

QUAREP-LIMI WG10 - 6th meeting - 23/03/2021

Attendees (18 participants):

Thomas Guilbert, Ulrike Boehm, Michael Nelson, Roland Nitschke, Konstantin Birngruber, Richard Cole, Kees van der Oord, Steve Ogg, Giulia Ossato, Peter Bajcsy, Santosh Podder, Elton, Gaby G Martins, Alexia Ferrand, Martin Stöckl, Julia, David

Excused: Arne Seitz, Ciarán Butler-Hallissey, Perrine Paul-Gilloteaux, Olaf Selchow

Agenda:

1. Welcome new participants
2. Agreement on minutes of the last meeting and about the recording of the meeting
3. News and Slack info (e.g., Michael Nelson's infographic)
4. Review of the last meeting:
 - participants agreement on the revised content version of IQS_White Paper
 - IDR parameter
5. Lateral and Axial Sampling Rate (LASR)

Minutes:

1. Welcome new participants
Richard Cole
2. Agreement on minutes of the last meeting and about the recording of the meeting
Done
3. News and Slack info (e.g., Michael Nelson's infographic)
 - Michael Nelson created an infographic about the goals of the WG and its various audiences
 - <https://www.mindmaps.app/> - the mindmap file will be upload in the BW server
 - Roland contacted Alan Bovik (<https://scholar.google.com/citations?user=p-PC50wAAAAJ&hl=en>; <http://www.ece.utexas.edu/people/faculty/alan-bovik>)
 - It would be great if Alan Bovik could give a talk to our group about his image quality work. Furthermore, it would be great if he could vet our current and upcoming steps.
 - Thomas stressed that Alexia and Elnaz have written papers about image quality and would be happy to report about it. Alexia will give a presentation on April 13.
4. Review of the last meeting:
 - *participants agreement on the revised content version of IQS_White Paper*
 - Thomas goes over this document revisions based on last meeting's comments

<https://docs.google.com/document/d/1JqA3-SUTrIq0izERiqER2hunf0qWcLvL2CHyTvbyRY/edit?usp=sharing>)

- Kess: We need to give structure to the existing image quality assessments
- Peter: The uncertainty aspect should be taken into account as well when analyzing image data (something which we should include the WG's overall agenda); related to WG7
- Peter: we need to integrate into the abstract that the image quality score for the individual parameters will be weighted depending on the respective biomedical question, i.e., the parameter scores must be viewed differently depending on how you look at the data

- Which type of pre-processing are still tolerable in order to be able to call our data still "raw" data - Several comments were made that it is quite common to apply shading corrections and corrections as such before users access their "raw" data → We do not have fair and common starting conditions if this is the case... How should we take this into account to be able to compare the IQS of various systems?

Updated 25/3/2021; Disclaimer has to specify boundary conditions / exceptions

- Roland: It might be better to avoid the term "quality" in our image quality assessment
Updated 25/3/2021: Possible alternatives: features, attribute, property, factor → Image "attribute" score / assessment (to be further discussed during our next meeting)

- *IDR parameter*

5. Lateral and Axial Sampling Rate (LASR) - will be discussed at a future meeting

Next meeting: April 13 at 10:30 am (ET) / 4:30 pm (CET)

Zoom link:

<https://hhmi.zoom.us/j/9220286547?pwd=OGRWNTFyWjBzMEI5QkZrWUU4TitVdz09>

Content of the chat:

10:42:03 From Alexia Loynton-Ferrand to Everyone : Hi all! Sorry for the delay :/

10:42:49 From Ulrike Boehm to Everyone :
<https://docs.google.com/document/d/1ApyD5vUS5UhEUpzMdxXR0kGyztfgcplmEUxBh4lCdn4/edit>

10:43:46 From Richard Cole ABRF President to Everyone : The ABRF's light microscopy research group has many papers on image QC

10:45:21 From Michael Nelson to Everyone : If there is anything you think should be included, maybe they could be added onto Roland's server or the minutes?

10:45:42 From peter bajcsy to Everyone : I arranged that a couple of people from NIST will give a talk on April 15th Meeting of QUAREP-LiMi WG7. The presentation is about the formal procedure for the Development of American National Standards. This topic might be of interest to this WG as well.

