**EUROPEAN FEDERATION** 

# NEWSLETTER

FOR IMMUNOGENETICS

#### OCTOBER 2022- ISSUE 98

### .....FROM THE EFI PRESIDENT\_

### DEAR EFI FRIENDS,



I hope everyone has been able to enjoy the summer holidays and have had time to relax away from the routine day to day. I can hardly believe that it has been four months since the Amsterdam conference, where those of us fortunate to attend enjoyed an excellently organised event for both scientific content and social activities. I was particularly impressed with how well the "remote" presentations worked. It really felt as though the speakers were present with us in the Beurs van Berlage conference halls. Particularly impressive was the Ceppellini Award Lecture from Laureate Professor Peter Doherty, who took us on an impressive journey of his achievements in scientific research. Thank you to Rhonda Holdsworth for orchestrating the personal handing over of the Ceppellini Award plaque. It is also hard to forget the outstanding closing Neuromagic show by Victor Mids, which had us discussing, "how did he do that" on our journeys home.

As has been the case for past conferences, a session was held jointly with one of our sister organisations. This year the session was held with the European Society for Blood and Marrow Transplantation (EBMT), cementing the links that EFI and EBMT have. There were also several special sessions including for the first time a session highlighting equality diversity and inclusivity which I had the pleasure of chairing. We heard three excellent presentations highlighting how important it is for us all to be aware of the challenges of understanding how our everyday actions impact on these important issues.

So congratulations to Sebastiaan Heidt, Eric Spierings and their organising team for a fantastic event. Thank you also to all the corporate sponsors for your continued support. It was great to see you again after our "virtual" period and I hope you found the interactions productive. At the end of the conference, as is the tradition, the EFI flag was passed to Pierre Antoine Gourraud and Sonia Bourguiba-Hachemi. All the best to you and your local team for the organisation of the next EFI conference in Nantes, France. Save the dates: April 24<sup>th</sup> to 29<sup>th</sup> 2023.

Prior to and during the conference in Amsterdam the various EFI committees held meetings and their activities were presented during our General Assembly meeting - a report of which is available in this newsletter. Included in this was the first face to face meeting of the Executive Committee since I was elected. It was lovely to be able to chat to everyone in person. It was also a little sad as it was the last meeting for Mats Bengtsson and Gwendaline Guidacelli who stepped down as Secretary and Treasurer respectively. Both served on the Executive Committee for many years (more than they probably care to count!) and both were truly committed to delivering the best support to the goals of EFI. We are already feeling the absence of their knowledge. However, we welcome Dave Roelen and Jean Villard in their new roles as Secretary and Treasurer, and Kay Poulton moves from being a councillor to Deputy Secretary. Thanks also to Marco Andreani, Katarzyna Bogunia-Kubik and Katherina Tarassi for their contributions to EFI as they step down from being councillors.

As a result of the vacancies generated we welcome four new councillors: Neema Mayor, Antonij Slavčev, David Turner and Luca Vago. This new Executive Committee has already participated in two teleconferences and we are planning a full weekend of activities to take place in Leiden at the beginning of October. This will be the first face to

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<sup>1</sup> Ravindranath M.H., et al. Monitoring native HLA-I trimer specific antibodies in Luminex multiplex single antigen bead assay: Evaluation of beadsets from different manufacturers, J. Immunol Methods (2017) 450:73-80.

<sup>2</sup> Sicard, A. et al. Detection of C3d binding Donor Specific Anti-HLA Ab at diagnosis of Humoral Rejection Predicts Renal Graft Loss. JASN (2014) October, Vol 26.

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#### **EFI Executive Committee 2022**

EFI President A-M. Little (UK) EFI Secretary D. Roelen (the Netherlands)

Deputy Secretary K. Poulton (UK) EFI Treasurer

J.Villard (Switzerland) **Deputy Treasurer** 

P. Rouzaire (France)

**Membership Secretary** S. Geelhoed (the Netherlands) S. van Hensbergen (the Netherlands)

> Councillors E. Arrieta-Bolanos (Germany) N. Mayor (UK) M. Schaffer (Sweden) D. Turner (UK) A. Slavcev (Czech Republic) L. Vago (Italy)

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

I hope you all have had a nice, well deserved summer break and enjoyed the sunny weather. This Newsletter we look back at the 35<sup>th</sup> EFI Annual Meeting, which I hope everyone enjoyed as much as I did. Of course, I have a biased view, being one of the co-chairs of the meeting, but by the reactions so far, I think the meeting was well appreciated. This Newsletter contains the minutes from the general assembly and the reports from the EFI committees. Also in this Newsletter, there is a report on the Ceppellini lecturer, the prize winners of the Julia Bodmer Award and Jon van Rood Award, the EFI medal awardees, as well as reports from the bursary awardees.

