

The Synthetic Biology Open Language



Angel Goñi-Moreno

 @AngelGMoreno

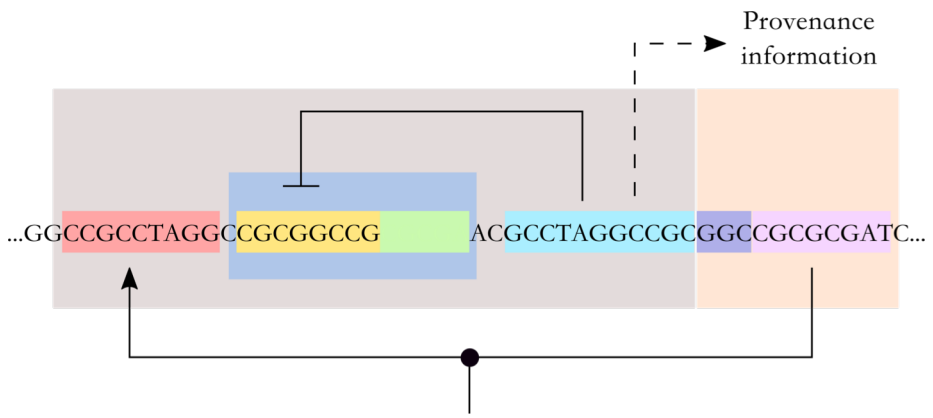
 angel.goni-moreno@ncl.ac.uk



...GGCCGCCTAGGCCGCGGCCGCGCGAACGCCTAGGCCGCGGCCGCGCGATC...

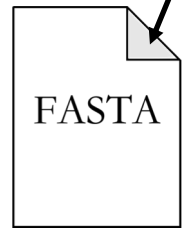
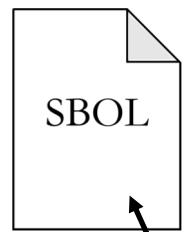


...GGCCGCCTAGGCCGCGGCCGCGCGAACGCCTAGGCCGCGGCCGCGCGATC...



...GGCCGCTAGGCCGCGGCCGCGCGAACGCCTAGGCCGCGGCCGCGCGATC...

...GGCCGCTAGGCCGCGGCCGCGCGAACGCCTAGGCCGCGGCCGCGCGATC...



File Edit View

Save As...

FASTA
GenBank
SBOL

The screenshot shows a software interface with a menu bar (File, Edit, View) and a 'Save As...' dialog box. Below the dialog is a 'Sequence View' window displaying a DNA sequence with colored blocks and a list of annotations on the right side. A dark green silhouette of a person is visible in the bottom right corner.



