



**Binding
Blocks**
Building the Universe
one nucleus at a time

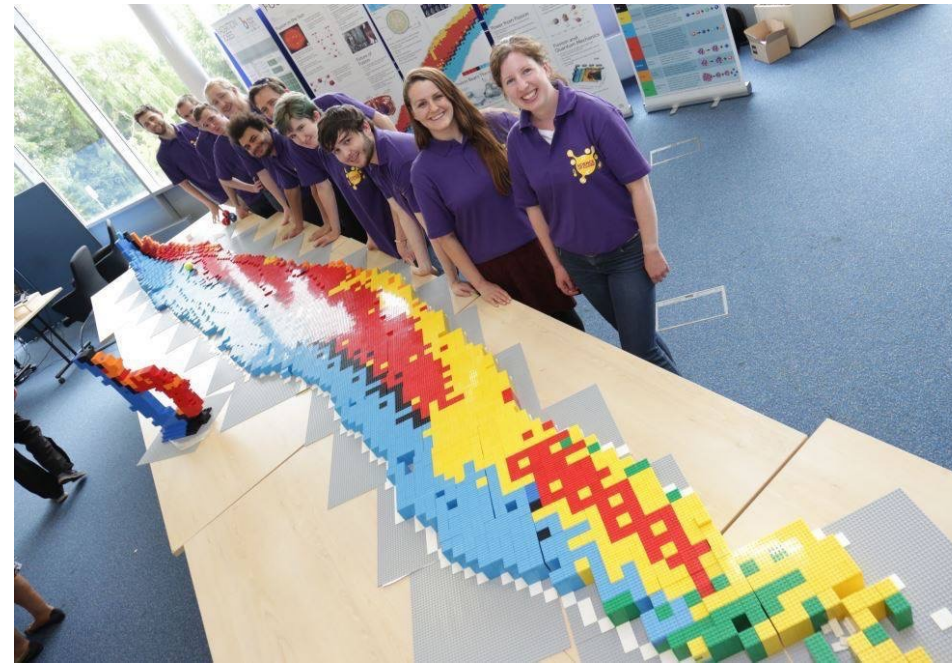


UNIVERSITY
of York

Department of Physics

Supporting Nuclear Physics Public Engagement

Christian Aa. Diget
University of York
8th Jan 2019



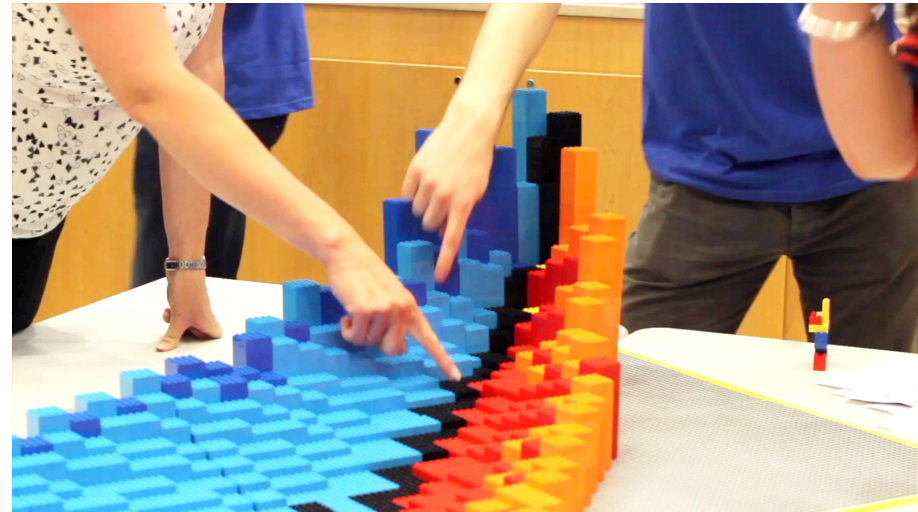
Nuclear Masterclasses BB and other workshops

- **Binding Blocks** scalable from 20-120 participants on a NMC day
- **Group work:** calculations and presentations related to construction

- Energy in nuclear reactions
- Decay types and - chains
- Nuclear physics around us
- Research context

- **Integrating other workshops:**

- Hot-CNO cycle (York)
- Binding Energy and n-stars (York)
- Fusion (York)
- Radiation treatment (York/DL)
- Detector simulations (DL)
- Radiation detection (Liv)



- **Support from York & STFC for:**
 - Materials (Student booklets)
 - Delivery of BB (York Grad Intern)
 - Evaluation (York and STFC)

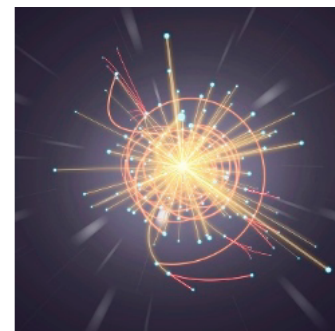


Nuclear Physics Community PE Publications 2017-2018

- ***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]
- ***How 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/UCvIXIFgJyGh4Jle_4_KE2aA

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Physics Education



Guest editors

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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/>