With this meeting being the first full-hybrid meeting, it will be interesting to hear the experience from the online participants, since this may become the annual meeting formula of the future. While live meetings are to be preferred, having the ability to join the session for those that cannot travel, as well as having the opportunity of viewing sessions that one could not attend at a later moment, is a huge advantage.

As always, I hope you enjoy reading this Newsletter and I am looking forward to your contribution to the next edition.

#### Sebastiaan Heidt

Deadline for contributions to EFI Newsletter 99 is November 14, 2022. Please send your contributions by e-mail to s.heidt@lumc.nl



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

face autumn meeting for the EFI committees since 2019, and I am sure everyone attending will be looking forward to having quality time to discuss ongoing projects and future strategies for their committees and EFI in general. We will also welcome Deborah Sage as the new chair of the Education Committee and we wish her and all the other committee chairs and committee members continued success with their endeavours.

Congratulations to the recipients of the EFI awards received during the Amsterdam conference; the EFI medals, the Julia Bodmer Award, Jon van Rood Award, and all the other best oral abstracts and best poster awards. A review of these is presented elsewhere in this newsletter.

I was thrilled to learn that, as Steven Marsh (Editor in Chief of HLA) had predicted during the opening session of the EFI conference, the Impact Factor for the EFI journal HLA has risen again for the fifth consecutive year. From 4.513 in 2021 to 8.762 in 2022. This places HLA firmly ahead of other specialist immunogenetics journals. I'd like to remind you that as EFI members you can freely access the journal through the EFI website. Congratulations to Steven and the editorial team.

Normally I would be able to update you on the International Summer School, but it has not yet taken place. This year it will be organised by ARSHI and will take place in Egypt. We have sent information to all EFI members regarding the conference, so I hope there are applications submitted. EFI will offer bursaries to those members accepted to present and we look forward to reading their reports in the next newsletter.

Something that I recognised after taking on the role as President, is that those of us involved in the EFI committees are very much aware of the ongoing activities, but how do we know if we are meeting the expectations of our membership, and who exactly are our members? In order to address these questions, the Executive Committee is devising a questionnaire which we hope all members will complete. We are planning to make this available when the membership fee is renewed in 2023, but this might change. We do hope that you will take this opportunity to provide information on your expectations of EFI and to use this as an opportunity to make suggestions for future developments. However, you don't have to wait to receive the guestionnaire, you are welcome to contact me directly by using the following email address: president@efi-web.org

In closing this message, I wish to give personal thanks to Sonja Geelhoed, for her extra support with the EFI office over the last few months – the officers and myself are very much appreciative of your help.

With best wishes Ann-Margaret Little

### MEMBERSHIP UPDATE

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:

- S. Bourguiba-Hachemi, Nantes, France
- G. Benitez, London, United Kingdom
- T. Meng, West Hills, USA
- Z. Pócsik-Vilimszky, Budapest, Hungary
- L. Walsh, Peterborough, United Kingdom
- A. Ojrzynska, London, United Kingdom
- N. Weisman, Petach-Tikva, Israel
- F. Giorgio, Monopoli, Italy
- G. Mongelli, Bari, Italy
- M. Dewez, Budapest, Hungary
- E. Schilling, Budapest, Hungary
- R. Nagy, Budapest, Hungary
- Z. Somlyai, Budapest, Hungary
- A. Hönich, Budapest, Hungary
- B. Francz, Budapest, Hungary
- L. Komporday, Budapest, Hungary
- G. Sharma, Chandigarh, India
- E. Sprenkeler, Nijmegen, the Netherlands
- A. Tejeda Velarde, Salamanca, Spain
- N. Staunstrup, Aarhus N, Denmark
- M. Hallensleben, Hannover, Germany
- N. Silva, Botucatu, Brazil

