



## NEWSLETTER

SEPTEMBER 2020 - ISSUE 92

.....FROM THE EFI PRESIDENT

## DEAR COLLEAGUES AND FRIENDS,



What a turbulent year we have had so far. We have a pandemic going on, basically since March this year, which has changed our lives dramatically in all different aspects starting from our private environments with restrictions in various aspects - like visiting even closest relatives, attending cultural events, going to holidays etc. - and stretching deep within our professional lives, with eventually all conferences been cancelled, people working from home, and video and teleconferences having become a part of our regular working life. I hope that you, your colleagues, and your relatives managed to get through these difficult times without harm and that you'll stay safe until this nightmare is over.

The pandemic obviously affected EFI vastly. As you all know, we had to postpone this year's annual conference - which was supposed to be carried out in Glasgow - until next year. As a result of this a cascade of events resulted: All subsequent EFI conferences were pushed back for one year. Thus, Glasgow will now be in 2021, the combined EFI/IHIWS conference in

Amsterdam with the International Histocompatibility Workshop meeting will be carried out in 2022, the 2023 EFI conference will be hosted in Nantes and the 2024 event in Madrid. Again, as a result of these changes we also had to postpone the start of our cooperation with the corporate PCO company (Guarant) which will now organise our annual conferences from 2023 on, starting with Nantes. The contract with Guarant had to be adjusted accordingly. Furthermore, we had to postpone the International Summer School in H&I, which was supposed to be carried out in Prague in September this year. A new date has not been decided yet, however, we hope, it will be possible to resume plans for this event in 2021 and have it organised in September 2021. The financial implications for all these postponements are thankfully manageable and we have an overview of the damage that was caused.

Likewise, all regional, national and international educational activities in the field of transplantation, and H&I have been either cancelled or postponed or were switched to virtual technology. The annual ASHI meeting will for the first time be carried out as an e-conference in a couple of weeks' time from now. Participation will be for free and this will be an excellent opportunity for a so much needed continuing education in the field of H&I and Transplantation Immunology. I hope that many of you will make sure not to miss this great CPE activity.

EFI-Accreditation activities have also been hampered during the pandemic. I am sure that the Accreditation Committee representatives will more profoundly address this issue within the Newsletters. Basically, due to the travelling restrictions it was felt that the

best option we had was to include an extra Package B cycle for one year and postpone all inspection activities from March 2020 on. We will have to re-evaluate the situation soon and see how we will have to move forwards in 2021.

The COVID19 pandemic was associated with some additional challenges. EFI has decided to purchase licences for a video conferencing system as well as an e-conference platform. GoToMeeting and GoToWebinar were felt to be the most favourable platforms both financially and technically. Several e-meetings were carried out within EFI since these products were purchased: The EFI Executive Committee and several other Committees have had their regular meetings with the GoToMeeting software and we all felt that this was a significant improvement when compared to the "old-fashioned" conferences by phone. Also most probably, the annual EFI business meeting which is usually carried out in the autumn in Leiden will be a full e-meeting this year. More importantly, as a society, we are obliged to carry out an annual General Assembly according to our statutes. Last July we carried out the first-ever remote EFI-General Assembly via the GoToWebinar platform. The legal frame for a remote GA was given by some rapid adaptations made in the French legislation about societies, companies etc. in order to address the consequences of the pandemic (EFI is a society registered in France). Participation in the remote GA was very good and there was plenty of interaction possible. Many thanks to Sandra, our Management Assistant, as well as to Eric Spierings, the chair of the EFI IT & Bioinformatics Committee who worked very hard to make this event work successfully!



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## ....FROM THE EDITOR'S DESK

There has never been a bigger change in our daily life in between EFI Newsletters. The way we work in our clinics and laboratories has changed dramatically, with clinical programs that were momentarily minimized or brought to a halt, and many scientific laboratories being temporarily shut down. As we all try to be as productive as possible within the possibilities and regulatory frameworks of the different countries, we hope that soon life will return to normal.

Whereas in the last newsletter we were looking forward to the annual meeting to be held in Glasgow, now we live in the reality that this meeting and many other events had to be cancelled due to the Covid19 pandemic. The organizers of the Glasgow meeting are working hard to reschedule the event, taking into consideration the possibility that not all attendees may be able to participate in person in 2021.

Luckily, there is one H&I meeting to look forward to in this calendar year and that is the upcoming ASHI meeting, which will be a virtual, 3-day meeting October 19-21, 2020. Even better, this meeting is free to anyone working in the H&I field, so all EFI members can join this event free-of-charge.

Regardless of the pandemic, the different EFI committees have been as productive as possible, as you can read in the reports published in this Newsletter. Furthermore, EFI has had its first virtual General Assembly this year, of which the report is included in this edition of the Newsletter. Other than that, the Newsletter is obviously lacking the usual reports and pictures from the annual meeting.

As always, I hope you enjoy reading this Newsletter. Hopefully life will return to normal as soon as possible, and I keep looking forward to your contribution to the next edition.

*Sebastiaan Heidt*

Deadline for contributions to EFI Newsletter 93 is November 16, 2020.  
Please send your contributions by e-mail to [s.heidt@lumc.nl](mailto:s.heidt@lumc.nl)



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In treatment of patients with SARS-COV-2 infection, Convalescent plasma therapy is a promising treatment option for COVID-19 patients. Many clinical trials are underway to determine the clinical efficacy.

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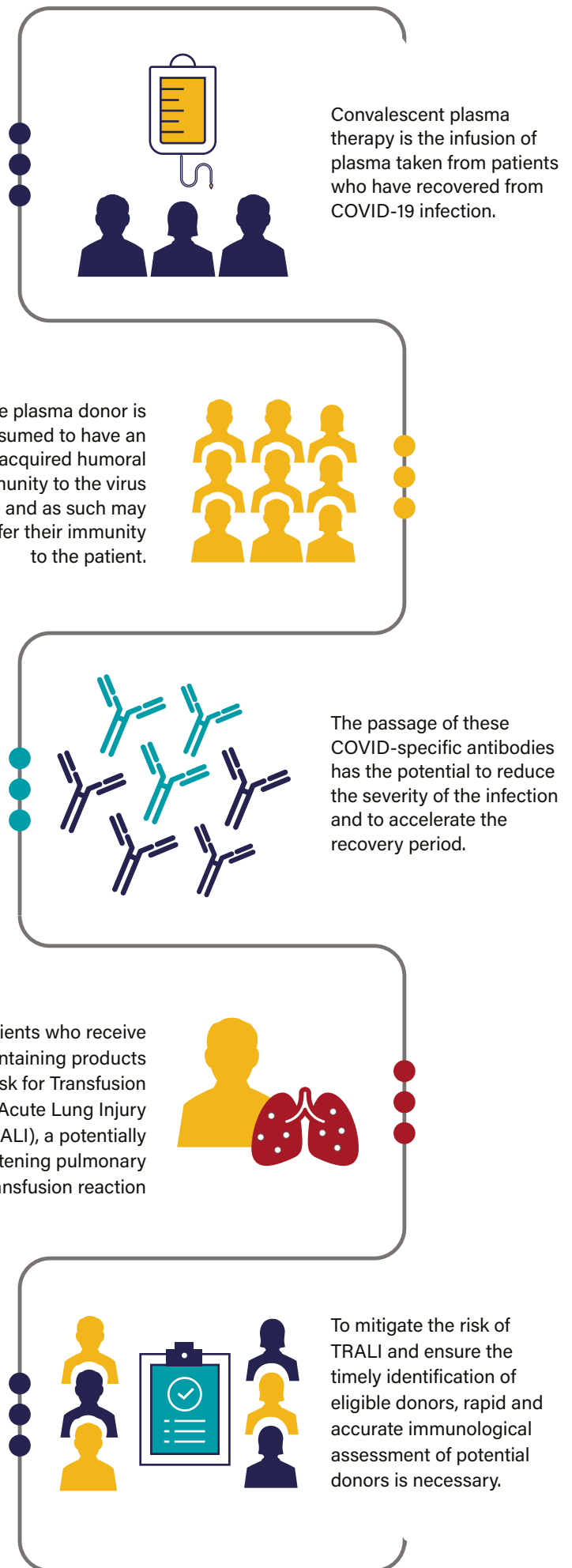
\*Relevant national transfusion guidelines will vary by region.

