# PSYCHO EMOTIONAL LOADING DETERMINATION SYSTEM FOR OPERATORS

**LOMIDZE AVTANDIL** 

**ELECTRICAL AND COMPUTER ENGINEERING** 

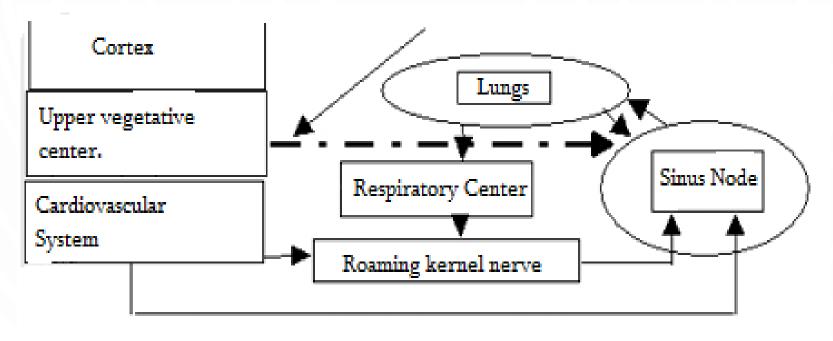
2<sup>ND</sup> YEAR STUDENT



## WHAT IS STRESS INDEX? WHY STRESS INDEX IS IMPORTANT?

N	INDEX	Adaptation state	Health characterizing
1	1.50-2.59	Satisfying	Healthy
2	2.6-3.09	Tensed	Low quality health
3	3.1-3.59	Unsatisfying	Needs additional medical examination
4	3.6 or more	Failed adaptation ability	Needs medical treatment

## DIAGRAM OF TWO LOOP MODEL OF HEART RATE REGULATION

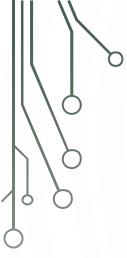


Central Line

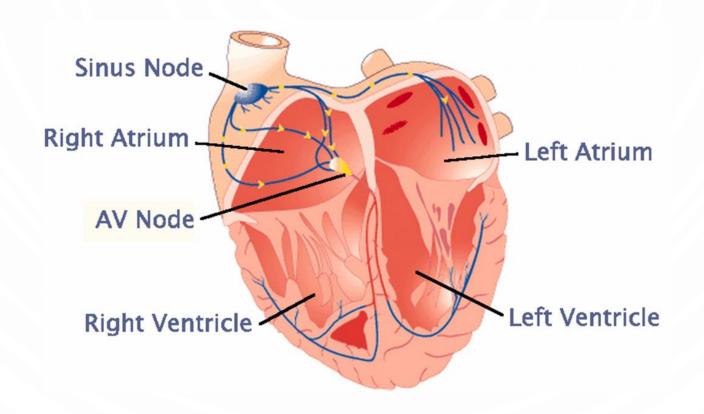
Autonomy Line

Nervous canal of regulation

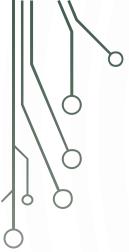




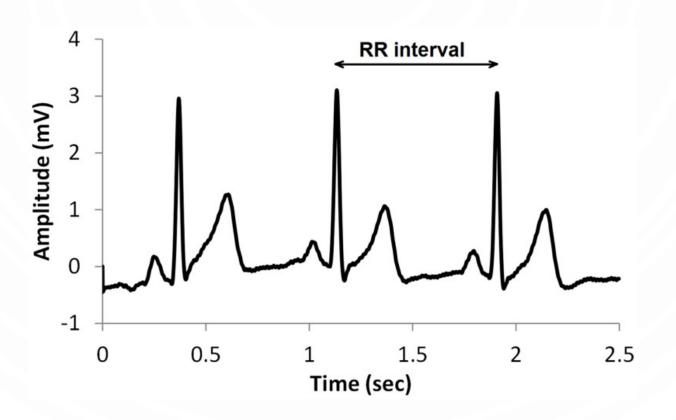
#### WHAT IS THE FUNCTION OF SINUS NODE?