- S. Rassu. Monastir, Italy P. Misra, Chennai, India J.E. Niño Ramirez, Salamanca, Spain M. Niemann, Berlin, Germany S. lozzi, Firenze, Italy M.J. Herrero, Barcelona, Spain S.N. Ramachandaram, Sungai Buloh, Malaysia A. Casanova, London, United Kingdom A. Pecoraro, Mazara del Vallo, Italy R. Raja, San Francisco, USA D. Apostol, Bucharest, Romania F. Gualandris, Pedrengo, Italy S. Malard, Paris, France P. Ortiz Guerra, Lima, Peru L. Govender, Durban, South Africa R. Mahabeer, Weltevreden Park, South Africa E. Holmes, London, United Kingdom A. Schneider, Munich, Germany
- M. Nørgaard, Aarhus N, Denmark

### Obituary Eva Ivaskova \_\_\_\_



With deep sorrow we would like to announce to the EFI community that on Friday, March 18<sup>th</sup> 2022, our dear colleague, the former head of the Department of Immunogenetics and the Czech Stem Cells Registry, Eva Ivaskova, MD, PhD, passed away. Eva Ivaskova was a prominent expert in the immunogenet-

ics field. She began her professional career as a PhD student at the Czechoslovak Academy of Sciences under the supervision of Pavel Ivanyi, who was in the group of Milan Hasek, one of the discoverers of immunologic tolerance (together with Peter Medawar). After returning from an internship in Paris at the laboratory of Jean Dausset, in the Saint Louis Hospital, Eva founded the first HLA laboratory in the Czech Republic in 1973 at the Institute of Experimental Surgery, later Institute for Clinical and Experimental Medicine (IKEM), Prague. Under her leadership, the HLA laboratory in IKEM provided high-quality service for the rapidly developing organ transplant program in the Czech Republic.

Eva lvaskova was also the main founder of the first bone marrow donor registry in Central Europe in 1991, which she supervised for many years later until her retirement. Eva was carefully following the rapid advances in immunogenetics, which contributed to the fact that her department kept pace with other laboratories in Europe and in the world during the difficult 80's and 90's. She collaborated successfully with many renowned scientists, like in G. Opelz (Heidelberg), E. Albert (Munich), J. van Rood (Leiden), Pl. Terasaki (Los Angeles) and others. We will remember her as a strict but fair supervisor who supported us, then the young generation, in our scientific efforts in HLA and besides, she always knew how to say a nice word to her laboratory assistants. Honor to her memory.

Marie KurikovaAntonij SlavcevCzech Stem CellsDepartmentRegistryof ImmunogeneticsIKEM, Prague

# REPORT FROM THE GA MEETING MAY 19<sup>th</sup> 2022, Kay Poulton, Dave Roelen

Fortunately, this GA was mainly live although also members could follow the GA online.

#### 1. Opening

The EFI president Ann-Margaret Little opened the General Assembly and welcomed all EFI members present. There were approximately 102 members participating onsite with additional members online and was quorate according to Article 14 of the EFI Constitution.

#### 2. Minutes of the General Assembly April 22<sup>nd</sup> 2021

The minutes of the General Assembly held on April 22<sup>nd</sup> 2021, published in the EFI newsletter September 2021, Issue 95 were approved.

#### 3. Report of the EFI president, Ann-Margaret Little

The president started with an explanation of what the GA does in relation to the constitution, regarding financial matters, various activities including elections. One of the important roles of the membership is to approve the activities of the EC and the EFI committees.

#### International Collaboration

Because of our cooperation with EFIS we had a joint session at the European Congress of Immunology in Belgrade. During the ESOT meeting in Milan 2021 we had two joint EFI-ESOT sessions. Reports can be seen in the EFI newsletter 95.

Summerschool: 2021 and 2022 have been covered by Education Committee.

ARSHI conference: our president joined online. This meeting was very well attended by 2000 delegates.

