

From: Christophe P Rossel <rsl@zurich.ibm.com>
Sent: Monday, April 6, 2020 11:05 AM
To: Markus Nordberg
Cc: EPS-TIG-MB (EPS Technology Innovation Group Management Board)
Subject: RE: Draft minutes...new ideas for a workshop
Attachments: all posters EPS50 OK.pdf

Dear Markus, dear all,

Here some personal ideas:

To my view, **Physics for Health** is a very good topic involving directly the concept of New Challenges in Physics.

As a reminder, EPS produced for its 50th anniversary in 2018 a series of banners or roll-ups on 12 topics related to *Physics in Your Life*: including *Particles for Health* and *MRI for Medical Diagnostics*. Have a look at them either in the attachment or under https://www.eps.org/page/resources_documents

Now I suggest here the following ideas based on our last discussion for an hands-on workshop:

More theoretical themes:

- Simulation of epidemic spreading and other related statistics. (I contacted a friend at Uni Zurich, theoretical physicist working on such modelling)
- Introduction to calculation of protein folding using DFT
- Statistical methods in physics: software and analytics
- Drugs and rare disease treatments, etc.
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More experimental themes:

Practical instrumentation for medical applications:

- How to build a cheap and efficient ventilator
- Sensors for medical applications (flowmeter, pressure sensors, gas sensors, etc), injection systems for self-medication, digital microscopy for medical diagnostics, etc.
- Additive manufacturing of materials for tools, prostheses in medicine and other applications
- Robotics: medical robots, tele-manipulators, surgery, orthopedics robots, etc.
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Possible contacts with CH industry:

- SENSIRION: <https://www.sensirion.com/en/about-us/newsroom/news-and-press-releases/detail/news/flow-sensors-used-in-industry-leading-hospital-to-home-ventilators/>
- YPSOMED: <https://www.ypsomed.com/en/>
- SWISS PRECISION DIAGNOSTICS GmbH
- SYNTHES HOLDING AG (previously owned by Hansjoerg Wyss)
- ACTELION <https://www.actelion.com/>
- SAMAN TREE Medical SA <https://samantree.com/>
- Etc.

Contact with research centers like:

- EPFL, ETHZ, PSI, EMPA, CERN, etc. that would be certainly willing to help
 - or organisations working on healthcare innovation.
- like <https://swisshealthcarestartups.com/en/about-us>

As a latest information I just read that a group of physicists and engineers at CERN have designed a new ventilator for COVID-19 patients that can be easily manufactured:

<https://www.scmp.com/news/world/article/3078471/coronavirus-furloughed-cern-physicists-release-design-covid-19-patient>

Everyday you can read that companies are working on this topic, for example the car industry has been called for help: <https://www.independent.co.uk/news/health/coronavirus-ventilators-fiat-nissan-general-motors-ford-latest-a9420381.html>

Conclusion: we shall certainly find enough support to work on something related to health physics. If we engage external people from a company or research organisation we should pay attention to have them helping on hands-on experiments and not just on giving talks.

Hopefully this email will trigger further ideas.

Best regards

Christophe

From: "Markus Nordberg" <Markus.Nordberg@cern.ch>
To: "EPS-TIG-MB (EPS Technology Innovation Group Management Board)" <EPS-TIG-MB@cern.ch>
Date: 03/26/2020 11:49 AM
Subject: [EXTERNAL] RE: Draft minutes

Rev minutes

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Markus Nordberg
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From: Markus Nordberg <Markus.Nordberg@cern.ch>
Sent: Thursday, March 26, 2020 11:43 AM
To: daniel.lundin@liu.se
Cc: EPS-TIG-MB (EPS Technology Innovation Group Management Board) <EPS-TIG-MB@cern.ch>
Subject: Re: Draft minutes

Sorry typo!!!! Should read 23.4!!!

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From: Daniel Lundin <daniel.lundin@liu.se>
Sent: Thursday, March 26, 2020 10:47:29 AM
To: Markus Nordberg <Markus.Nordberg@cern.ch>
Cc: EPS-TIG-MB (EPS Technology Innovation Group Management Board) <EPS-TIG-MB@cern.ch>
Subject: Re: Draft minutes

Hello Markus,

Thanks for the meeting minutes. Sorry for missing out on yesterday's call. In the minutes it says that the next phone meeting will be on April 25, but that is a Saturday. Please confirm.

Cheers,

Daniel

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Daniel Lundin
Visiting Professor

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Publications: <http://www.researcherid.com/rid/C-8741-2009>

Check out our new book on HiPIMS:

<https://www.elsevier.com/books/high-power-impulse-magnetron-sputtering/lundin/978-0-12-812454-3>

Den 3/26/2020 kl. 10:09 AM, skrev Markus Nordberg:

Hello Chris, my pleasure. Kind regards, markus

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From: Christophe P Rossel <rsl@zurich.ibm.com>

Date: Thursday, 26 March 2020 at 10:00

To: markus nordberg <markus.nordberg@cern.ch>

Cc: "EPS-TIG-MB (EPS Technology Innovation Group Management Board)" <EPS-TIG-MB@cern.ch>

Subject: Re: Draft minutes

Thank you Markus for organising the meeting yesterday and for this quick action with the minutes. Highly appreciated.

Take care

Chris

From: "Markus Nordberg" <Markus.Nordberg@cern.ch>

To: "EPS-TIG-MB (EPS Technology Innovation Group Management Board)" <EPS-TIG-MB@cern.ch>

Date: 03/25/2020 11:17 PM

Subject: [EXTERNAL] Draft minutes

Hi all, pls find attached the draft minutes of today and the previous meeting. cheers markus

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[attachment "Minutes (7) of EPS TIG Management Board - Copy.docx" deleted by Christophe P Rossel/Zurich/IBM]

[attachment "Minutes (8) of EPS TIG Management Board.docx" deleted by Christophe P Rossel/Zurich/IBM]

[attachment "Minutes (8) of EPS TIG Management Board.docx" deleted by Christophe P Rossel/Zurich/IBM]