

BIOQIC Newsletter – 3rd edition, December 2017

By Judith Bergs, BIOQIC coordinator



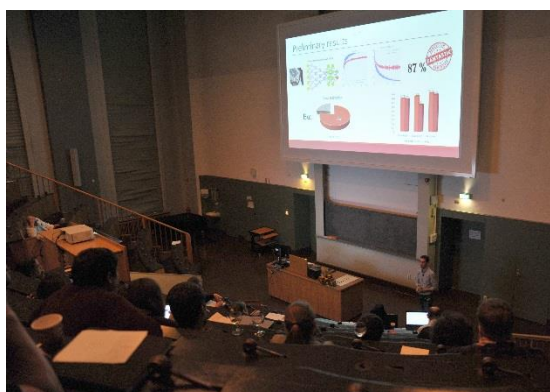
The First BIOQIC Day and International MRE Workshop have been well received by the PhD students, their supervisors and the numerous international scientists that attended the talks and social events.

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1. Report on BIOQIC Day 2017 and the first international MRE Workshop in Berlin

On the first BIOQIC Day, September 27th 2017, all BIOQIC students presented the outline of their freshly started projects. They gave an overview of the methods they are going to use and in some cases their first results. The talks were attended by their supervisors as well as by interested scientists, who discussed about the student's approaches. For many students, this was the first experience with giving a scientific presentation for a public of international scientists in the field. It therefore also served as a great training in research communication skills. Furthermore, BIOQIC Day ensures implementation of quality metrics and formal assistance at the earliest possible time point during the PhD project. Further reports to the PhD committee are planned after 1.5 and 2.5 years of the project start.



BIOQIC Day 2017 was attended by all BIOQIC students, their supervisors and at least 23 external international scientists had registered. For each student talk, 20 minutes were scheduled: 10 minutes for the PowerPoint presentation and 10 minutes for the discussion. An exception were Jean Pierre Bassenge and Sebastian Dietrich from the PTB who started only in September, their talks were reduced to 10 minutes. From BIOQIC Day, it became clear that the students started well with their new projects. The scientific presentations were of high level and everyone obtained a good overview what each student is working on. BIOQIC Day was concluded by a guided after-work tour in the Museum of Natural History. Here, we got some insights into the dinosaurs and other beings that had been living in the past.

BIOQIC Day was followed by the first international MRE Workshop in Berlin, which took place from September 28th-29th, 2017. Its focus was on biophysical foundations, clinical needs, research promises and technical solutions in quantitative medical imaging and MR elastography and was attended by more than 60 international scientists. It provided an overview of current developments in these research areas and addressed the clinical relevance of emerging imaging techniques. The workshop hosted three outstanding keynote sessions by Georg Duda, Kristian Franze and Paul Janmey as well as 31 short oral presentations and 8 poster presentations. On Thursday evening, September 28th, a dinner with musical accompaniment by the Acoustic Image Quartet was served in a restaurant in the vibrant neighborhood of Prenzlauer Berg. During the dinner, Gloria Fabris and Jing Guo were awarded with 250 euros for their outstanding presentations. We thank all attendees for their high quality presentations and for making the workshop an unforgettable event. Furthermore, we are grateful for the financial support of our workshop by Toshiba Medical, Pure Devices and GAMPT mbH.



2. Information about ongoing activities within BIOQIC and future curriculum

For those who would like to learn more about statistics and programming, a BIOQIC group has been created for DataCamp (<https://www.datacamp.com/>), an e-learning platform. By joining our group, you can do all courses in your own tempo free of charge. They also served to prepare for the seminars in statistics by Eric Barnhill (<https://bioqic.de/events/>).

The BIOQIC Journal club series have started now. In these journal clubs, PhD students will be trained to read scientific literature critically and to discuss figures and results.

In addition to the Journal Clubs, scientific writing can be trained using free online courses, some recommendations will be circulated in the beginning of next year. For literature searches using online databases, a course in English will take place in February at the Charité library.

3. New PhD regulations at the Charité

From the first of November, PhD registration at the Charité is now possible as the new promotion regulations have come into power. Requirements are detailed at the [website of the Charité promotion office](#) (advanced track). In brief: next to the thesis, students need to gather 30 ECTS points by attending seminars, workshops, courses etc. The curriculum is divided into 4 different categories, the requirements for each of those can be found on the [website](#) of the promotion office.

