Protocol of the Online Kick-Off Workshop Meeting realized on the 14th of May 2020, hosted by S. Fuchs:

Keeper of the minutes: B. Norden (all times UTC)

Participants (23):

Beardsmore, Graeme          Harris, Robert          Ray, Labani
Chiozzi, Paolo              Jennings, Sam           Roy, Sukanta
Dedecek, Petr               Liu, Shaowen            Richards, Maria
Espinoza-Ojeda, OM          Negrete-Aranda, Raquel  Smith, Jared
Fuchs, Sven                  Neumann, Florian        Tanaka, Akiko
Gola, Gianluca              Norden, Ben              Verdoya, Massimo
Gosnold, Will               Poort, Jeffrey          Villinger, Heinrich
Hamza, Valiya               Rajver, Dusan

1:00 pm  Start of the meeting and welcome by S. Fuchs. At the beginning, all participants agreed on B. Norden as the keeper of the minutes. In addition, S. Fuchs asked all participants for their approval to record the meeting. There were no objections, so the recording of the meeting was started. The video of the meeting should be available for IHFC members and meeting participants.

1:02 pm  All agreed on the proposed agenda:

1:05 pm  Topic 1: The revision process of the IHFC global heat-flow database

S. Fuchs presented the main results of the IHFC-IUGG Meeting in Montreal and summarized the main task of the future global heat flow database (GHFDB). The GHFDB should represent an authenticated database containing information on the type of heat flow, provide information on its quality, and fulfill the requirements of modern research data infrastructure including detailed meta data description and database interoperability. To reach that goal, firstly, the basic structure as given by Jessop et al. (1976) needs to be revised and extended. Secondly, quality criteria need to be established based on the newly defined items of the database that allow a quality control and ranking of the data. S. Fuchs suggested a step-wise procedure according to these tasks: self-organized working groups should take care of database items for specific subtopics: thermal rock properties, temperature, heat-flow determination, meta-data and flags. After the respective group members will define all necessary items (database entries), the working results will be presented to all workshop participants. This will start a next round of item iteration. Afterwards, based on a common understanding of the items (database entries), the community will start discussing heat flow quality criteria to be included in the database. The resulting new GHFDB structure will then form the basis for new data entries and will be used for a possible reassessment of existing data.

1:20 pm  Topic 2: How to update the IHFC database structure.

A lively discussion on the proposed thematic groups and the general expectation of the content
and functionality of the GHFDB started. H. Villinger suggested reducing the thematic groups and pointed to the differences in challenges related to continental and marine heat flow determinations. All agree on the different setting of continental and marine heat flow, while a need is realized to make primary data available to the users. G. Beardsmore stated that “primary data are temperature logs, thermal conductivity values, algorithms used to derive the heat flow values, etc.,” and that “the GHFDB does not need to hold these data, but should include digital pointers to the digital repositories of the primary data.” W. Gosnold also supported the extension of the database: “The more data on the database, the more useful it is.” S. Roy asked the question what the database should look like and if it would represent a duplication of already published data. S. Fuchs explained that the concept of Jessop is outdated (i.e. that heat flow is quality checked by primary literature / publications). Databases nowadays should include metadata and the GHFDB needs to be proven and quality-checked by the IHFC experts. The discussion then focused on how to treat the marine and continental heat flow topic. Although several participants voted for an own marine heat flow group, finally all participants agreed on the originally proposed thematic groups. Each group shall than consider the marine and continental heat flow conditions separately. R. Negrete-Aranda pointed out that in each group experts from both frameworks should be present. R. Harris commented that the subdivision in continental and marine may be useful for some topics, for others not. However, because all documents will be shared within the participants in a second iteration round, all participants agreed on the proposed thematic groups. Using the chat function of the online meeting platform, the participants express their preferred group affiliation.

2:00 pm The four working groups for the revision and identification of database entries were populated by the workshop participants. The group members are (in blue marine heat flow experts, all other continental heat flow experts):

**Petrophysical properties:** Fuchs, Beardsmore, Dedecek, Ray, Jennings

**Temperature:** Richards, Gosnold, Rajver, Roy, Dedecek, Espinoza-Ojeda

**Heat flow determination:** Harris, Gola, Neumann, Verdoya, Chiozzi, Villinger, Tanaka, Hamza

**Meta-data and flags:** Poort, Norden, Negrete-Aranda, Smith

S. Fuchs and B. Norden will prepare a task description and provide item examples as given in Jessop et al. (1976) as a starting point for the working groups.

2:15 pm Topic 3. Presentation of available tools for the working process

S. Fuchs presented google.docs, zoom and mailing lists as possible working tools. There were no objections from the community.

2:20 pm The schedule for the next steps was modified. H. Villinger suggested to extend the working period of the self-organized thematic groups. Finally, the following scheduling was agreed on:

- **14th May**
  - Kick off meeting (zoom)
- **1st phase (3.5 months)**
  - Self-organized work in thematic groups
- **2nd September, 1 pm UTC**
  - Video meeting / Presentation of working group results
  - Distribution of first working group results to all participants for further iteration (google docs);
  - Discussion on quality criteria
- **2nd phase (3 months)**
- **7th December, 1 pm UTC**
  - Video meeting / Stepwise discussion and approval of items
  - Discussion and approval continued
  - (one week later - optional)
- **Afterwards...**
  - Preparation paper draft (all participants - IJTHFA 2021)

2:30 pm Thanks to all participants and closure of the meeting.