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## .....FROM THE EFI PRESIDENT (CONTINUED)

In addition to all the business meetings that were carried out virtually, EFI launched last May for the first time a webinar on COVID-19 and HLA research. In this webinar Luca Vago, one of the members of the EFI Scientific Committee, gave an excellent overview of the scientific work that is ongoing in this hot topic. The event was free of charge and very well attended, with participation from all over the world. It appears that events like this are feasible and definitively a good alternative to the classical conference formats which cannot be carried out as long as we are confronted with the pandemic.

With the results of our recent elections being approved at the virtual GA I would like of course to take the opportunity once again and thank Neema Mayor, Jean Villard and Pierre-Antoine

Gourraud as well as Katja Gagne who as Councillors and Deputy Treasurer, respectively, did such an excellent job during their term. Guys and girls, you will surely be missed! At the same time I would like to welcome the new members in the EFI EC, Kay Poulton, Marie Schaffer, Esteban Arrieta-Bolanos as new Councillors, Paul-Olivier Rouzaire as Deputy Treasurer and of course, our President-elect, Ann-Margaret Little! Congratulations for being elected in the EFI Executive Committee! I look very much forward to work together with you all in these exciting and challenging times!

I would like to close by thanking again the numerous Committee members as well as Committee chairs who are about to step down in the following months. We value the work you have put into

EFI matters and we are so thankful as a society that we have motivated and talented colleagues like you who make it possible to sustain all the work carried out in EFI for all our members and for the good of our patients and clients, even in these difficult times.

I hope so much that soon the testing of vaccines will be successfully completed which will allow us to gradually return to our normal lives! As long as such vaccines are not available, we can only speculate on where and how we will all be able to meet in person again!

Stay healthy and take care of yourselves and your beloved ones!

Joannis Mytilineos

EFI President

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## MEMBERSHIP UPDATE

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*Since the last issue of the EFI Newsletter we received a lot of applications forms from new members. Hereby we would like to welcome the following new EFI members:*

J. Johansen, Oslo, Norway  
V. Douillard, Nantes, France  
M. Ralazamahaleo, Bordeaux, France  
L. Gutter Kapon, Kiryat Mozkin, Israel  
P. Bontempo, Rome, Italy  
K. Damianitsch, Dresden, Germany  
S.A. Salim, Dublin, Ireland  
P. Campbell, Edmonton, Canada  
S. Fagan, Dublin, Ireland  
D. Arora, Bangalore, India  
S. Pannayanapalya Suresh, Bangalore, India  
S. Andreis, Padova, Italy  
N. Greger, Rostock, Germany  
M. Luminita, Bucharest, Romania  
K. Aschenbrenner, Stuttgart, Germany  
D. Fürst, Ulm, Germany  
M. Rossi, Oriolo Romano, Italy  
G. Minnella, Bovalino, Italy  
V. Wood, Leeds, UK  
M. Bareille, Sint Stevens Woluwe, Belgium  
N. Speirs, Edinburgh, UK  
K. Mounsey, Leeds, UK  
F. Serrano Martínez, Majadahonda, Spain  
M. Raz, Noumea, Nouvelle-Calédonie  
A. Vales, Innsbruck, Austria  
C. Streel, Saint-Gilles, Belgium  
B. Passey, Chester, UK



A close-up photograph of a rainbow tree chameleon, showing its vibrant green, blue, and yellow scales and its large, circular eye.

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# REPORT ON THE EFI GENERAL ASSEMBLY HELD ONLINE ON JULY 23<sup>RD</sup> 2020

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## Report on the EFI General Assembly held online on July 23rd 2020

Report prepared by Mats Bengtsson, EFI Secretary and Dave Roelen, EFI Deputy Secretary

For the first time in history the EFI General Assembly (GA) was held as an online webinar because of the Corona pandemic. Many members participated and many, including the Secretary, felt relieved by not having to rush through because of the Gala Dinner that usually follows the same night.

### 1. Opening

The EFI President Joannis Mytilineos opened the General Assembly and welcomed all EFI members present. There were approximately 122 members participating.

### 2. Minutes of the General assembly 10th May 2019 Lisbon

The minutes of the General Assembly, held on May 10<sup>th</sup> 2019 in Lisbon, Portugal and published in the EFI newsletter September 2019, Issue 89 were approved.

### 3. Report of the EFI president

#### Teleconferences and Meetings

Since last GA the EC have met once during the autumn meeting in Leiden. There have also been 6 teleconferences with the EC and other parties.

#### Covid-19 Consequences

The EFI President summarized the consequences of the ongoing pandemic for EFI. The annual meeting planned for Glasgow in 2020 will now be held in 2021 and all subsequent meetings will be postponed, thus Amsterdam will be in 2022, Nantes in 2023 and Madrid in 2024. The contract with the Corporate PCO has been amended accordingly. Also, the International Summer School planned for this autumn in Prague will be postponed until next year. There are some financial implications for this, both because of missing incomes but also because of cancellation costs. In the EFI accreditation program, all on-site accreditation activities have been stopped during 2020 but will

hopefully resume next year. Because of the pandemic, EFI, with help from the IT and Bioinformatics Committee, has invested in tools like GoToWebinar/GoToMeeting that makes it possible for our Committees to continue to work and meet without physical meetings.

#### International Collaboration

A cooperation agreement with ESOT was signed on January 22<sup>nd</sup>, 2020 and a joint session is planned for the next EFI conference. EFI will also contribute to the Basic Science Symposium on Transplantation organized by ESOT. Because of our cooperation with EFIS we will also have a joint session at the European Congress of Immunology next year in Belgrade. The agreement with ARSHI is still pending.

#### Legal advice for EFI

There has been a long-standing need for legal advice and therefore, three lawyer offices were contacted and asked to bid for their services. After review AVANTCORE Rechtsanwälte Partnerschaft mbB based in Stuttgart, Germany was asked to advise on the Core PCO contract, and DELSOL Avocats, a law firm based in Lyon, France will assist and advise EFI on legal and tax matters, and also will review our constitution. One of the questions that were asked is on the requirement of the EFI Treasurer to be French. There are also many questions regarding VAT and tax issues, and the fact that all bank accounts related to the office in Leiden need to be declared in France. The EC is awaiting the report.

