EVENT ZOOM CHAT SCRIP:

08:04:19	From Jay : Hello from NJ
08:04:42	From carlo saverio iorio : Hi from Brussels
08:04:54	From Frank Koppens : Hi from Barcelona
08:05:07	From Manjodh Kaur : Hello from India
08:05:16	From Peter Morgan : Hi from Bristol
08:05:18	From Tony F. Diego : Hi from Euskadi
08:05:20	From Yendry Corrales Ureña : Hi from Costa Rica
08:05:21	From Adam Dick : Hi from Canada
08:05:23	From Rüveyda Yiğitsoy : Hello fron Turkey
08:05:24	From Raquel Almeida : Hi from Portugal
08:05:34	From Dr. Joseph J. Laux : Hello from Switzerland
08:05:41	From Laetitia Gazagnes : Hi from France :)
08:05:42	From Damian Webb : Hi form Manchester England
08:05:56	From Gemma Rius : Hi from Barcelona

08:06:00 From Paula Sbaite Duarte dos Santos : Hi from Manchester,UK

08:06:03 From CB : Hi from Manchester, UK, EU

08:06:07 From Nrusingha Chaudhury : Hi,

08:06:12 From Debbie Nelson : Hello from the Mississippi Gulf Coast USA

08:06:18 From Nrusingha Chaudhury : Good moring from TGMRC, India

08:06:27 From Andreas : Hi from Denmark.

08:06:38 From Silmara Caldas : Good morning from Brazil :)

08:06:52 From A T Charlie Johnson : Greetings from south philly

08:07:00 From Lloyd Tronco : Hi from the Philippines!

08:07:16 From Yu Noda : Hello from Austin, Texas

08:07:17 From carlo saverio iorio : How nice to see all these countries joined together!

08:07:27 From gregorynichols : Good morning, from Knoxville, Tennessee!

08:07:30 From Aaron Washington : hello from Aiken SC

08:07:54 From ryancorpuz : Hello everyone..

08:08:10 From Sébastien Garbarino : Hello from Montréal

08:08:18 From Rafaela Marcelino : Hello everyone, good morning from Brazil!

08:08:26 From iPhone : Hello from Japanese

08:08:35 From Nishitha Prashanth : Hi all, from Bangalore,India

08:09:17 From GUIDETTIG : Hi Everyone from Italy!

08:09:17 From Aravinth Panch : Aravinth - representing German and Sri Lankan chapters and coordinating the social impact working group of AMPT.

08:11:08 From Jo Anne Shatkin : good morning from Cape Cod, Massachusetts

08:11:54 From Aravinth Panch : This is Aravinth from Berlin - representing German and Sri Lankan chapters and coordinating the social impact working group of AMPT.

I'm a co-founder of DreamSpace Academy - a community innovation center in Sri Lanka run by underprivileged youth from the war affected region.

More info about DreamSpace Academy, Sri Lanka can be found at https://dreamspace.academy and my LinkedIn at https://www.linkedin.com/in/aravinthpanch

P.S : With global community scientists, we have co-developed a cheaper rapid test kit, to detect SARS-CoV-2 in patient samples, without the need for long and complicated diagnostic protocols, lab

equipment and experts. BioTech Labs around the world are joining their hands to get this open source test kit locally produced in low-resource regions (Global South).

08:12:14 From Laura Conference Manager : Welcome everyone! I am so glad to see you all!

08:13:02 From carlo saverio iorio : Thanks Laura for organizing this complex event!

08:13:43 From Jo Anne Shatkin : James Ede and I are representing Vireo Advisors, experts in safety and global regulatory aspects of nano, bio and advanced materials and technologies

08:14:03 From Jo Anne Shatkin : www.vireoadvisors.com

08:14:58 From Jorge Aponte Gómez : How close are we are to obtain a nano textile to use in clothes and EPP that is washable and neutral for virus and pathogens?

08:16:21 From Kari Hjelt : https://graphene-flagship.eu/news/Pages/COVID-Taskforce-Announcement.aspx

08:17:46 From Jorge Aponte Gómez : Thanks

08:25:54 From Jorge Aponte Gómez : Anyone is working with microgravity?

08:28:33 From Donald Bray : A paper of interest.

08:30:47 From carlo saverio iorio : me

08:36:12 From Adam Dick : www.anaxiomresearch.com

08:43:05 From Laura Conference Manager : If you have questions for the panelists, please post them here so I can read them at the end of their talk

08:43:21 From Jay : What are the optical and electrical properties of SARS-CoV-2? The coronavirus has kind of a core/shell structure. Does it exhibit any quantum (dot) like behavior?