The new promotion rules are valid for all PhD students at the Charité. Other promotion tracts within BIOQIC are for mathematics at the TU (for students under the direct supervision of Prof. Gitta Kutyniok) and for chemistry at the FU (for students under the direct supervision of Prof. Ulrich Abram). We have adapted our website according to the new promotion rules, especially the advised number of publications. The aim for the PhD degree at Charité should be a cumulative promotion based on three publications, one of which as a first author and two as co-authors. One of BIOQIC's unique concept is tandem supervision of PhD tracts shared between PIs from clinical and basic research fields. Therefore, the collaborations among our PhD students from different fields should be reflected by co-authorships.

With respect to formal PhD subscription requirements, please note that non-German EU and in some cases non-EU certificates don't have to be recognized anymore by the 'Konferenz der Kultusminister der Länder in der BRD' when they are listed in the 'anabin' database of foreign certificates (<http://anabin.kmk.org/anabin.html>). Be aware, however, that you need to provide a print-out of the database with your promotion registration.

For those of our PhD students who would like to immatriculate at the Charité and do not possess a German certificate it is important to note that one needs to hand in a translated version of your bachelor certificate, in addition to your master! This applies to all degrees acquired outside Germany, also those of the European Union.

I would also like to remind that participation to the good scientific practice seminars at the Charité is an obligation for a promotion at Charité, check the [website](#) for more information.

4. GEFA Panel

The GEFA Panel evaluates applications for gender equality measures and is involved in the planning of activities to support female and male scientists in their careers, for example with child care support. The panel consists of the following members: Ingolf Sack, Jeanette Schulz-Menger, Yavuz Oguz Uca and Judith Bergs. As announced on BIOQIC Day, Yavuz is the student representative of the panel and you can approach him, but of course also the other members, if you have any questions regarding gender issues or would like to apply for equality measures.

This year BIOQIC supports in 2017 and 2018 the following gender and equality activities at Charité:

- Child care support by Kids Mobil: emergency supervision and supervision outside of the office times, also in a parent-child room
- Refurnishing of parent-child room at CCM, including integration of office space with computer, fridge and possibility to supervise more children at the same time (for example during seminars or workshops).

- Transportable suitcase with toys, play carpet etc., to bring to seminars/workshops or to the office.
- Equipment for nursing room.
- Home office equipment: we purchased a laptop computer for BIOQIC associated PhD student Leili Riazy who has a 1 year old child to provide a more flexible work environment with a home office.

Please contact me if you are interested, I can give you more details!

5. BIOQIC IT and server app

The BIOQIC IT and server app has been developed by Tom Meyer within his Bachelor thesis of computer sciences at the Free University Berlin, Tom is a student member of BIOQIC. The idea behind the BIOQIC-Apps website is to have a central server for quantitative image reconstruction with a user-friendly interface that is easy to use and accessible for Charité-internal and external users. The website is a Java web application, which is currently running compiled Matlab scripts for the import and processing of MRE. Users can upload the data, as well as, after processing, download the result in DICOM, Matlab and NIFTI format, so that the results can be easily used with other software. The application is able to run basically any kind of console command, so it is extendable for all kinds of image reconstruction, including basic preprocessing programs such as phase unwrapping, image registration, distortion corrections etc. The app will be extended with a data repository. Currently MRE wave data are available on the server along with different wave image reconstruction programs.

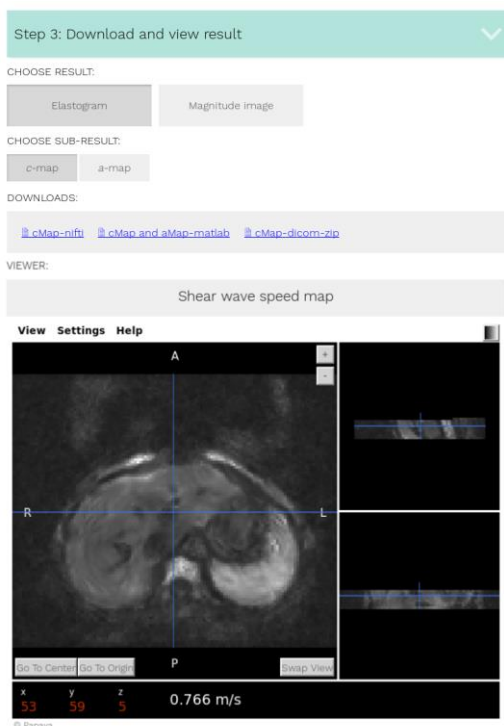


Figure: screenshot of the BIOQIC app, an example of an elastogram through the abdomen of a volunteer is shown (this volunteer has a fairly healthy liver which can directly be seen by the higher stiffness (brighter intensities) in the spleen as compared to the liver 😊)

Links:

- [Internal server \(only within the Charité firewalls\)](#)
- [External server \(rest of the world\)](#)

A short introduction seminar on the app, by Tom Meyer, is planned for January 30th, 2018. Please contact Tom for questions or further information (bioqic-app@charite.de).