#### Other issues

- The President continued with describing the COHLAGE (Covid-HLA-Genome)-Project, of which EFI is a partner, and the first EFI Webinar on Covid-19 and HLA that took place on May 29<sup>th</sup> 2020.
- During SWOT analyses, EFI has identified the need for e-learning and the President congratulated David Turner from the Education Committee and Marco Andreani from EBTI for the successful launch of the ESHI Diploma Training Course with the help from the Italian Berloni Foundation.

- There is work done on an agreement with the German national accreditation body DAkkS to have an official agreement for joint inspections.
- We will also see a new abstract submission tool that first will be tried for the International Summer School and there are ongoing discussions about the EFI conference site and app.

#### Questions from the membership

After the Presidents report there were questions from the audience. Steven Marsh asked two questions. The first is about the agreements with other organizations EFI has in place and how they are executed. JM responded they are very general and we cooperate in education and science and mutual exchange of information with organizations like EFIS, ESOT, EBMT and ECI but also with national societies where we have a platform to discuss about accreditation and training and educational matters. Steven Marsh then commented on the new website that he described as beautiful but lacking the functionality to search the membership list and if that can be reintroduced. JM responded that this was removed because of GDPR and misuse of email addresses of the Executive Committee but that this could be discussed again with the IT and Bioinformatics Committee.

Thibaut Gervais asked why the EFI inspections in Germany are according to DAkkS format and not according to EFI. JM responded that the scope of the formal agreement mentioned is to harmonize this.

Moshe Israeli asked if the agreements with other organizations and societies are openly available and the respond to that was yes.

### 4. Report of the EFI secretary, Mats Bengtsson

#### Executive Committee Elections

EFI sought nominations for vacancies for three Councilors, as well as President-Elect and Deputy Treasurer. One nomination for President-Elect was



received, Ann-Margaret Little, UK and also only one nomination for Deputy Treasurer, Paul Rouzaire, France. Since no other nominations were received for those positions there were no elections for these positions. For the three positions as Councilor 4 nominations were received and in the electronic voting 329 members participated, slightly less than in 2019 when 413 members participated. The candidates elected and new Councilors are Kay Poulton, UK, Marie Schaffer, Sweden and Esteban Arrieta-Bolanos, Germany. The three new Councilors were approved by the GA. Next year there will be no elections, but nominations will be sought for the positions of Secretary and Deputy Secretary as well as Treasurer and three Councilors for election in 2022.

#### *Future EFI Conference*

Next year's annual meeting will hopefully be in Glasgow followed by the annual meeting combined with the International Workshop meeting in Amsterdam 2022. After that we move to Nantes in 2023 and then to Madrid in 2024.

#### *Questions from the membership*

Thibaut Gervais asked if the present Councilors should not stay an extra year in the EC and it was responded that the EC has decided to keep the rules according to the constitution.

## **5. Report of the EFI Treasurer, Gwendaline Guidicelli**

#### *Balance sheet and profit and loss account*

The EFI Treasurer presented the balance sheet for 2019 that combines the general EFI budget with the Accreditation budget. The total income for 2019 was €469.233, which is €47.000 more than expected in the forecast budget. This almost exclusively relates to the fantastic net result from the Lisbon meeting. The total expenses were €393.007, which were also substantially less than expected. The combination of increased incomes and reduced costs gave a net result for 2019 of €76.226.

The results from 2019 were approved by the membership.

#### *Questions from the membership*

Peter Horn asked about what the category "Bad and doubtful allocations" is. The Treasurer explained that this post is kept in the case an invoice

is sent but not paid.

Steven Marsh said that he is grateful for EFI's support to the HLA database but currently EFI is paying €7566 but the request currently is 10.000 USD. GG replied that the support to the HLA database will be discussed within the EC.

Uma Kanga asked about the selection for meeting bursaries as had the impression that these bursaries are only for PhD students and if so that this should be more clearly mentioned by EFI in the Personal Bursary application procedure. DR answered that this is not the case, after careful evaluation by the Committee the past years the Personal Bursaries were indeed given to PhD students in practice. The President responded that the EC will review the text in the outcome letter.

Peter Horn asked the Treasurer about plans for future spending of money on the bank accounts. The Treasurer responded that this will be addressed later in her presentation.

#### *Forecast budget 2020*

The Treasurer started with that it is unusually difficult to draft a forecast budget for 2020 since there is no income from the annual meeting, which is normally the biggest income in the budget. In the forecast €60.000 from the reserves "Conference w/o pos result" is used. The Treasurer also mentioned that she felt uncertain about the income from membership fees because so many members usually pay their fee during the annual meeting. On the other hand, the expenses for accreditation inspections are much less and we have no cost for ISS, and because of the pandemic the bursaries have not been used. We have however increased costs for virtual meetings such as GoToWebinar/GoTo Meeting. The forecast budget has €412.150 in income and €345.866 in total expenses.

#### *Questions from the membership*

Peter Horn asked if EFI is planning to increase the assets. The Treasurer responded that is not the plan, EFI will use its assets for investing in e-learning, online webinars and improvements of the website. The President added that money will also be used for the abstract tool and conference app and also to

support different projects such as the Workshop. EFI also support regional meetings and a scientific summer school is in the planning.

Carlheinz Muller advised to discuss the accumulation assets with the French lawyer in order not to have future tax problems. The Treasurer responded that she is well aware of this and it is always an ongoing discussion with the Auditor but so far there has not been any problems with this.

The forecast budget was approved by the membership.

#### *Costs of postponing the annual conferences*

The Treasurer summarized that there are relatively few direct expenses linked to the postponements but there might be less profit for the upcoming events.

#### *Significant investments*

The cost for the EFI website is €88.905, and the website needs to be upgraded to TYPO3 version 10 in 2021 which is expected to cost approx. €10.500. To be able to host the annual meeting website within in our own domain, and therefore not having to pay every year for this, €25.000 is dedicated to this project, of which €19.698 has been spent until now. There will be a release of an updated Accreditation website and this will cost €18.707. The cost for subscription to GoToWebinar is around €5000 but this can be fine-tuned depending on how many participants we expect.

#### *Bursaries*

We have several categories of bursaries: there are Personal bursaries with four different application periods (clearly described on the webpage) and also the Education and Scientific bursaries have 4 periods. The budget for personal bursaries was €3000 in 2019 and will be the same for 2020. The amount of €6000 for the Education and Scientific bursaries will also be unchanged for 2020. In addition to this we have the bursaries for the annual meeting and for the summer school. There will be no costs for those during 2020.

During 2019, Dmitry Klyuchnikov from Russia received €750 to attend the EFI region 8 Balkan EPT and 3<sup>rd</sup> Histocompatibility WS in Yerevan in October 2019. In 2020 no applications



for personal bursaries have been received (so far). During 2019, Ines Simak from Croatia received €910 to visit Ljubljana and the Blood transfusion Center there, and in 2020 Winnie Chong from UK was given €804 to visit the tissue typing lab in Maastricht. Finally, Laura Del Giudice from Italy was given €500 to visit the lab in Turin but this visit has been postponed. For last year's meeting in Lisbon 10 members received €750 each, and for this year 10 members were selected which, due to the postponement of the meeting, will be awarded in 2021. In 2019, 4 bursaries of each €800 were given to members from the UK, Germany and South Africa to participate in the ISS in Montreal. You can read their reports in the EFI Newsletter edition #90. Finally, EFI gave support to several meetings, in 2019 the 13<sup>th</sup> East West Conference in Zagreb received €2000, the EFI region 8 and Balkans EPT meeting in Armenia received €1000, the Panhellenic Congress of Immunology in Greece received €2000 and we supported the ISS with speakers for €2325 and we finally supported the IMGT HLA database. In 2020, only the 14<sup>th</sup> East West meeting has received €2000 and of course the IMGT HLA database.