08:49:42 From Jay : In droplets, does SARS-CoV-2 clump or align into some level of a period structure? Is the dielectric or conductive properties vary enough to produce a photonic crystal like response?

08:51:26 From jhoffman : Vladimir, what is U of Manchester doing with regards to Covid research and mitigation?

08:51:47 From Manjodh Kaur : The interactions of the surface proteins of SARS_COV-2 with the 2D materials will help in fabricating reliable nano sensors?

08:55:06 From Vladimir Falko : Answering Q from jhoffman: UoM runs about 70 fast-response project, including development of filters, antibody tests, equipment for antiviral liquids. This is very broad, some of these are graphene related, but much more using different materials.

08:58:35 From Jay : I'm curious about the material properties (dielectric constant, capacitance, magnetic properties, optical properties, acoustic properties) of the coronavirus, its morphology individually and in collection in droplets. What are the best papers on the material properties of the SARS-CoV-2?

09:06:47 From Masa Kurimoto : I think that we should have some kind of paper describing regional topics or some other points of discussion which are for issues we should discuss globally. We can use this to provide effective ideas using graphene related technology. If we can make this as regional by regional discussion, we can clarify the regional issues more clear. Then we will be able to provide effective idea as solution of issues. This will be very helpful for global roadmap.

09:07:46 From Jorge Aponte Gómez : Let’s make working groups, informal one

09:10:46 From Jorge Aponte Gómez : across many topics

09:12:41 From Zina Cinker : For the list of AMPT working groups and regional chapter members : https://www.amptnetwork.com/ampt-organization

09:17:23 From Jorge Aponte Gómez : we need to address the crisis with generoity

09:20:35 From Damian Webb : Please click to connect with me linkedin.com/in/damian-graphene

09:22:36 From Bonnie Tsim To Zina Cinker(Privately) : Wow! The roadmap! I started preparing for McKinsey interviews this week and the roadmap is incredible. The strategy and thinking behind it is very high level - reminds me of management consulting! Also, all conferences and workshops should run like this one, such excellent timekeeping and fast paced. Thank you again. I can't believe how fast this is moving and that my supervisor Volodya is here!

09:24:32 From jose : Our company www.alkimat.com.br is a manufacturer and service provider of additive manufacturing laser based powder bed fusion equipments and work with graphene based metal composite research

09:24:45 From jose : please fell free of contact for cooperation

09:26:53 From Zina Cinker : Greg's working group : https://www.amptnetwork.com/wg-and-committees/applied-public-health-ehs-working-group

09:28:34 From carlo saverio iorio : Thanks Jose!

09:33:08 From Jo Anne Shatkin : I can’t hear Greg. is it just me?

09:33:27 From Frank Koppens : I can hear him fine

09:33:47 From Jay : Does anyone make a NIST like SARS-CoV-2 Standard Reference Material (SRM)?

09:34:37 From Kazi : hi Jay! We will do that in future from our WG

09:35:00 From Jay : Hi Kazi, Thank you!

09:36:41 From Paula Sbaite Duarte dos Santos : Hi Adrian, good afternoon

09:42:20 From Niranjan Hanagud Nagaraj : Other than for SARS Covid treatment, has Graphene been used in medical devices for other type of medical complications, esp dentistry

09:42:24 From Jay : I'm interested in collaborating on developing inexpensive SARS-CoV-2 detection systems. I have a small consulting business providing electrical engineering and electronic prototyping for communications, sensors, power, and undersea application. I work with graphene and can build most any sensor into a system. Contact me at LinkedIn at https://www.linkedin.com/in/pbrane/

see my website https://www.p-brane.com or by email at consultant@p-brane.com

09:47:37 From Zina Cinker : We will make the recording of the event available to everyone

09:48:09 From Mosongo Moukwa : Great! Thank you

09:48:15 From Paula Sbaite Duarte dos Santos : Great Zina! Thank you

09:48:32 From Jorge Aponte Gómez : if time schedule could be part of the email it would be great

09:48:37 From Zina Cinker : We will also make a script of the public chat available

09:48:57 From Zina Cinker : agenda available : https://www.amptnetwork.com/events/vision-accelerator-event-july-28-2020

09:49:22 From Jay : I have planar Tech masks! There great.

09:49:40 From Zina Cinker : Jay how are they? :)

09:50:40 From Frank Koppens : What's the price?

