



САМАРСКИЙ УНИВЕРСИТЕТ  
SAMARA UNIVERSITY

# How the light influences productivity of melatonin

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# Presentation outline:

- I. Introduction:**
  - History of research
- II. The meaning of melatonin:**
  - What does it mean?
  - Chemistry description
- III. Purposes of my research**
- IV. The main part:**
  - Circadian system
  - Light exposure
  - Melatonin's levels
- V. Methods**
- VI. Results**
- VII. Conclusion**

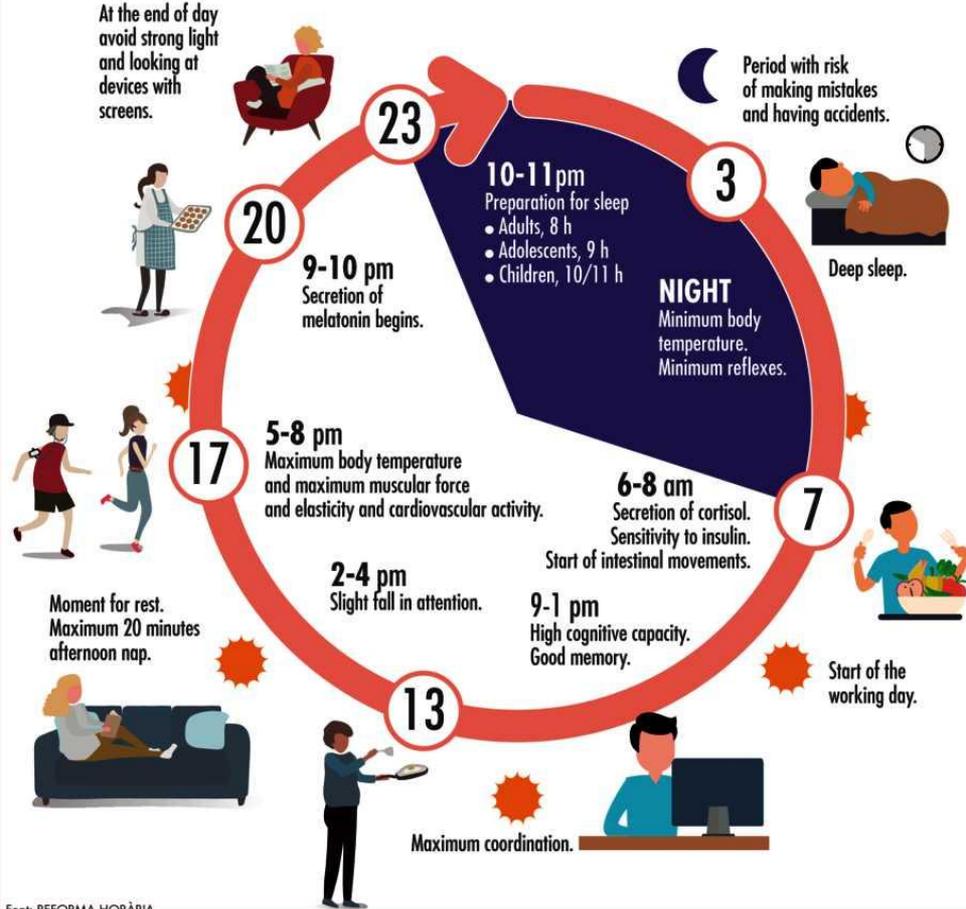


# The purposes of this research:

- To learn more about producing of melatonin
- To reveal how the biological cycles work
- To get new information about this topic
- To discover new methods