Development



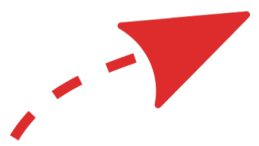
Use



Development

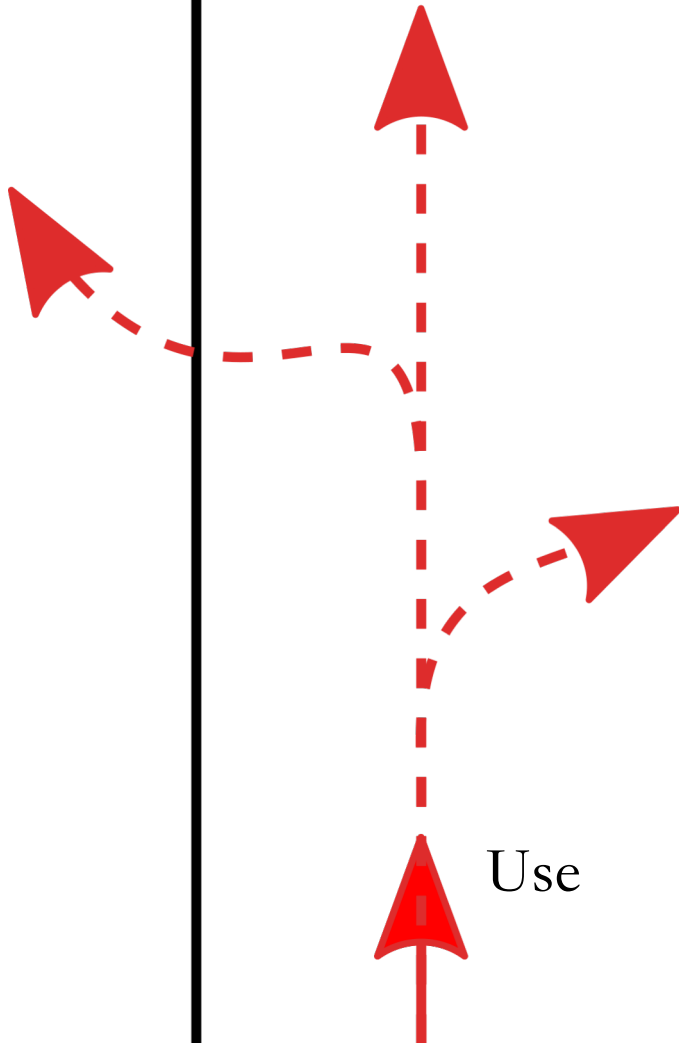


Use



Development

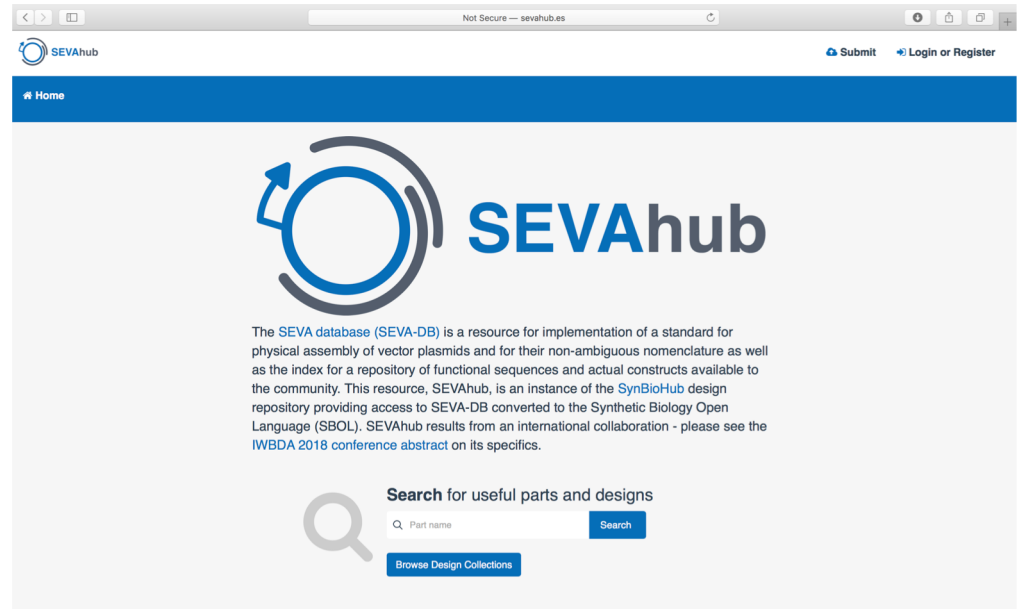
1) biocad.io



- Save as a .biocad file
 - ✓ Sequences, annotations, hierarchy, and interactions will be saved
 - ⚠ Will not be compatible with software other than biocad.io
- Export as SBOL2
 - ✓ Sequences, annotations, hierarchy, and interactions will be saved
 - ⚠ May differ visually if re-imported to biocad.io
- Export as GenBank
 - ✓ Sequences and annotations will be saved
 - ✗ Hierarchy and interactions will be lost
- Export as FASTA
 - ✓ Sequences will be saved
 - ✗ Annotations, hierarchy, and interactions will be lost

Development

2) sevahub.es



2) ShortBOL

```
4 pTetR : Promoter
5 lacIRbs : RBS
6 LacI : CDS
7 lacIT : Terminator
8
9 # The composite device for the TetR inverter
10 tetRInverter : DnaComponent
11 component = pTetR
12 component = lacIRbs
13 component = LacI
14 component = lacIT
```

Use

SBOL Industrial Consortium

- Pre-competitive organization

- Companies investing in SBOL
- Coordinate development
- Support open community infrastructure & development

- Officially kicking off during June, 2019

- Founding members:

Raytheon

BBN Technologies



teselagen
BIOTECHNOLOGY



amyris

SBOL Industrial Consortium



For discussion...

- Usability: we need a “mission”
- Need for it: do we need SBOL at all?
 - Do we need new platforms?
 - Do we want your platforms of choice to support SBOL?
How do we get there?
- Rigorous information will guide the development of other standards!



Thanks to...

- James McLaughlin, Newcastle University
- Lewis Grozinger, Newcastle University
- Bryan Bartley, BBN
- Anil Wipat, Newcastle University

