

Synthetic Biology Tools from BBN

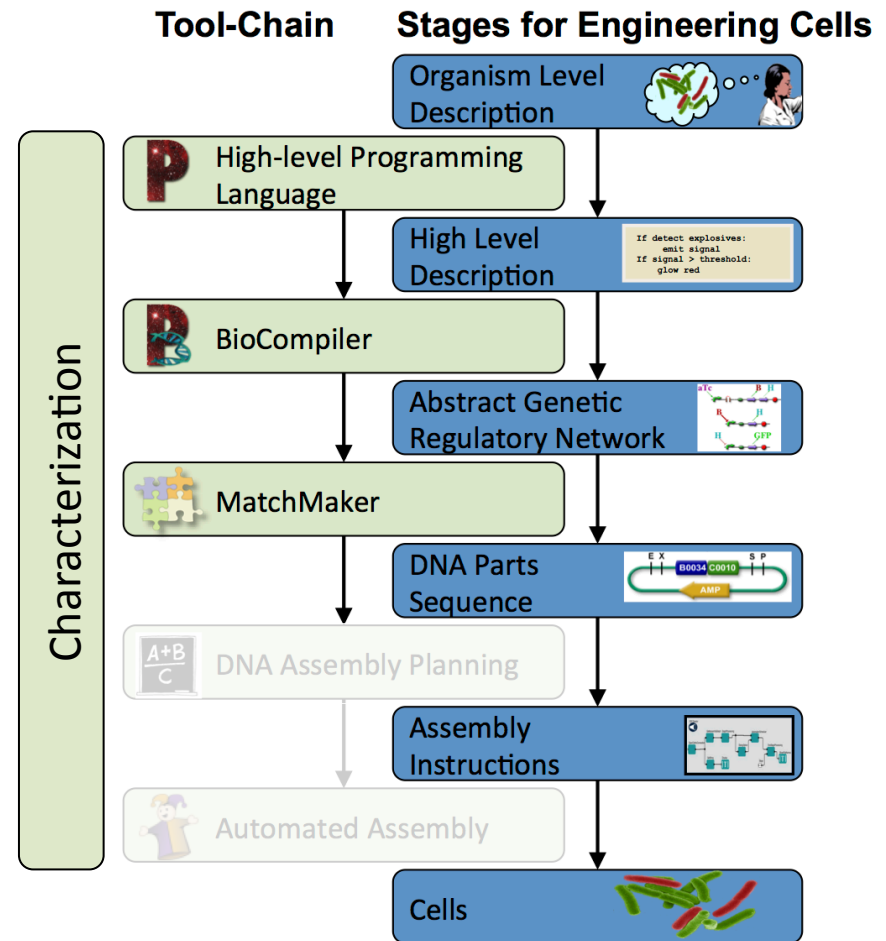
November 7, 2012

Aaron Adler

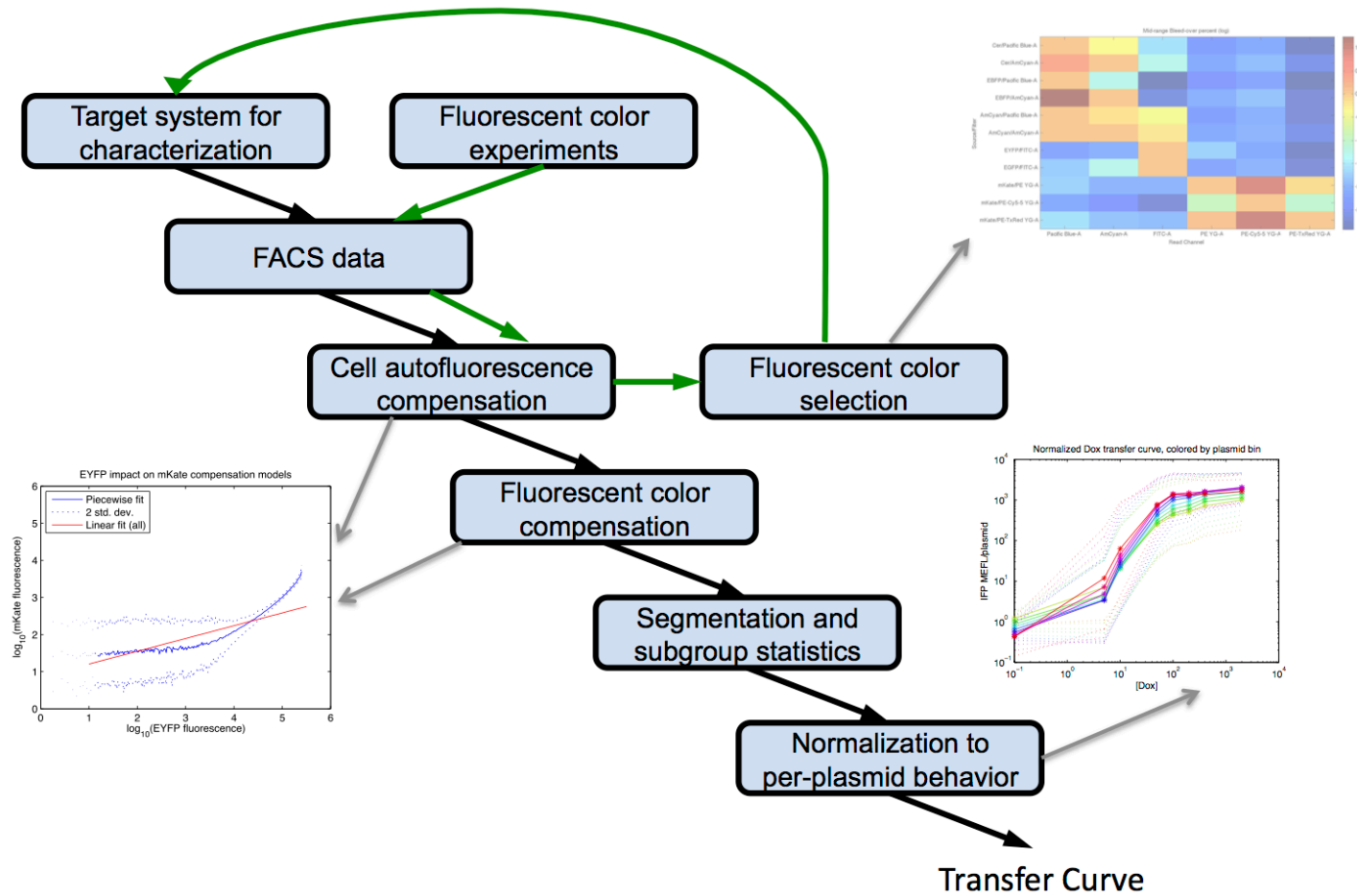
Fusun Yaman

Available Tools

- Web Services
 - Characterization
 - High-level Programming Language / BioCompiler
- Available by email
 - MatchMaker
- Available as Clotho Apps
 - DNA Assembly Planning
 - Automated Assembly

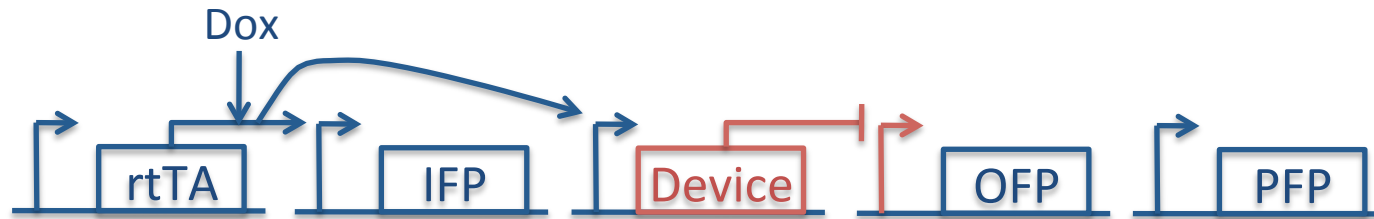


TASBE Characterization Process

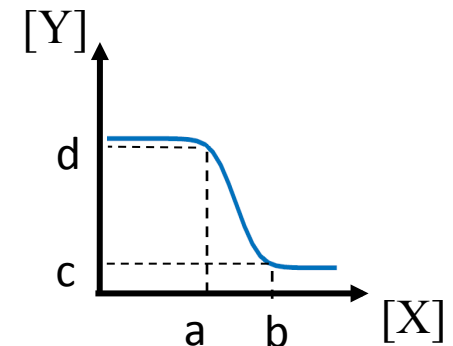


Device Characterization

- Goal: quantify single-cell I/O concentration relation
- Characterization is required to convert an AGRN into a GRN that can be implemented.

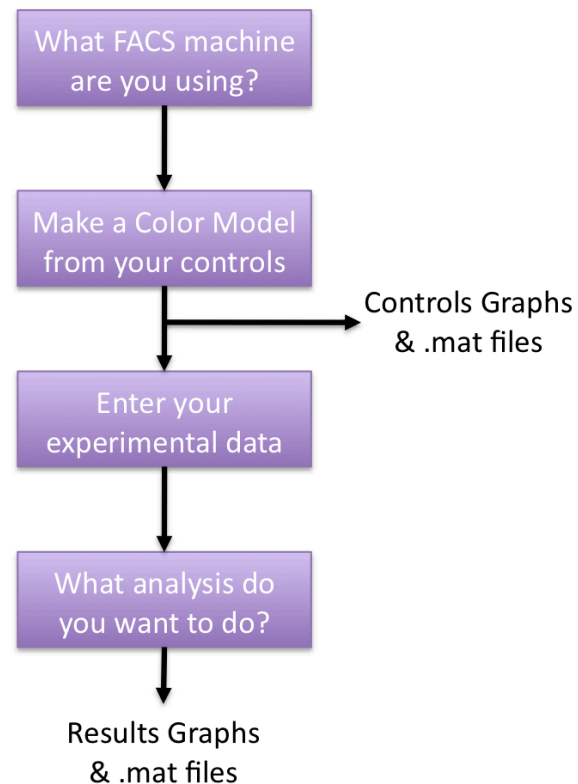


- We need:
 - Single-cell measurements with large number of cells, as opposed to population average values
 - Output measurements across a full range of input levels
 - A distribution on the output for each input level to estimate the noise
- **Details available in Tech Report:**
MIT-CSAIL-TR-2012-008:
<http://hdl.handle.net/1721.1/69973>



Demo

- Characterization and BioCompiler Tools:
<https://synbiotools.bbn.com>



Looking Forward

- Looking for collaborations, funding, and possible customizations of tools in funded projects
 - Customized analysis for your assays
 - Directly calling tools possible via XMLRPC interface
- Around 10 accounts from MIT, BU, Colorado State, UK, JBEI
- Bug reporting: link on the bottom of every page
 - http://proto.bbn.com/bugzilla/enter_bug.cgi?product=TASBE%20tools