# The circadian rhythm

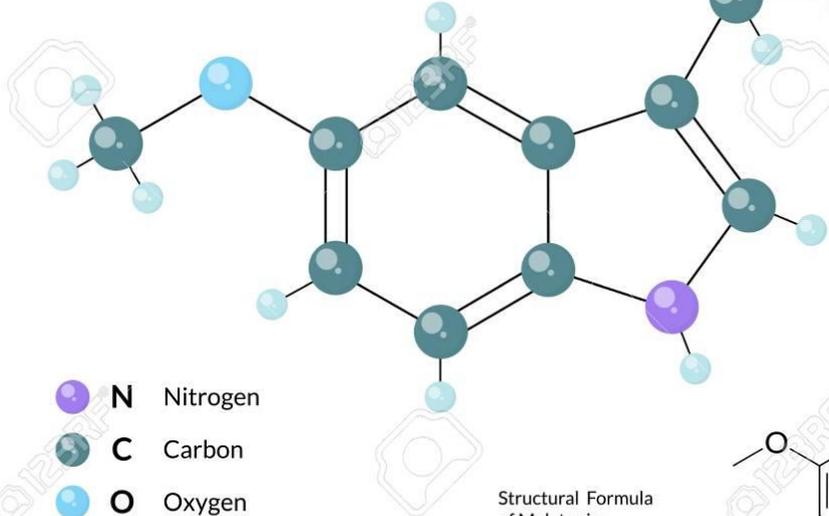
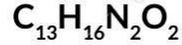


# Melatonin

## Pineal Gland Hormone

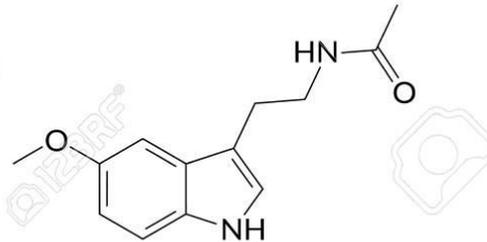
VECTOR OBJECTS  
EPS 10

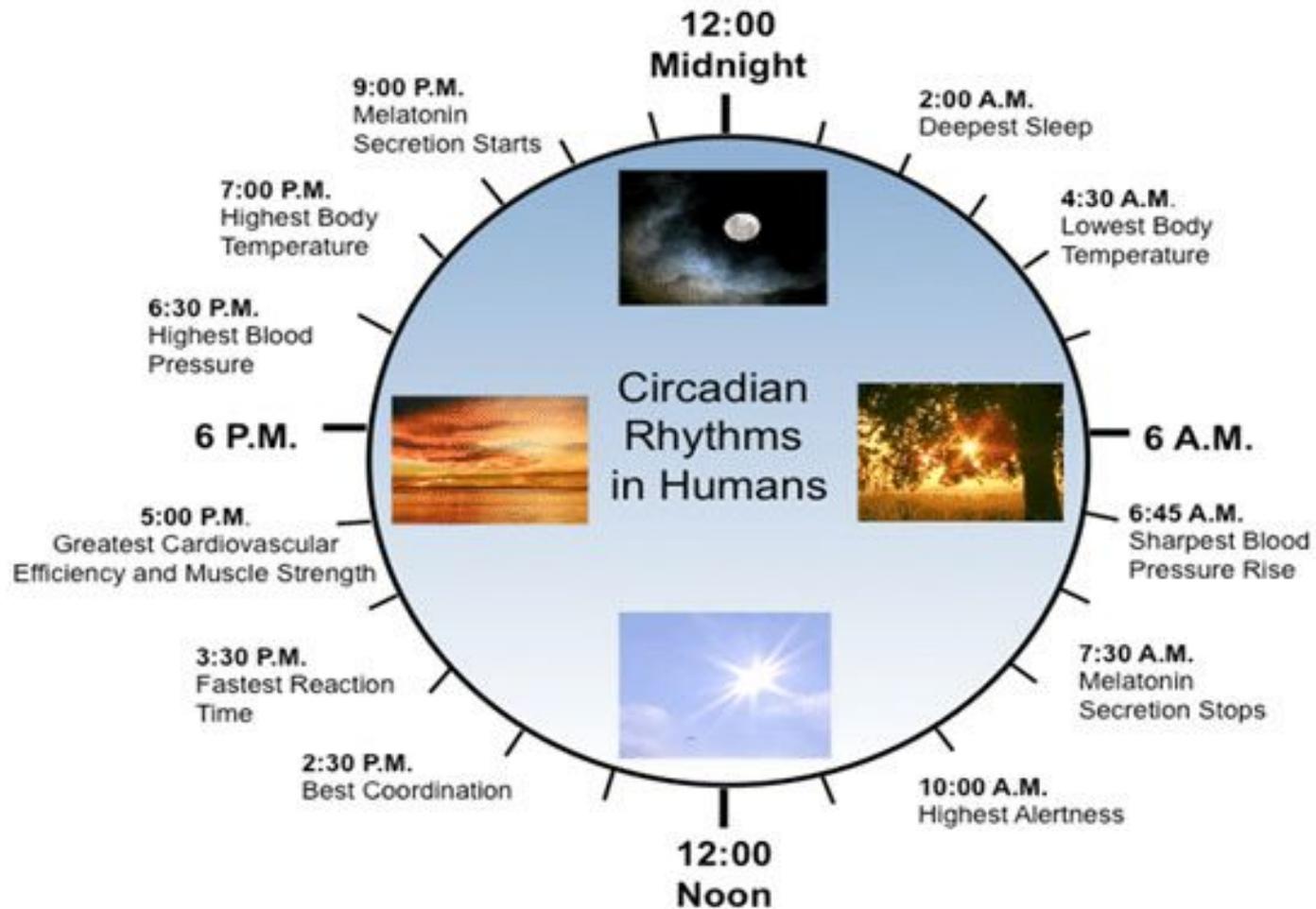
Molecular Formula  
of Melatonin:



-  N Nitrogen
-  C Carbon
-  O Oxygen
-  H Hydrogen

Structural Formula  
of Melatonin:

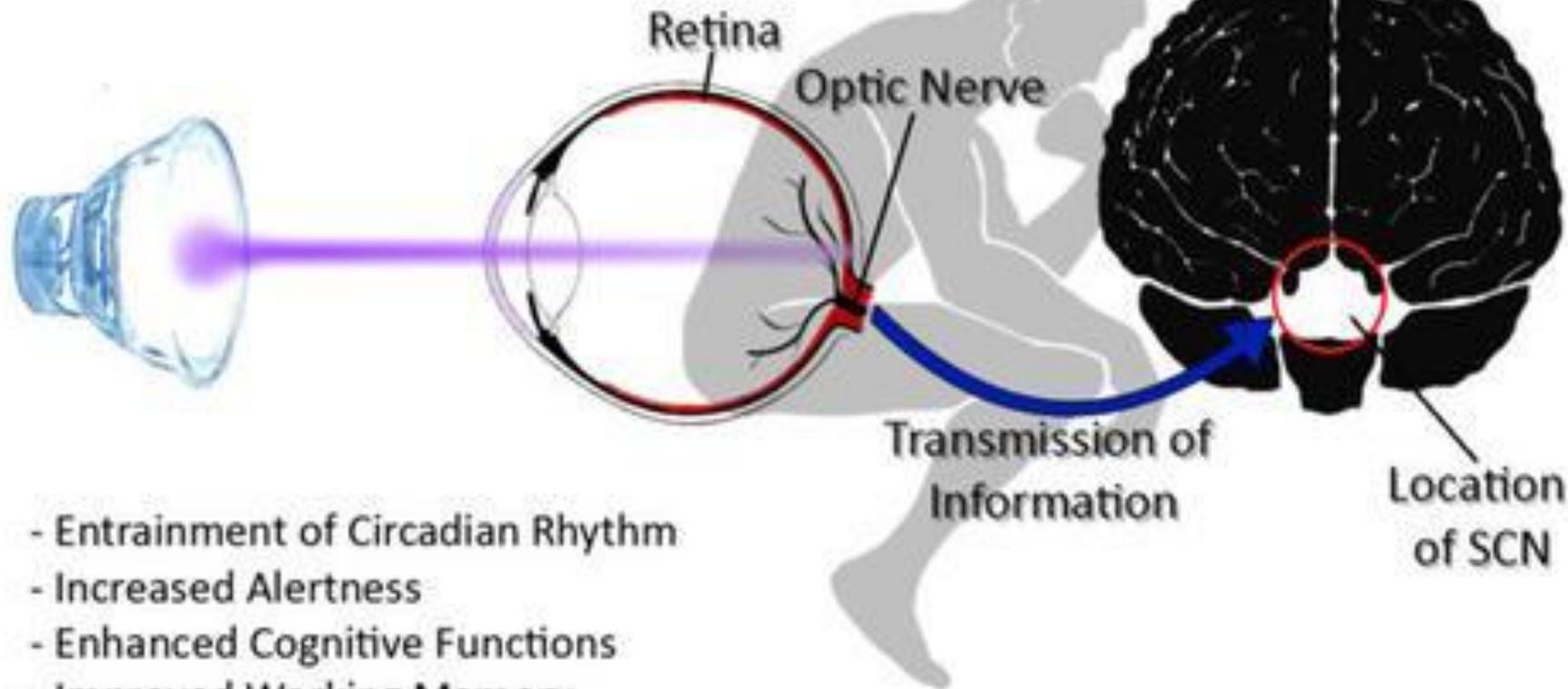




