## Appion - Feature #3358

**john rubinstein's particle polisher**

08/12/2015 04:25 PM - Dmitry Lyumkis

<table>
<thead>
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<th>Status:</th>
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<th>Start date:</th>
<th>08/12/2015</th>
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### Description

**Associated revisions**

- **Revision 19033 - 08/14/2015 10:10 AM - Dmitry Lyumkis**
  added query for pixel size, refs #3358

- **Revision 0a6bb0b0 - 08/14/2015 10:10 AM - Dmitry Lyumkis**
  added query for pixel size, refs #3358

- **Revision 19035 - 08/14/2015 11:22 AM - Dmitry Lyumkis**
  added query for image dimensions, refs #3358

- **Revision 4aa80b03 - 08/14/2015 11:22 AM - Dmitry Lyumkis**
  added query for image dimensions, refs #3358

- **Revision 19053 - 08/14/2015 04:16 PM - Dmitry Lyumkis**
  update for particle alignment scripts, refs #3358

- **Revision e7586bbb - 08/14/2015 04:16 PM - Dmitry Lyumkis**
  update for particle alignment scripts, refs #3358

- **Revision 19058 - 08/14/2015 04:24 PM - Dmitry Lyumkis**
  stack polisher, refs #3358

- **Revision 6525a22e - 08/14/2015 04:24 PM - Dmitry Lyumkis**
  stack polisher, refs #3358

- **Revision 19092 - 08/21/2015 01:42 AM - Dmitry Lyumkis**
  some bugfixes, refs #3358

- **Revision 8f34cae3 - 08/21/2015 01:42 AM - Dmitry Lyumkis**
  some bugfixes, refs #3358

- **Revision 19415 - 12/04/2015 02:18 PM - Carl Negro**
  add alignparts_lmbfgs.exe to /myami/appion/bin for particle polisher, refs #3358

- **Revision a5c9348e - 12/04/2015 02:18 PM - Carl Negro**
  add alignparts_lmbfgs.exe to /myami/appion/bin for particle polisher, refs #3358

- **Revision 19590 - 03/14/2016 06:35 PM - Carl Negro**
  resize particle radius if greater than 0.8 * boxsize, refs #3358

- **Revision 8ab59871 - 03/14/2016 06:35 PM - Carl Negro**
  resize particle radius if greater than 0.8 * boxsize, refs #3358
example command

polishStack.py -h
polishStack.py --stack-id=283 --projectid=7 --rundir=/data2/log-l/appion/15jul16a/stacks/polish1 --runname=polish1 --ddstackid=33 --micrographs_per_job=2 --expid=14140 --particleradius=125 --expweight --localavg

Some details on running

- requires an unaligned, but gain-normalized ddframestack (provided by --ddstackid option)
- currently will create an unbinned stack only
- queries database for all relevant parameters, including microscope kv, image dose, number of frames, etc
- requires install of alignparts_lmbfgs.exe from John Rubinstein. Can be located in myami/appion/bin directory
- many options are available (e.g. contrast inversion)

stitch MRC stack

To create an identical stack as your input, in MRC format, run polishStackStitch.py with same general options as above, for example:

polishStackStitch.py --stackid=283 --projectid=7 --rundir=/data2/log-l/appion/15jul16a/stacks/polish1 --runname=polish1 --ddstackid=33 --expid=14140

known issues

- launches a bunch of small jobs. If your scheduler is not set up to launch jobs from slave nodes, then you need to run script from command line on head node. This could use improvements in implementation in code.

Future improvements can include

- web gui in stack category
- stack uploader