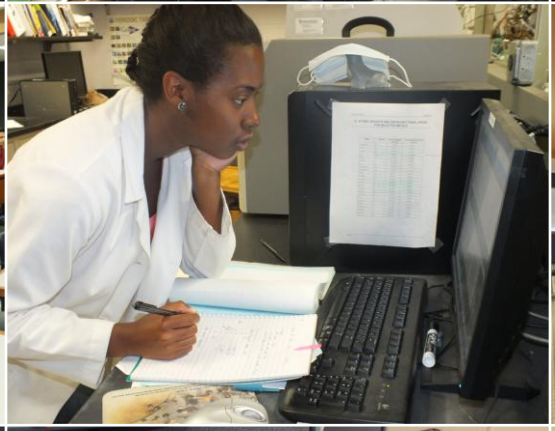




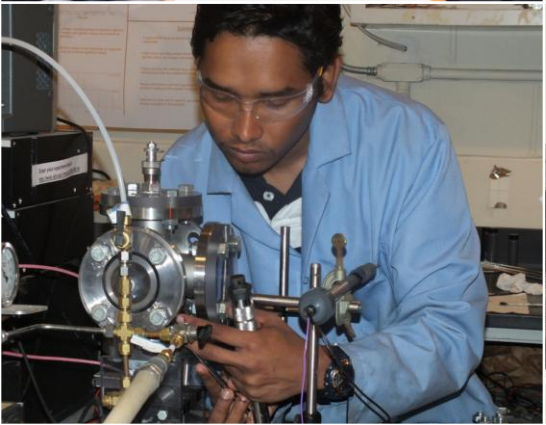


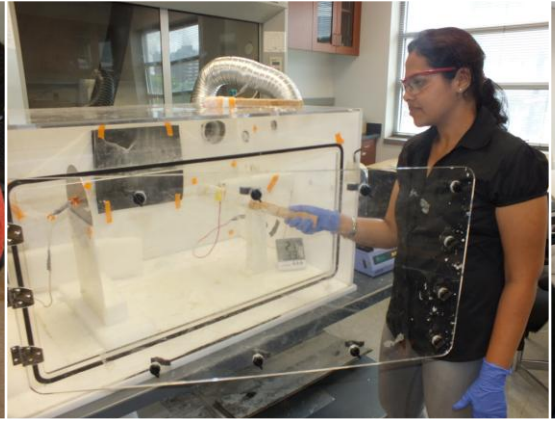


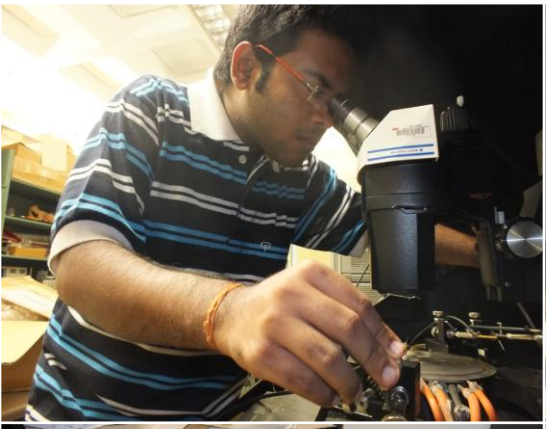
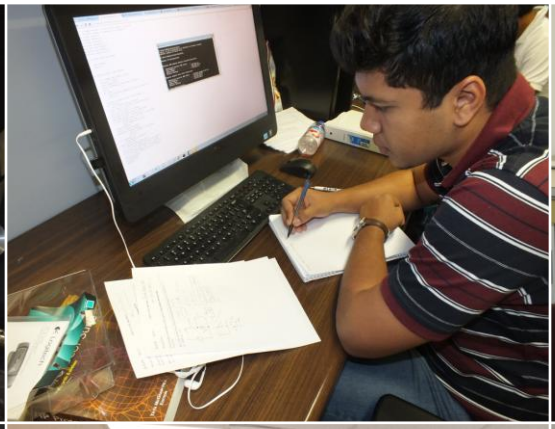