#### *Questions from the membership*

Thibaut Gervais asked if it would not be more economical to have one website instead of three. The Treasurer responded that we are currently incorporating the conference website to the EFI website because of just cost reductions. There still is a need to separate the Accreditation and general EFI webpage.

KF asked if additional bursaries for 2021 will be allocated. GG responded the budget for bursaries was decided on during the EC meeting but might be reconsidered at a later time.

## **6. Report of the EFI committees**

### **a/ Report from the EFI Accreditation Committee Chair, Andrea Harmer**

#### *Accredited laboratories.*

The number of accredited laboratories remain stable with approx. 270 laboratories. Because of the Covid-19 pandemic all on-site inspections were stopped in March 2020 and no inspections will be performed until the end of 2020. Labs due to be re-inspected will be asked to submit an

extra B application and the accreditation cycle is therefore temporarily changed to 4 years. This will return to 3 years in 2024.

#### *Accreditation fee.*

The fee for 2021 will be reviewed since the current fee includes inspection costs, so there will be a discount for 2021.

#### *Changes to the Accreditation Committee*

There should have been a large number of changes of the membership this year. After discussion with the EC it was decided that the current AC will remain unchanged during 2020 since this allows for continuity during an exceptional period. The Chair Elect, Co-chair and General Secretary have joined the Permanent Commission. The changes due in 2021 is that Blanka Vidan-Jeras will replace Andrea Harmer as Chair, Christien Voorter will replace Ed Petershofen as Co-Chair and Sabine Scherer will become the new General Secretary after Luca Mascaretti. In Region 2, Christien Voorter will be replaced by Junior Lardy. Colin Brown will replace Martin Howell in Region 3, and Zorana Grubic will replace Blanka Vidan-Jeres in Region 5. Also in Region 7 there will be changes with Valeria Miotti as the new Commissioner after Luca Mascaretti and finally Nina Svetlicky will serve as the new Commissioner in Region 8, after Amal Bishara. Andrea ended by thanking all the participating laboratories, Sonja and all the Commissioners especially under this challenging period.

#### *Questions from the membership*

Thibaut Gervais asked why the positions as Commissioner are not announced as vacancies in other committees are. Andrea responded that the Commissioner need to be an active Inspector and that the nominations are discussed with the National Societies.

### **b/ Report from the Standards Committee Chair, Juha Peräsaari.**

#### *Committee membership*

An overview of the Committee members was presented. Juha will step down as Chair and is replaced by Katy Latham from the UK. There are two new members, Tsvetelin Lukanov from Bulgaria and Alexandre Walencik from France.

#### *EFI standards*

Juha summarized the changes in version 8 of the standards that have been effective since January 1<sup>st</sup> 2020. These now includes standards for mismatched and haploidentical HSCT, Real-time PCR, core facilities and director qualifications for labs only involved in chimerism testing. The Committee plan to issue a version 8.1 in early 2021 that should be effective from Jan 2022, this will only contain minor changes. A major revision is planned to be finalized in early 2022 as version 9.0 that would be effective from Jan 2023 and will include major revisions on XM and screening.

#### *Collaboration with ASHI QAS.*

Juha ended with that the collaboration with ASHI continues although the participation in each other's meetings are cancelled due the pandemic.

Juha finally thanked everyone at EFI for the memberships interest and activity in improving and clarifying the standards. Joannis also thanked Juha for his service for the last nine years as the Committee Chair.

### **c/Report from the External Proficiency Testing Committee Chair, Falko Heinemann**

#### *Committee membership*

Falko started with an overview of the Committee membership. Falko will step down as Chair next year. There will also be vacancies from Germany, Italy, and region 9+10. For region 9+10 Sandra Tafulo from Portugal is a new member.

#### *Coronavirus and EPT*

Falko continued with describing the influence of the pandemic on EPT. Some EPT providers completely stopped the shipping of samples in the first part of 2020 but most have resumed or will resume sending mid-2020. Because of this, there was a decision to temporarily reduce the number of required EPT samples for laboratories and this was communicated with a blast e-mail to the membership.

#### *New EPT standards*

New EPT standards were effective from January 2020 that introduced core and supplemental techniques and so far no problems have been reported regarding the implementation of this. The next version of the standards for laboratories will include a specified

number of samples required for HNA testing. There will also be an update of the standards for chimerism. More restrictive rules and harmonized thresholds for antibody identification schemes are also under discussion

#### **d/ Report from the Education Committee Chair, David Turner**

##### *Committee membership*

David started with an overview of the Committee membership. The newest member is Marte Kathrine Viken from Oslo.

##### *Teaching sessions*

For the Glasgow meeting four Teachings sessions were prepared with themes about NK cells, chimerism testing, pharmacogenomics and new research methods.

##### *International Summer school (ISS)*

The arrangements for the ISS in Prague Aug 30<sup>th</sup>-Sept 2<sup>nd</sup> were cancelled in late March this year and because of this there have been no costs for EFI. The plan is now to arrange Summer School in 2021 but the this obviously needs to be reevaluated later this year. The arrangement will probably be at another venue than originally planned.

##### *ESHI Diploma*

There were two applications for the ESHI diploma in Glasgow and the examiners were identified, at present it is unclear when this will be, but the possibility of on-line assessments should be considered. The ESHI Diploma syllabus will also be updated.

##### *EFI CME-CPD Scheme*

The EFI CME-CPD scheme that had a successful pilot in 2018 is still not launched. How and where the evidence documents and other documents should be stored is unclear at present. However, the plan is to start in 2021.

##### *ETHIQ pilot*

David continued describing the EFI Technical H&I Qualification (ETHIQ) pilot that started late 2019 with 15 participants from France, the Netherlands, Italy and Sweden. All participants and supervisors are to be contacted to ensure that they are able to make progress. From France very good progress is reported and the assessments are planned for early 2021. This will be in the form of on-line multiple-choice questions. The

Committee is working on this and a Moodle solution is the plan at present. When the full program will be launched needs to be decided.

##### *E-learning*

David then ended by describing the launch of the ESHI Diploma training course. This has been done together with EBTI with foundation from the Italian Berloni Foundation (special thanks to Marco Andreani). There will be 10 lectures and 6 are already recorded and those are made available under resources on the EFI website. This will hopefully provide help to members preparing for qualification.

#### **e/ Report from the Scientific Committee, presented by Joannis Mytilineos since the Chair Katharina Fleischhauer could not connect.**

##### *Committee membership*

An overview of committee membership was presented. Alicia Sanchez-Mazas, Geneva is a new member of the committee covering population genetics.

##### *EFI conferences*

For the annual meeting planned for Glasgow, 318 abstracts were scored and 72 were selected for oral presentations and 246 as posters. All will be reconfirmed for EFI 2021 but there will also be a call for Late Breaking Abstracts. The deadline for that will be January 15<sup>th</sup> 2021. The committee is also planning for 1-2 additional oral sessions and additional posters. The Ceppellini Lecturer 2020, Jacques Neefjes has been confirmed for 2021.