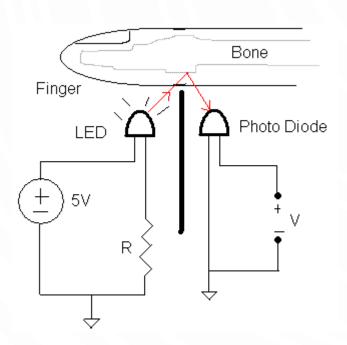
### **R-R INTERVAL**

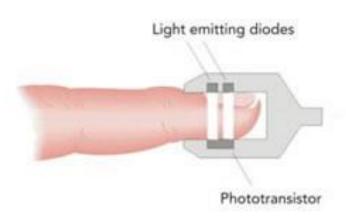




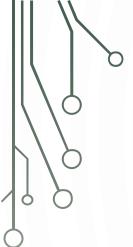


#### **HOW TO GET PULSOGRAPH?**

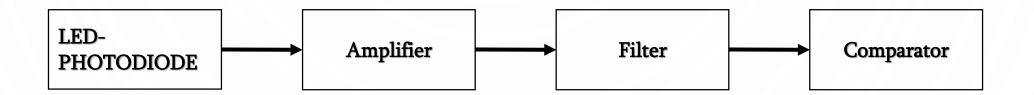








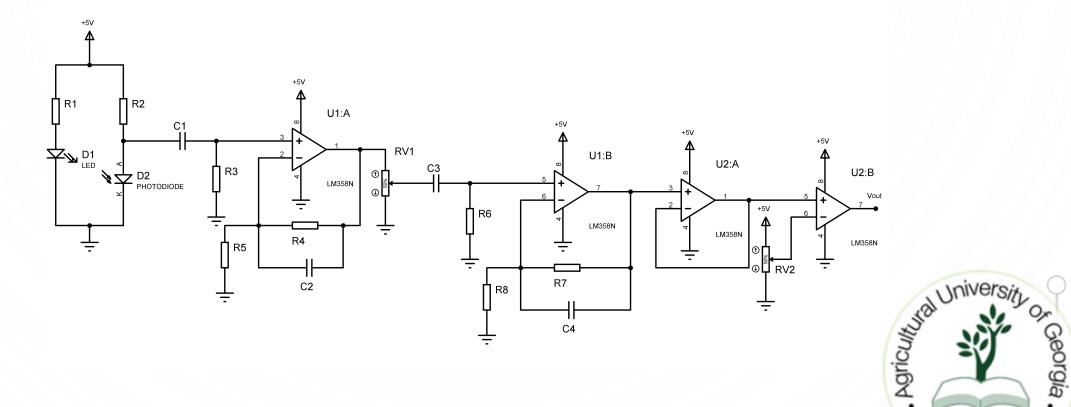
#### **BLOCK DIAGRAM OF PULSE SENSOR CIRCUIT**



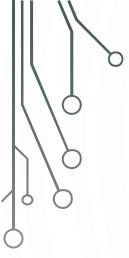




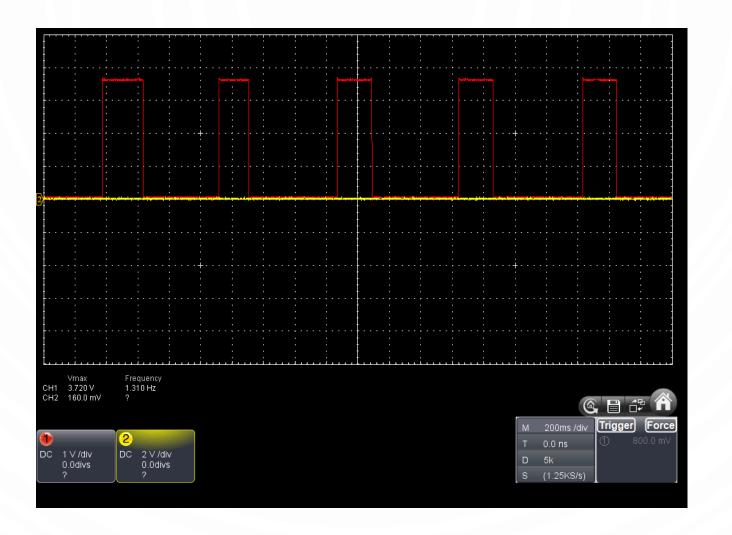
#### **CIRCUIT OF PULSE SENSOR**



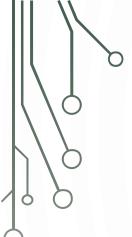
Scientia . Labor . Libertas



#### **PULSE SENSOR OUTPUT**



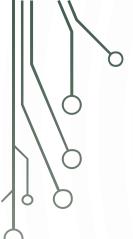




#### **FUTURE PLANS**

- Pass signal from detector to microcontroller or computer
- Measure stress INDEX
- Measure adaptation ability
- Indicate pulse graph and information

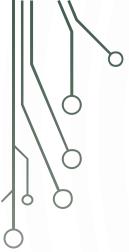




#### **BIBLIOGRAPHY**

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### THANK YOU FOR YOUR ATTENTION!

