## INTERNATIONAL SYMPOSIUM ON TRENDS IN RADIOPHARMACEUTICALS

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# Evaluation of the Acceptance and Knowledge of the Brazilian Population on Nuclear Science and Technology

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### Winners of the WNU Nuclear Olympiad 2019







### Report: Summary

Nuclear Technology Scenario in Brazil:



Nuclear energy



**Radiopharmaceuticals** 

Public Survey: acceptance and knowledge

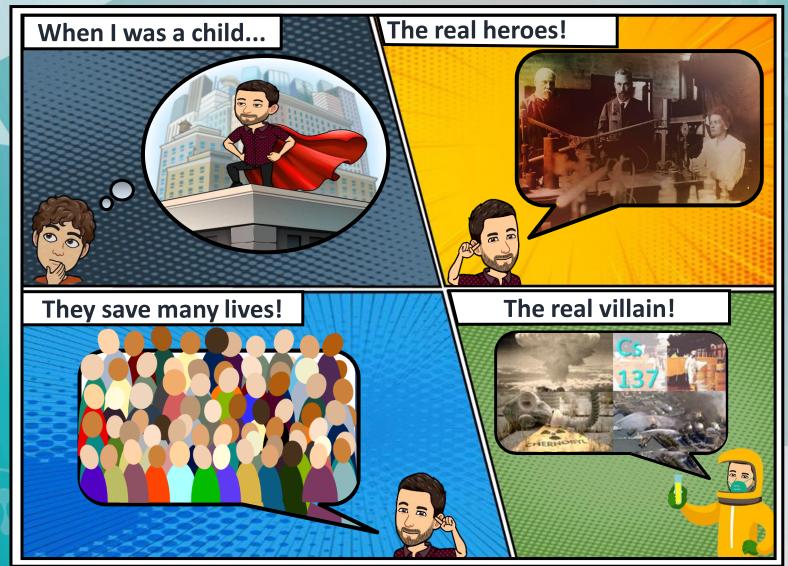
Results

**Conclusions** 

Recommendations

Acknowledgements

### A Superhero Story



### Nuclear energy Scenario in Brazil

#### **Fuel Cycle**

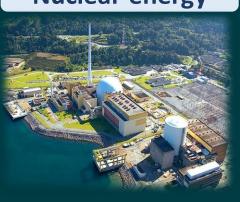


Nuclear power plants (Angra 1 and Angra 2)

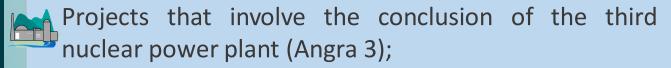


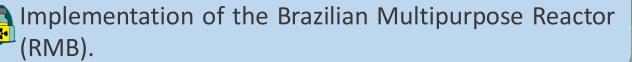
Nominal production: 2.000 MW, which represents approximately **3%** of the national energy matrix;

#### **Nuclear energy**



The perspectives for the Brazilian Nuclear scenario are positive:





### Radiopharmaceuticals Scenario in Brazil







The producing units are: ipen (CRCN NECDTA) [ON IEN









### Public opinion: Methodology



#### Question 1 to 3

Trace the respondents' profiles, accordingly with the geographic regions they live, age and level of schooling;



#### Question 4 to 7

Verify the public knowledge and approval degree on the use of radiopharmaceuticals in diagnosing and treating illnesses;



#### Question 8 to 9

Investigate populational perception of nuclear energy and its uses in the generation of power.

### Respondents' profiles

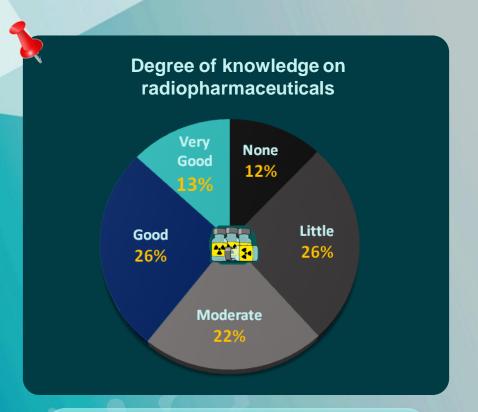
Sampling composed by 348 people from different regions of Brazil



96.2% of the interviewees lived in the Southeast region

70% of the nuclear research centers are located in the Southeast region, as well as the country's nuclear power reactors

### Approval about radiopharmaceuticals

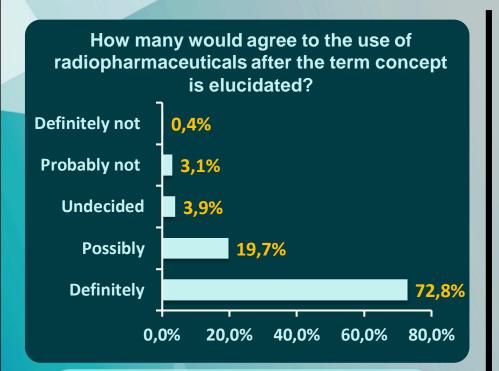


77% of the respondents had never been through any procedure that involved the use of radiopharmaceuticals

Only 34% of the survey participants showed some knowledge on the production of these medicaments

39% of the interviewees had good or very good knowledge on the theme

### Approval about radiopharmaceuticals



After the radiopharmaceuticals concept had been introduced, 73% of the interviewees would agree to its use

Radiation: an educational and contextualized proposal\*



Students associated the use of radiation with its harms...



After exposure of radiation concepts, students began to associate it with its benefits...



It was proved the **importance of information** for a better public approval the use of radiation.

<sup>\*</sup>Lobato, A. C. et al., 2008. Radiation: an educational and contextualized 10 proposal. XIV Conference on Chemical Education, Paraná – Brasil.

### Approval about nuclear energy

Reasons by 9% of the respondents, who were against the use of nuclear energy:



**Accidents** 



**High cost** 



**Nuclear rejects** 



**Environmental impact** 



**Eletrobras Eletronuclear** 



Hazardous source of power



**High cost** 



Other sources of power generation



**Environmental impact** 

### Conclusion

Degree of knowledge influences the approval;

The justification for negative evaluations of nuclear technologies are similar among those who have no or little knowledge;

Without the correct instruction people are vulnerable to information which may only intensify prejudice and disapproval;

Strategies to improve this scenario are necessary.



### After all is said and... shall be done!

#### **Academic events**



#### **Technical visits**













### Acknowledgements









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