##### *EFI Scientific Committee Webinar*

On May 29<sup>th</sup> the committee organized a webinar entitled "Immunogenetics of Covid-19 with Luca Vago, Milan as speaker. The webinar attracted a lot of participants and was highly successful.

#### **f/ Report of the EFI IT & Bioinformatics Committee presented by James Robinson since the Chair Eric Spierings could not participate.**

##### *Committee membership*

There are now three members in this committee but the committee is actively seeking for new members.

##### *Committee goals*

James summarized the goals of the

committee that are to advise EFI regarding IT solutions, to actively monitor developments in the field including data exchange formats and software analysis.

##### *EFI Website*

The committee participated in the concept and design phase of the new EFI website and also contributed to testing of functional modules. There is now ongoing work with the requirements for an EFI conference website, additional elements and pages have been created. The conference website will be used from 2022 onwards.

##### *Abstract/conference tool*

The committee has explored options to move forward with the EFI abstract tool and the committee has suggested to switch to a more professional tool such as EasyChair. The package has been installed and the idea was to run it as a pilot for this year's ISS, now it is projected for the EFI 2022 conference.

##### *e-learning*

An e-learning working group has been constituted with members/Chairs of the relevant committees to work out a plan how to more broadly implement this. The committee has advised to set up e-learning using the Moodle environment. The committee has also been very involved with software choices for holding webinars, online meetings and also this General Assembly.

##### *EFI conference App*

A long standing wish has been to have one EFI app and not to change every year and the committee has been working on this. The advice is to use a progressive web app (PWA) that can solve the major issue of syncing data between different platforms. A PWA depends on having the basic elements ready on the EFI website, conference website, conference web application and e-learning. More work is needed on this.

#### **7. Next EFI conference – 2021 Glasgow, Scotland**

Ann-Margaret Little presented the plans for the 34<sup>th</sup> EFI annual meeting planned for April 22<sup>nd</sup>-25<sup>th</sup> 2021 in Glasgow. The plans are similar those in place for 2020 but there are some small changes in the venues for social events. All exhibitors and sponsors have extended their commitment

to 2021. All abstracts accepted for 2020 will remain accepted for EFI 2021 including those assigned to best abstract session. A new abstract submission will be opened late autumn. Ann-Margaret ended with that there are contingency plans for different alternatives from a hybrid option (partly virtual) to a full e-meeting.

## 8. Installation of new Officers & Councilors.

Our President welcomed Ann-Margaret Little as President-elect and Paul

Rouzaire as new Deputy Treasurer. Joannis thanked Katia Gagne for her time and service as Deputy Treasurer. The outgoing Councilors Jean Villard, Neema Mayor and Pierre-Antoine Gourraud were also thanked for their contributions in the EC and then the three incoming Councilors, Esteban Arrieta-Bolanos, Kay Poulton and Marie Schaffer were welcomed

The General Assembly was closed at 16.30



# REPORT OF THE EFI EDUCATION COMMITTEE

Clearly all of the usual activities of the Education Committee have to some degree been impacted by the ongoing Covid-19 pandemic. In this update we have tried to give a snapshot of where we are at present and some of the ideas to enable progress in key areas of our activity.

## European Specialisation in H&I (ESHI) Diploma

Two candidates were due to undertake the ESHI oral examination at the postponed Glasgow Conference. The exam was also postponed and we hope an alternative arrangement to enable the examination to take place can be made soon. Depending on whether a physical conference goes ahead in 2021 we would hope to be offering the chance for examination at the 2021 meeting. As usual, applications for future examinations must be made via the Section of Surgery/Transplantation/TransplantImmunology page of the UEMS website (<http://www.uemssurg.org/divisions/transplantation/transplant-immunology2>).

## e-Learning

A number of educational presentations (relevant for individuals wishing to work towards taking the ESHI Diploma, but hopefully of interest to all!) are now available to EFI members via the website. These have been made available following collaboration between EFI and the EBTI, using generous funding from the Berloni Foundation, an Italian charity

organisation. Log on to the EFI website and navigate to 'Resources' and 'ESHI Diploma training course', then follow the instructions to register and create an account. More lectures should be arriving soon!

- Also, please note that many other on line resources are already available, such as the Massive Open Online Course (MOOC) on kidney, pancreas and islet transplantation, provided by Leiden University Medical Center (LUMC) and the Basic and Advanced on line courses provided by WMDA.
- Members can also access pdfs of slides from conference Teaching sessions and Summer Schools via the members area of the website, again under 'Resources'

## EFI Continued Medical Education (CME) / Continued Professional Development (CPD)

- Discussions are still ongoing regarding the best way to provide an EFI CME/CPD scheme for recording of individual's training and ongoing education. This initiative has lost some momentum during this difficult period, but it is still part of the plans of the EFI Education Committee to be able to provide a simple but useful system for recording of CME/CPD activities to members.

## European Technical H&I Qualification (ETHIQ)

The pilot scheme of the ETHIQ logbook is now being undertaken by 15 participants in 4 countries. The scheme is for

technical staff working at the bench in EFI accredited laboratories, with supervision given by senior staff in their own lab. The aim is to create a qualification that gives a measure of technician's knowledge and technical competence in the H&I lab. Some of the individuals undertaking the pilot are likely to complete the logbook and associated work by the end of 2020 (the logbook can be completed between 1-3 years after registration). Following the pilot period EFI will have to decide how it wishes to roll out this training scheme to more members and how this will be funded and managed in the future.

## ASHI/APHIA/EFI/ARSHI Summer School

- The joint EFI, ASHI, APHIA and ARSHI International Summer School (ISS) was to be held in Prague in Aug/Sept 2020. This meeting was also postponed until next year, so further details on the process for applying etc will be made available into the new year of 2021. The school provides a short, focused course on many aspects of theoretical and applied H&I and is limited to a small group (~50) of participants. It represents an opportunity for those studying towards higher H&I specific qualifications as well as a chance to meet others working in the field from different parts of the world. We really hope to see people at it in 2021!