10:47:41 From Ulrike Boehm to Everyone : Our folder for literature:
<https://bwsyncandshare.kit.edu/apps/files/?dir=/QA%20and%20Reproducibility%20for%20Instruments%20and%20Images%20in%20LiMi/WG%2010%20Image%20Quality/Literature&fileid=1121169821>

10:50:36 From Ulrike Boehm to Everyone : The document is located here:
<https://docs.google.com/document/d/1JqA3-SUTrlq0jzERjqER2hunf0gWcLvjl2CHyTvbyRY/edit?usp=sharing>

10:53:39 From Elton REXHEPAJ to Everyone : it can be also useful to identify images to be discarded from further analysis.

10:53:42 From Martin Stöckl to Everyone : Hi everyone!Sorry, my train was cancel

10:54:08 From Martin Stöckl to Everyone : Sorry my train was canceled, was there a link to todays minutes already?

10:54:23 From David Grunwald to Everyone : AN IQS will certainly be point of interest in review of manuscripts.

10:54:23 From Ulrike Boehm to Everyone :
<https://docs.google.com/document/d/1ApyD5vUS5UhEUpzMdxXR0kGyztfgcplmEUxBh4lCdn4/edit>

10:55:03 From Martin Stöckl to Ulrike Boehm(Direct Message) : Thanks

10:57:10 From Michael Nelson to Everyone : I would expect negative controls to frequently have "lower quality" from a data range perspective - so we do need to be careful about how we phrase "comparing images of different quality"

10:57:53 From Julia Fernandez-Rodriguez to Everyone : Sorry, I need to go to my other meeting! See you soon

10:58:05 From Alexia Loynton-Ferrand to Everyone : Bye Julia!

10:59:51 From Richard Cole ABRF President to Everyone : The IQSs will be different at different steps

11:00:40 From Michael Nelson to Everyone : And the IQS for image analysis will be hard and essentially impossible to automate. For example, exclusion of soma was brought up (being too bright), but in some cases areas that are too bright are bad.

11:05:27 From Michael Nelson to Everyone : Different IQS parameter distributions?

11:07:06 From Richard Cole ABRF President to Everyone : For example, time-lapse "live cell image" should be judged differently than a co-localization image

11:11:00 From Martin Stöckl to Everyone : I completely agree. E.g. overexposed pixels if you want to quantify that area/feature are a no go. If you do it to emphasize e.g. the axons an never measure near the soma --> it would most likely be fine

11:14:11 From Michael Nelson to Everyone : I mean, if you want to improve image quality, that does mean being critical of some images - but also while accepting that experimental needs are different

11:16:42 From Richard Cole ABRF President to Everyone : that could be made clear, especially with regard to CMOS cameras

11:17:14 From peter bajcsy to Everyone : You might add the version of Bio-Formats library since the library is evolving over time (i.e., right now the raster file format is being redesigned to adopt to zarr).

11:18:21 From Michael Nelson to Everyone : "uncompressed" vs "compressed" is not really a problem from an encoding standpoint - as long as the compression is lossless. That does not take into account the detector level stuff.

11:20:22 From Richard Cole ABRF President to Everyone : instrument Vs image quality

11:23:28 From Michael Nelson to Everyone : I guess - be clear about what part along the pipeline your IQS applies to

11:27:54 From thomas.guilbert to Everyone : <https://docs.google.com/document/d/1JqA3-SUTrlq0jzERjqER2hunf0gWcLvjl2CHyTvbyRY/edit>

11:30:32 From Giulia Ossato to Everyone : I have to jump to next meeting, bye

11:31:23 From David Grunwald to Everyone : Thank you for another good discussion. I have to leave - kids still school from home...

11:34:30 From Richard Cole ABRF President to Everyone : Agreed

11:36:14 From thomas.guilbert to Everyone : sorry for the connexion loss

11:37:21 From Michael Nelson to Everyone : Yeah, a time that works well for the speaker - rather than standard times - plus it can be recorded so the actual time is less important