



**RV College of
Engineering®**

CENTRE OF EXCELLENCE CENTRE FOR HEALTH CARE TECHNOLOGY RESEARCH (CHTR)

The Centre for Health Care Technology Research (CHTR) is dedicated to advancing healthcare by evaluating, developing, and implementing innovative technologies to address pressing medical challenges. As healthcare systems increasingly rely on technology for accurate diagnosis, treatment, and patient management, CHTR plays a pivotal role in bridging the gap between technological innovation and clinical application. CHTR has collaborations with hospitals and bio medical industry creating a platform for product development, clinical validation, Bio-signals acquisition.

ACHIEVEMENTS

Amount generated by R&D 30 Lakhs		Products Developed 4	No of Patent Granted 3	
Papers Published -10	Technical Talks 3	Industrial Collaboration - 1	Academic Projects 15	

FACILITIES

The Centre for Healthcare Technologies Research (CHTR) offers a variety of specialized facilities for medical diagnostics, research, and student training. Key equipment includes:

1. **ASPEN THREE CHANNEL ELECTROCARDIOGRAM:** A 12-lead diagnostic ECG machine for recording and storing heart data.
2. **BIOPAC STUDENT LAB (MP45) WITH LICENSED SOFTWARE:** Enables acquisition and analysis of bio signals, including ECG, PPG, EEG, EMG, ENMG, and EOG, for both diagnostic and training applications.
3. **LITTMANN ELECTRONIC STETHOSCOPE (MODEL 3200) WITH STETH ASSIST SOFTWARE:** Used to record heart sounds and for educational purposes.
4. **DIAMOND MERCURIAL BLOOD PRESSURE APPARATUS:** Monitors blood pressure accurately.
5. **GE DASH 4000 MONITOR:** Continuously tracks vital signs such as oxygen saturation and pulse rate.
6. **CLARITY 2-CHANNEL ELECTROMYOGRAPHY MACHINE:** Measures and analyzes muscle fibre electric potentials.
7. **DERMA INDIA UVB PHOTOTHERAPY SET:** Used for treating dermatological disorders. These facilities enable comprehensive research, training, and clinical diagnostics in various health technology applications.



FUNDED PROJECTS

Sl. No	Funding Agency	Title of Project	Amt (In Lakhs)
1	DSIR	Development of Osteoporosis Device Application	18.05
2	IEE transactions	Awareness Creation and Detection of Vector Borne Disease - Dengue for Public Health	04
3	DST-NIDHI PRAYAS	A HRV device for detecting ANS Dysfunction	07
4	BPR&D	Stress and Associated Diseases among Bangalore City Police Personnel	4.95

PRODUCTS DEVELOPED

Sl No	Product	Description
1	PPG based Fingertip BP measuring device 	Patent Number: 480210, Date of grant: 11/12/2023 Features: Continuous BP monitoring, Holter substitute, User-friendly
2	Human fall detecting device – triaxial accelerometer based 	Patent Number: 432493, Date of grant: 22/05/2023 Features: • Use of biocompatible PDMS substrate • accurate tilt angle measurement, • Sends SMS to the concerned
3	Osteoporosis estimation device 	Project sponsored by DST – DSIR (Rs 18.5 L) Features: • Osteoporosis estimation based on change in frequency of waves through bones • Hand held device for orthopaedic surgeons and physicians • Cost effective device
4	HRV estimation to detect ANS functioning 	Project sponsored by DST– Nidhi Prayas (Rs 7.0 L) Features: • Variations in R-R interval estimates ANS functioning • Time & frequency domains • LF / HF ratio

PATENTS GRANTED

Sl. No	Invention Title	Granting Authority	Patent No	Application no	Date of Filing	Date of Grant
1	System & Device for Detecting Human Fall	Indian patent office	432493	201641026462	03/08/2016	11/12/2023
2	Method and Apparatus for Continuous Measurement of Blood Pressure	Indian patent office	480210	201741002255	27/07/2018	22-05-2023
3	Automatic Medication Dispensation and Alerting Unit	Indian patent office	404533	NA	NA	09-05-2022

CURRENT RESEARCH THEMES

1. Digital Health and AI Integration
2. Translational Research in Health Technology
3. Medical Innovation and Commercialization
4. Healthcare Systems Optimization

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