## Blue Light Source

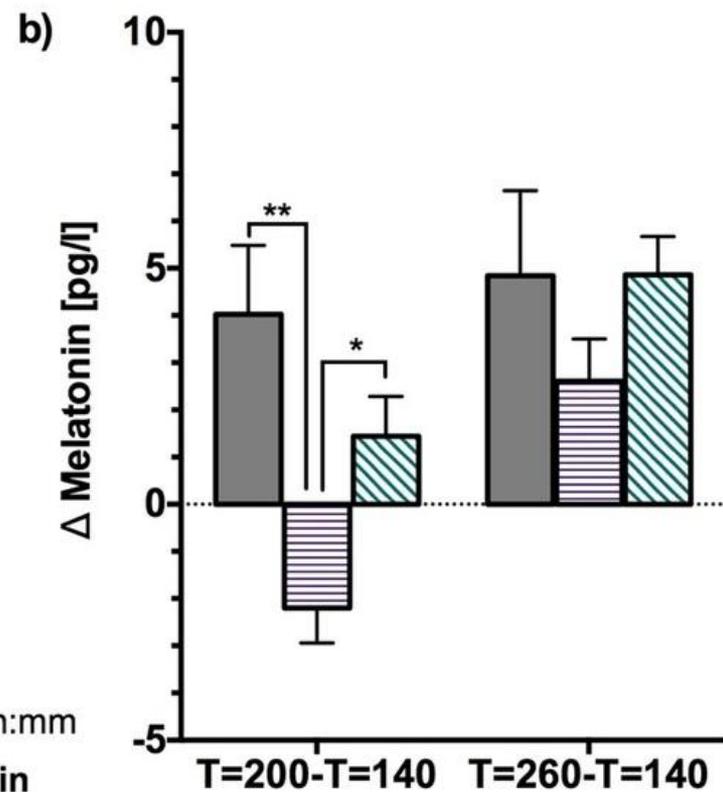
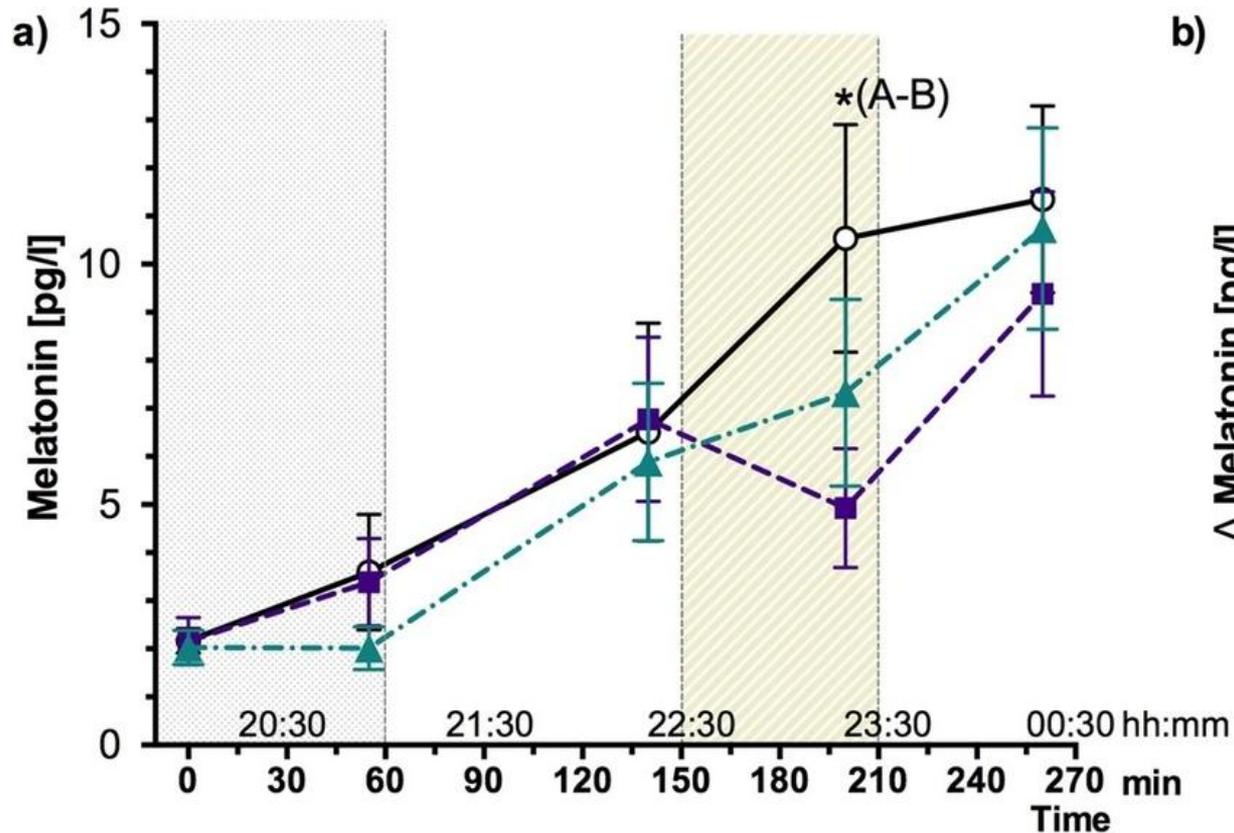
## Eye