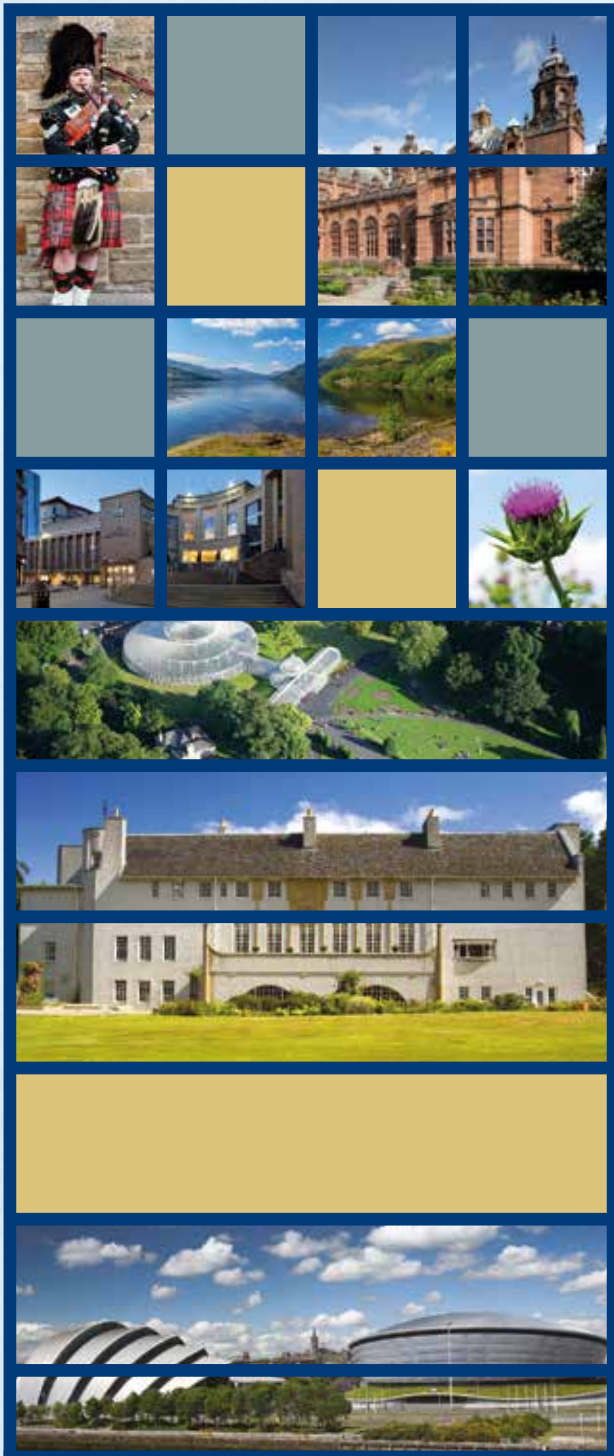
David Turner



# EFI 2021

## FROM RESEARCH TO CLINICAL REALITY

34th European Immunogenetics and  
Histocompatibility Conference, together with the BSHI  
SEC GLASGOW 22-25 APRIL 2021



We are very disappointed that we were unable to deliver EFI 2020 as planned in April in Glasgow earlier this year.

Whilst it is our aim to provide the postponed conference in Glasgow in April 2021, we are mindful of the ongoing impact of the COVID 19 pandemic and are working hard to develop alternative options for those who may still be unable to travel at that time.

We will provide further updates in the coming months.

Kind Regards,  
EFI and BSHI Conference Organising Group

[www.efi2021.org.uk](http://www.efi2021.org.uk)



BSHI

British Society for  
Histocompatibility  
and Immunogenetics

Promoting Science and  
Education in Transplantation





# REPORT OF THE EFI SCIENTIFIC COMMITTEE

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The EFI SC says good-bye to **Professor Rainer Blasczyk**, Hannover Medical School, Germany, who ended his 9-year term in the Committee. We thank Rainer for his expert input in serving the SC over all these years.

The committee welcomes **Professor Alicia Sanchez-Mazas**, University of Geneva, Switzerland, as new Regular member to the EFI SC.

Due to the postponement of the 34<sup>th</sup> Annual EFI meeting in Glasgow, in 2020 there has been no Ceppellini Award and no Julia Bodmer Award winner to present.

On May 29<sup>th</sup> 2020, the EFI SC launched the first **Scientific Webinar “Immunogenetics of Covid-19”**. It was held by **Dr. Luca Vago** from the San Raffaele Institute in Milan, Italy, an expert on the immunogenetics of leukemia and hematopoietic stem cell transplantation and member of the EFI SC. Luca gave an excellent overview of the new insights into the genetics, biology and immunology of Covid-19 and their clinical relevance for patient treatment and outcomes. The webinar was attended by 258 individuals from different countries, and is available for EFI members in the “Resources” section of the EFI website.

The 18<sup>th</sup> International Histocompatibility Workshop will host the **Covid-HLA-Genome (COHLAGE) project**, coordinated by **Professor Siamak Bahram** from the University of Strasbourg, under the umbrella of EFI with **Dr. Luca Vago** as coordinator for the SC. Details can be found at the relevant website: <https://www.ihw18.org/component-immunogenetics/project-covid-hla-genome-cohlage/#>

Katharina Fleischhauer (on behalf of the EFI Scientific Committee)

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# REPORT OF THE EFI ACCREDITATION COMMITTEE

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The main business of the Accreditation Committee in the last 6 months has been to manage the impact of the Covid-19 pandemic on the accreditation process. Laboratory accreditation by EFI relies on the on-site inspection of laboratories by 2 inspectors every 3rd year. The travel restrictions, the need to limit the number of different interactions between colleagues and to maintain distancing measures in laboratory premise, all of which have been put in place to help manage the risk of infection, made it impossible to continue with our programme of on-site inspections.

We took the decision to suspend inspections in April, initially for a short period of 2 months but it became clear that this would be a much longer term issue and so we agreed that we would stop all scheduled accreditation renewal inspections for the remainder of 2020. Laboratories that were due to have a re-inspection in 2020 will instead submit a paper application which will be assessed in the usual way by the EFI Commissioner. The on-site inspection will then take place 12 months later in 2021. The successful organisation of inspections is based on an even distribution of activity across the 3 year accreditation cycle so in order to maintain this all currently accredited laboratories will have their next re-inspection 12 months later than

normal. This extraordinary 4 year cycle will run until 2024 when the normal 3 year cycle will resume. Every laboratory has received a notification which explains when they can expect their next on-site inspection.

The Accreditation Committee was due to have a significant change in membership with the terms of office for Chair, Co-Chair and General Secretary ending and several Commissioners retiring. Due to the exceptional circumstances of the pandemic it was agreed with the EFI Executive Committee that it would not be appropriate to install new office holders and Commissioners when the accreditation programme was not running as normal. All changes to the accreditation committee membership were therefore postponed until 2021.

The Accreditation Committee will hold a virtual meeting in October to discuss the plans to resume inspections in 2021 if travel and quarantine arrangements permit. The suspension of inspections has also meant a significant reduction in expenditure this year with travel expenses for inspections since April. We will be reviewing the budgets for 2020 and 2021 and will make a recommendation to the EFI Executive Committee regarding a reduction in the accreditation fee for 2021 to take into account the savings made this year.

As Chair of the Accreditation Committee I would like to express my thanks to the accredited laboratories for their understanding about the changes we have had to make and for being flexible to change the schedule of inspection over the coming 4 years. Also thank you to the Commissioners for continuing to manage all the applications and to work together to continue to deliver our accreditation programme during these challenging times.

Andrea Harmer  
Chair EFI Accreditation Committee



## TODAY'S TOP STORY

The ASHI Board of Directors declare that the  
2020 Virtual ASHI Annual Meeting will be  
**FREE!!!**



Medhat Askar, MD, PhD, D(ABHI)  
ASHI President

Standing by ASHI's mission to be an international society of professionals dedicated to advancing the science, education and application of immunogenetics and transplant immunology, the ASHI Board of Directors voted unanimously last week to provide free registration WORLDWIDE!



Trish Campbell, MBChB, FRCP  
Annual Meeting Program Planning Chair

**SAVE THE DATES: October 19 - 23, 2020**

"We welcome ASHI members, as well as members of all histocompatibility & immunogenetics societies, to attend our global meeting FREE of charge!" said Dr. Medhat Askar, ASHI President. "ASHI's vision is to improve the quality of human life and health through the translation and implementation of scientific innovations to clinical practice. Together, we can achieve greatness."

