

## **BLG111E-Introduction to Computer Engineering**

### **Paper Evaluation**

Title of the paper: Body Area Sensor Networks: Requirements, Operations, And Challenges

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### **Brief summary of the paper**

Body Area Networks (BANs) are a health-care system that collects and analyze data continuously and send those data to physicians to solve medical problems. BANs can complete human-machine interaction. BANs aims to send an alert to caretaker in case of an emergency situation and also can be used in the protection of people whom exposed to the dangerous and extreme environments. Body Area Sensor Network (BASN) involves mobile communication, networking and computing. BASN helps in sending and processing information in medical applications. Many different kind of sensors connect with each other and a data hub also join to a medical network with radio frequency technologies. Data hub stores, sends and manages data. Medical network receives all the info and shares data with physicians. This network can trigger emergency systems and emergency personnel in case of danger. But, the network has to protect all the data and has to deal with more than one user. Different information needs different process of course. Human body has a capacity to act as a carrier for radio frequencies, which is the source of efforts in making human body into an efficient antenna. BASN modules have to use less energy possible so that batteries [https://www.change.org/p/istanbul-teknik-%C3%BCniversitesi-rekt%C3%B6rl%C3%BC%C4%9F%C3%BC-it%C3%BC-kamp%C3%BCslerinde-lang%C4%B1rtlar-kald%C4%B1r%C4%B1lmas%C4%B1n?recruiter=91697438&utm\\_source=share\\_petition&utm\\_medium=email&utm\\_campaign=share\\_email\\_responsive](https://www.change.org/p/istanbul-teknik-%C3%BCniversitesi-rekt%C3%B6rl%C3%BC%C4%9F%C3%BC-it%C3%BC-kamp%C3%BCslerinde-lang%C4%B1rtlar-kald%C4%B1r%C4%B1lmas%C4%B1n?recruiter=91697438&utm_source=share_petition&utm_medium=email&utm_campaign=share_email_responsive) could last for years. Body's own energy can be used for energy production. Also using body as an antenna could save a lot of power too. There is some problems to solve like high energy usage, lack of security, interference, latency of message, and not being able to adapt to different network configurations. Improving deep brain simulation, heart regulation, drug delivery, and prosthetic actuation is also some of fields being developed.

### **Comments related to the paper**

Body area networks can save a lot life and improve life expectancy. But I believe that solving energy problem is not that easy. This problem will cause to latency of publication of the BAN devices especially in-body ones. A healthy person will not use BAN because of that and also it's not correct to put some device inside a healthy person's body because of medical, ethical and personal reasons. Therefore every sensor must be usable on-body which requires a lot of development. Unhealthy people probably accept using in-body sensors and it can be very helpful for medical doctors. But still nobody wants to have an open surgery for replacing batteries.

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