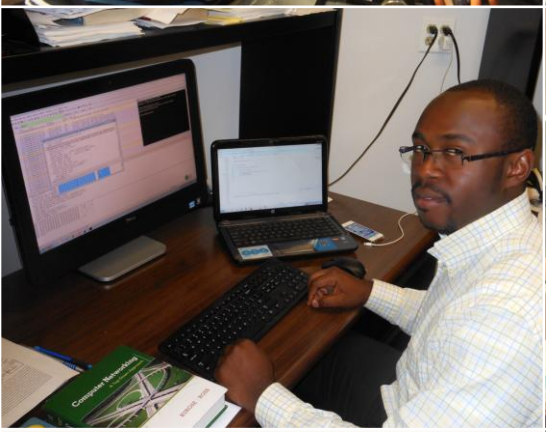
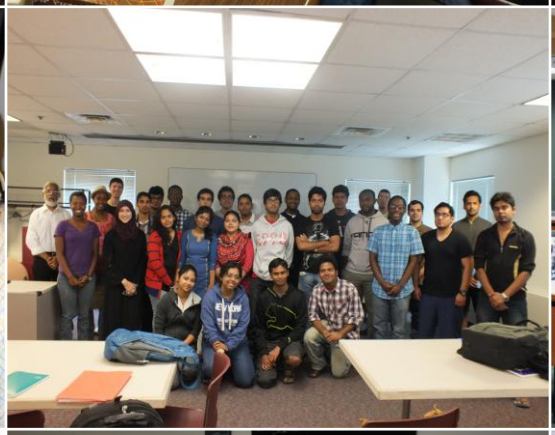


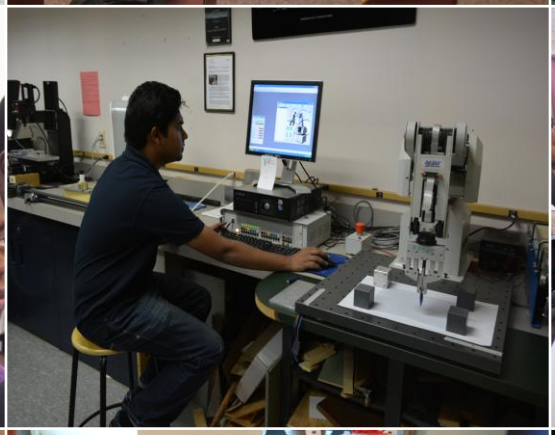


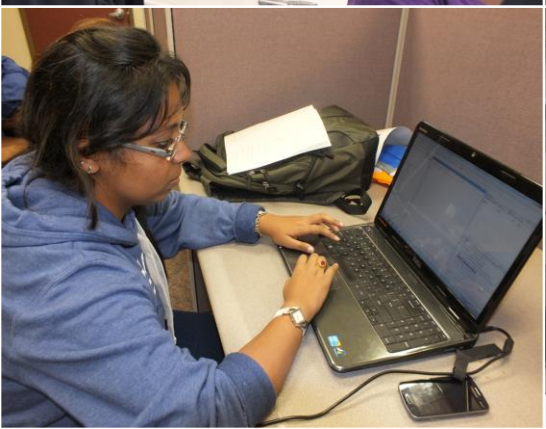
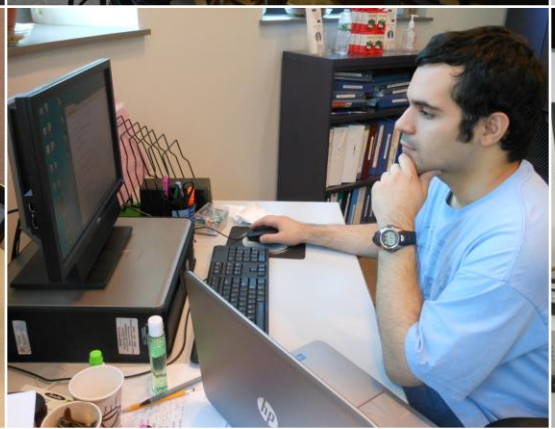

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