#### Constitution

Articles 11 and 14 were updated following decisions made at last year's GA and as described in the report of the GA published in the September newsletter no. 95. Updated Constitution (French and English translation is available on the EFI website). Further review of this document is ongoing: responsibilities and accountability of officers and councillors; working group (AML, KP, GG, PR)

#### Equality, Diversity and Inclusivity

Following in EBMT's footsteps, EFI will work with an external consultant to look at our activities and to receive advice on how to move forward with an action plan.

#### GDPR and data retention

Working group established (KP) to find out what data is retained by the committees. Questionnaires sent to all committee chairs, awaiting all responses.

#### DAkkS/ EFI Accreditation MoU

Background: Coordinated by DGI and German EFI Commissioners. We aim to have a MoU between EFI and DAkkS to formalise how joint inspections should work.

A document has been reviewed by the EC. The EC recognises that a lot of work has gone into this but requires a detailed review to be undertaken together with the Accreditation Committee. Further work required.

#### Membership

The president announced that a survey will be sent to members to identify EFI membership demographics and to raise suggestions regarding future EFI activities.

From the Constitution: "The status of honorary member shall be offered to past presidents and to other individuals for their distinguished activity in immunogenetics as proposed by the Executive Committee and ratified by the General Assembly. Honorary members do not pay membership fees."

Proposal: Joannis Mytilineos, Past President, should become an honorary member. Agreed by the members.

There were no questions from the membership. The membership approved the activities presented by the President.

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

#### Executive Committee Elections

EFI sought nominations for vacancies for three councillors, as well as Treasurer and Deputy Secretary. One nomination for Treasurer was received, Jean Villard. One nomination was received for Secretary, Dave Roelen and one nomination was received for Deputy Secretary, Kay Poulton. Since no other nominations were received for those positions these posts were appointed unopposed. For the three positions as Councillor five nominations were received and in the electronic voting 40% of the 533 eligible voters participated. The candidates elected and new councillors are Neema Mayor, UK, Luca Vago, Italy and David Turner, UK. The three new councillors were approved by the GA. As Kay Poulton just became the Deputy Secretary the candidate who was in fourth place in the elections, Antonij Slavcev, was approved to be the fourth councillor.

Regarding 2023: nominations will be sought for the position of President Elect and for two councillors. The 1st term of the deputy Treasurer, Paul Rouzaire, ends also in 2023. The deadline for nominations is 23<sup>rd</sup> September 2022.

#### Future EFI Conference

Next year's annual meeting will be in Nantes in 2023 and then to Jerusalem in 2024. Candidates can show their interest to organize the meeting in 2025 together with EFI's PCO, Guarant. Anybody interested should contact the EFI office.

#### Shipping of the EFI newsletter

Due to increasing printing and shipping costs and environmental concerns the newsletter will not be printed any more but will be distributed digitally.

Sebastiaan Heidt asked why he has not been contacted as he is the Editor of the EFI newsletter. Our president answered with an apology, agreeing that he was right and he should have been contacted.

The membership approved the activities presented by the Secretary.

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

#### Balance sheet and profit and loss account

The EFI Treasurer presented the Balance sheet for 2021 which show that we have total of assets of €1.200.493 which is also the total of Liabilities & Equity (€81.572 of Liabilities and €1.118.921 of Equity). This amount is slightly increasing. The net result of 2021 was €26.690, a combined result of a profit of €115.339 of the accreditation part and a negative result of €88.649 of the general part of EFI. There was a positive result for the Glasgow 2021 conference, a reduced income from the membership fees and almost no

EC and committee expenses. The forecasted budget for 2022 is highly depending on the Amsterdam 2022 result but for now it will be quite an expensive year with offering many bursaries, supporting communication and education projects, supporting the Summerschool in Dubai and the organization of many face-to-face meetings, totally resulting in a deficit of €89.393.

The budget from 2021 and the proposed budget for 2022 were approved by the membership. There will be no change to the membership fees.

#### Questions from the membership

Eric Spierings asked why all the EFI related costs are not reported in the budget but is bidding in the result from the annual conference. The treasurer responded that that those are integrated cost for EFI but acknowledged that it would be more transparent if those cost are reported more clearly. The report of the treasurer, including the proposed budget, was accepted by the majority of members

#### Bursaries

In 2021 only reimbursement of the registration fee was given as this was an online meeting). In 2022 we will give 8 bursaries for the conference, up to 4 Education bursaries and 5 Summerschool bursaries.