Dr. Trish Campbell, Chairperson of the ASHI Annual Meeting Program Planning Committee, says, "For nearly a year, we've been building the scientific program for this meeting. It would be our honor to provide education to HLA professionals around the world, so whether you're an ASHI member or a member of any of these professional HLA societies, we hope you will join us."

- [ABH](#)
- [APHIA](#)
- [ARSHI](#)
- [BSHI](#)
- [EFI](#)
- [HKSHI](#)
- [ISHI](#)
- [JSHI](#)

Don't see your professional HLA organization listed above? Contact [info@ashi-hla.org](mailto:info@ashi-hla.org) with the name of your professional HLA organization so that we can contact them with a formal invitation. If you're not a member of ASHI or one of the organizations listed above, join the HLA society in your part of the world today to take advantage of ASHI's free meeting registration offer. New ASHI members and those who choose to pay for meeting registration will be offered ONE YEAR OF FREE ASHI MEMBERSHIP! More details to come!

*Dedicated to the global advancement of immunogenetics and transplant immunology*



# REPORT OF THE EFI STANDARDS AND QUALITY ASSURANCE COMMITTEE

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The Standards and Quality Assurance Committee would like to thank Juha Perasaari for his hard work and dedication as member and then Chair of this Committee. Juha oversaw a significant overhaul of the standards that have brought them up to date making them more user friendly. It's with great pleasure I follow Juha into the role of Chair where we will continue to update the standards to meet the changing needs of the membership.

Version 8 of the standards will be live as from the 1st of January 2020 with the main changes relating to stan-

dards for mismatched and haploidentical HSCT, Real Time PCR, functions performed in core laboratories, and qualification of the Laboratory Director to consider for laboratories seeking accreditation only to categories where H&I training lacking, such as chimera testing. Due to challenges with the current pandemic situation, the committee intends to publish a minor change to the standards (V8.1) which will be finalised in early 2021, effective from the 1<sup>st</sup> of January 2022, followed by a major update (V9) aiming to be finalised in 2022, effective from January 2023. As ever, please continue to

contact myself or members of the committee for issues that you feel require updating in the standards.

Finally, the Committee is seeking for three new members. All EFI members are invited to send in their Committee Member Application form before Monday the 28<sup>th</sup> of September 2020. For more information about the Committee vacancies please contact myself Katy Latham, SQC Committee Chair.

Dr Katy Latham

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## NANOPORE SEQUENCING OF HLA GENES WITH MINION

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I would like to express my deepest gratitude to Dr Christien Voorter for agreeing to host my week's visit (27<sup>th</sup> – 31<sup>st</sup> January 2020) to the Tissue Typing Laboratory, located at Maastricht University Medical Centre+ (MUMC+) in the Netherlands to learn first-hand about their experiences in utilising Oxford Nanopore Technology (ONT) for HLA class I clinical typing. MUMC+ is one of eight university medical centres in the Netherlands and the Tissue Typing Laboratory offers expert EFI-accredited analyses involved in HLA typing for transplantation as well as HLA-associated diseases. I also would like to thank EFI for granting me an Education and Scientific Bursary to support this educational visit.

My role as Laboratory Head of H&I Service Development at National Health Service Blood and Transplant (NHSBT) in the UK is to investigate and evaluate new technologies with the aim of identifying new developments to help improve and expand the repertoire of tests currently available in our H&I services. My laboratory has previously played a pivotal role in the introduction of full-gene HLA Next Generation Sequencing (NGS) typing for the British Bone Marrow registry and had a key advisory role in the implementation of a commercial

NGS workflow for clinical typing within NHSBT's national H&I services. The main objectives of my visit were to explore the feasibility of ONT and evaluate its potential use in our H&I services with an emphasis on examining the advantages, potential pitfalls and limitations of the technology from a laboratory that has already been using it routinely for clinical diagnostics. In addition, I also wanted to gain technical insights into the laboratory workflow and develop a better understanding

of MinION data analysis, particularly to gain knowledge from the bioinformatics expertise of the Tissue Typing Laboratory at MUMC+. This would be essential to enable me to identify the challenges within our current IT systems and its capacity and capability to handle MinION data.

Oxford Nanopore technology utilises biological protein pores that are nanometres in diameter for single molecule sequencing. The technology works by



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passing an ionic current through nanopores and the changes in that current are measured, as bases of a DNA strand passes through the nanopore. This change in current can be identified to produce a DNA sequence that can be read in real-time, enabling long read sequencing. The Tissue Typing Laboratory at MUMC+ has implemented this technology for routine HLA class I typing as well as used this technology to investigate polymorphisms of HLA class II genes. Prior to clinical implementation of ONT, the laboratory had been extensively evaluating and developing their workflow using MinION for some years and seen the many developments of ONT including the production of new nanopores and new base-callers. Timo Olieslagers who heads the molecular section of the laboratory devised a programme for my week's visit which encompassed shadowing two experienced technicians within his team (Stefan Molenbroeck and Christel Meertens) through their HLA class I typing workflow using MinION from the DNA amplification of HLA class I genes to analysis of sequencing results.

The laboratory's workflow is adapted from the ONT protocol for 1D2 sequencing, but it has since been changed to a 1D sequencing workflow. Sequencing libraries are prepared using full-gene barcoded HLA-A, -B and -C amplicons

with the laboratory currently using the R9.4 flow cells for sequencing. However, they will be evaluating the R10.3 flow cells which contain nanopores with a double reader that are able to read each DNA molecule twice and therefore helping to lower the error rate when sequencing homopolymer regions.

I was also able to meet with Dr Mathijs Groeneweg to discuss the data processing element of MinION sequencing and the bioinformatics involved. The main challenges are the large ONT FAST5 files which contain the raw signal data generated per run, transfer and storage of these files within the constraints of a clinical laboratory and the GPU (graphics processing unit) power required to perform fast base-calling. This gave me a much clearer idea of the IT hardware needed to be set up in the laboratory. Currently, the Tissue Typing Laboratory at MUMC+ is using commercial software for downstream HLA analysis of their MinION data, which proves to be a challenge since the commercial software available on the market is designed to be used with the manufacturer's own HLA sequencing kits and not for long-read sequencing.

At NHSBT, we are at the initial stages of evaluating ONT. My visit has highlighted that there are still existing challenges of the technology's sequencing inaccu-

racy in homopolymer regions however there is hope that the new R10.3 flow cells will help to resolve this issue. Investment into bioinformatics support is fundamental to enable the development and analysis of nanopore sequencing data. The advantage of this technology is the ability to resolve phasing issues, particularly with HLA-DPB1 and can be used as a long-read approach to define the polymorphisms of other HLA loci including in the promoter and intronic regions. The Tissue Typing Laboratory at MUMC+ has demonstrated that ONT can be applied to routine clinical testing.

I would like to thank all the team at the Tissue Typing Laboratory at MUMC+ for their hospitality and for sharing their experiences of MinION sequencing including the advantages and the challenges that they encountered and had to overcome to enable implementation of this technology. I had a most enjoyable and insightful visit and was even able to sample a lot of local beer, cheese and chocolate during my stay! Thank you to Christien, Timo and Dr Lotte Wieten for a most fun evening on my last day!