6. BIOQIC Day 2018

BIOQIC Day 2018 is planned for September 26-28th. The organizing committee consists of student volunteers (Azadeh, Ledia, Sanam, Yavuz and Patrick) together with Ingolf Sack and me. The plan is to have the student talks together with invited keynote speakers during the first one and half day, followed by a retreat in a yet to be determined place. We have confirmed attendees from our advisory board from Prof. Julia Schnabel, Kings College London, Prof. Dick Ehman, Mayo Clinic, Rochester, MN, USA and Paul Janmey, University of Pennsylvania, USA.

7. Publications

BIOQIC poster contributions:

- **1st International MRE Workshop in Berlin, September 28-29, 2017**
 - Gergely Bertalan et al. - Tomoelastography of the mouse brain
 - Felix Schrank et al. - Heparin as MRE phantom material with viscoelastic powerlaw properties similar to soft biological tissues
- **Annual Meeting of the Interdisciplinary German Network Molecular Imaging' (MoBi2017), Aachen, November 23-24, 2017**
 - Yavuz O. Uca et al. - Magnetic Resonance Imaging (MRI) of Experimental Atherosclerosis by Late Gadolinium Enhancement (LGE)

Please send me any missing contributions so I can publish them on our website!

BIOQIC book:

The [BIOQIC book](#) "Quantification of Biophysical Parameters in Medical Imaging" will be published in January 2018 and provides a selection of essential knowledge on the image-based quantification of biophysical parameters for the purpose of clinical diagnosis. The book will be of interest to all who recognize the limitations of basing clinical diagnosis primarily on visual inspection of images and who wish to learn more about the diagnostic potential of quantitative and biophysics-based medical imaging markers and the challenges that the paucity of such markers pose for next-generation imaging technologies.

Acknowledgement of BIOQIC in publications

For publications (including conference contributions), please refer to BIOQIC in your acknowledgements:

xxx gratefully acknowledges funding from the German Research Foundation (GRK2260, BIOQIC)

Please send me all accepted papers and conference presentations!

BIOQIC student Yavuz Uca wins poster award at MoBi2017

At the 'Annual Meeting of the Interdisciplinary German Network Molecular Imaging' (MoBi2017), which took place in Aachen on 23-24 Nov, Yavuz won the poster award representing his research group on the study: 'Magnetic Resonance Imaging (MRI) of Experimental Atherosclerosis by Late Gadolinium Enhancement (LGE)'. Congratulations Yavuz!

Thank you all very much for your contributions and efforts! We had together a great year 2017 and terrific start of our Graduiertenkolleg!

On behalf of the BIOQIC executive committee, I wish you relaxing holidays and the very best wishes for 2018. I would like to take this opportunity to forward these beautiful words of Jaques Brel to conclude 2017:

Je vous souhaite d'être vous – Jaques Brel

Je vous souhaite des rêves à n'en plus finir,
et l'envie furieuse d'en réaliser quelques-uns.

Je vous souhaite d'aimer ce qu'il faut aimer,
et d'oublier ce qu'il faut oublier.

Je vous souhaite des passions,
Je vous souhaite des silences.

Je vous souhaite des chants d'oiseaux au réveil
et des rires d'enfants.

Je vous souhaite de respecter les différences des autres, parce que
le mérite et la valeur de chacun
sont souvent à découvrir.

Je vous souhaite de résister à l'enlèvement,
à l'indifférence,
aux vertus négatives de notre époque.

Je vous souhaite enfin de ne jamais renoncer à la recherche, à
l'aventure, à la vie, à l'amour,
car la vie est une magnifique aventure
et nul de raisonnable ne doit y renoncer
sans livrer une rude bataille.

Je vous souhaite surtout d'être vous,
fier de d'être et heureux,
car le bonheur est notre destin véritable.

I wish you to be yourself – Jaques Brel

I wish you dreams without end
and the imperious urge to make a few of them come true.

I wish you to love what has to be loved,
and to forget what has to be forgotten.

I wish you passions
I wish you silences

I wish you birdsongs as you wake up
and children's laughter

I wish you to respect the differences of others, because the
virtue and worth of everyone
often remain to be discovered.

I wish you to withstand bogging down,
indifference,
negative virtues of our time.

I wish you at last never to give up the research, adventure, life,
love.
For life is a wonderful adventure
and no sound mind should give it up
without a tough fight.

I wish you above all to be yourself,
proud of being it and happy,
for happiness is our true destiny.

All the best for 2018,

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