

**3** GOOD HEALTH  
AND WELL-BEING



SCORE BOARD  
vs  
1 36

SCHOOL OF SOCIAL  
& HUMANITIES

# Good Health and Well-being

73

Research Projects

790

Publications

48

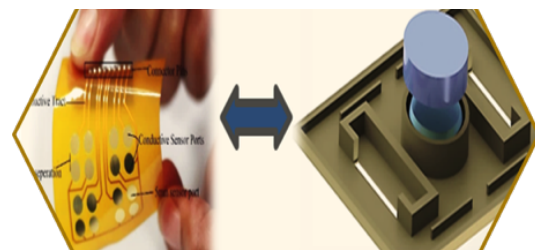
Patents

02

Patents Licensed  
to Industry

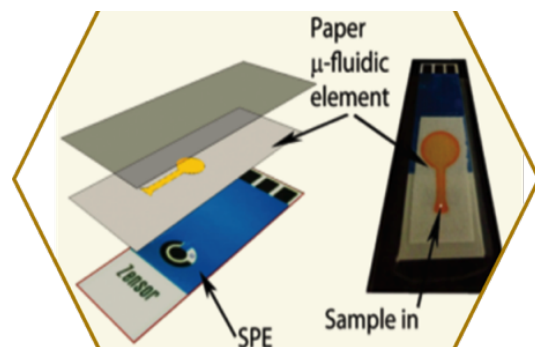
**Smart Wound Management Device:** A real-time wound health monitoring device coupled with tailorable drug delivery treatment options. It consists of two parts, A PH sensor array and a tuneable drug delivery device.

**Impact:** Smart management of diabetic / chronic wounds obviates hospital interventions.



**SpotTB:** A hand handled robust electrochemical biosensor to specifically and distinguishably identify Tuberculosis (TB), Multi-Drug Resistant (MDR)-TB and Extensively Drug-Resistant (XDR)-TB with Drug susceptibility testing (DST) module. This is an advanced portable alternate solution to existing GeneXpert sensing with improved testing time, specificity to TB type and DST in order to screen the population for early TB diagnosis in resource scarce remote areas.

**Impact:** Reduction in cost and screening  
**Industry:** Pharmatec Pakistan Pvt. Ltd



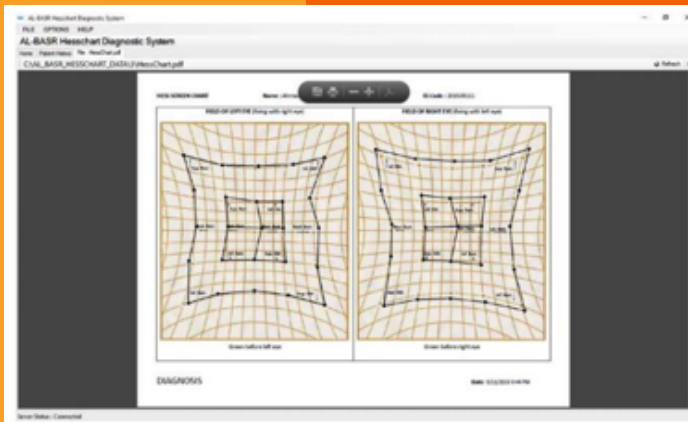
## Blood Donation Drives

Pakistan's annual blood transfusion requirement is approximately 1.5 million bags, with 40% of the demand being met by the public sector. NUST Community Services Club (NCSC), in collaboration with registered blood banks and hospitals, holds 4-day blood donation drives at campus every semester. The blood collected is used for the treatment of cancer and thalassemia patients. A percentage of this stock is made available for NUST employees, students, and their blood relatives in the time of need.



## Hess Screening System

Hess screening system is used to test eye squint and to identify eye muscles, which are responsible for squint. Traditional screening systems include a Hess screen and manually marking of points on Hess graph by the doctors which take 25-30 min. NUST has revolutionized the concept of Hess screening by introducing a dual-mode computer-supported system. While operating in the new computer-supported mode, the screen is controlled from computer software which enables producing the Hess graph in a single click. The operational time has been reduced from 25-30 min to 8-10 min only.