Winnie Chong PhD A+  
Head of Laboratory – National H&I  
Service Development Laboratory  
NHS Blood and Transplant

## HIGHLIGHTS FROM THE HLA JOURNAL

*By Luca Vago, Section editor HLA journal*

### **Binding affinities of 438 HLA proteins to complete proteomes of seven pandemic viruses and distributions of strongest and weakest HLA peptide binders in populations worldwide.**

Barquera R, Collen E, Di D, Buhler S, Teixeira J, Llamas B, Nunes JM, Sanchez-Mazas A.

HLA. 2020 Sep;96(3):277-298. doi: 10.1111/tan.13956. Epub 2020 Jun 11.

As a consequence of the extreme level of polymorphism that characterizes HLA genes, individuals and populations can widely differ for their capacity to efficiently present peptides derived from pathogens to the adaptive

immune system. In this interesting study, the Authors used a bioinformatic approach to characterize binding affinities between 438 HLA proteins (311 Class I and 127 Class II) and the full set of 9-mer (for Class I) and 13-mer (for Class II) peptides that can be derived from the proteome of seven viruses, including SARS-CoV-2. They next examined the global allele frequency distributions of the strongest and weakest binders of viral peptides, to identify putative differences among populations. They show that frequencies of strongest and weakest binders differ significantly among different populations, with some remarkable

examples, such as the observation that Indigenous Americans show both higher frequencies of strongest binders and lower frequencies of weakest binders, hinting a process of selection acting on several promiscuous HLA alleles due to ancient pathogenic infections.

### **Distribution of HLA allele frequencies in 82 Chinese individuals with coronavirus disease-2019 (COVID-19).**

Wang W, Zhang W, Zhang J, He J, Zhu F. HLA. 2020 Aug;96(2):194-196. doi: 10.1111/tan.13941. Epub 2020 Jun 2.

One of the most puzzling observations



Margot D.,  
Stem cell transplant recipient

# More HLA, More than HLA

THE NEXT-GENERATION IN GENETIC MATCHING

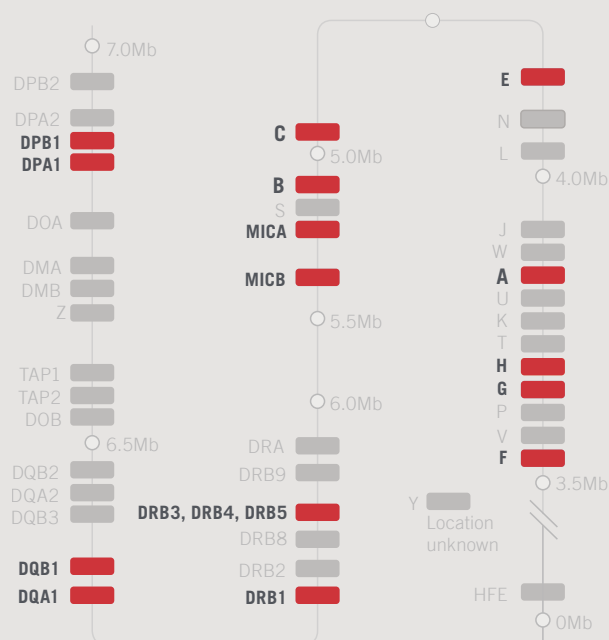
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made during the ongoing COVID-19 pandemic is the extreme heterogeneity in the severity of clinical manifestations amongst individuals with a similar asset of comorbidities and apparently exposed to the same environmental risks, strongly hinting to a role of genetic variability in shaping the course of the disease. In particular, HLA genes, due to their extensive polymorphism and prominent role in adaptive immunity appear as strong candidate to explain part of the interindividual variability of COVID-19. In this brief report, the Authors employed NGS to genotype the HLA asset of 82 individuals with COVID-19. They observed that the frequency of HLA-C\*07:29 and HLA-B\*15:27 in their test cohort were significantly different from those reported in the general population. Although derived from a relatively small population and thus needing confirmation, these data support the hypothesis of a link between HLA polymorphism and clinical severity of COVID-19, with relevant implications for healthcare management and vaccine development.

#### **HLA-EMMA: A user-friendly tool to analyse HLA class I and class II compatibility on the amino acid level.**

Kramer CSM, Koster J, Haasnoot GW, Roelen DL, Claas FHJ, Heidt S. HLA. 2020 Jul;96(1):43-51. doi: 10.1111/tan.13883. Epub 2020 Apr 13.

It is now widely recognized that in solid organ transplantation the development of donor specific antibodies (DSAs) and consequent risk of graft rejection are highly dependent on donor-recipient incompatibilities for configurations of polymorphic amino acids on antibody accessible positions, defined as eplets. Still, as eplets are theoretically defined, experimental verification is required to determine if an antibody can actually bind to an eplet, which has only been done for a limited number of them. Conversely, the amino acids that are the underlying basis of eplets are fixed entities on HLA molecules. In this study, the Authors developed a user friendly software program (named HLA-EMMA) to measure the immunogenicity of specific HLA mismatches on the basis of polymorphic amino acids rather than eplets, and validated the clinical utility of this tool demonstrating a significant association between the number of solvent accessible amino acid mismatches detected by their software and the formations of DSAs.

By allowing to perform HLA class I and class II compatibility analysis on amino acid level both for individual pairs and for large population studies, HLA-EMMA might provide a significant help in rapidly detecting incompatibilities that are not permissive for transplantation.

#### **Common, intermediate and well-documented HLA alleles in world populations: CIWD version 3.0.0.**

Hurley CK, Kempenich J, Wadsworth K, Sauter J, Hofmann JA, Schefzyk D, Schmidt AH, Galarza P, Cardozo MBR, Dudkiewicz M, Houdova L, Jindra P, Sorensen BS, Jagannathan L, Mathur A, Linjama T, Torosian T, Freudenberger R, Manolis A, Mavrommatis J, Cereb N, Manor S, Shriki N, Sacchi N, Ameen R, Fisher R, Dunckley H, Andersen I, Alaskar A, Alzahrani M, Hajeer A, Jawdat D, Nicoloso G, Kupatawintu P, Cho L, Kaur A, Bengtsson M, Dehn J.

HLA. 2020 Jun;95(6):516-531. doi: 10.1111/tan.13811. Epub 2020 Jan 31.

The development of the latest generation of typing technologies has led to a rapid and almost exponential increase in the number of known HLA alleles and, as a consequence, to a number of issues related to possible ambiguities in allele assignment, especially in unrelated donor registries. For this reason, the availability of detailed information regarding allele frequencies becomes every day more relevant to the field of immunogenetics. This study, a component of the 18th International HLA and Immunogenetics Workshop, aimed to collate the most comprehensive and diverse analysis of HLA and estimate frequencies in different geographic/ancestral/ethnic population groups, and compiled a catalog of common, intermediate and well-documented (CIWD) alleles from over 8 million individuals using data from 20 unrelated hematopoietic stem cell volunteer donor registries. Providing a number of new resources and analyses, this latest version of the catalog represents a step closer to the collection of global HLA frequencies and to a clearer view of HLA diversity in the human population as a whole.

Finally we would like to point the attention of the EFI Newsletter readership to a special issue (April issue) collecting the abstracts that will be presented during the postponed Glasgow EFI conference (April 22-25, 2021) and to an interesting review article on the dif-

ferent models proposed over time to describe the role of Killer-cell immunoglobulin-like receptor in hematopoietic stem cell transplantation outcome, and on methodologies that are available to interrogate them (in the May issue).





# Seeing Beyond Limits

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