09:50:46 From Frank Koppens : (of the mask)

09:51:09 From Zina Cinker To Adrian Nixon(Privately) : Adrian, would be ok if we end at 4PM?

09:51:32 From Cinzia Spinato : how about the safety of the mask itself? CE marking? how is the Graphene embedded in the tissue? which biocomaptibility tests did you eprform?

09:51:40 From Jay : The are well made and work well.

09:51:50 From Paola : Is there a way to support the AMPT financially?

09:53:39 From Prashanth Makaram : Can you incorporate Graphene into masks made of cotton or other materials that might leave a lot of plastic waste ?

09:53:50 From Jo Anne Shatkin : do you plan to seek US NIOSH acceptance or other countries?

09:54:14 From Ray Gibbs : yes you can incorporate Graphene into cotton

09:54:57 From Ray Gibbs : US accreditation is important and we will look at going through Nelson Labs

09:55:00 From Jay : Ray, Can you talk more about how you test the masks to meet NIOSH and similar standards?

09:55:14 From Shawana Tabassum : Ross, what do the bio-transistors measure?

09:56:50 From Anis Rahman : Please comment on the layers in the graphene exfoliate usable for this. What is the volume expected? Thanks

09:57:32 From Jo Anne Shatkin : Jay-I can. NIOSH actually does the testing. has to meet standards.

09:57:33 From Ray Gibbs : The labs take bacteria and add to the face mask and then see if the surface after 24 hours still have the bacteria - such as E.Coli

09:58:56 From Manjodh Kaur : Does the PCR covid test diffrenciate between living and semi-live SARS-COV-2?

09:59:11 From Shawana Tabassum : @Ross, how soon you get the result?

09:59:25 From Ray Gibbs : We use Few Layered Graphene (20 micron flake size)from First Graphene as the raw material supplier that is incorporated into a special ink that we coat on the polyester

10:00:10 From Jo Anne Shatkin : https://www.cdc.gov/niosh/npptl/respirators/testing/default.html

10:02:29 From Shawana Tabassum : @Ross, will that be a small, portable device?

10:02:47 From carlo saverio iorio : Hi Paola, yes! you can contribute financially to the AMPT network through Paypal. All funding will be used for AMPT activities especially for awareness campaigns. All amounts are welcome!

10:09:14 From Ross : Shawana, the way the sensor works is we use graphene as a conductive channel in a circuit; we call it a transistor but it's more like an analog resistor. The biochemistry becomes effectively a di-electric. People often think what we do is electrochemistry, but it's not; electrochemistry measures charge transfer, and while charge transfer will show up, we also see charge rearrangement, conformational change, and mass build-up. The capture molecules are at scattering sites so they have an outsized effect on signal, and the non-capture sites have complex surface chemistry to reduce noise.

10:10:24 From Ross : they physical properties we then measure are the change in resistance of the graphene and the change in capacitance of the liquid directly above the transistor itself, change as measured from a baseline measurement of the conductivity of the sample. We use liquid gating, not back gating, so we don't have background effects from charge or ph or salts

10:10:41 From Ross : we usually publish in open access, there's amuc more technical description here you can read: https://www.nature.com/articles/s41598-019-38700-w

10:12:02 From Ross : Shawana - time to result is pretty biologically dependent and it depends on the assay. If we're just doing yes/no, then it can be from 10 seconds to 5 minutes depending on the capture molecule affinity. If we're doing quantitation or something else, you usually want to wait for saturation so we'd usually go longer until the sensor equilibriates

10:13:12 From Ross : Manjodh - the problem with all life science detection methods is they look for something, and that something hopefully correlates to the question you're asking. The PCR test

specifically looks for the presence of viral RNA in a nasal swab or throat swab. The assumption is that the presence of RNA means you're sick. However, that assumption may not be correct

10:14:03 From Ross : it is well documented that people are positive to the test but show no symptoms, what we call asymptomatic carriers. It is also well documented that people are positive and show no symptoms and are not contagious. There are no answers yet for why this is

10:14:30 From Ross : if you show symptoms and test positive, you are positive. That much we know. Everything else we have theories but no conclusions

10:15:50 From Manjodh Kaur : Thank you Ross

10:15:53 From Prashanth Makaram : @Ross have you managed to overcome the saling of graphene devices, i.e. device to device repeatability ?

10:17:16 From Ross : Shawana - our goal would be portable, ideally deployable outside the lab. A robotic system is what we use today because it's much more careful with the biochemistry, but that's because we're just not microfluidics experts yet; we'll partner to do that. Microfluidics would make this entirely hand-held. But from an instrument wise, it's low power and electronic; with good resources it can be miniaturized pretty easily.