## Free Eye Sight Testing Camps

According to statistics by Layton Rahmatulla Benevolent Trust (LRBT), Pakistan has 20 million people suffering from blindness or impaired vision. A free-of-cost eye examination camp is organized twice a year at NUST for all students, faculty, and staff of NUST to detect potentially treatable blinding eye diseases, ocular manifestations of systemic disease, or signs of tumors or other anomalies of the brain.

Similar free eye camps were held by NUST Community Service Club in collaboration with Al-Shifa Eye Hospital in villages near Chakwal where people were tested for weak eye-sight and the patients were provided with free-of-cost spectacles and medicines.



## Mental Health and Counselling

Depression and mental health issues are constantly at a rise, especially among youth, becoming one of the major areas of concern alongside physical well-being. To address such issues, NUST is working to help individuals with such problems by offering extensive psychological help. The Center for Counselling and Career Advisory (C3A) at NUST is committed to addressing NUST students' psychological and emotional concerns and helping them achieve their intellectual, academic, and personal goals. C3A provides short-term individualized therapy, group therapy, crisis support, and psychiatric services.

The center organizes week-long camps every semester to promote awareness about mental health and encourage students to seek therapy.



## Breast Cancer Awareness

There are about 1.38 million new cases and 458 000 deaths from breast cancer each year (IARC Globocan, 2008). Breast cancer is by far the most common cancer in women worldwide, both in developed and developing countries. In low- and middle-income countries the incidence has been rising up steadily in the last years due to an increase in life expectancy, increase urbanization and adoption of modern lifestyles. Pink Day, a breast cancer awareness event, was held at NUST in an effort to raise awareness and reduce the stigma of breast cancer through education on symptoms and treatment. Such awareness campaigns lead to earlier detection of breast cancer and higher long-term survival rates.





## Free Dental Camp

NUST is committed to making oral healthcare affordable and accessible for impoverished communities. NUST Community Service Club organizes dental camp at Aaghosh Orphanage, providing free-of-cost dental health services to children under care. The children are examined by health professionals for primary checkups, extractions, fillings, dentures, scaling, and oral hygiene.

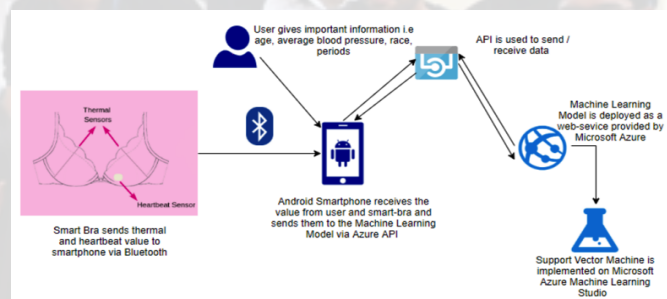
The purpose is to spread smiles and to entertain children with a set of engaging activities, such as huddling them together for games, group paintings, and puppet shows.

## Training workshop on Cognitive Behavior Therapy (CBT)

NUST highly values the importance of emotional stability and psychological wellbeing of its employees. Centre for Career Counselling and Advisory (C3A) arranged a five-day training workshop on Cognitive Behavior Therapy (CBT) led by certified psychotherapists. CBT is a psycho-social intervention that aims to improve mental health by focusing on challenging cognitive distortions and behaviors, improving emotional regulation, and development of personal coping strategies that target problem-solving.

## Menerva – Early Detection of Breast Cancer

Early detection of breast cancer greatly increases the chance of survival. Therefore, there was a need for smart equipment that automatically informs the user of the risk of developing breast cancer. Menerva is a smart brassiere, equipped with several sensors which send various important readings from the breast region to the smartphone via BlueTooth. The smartphone then takes some values from the user manually and calculates the risk of having breast cancer based on those reading using machine learning algorithms, thus enabling early detection of breast cancer.



## Awareness Session on Drugs and Narcotics

Centre for Counseling and Career Advisory (C3A) in collaboration with Antinarcotics Force (ANF) arranges awareness sessions on the use of drugs and its consequences, warning students of potential damage to their physical and mental health due to substance abuse. The students were advised to avoid recreational drugs and seek counseling in case of addiction.

**NUST has adopted a strict policy against use of drugs and narcotics on campus.**

