Binding Blocks
Building the Universe one nucleus at a time

UNIVERSITY of York
Department of Physics

# Supporting Nuclear Physics Public Engagement

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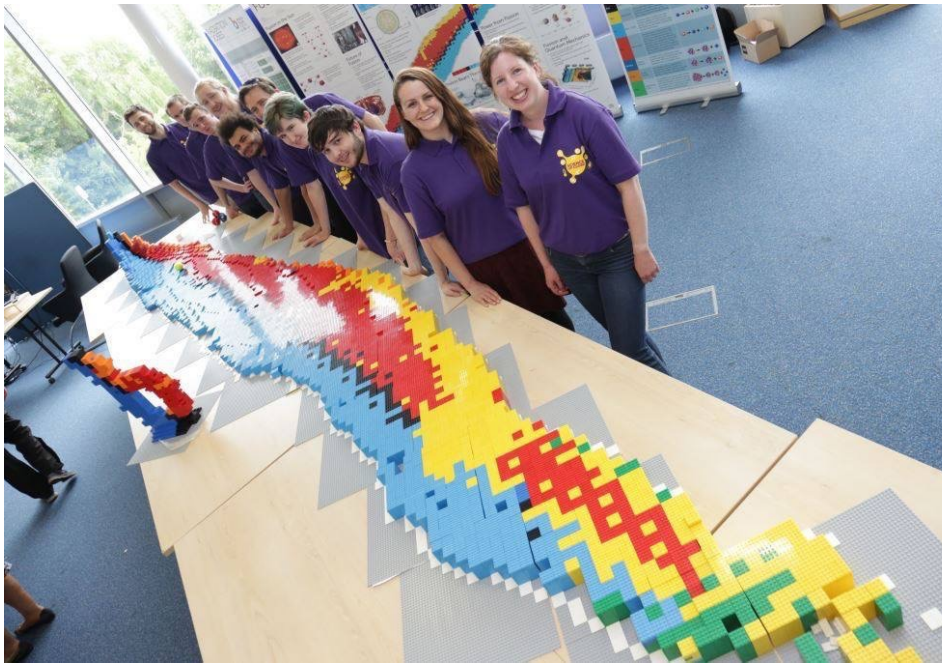
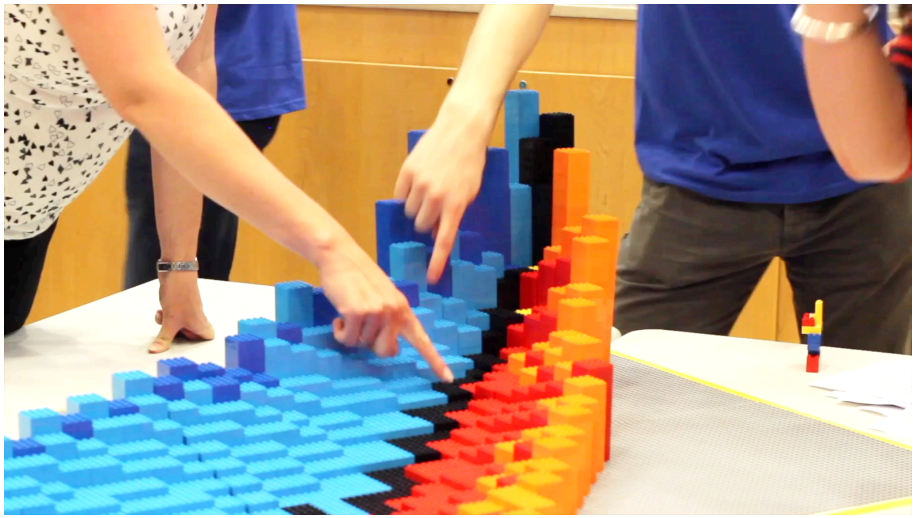


# Nuclear Masterclasses and training

- **Assembly** of up to two LEGO plates per group (5-20 min)
- **Group work:** calculations and presentations related to construction
  - Energy in nuclear reactions
  - Decay types and - chains
  - Nuclear physics around us
  - Research context throughout
- **Integrating other workshops:**
  - Hot-CNO cycle
  - Accelerators
  - Reactions
  - Radiation treatment
  - Neutron stars



- **Support from York for:**
  - Materials & delivery
  - Evaluation

# Funded KICK-START internships for PhD students

- **Aims of the KICK-START Internship Award**
  - 3-month PhD internships for public-engagement (open to all UK NP students).
  - STFC Funding during 3-month LOA for PE to complement research - rather than replace.
  - Training, peer-learning, and delivery as part of the wider Binding Blocks collaboration.
  - Initiation of new STFC SPARK Award applications.
- **Application deadline: 17th Jan 2019**
  - https://www.york.ac.uk/physics/public-and-schools/secondary/binding-blocks/kick-start-internship/

# Nuclear Physics Community PE Publications 2017-2018

- ***Binding blocks: building the Universe one nucleus at a time***
  [C Aa Diget et al 2017 Phys. Educ. 52 024001]
  http://iopscience.iop.org/article/10.1088/1361-6552/aa550c
- ***The ISOLDE LEGO® robot*** [T E Cocolios et al , 52 044004]
- **H*ow do we know what is 'inside the atom'?*** [E S Cunningham, 52 044005]
- ***The implementation of Binding Blocks in the classroom*** [A J Wright et al,52 054001]
- ***Nuclear cartography: patterns […]*** [Shelley and Simpson, 52 064002]
- ***Radiation sensors […]*** [Seitz et al 2018 Phys. Educ. 53 014001]
- ***Cycling the hot CNO […]*** [Frost-Schenk et al, 53 024001]
- ***If nuclear energy is the answer […]*** [Roberts, 53 024003]
- ***Making Stars: Fusion*** [C Aa Diget 2017 STEM eLibrary]
  https://www.stem.org.uk/resources/elibrary/resource/163716/making-stars-fusion
- ***Binding Blocks Website***: https://www.york.ac.uk/physics/bindingblocks/
- ***Binding Blocks YouTube Channel:*** https://www.youtube.com/channel/UCvIXlFgJyGh4Jle_4_KE2aA