## Brain

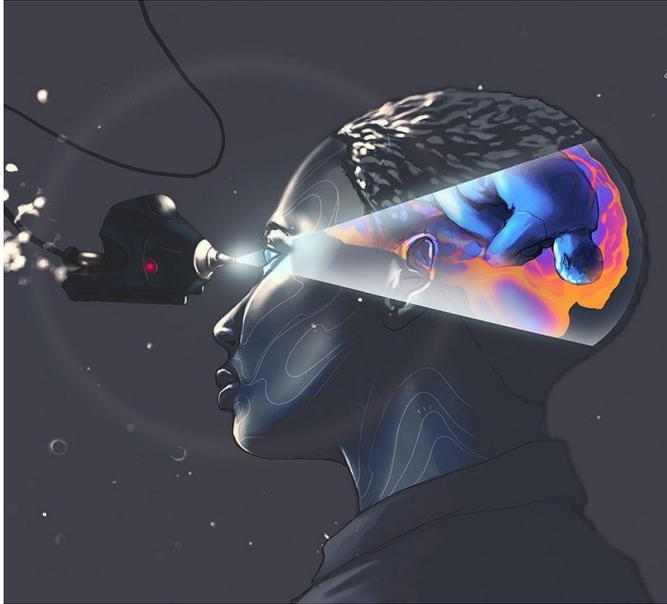


- Entrainment of Circadian Rhythm
- Increased Alertness
- Enhanced Cognitive Functions
- Improved Working Memory
- Improved Reaction Time and Psychomotor Function

Location of SCN



# § The sphere of light exposure:



- body temperatures
- melatonin
- subjective sleepiness



# Methods:

- ***A randomized crossover study design*** was used to compare three sessions that differed in light exposure

Twelve healthy females participated in this study



- We have learnt more about producing of melatonin
- We have revealed how the biological cycles work
- We have got new information about this topic
- We have discovered new methods



# References:

- <https://woordhunt.ru>
- <https://www.nature.com>



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