# HUMAN BEHAVIOR COMPLEXITY PEAKS AT AGE 25
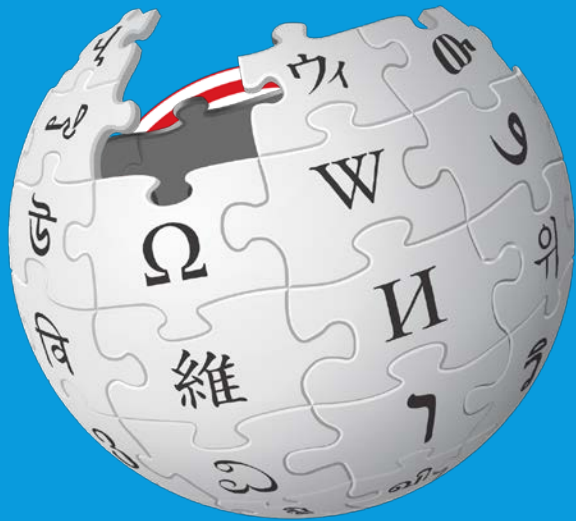
Nicolas Gauvrit, Hector Zenil, Fernando Soler-Toscano, Jean-Paul Delahaye, and Peter Brugger

# CONTEXT IN PUBLISHING

# BACKGROUND
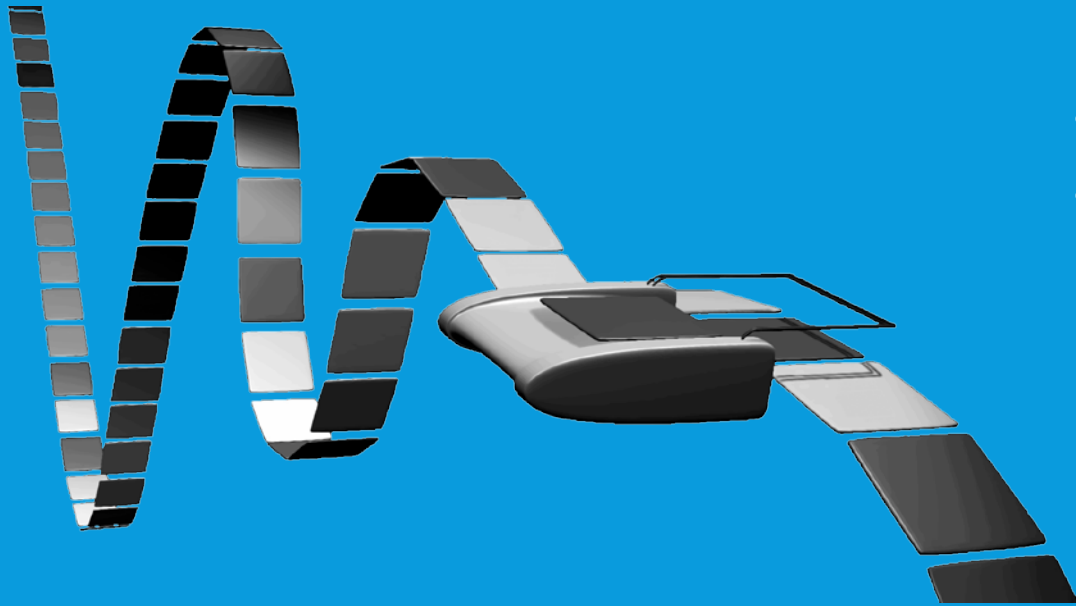# WHAT IS HUMAN BEHAVIOR COMPLEXITY?

**Definition of** COMPLEXITY

**Complexity** describes the behaviour of a system or model whose components interact in multiple ways and follow local rules, meaning there is no reasonable higher instruction to define the various possible interactions.[1]

2 : the quality or state of being complex • the *complexity* of the contract

The behavior of the human brain, specifically in how internal (age, gender) and external (education, career) components interact in multiple ways following local rules.
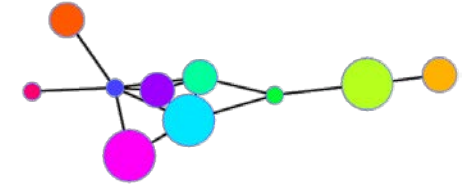
# BACKGROUND
# WHAT IS ALGORITHMIC COMPLEXITY?

- "The length of the shortest program that produces the string"
- Deterministic Likelihood
- "A string for which no computer program shorter than the string itself exists."

# ALGORITHMIC COMPLEXITY CALCULATOR

# SUMMARY - METHOD

- N = 3429
- Children were verbally instructed
- Tossing a coin, Guessing a card, rolling a dice, pointing to circles, and filling a grid.
- Completion Time (individual task and total)
- demographics

# SUMMARY - RESULTS

- Males had faster completion times

- No Poltergeist Helping

- Peak at 25 years old

# WANT TO TRY IT?

http://complexitycalculator.com/

http://complexitycalculator.com/hrng/

# DISCUSSION

- A Reddit AMA featured the second author, Hector Zenil, and had many questions and comments regarding this paper. One that stuck out to me is Zenil's statement that the study is "a very short test with a very powerful universal measure of randomness ". **Do you think this is true?**

- In context of our previous discussions, I wanted to see what the media said about it. Many of the articles from this paper only used the "peak at 25" line from this paper. A few of those titles I've put on your handouts if you would like to see. **What do you think of this?**

- Only 1 limitation was listed on this paper, that being "bias the sample towards participants more comfortable with technology". This was discredited as the authors stated that the sheer number of participants across age groups more than compensated for this limitation. **Do you agree? Did any other limitations come to mind while reading the paper?**

- **Other thoughts?**