10:18:14 From Damian Webb : Antibacterial coating

10:20:16 From Athir Haddad : Hi from University of Basrah in Iraq

10:20:46 From jhoffman : welcome!

10:20:48 From Manolo Almagro : Hi Everyone, if you have a product/solution/research that you think could be applicable in our Commerical ecosystem. You can contact me or Ben Gauthier on the AMPT slack channel.

10:20:59 From carlo saverio iorio : Huge welcome Athir!!

10:21:03 From Laura Conference Manager : Hi Athir!!!

10:21:23 From Ross : Prashanth yes, see that Nature paper. We had to invent several QC methods because the standard in academia is fine for 1 or 2 devices, but we make thousands of chips pass through our QC; things like Raman or AFM are just too slow. I'm a Supply Chain guy, so I designed a system that allowed for checks at multiple points removing failures in the early stages so it reduces wasted cost, automated QC collection so we can test every single chip, and methods that we've been able to determine coorelate to sensor response, and help us determine what defects affect variation so we can focus on what to improve. This is an ongoing process, but today we're pretty good. We're pretty damned proud of it; our yields would make Intel proud.

10:21:49 From Damian Webb : OPPORTUNITY: antibacterial coating provides 99.9% Kill Rate for mRSA and Ecoli FOR LIFETIME OF COATING - certified JISZ2801 ISO22196 interested in commercialisation and collaboration opportunities

10:23:34 From Jay : Hi Manolo, would you provide a link to your AMPT slack workspace?

10:26:44 From Zina Cinker : Hey Jay and everyone, you can apply to become a part of the network /regional chapters of AMPT

10:26:50 From Zina Cinker : https://www.amptnetwork.com/ampt-network-application

10:26:56 From Deji Akinwande : hello everyone from Deji from Univ of Texas

10:27:21 From Niranjan Hanagud Nagaraj : Thank you Baig & Thank you Laura to take my question

10:27:43 From carlo saverio iorio : Hi Deji!

10:29:10 From Zina Cinker : Once you are a member, you will receive access to Slack and AMPT channels

10:30:04 From Zina Cinker : Hey Deji, welcome

ura to take my question

10:27:43 From carlo saverio iorio : Hi Deji!

10:29:10 From Zina Cinker : Once you are a member, you will receive access to Slack and AMPT channels

10:30:04 From Zina Cinker : Hey Deji, welcome

10:32:12 From Manolo Almagro : Here's the public SLACK channel for Q Division US WG https://ampt-hq.slack.com/archives/C0181JR14GL

10:33:00 From Mosongo Moukwa : Interesting! Will check it out! Thank you

10:35:12 From Aravinth Panch : @Marco: Will your courses provide hands-on or project based learning on NanoTech?

10:35:50 From Manjodh Kaur : @Marco interesting looking for ward to you

10:36:15 From Mavi Figueres : how do the students get the materials, like Graphene powders, to study?

10:36:23 From Jiaxing Huang : Perhaps time to design student projects that can be done safely and effectively at home?

10:37:03 From baig : Another way to teach students about materials is to teach simulations at home

10:37:34 From Zina Cinker : Everyone, If you have ideas or would like to provide feedback, I encourage you to join the STEM WG and contact Marco and myself

10:37:35 From baig : It's easy and it will give students more grasp in fundamental physics, chemistry and math.

10:40:21 From Mavi Figueres to Zina Cinker(Privately) : always

10:40:54 From baig : Carbon nanotube forest

10:44:44 From Shawana Tabassum : @ Dr. Terrones, How do you selectively capture different viruses?

10:46:04 From Anis Rahman : Please explain how you achieve specificity for a single virus. Thanks

10:47:21 From Manjodh Kaur : @ Mauricio How efficient are your devices in terms of reusability?

10:48:43 From Mauricio Terrones (PSU) : These are disposable cartridges and re one time use but each sample and cartridge could be analyzed with Raman spectroscopy and then use PCR or NGS to confirm the virus existence from the same device.

10:49:49 From Mauricio Terrones (PSU) : The device can also be used to replicate the viruses and help vaccine development.

10:55:06 From Jorge Aponte Gómez : can you make that document available?

10:55:36 From Zina Cinker : Yes, we will make presentations available to everyone

10:55:59 From Jorge Aponte Gómez : no, i mean that article

10:56:43 From baig : Jorge, if you mean Dr. Huang's article, you can find it online, also in our website.

10:56:48 From Jay : Hi Mauricio, Do you see a performance difference between the types of carbon nanotubes (semiconducting vs insulating)?

10:57:25 From Zina Cinker : Baig, could you send the link to Jiaxing's article?

10:58:04 From Shawana Tabassum : @Zina: https://pubs.acs.org/doi/10.1021/acsnano.0c02618

10:59:01 From baig : Great insight! Dr. Huang

10:59:06 From Mauricio Terrones (PSU) : The tubes are multiwalled so they behave more like a semiconducting ones. They are also N-doped, something I did not emphasize

10:59:51 From Mavi Figueres : BRAVO! well said!

11:00:03 From Manjodh Kaur : Great advice and explanation Dr Huang

11:00:08 From carlo saverio iorio : really a great inspiration from Jiaxing

11:00:30 From Jorge Aponte Gómez : thank you.

11:00:43 From Kazi : Prof. Huang, what's your take on about AMPT? :)

11:01:30 From Jiaxing Huang : Sorry, I was disconnected briefly.

11:03:03 From Jay : For anyone interested in biosensors, checkout Principles of Electronic Biosensors from edx https://www.edx.org/course/principles-of-electronic-biosensors

11:03:47 From Mauricio Terrones (PSU) : Here is our recent PNAS paper

11:03:54 From Mauricio Terrones (PSU) : https://www.pnas.org/content/117/2/895

11:05:37 From Paula Sbaite Duarte dos Santos : Thanks @Mauricio

11:06:23 From Anis Rahman to Zina Cinker(Privately) : So, our approach is terahertz spectrometer based, which we make as well... Wish to share with your audience...

11:06:46 From Jorge Aponte Gómez : there was a meeting for the vaccine and the future deployment. Maybe this group can help. There are a lot of money.

11:06:48 From Jorge Aponte Gómez : https://www.nationalacademies.org/event/06-25-2020/public-private-partnership-responses-to-covid-19-and-future-pandemics-a-workshop

11:07:36 From Shawana Tabassum : It was a great discussion

11:09:19 From Mauricio Terrones (PSU) : there was a meeting for the vaccine and the future deployment. Maybe this group can help. There are a lot of money.

Answer: Thanks a lot for the info. I will check it out.

11:10:39 From Jorge Aponte Gómez : i was in the first meeting, https://www.nationalacademies.org/news/2020/07/national-academies-launch-study-on-equitable-allocation-of-a-covid-19-vaccine-first-meeting-july-24

11:11:25 From Jorge Aponte Gómez : we can use this technologies to make available the vaccine anywhere

11:11:32 From Jorge Aponte Gómez : soon

11:13:46 From Paula Sbaite Duarte dos Santos : Thank you Raquel

11:14:43 From carlo saverio iorio : thanks Rachel! Waiting for collaborating

11:15:50 From Jay : Thank you. Remember to save the chat!

11:15:58 From Yu Noda : Thank you Raquel!

11:16:05 From Adolfo Wilches : Thanks you so much to all of the speakers and the organization. Really a short time but really impressive. !!!

11:16:19 From Damian W : Thank you to All speakers and attendees and of course organisers

11:16:19 From Jorge Aponte Gómez : muy interesante

11:16:23 From Bonnie Tsim : Thank you for bringing everyone together! The higher level strategy of the AMPT roadmap has so much depth!

11:16:41 From Manjodh Kaur : Thank you Zina for the wonderful event and all the specakers for sharing suvh valuable information

11:16:51 From Esteban Piccinini : Great Event! thank all of you!

11:16:58 From Paula Sbaite Duarte dos Santos : Amazing event! Thank you all the involved!

11:17:03 From James Ede : Thank you everyone!

11:17:03 From GUIDETTIG : Laura, Great job! :)

11:17:04 From Silmara Caldas : Amazing event

11:17:08 From carlo saverio iorio : Thanks everybody!!

11:17:09 From Steven Rodgers to Zina Cinker(Privately) : Nicely done.

11:17:09 From Kazi : Thank you ALL for joining us!!

11:17:09 From Cliff to Zina Cinker(Privately) : Great job on this conference!

11:17:10 From Deji Akinwande : thank you Zina and Laura

11:17:17 From Athir Haddad : Thanks Zina

11:17:21 From Esteban Piccinini : amazing job Zina

11:17:26 From Jo Anne Shatkin : very high quality meeting thanks Zina and All!

11:17:30 From carlo saverio iorio : You definitely lead!

11:17:49 From iPhone frank : extremely good

To learn more visit: www.amptnetwork.com