#### 6. Report of the EFI committees

a/ Report from the EFI accreditation Committee Chair, Blanka Vidan Jeras

#### Accredited laboratories.

The number of accredited laboratories remain stable with 276 laboratories in 2022 (small increase), from the 280, 4 are working on packet A. There are no EFI accredited laboratories in Ukraine. All renewals of accreditation of the Russian laboratories will be performed virtually.

#### Changes to the Accreditation Committee

There are many new commissioners. In region 1, Taina Jaatinen is a new commissioner. In region 2, Christien Voorter has been replaced by Junior Lardy. Colin Brown and Kay Poulton are new commissioners in region 3 and Zorana Grubic replaced Blanka Vidan Jeras in region 5. In region 6, 2 new commissioners have started: Agnes Basire and Sylvie Ferrari-Lacraz. In region 7, Benedetta Mazzi is the new commissioner and finally, Nina Svetlitzky will serve as the new commissioner in region 8. Christien Voorter is helping Gott-fried Fisher with region 99.

A new inspectors' workshop took place in April 2022 in Leiden where 14 trainee inspectors were present.

Blanka explained the influence of Covid-19 on the accreditation process, returning to the 3 year cycle in 2024. From March 2021 to March 2022, 116 inspections took place: 60 onsite inspections, 20 virtual and 36 hybrid inspections. In April there was an Accreditation Committee meeting which M. Lartategui from the WMDA presented the accreditation method of WMDA and the Accreditation Committee proposes to follow the WMDA's example and start preparing for accreditation which would enable EFI to become a certifying body according to the ISO 17065 standard. This was approved by the EFI board and will be followed up.

Blanka ended by thanking the other members of the EFI accreditation Permanent Commission: Christien Voorter as co-chair, Sabine Scherer as general Secretary and Ed Peter-

shofen as advisor for ISO. She also thanked all the participating laboratories, Sonja and all the commissioners. The membership approved the activities presented by the Accreditation Committee Chair.

b/ Report from the Education Committee Chair, David Turner

#### Committee membership

David started with an overview of the committee membership. He will step down after the Amsterdam meeting and will be replaced by Deborah Sage. A new replacement for Monika Lindemann from Germany needs to be found.

#### ESHI Diploma

The last three rounds of exams were on-line assessments. The next round is to be held on  $31^{st}$  May/  $1^{st}$  June. There will be 7 examiners. The applications are made via the UEMS site and fees have to be paid for this. A 2-part exam will be developed: one with multiple choice questions and one oral one. The ESHI exam costs will increase from €400 to €550 due to increased administrative costs.

#### ETHIQ diploma

David continued describing the EFI Technical H&I Qualification (ETHIQ) pilot which 4 candidates completed early in 2021. This qualification involves local supervision of the completion of a logbook and an on-line multiple-choice question assessment. The committee is, together with the EFI office, working on this and an online Moodle solution is the plan, which hopefully can be launched in 2022-23.

#### EFI CME-CPD Scheme

The EFI CME-CPD scheme is being created by a company CPDme, creating a portfolio of work to be used in EFI accreditation applications. The Education-, Scientific- and Accreditation committees have looked over the created site, which is being adapted now (minor changes). The next step is for EFI and CPDme to work together to establish how EFI members will get access to CPDme via the EFI website, probably first via a pilot.

#### International Summerschool (ISS)

The virtual ISS was held in September 2021. The EFI PCO, Guarant, helped to host the meeting: there were 31 delegates and speakers from ASHI, EFI, ARSHI and APHIA. It was a mix between pre-recorded sessions and interactive sessions. David thanks all the speakers and delegates.

The 2022 ISS is being hosted by ARSHI in November in Dubai.

#### e-learning

The EBTI and EFI have paid for continued access to the ESHI training talks for members. The Education Committee hopes to get copies of slides from the ISS and 2021 teaching sessions for the EFI website. Currently, how to host recordings of these presentations is still under consideration.

The focus for 2022 is on the access for members to the CME-CPD scheme, the launch of the ETHIQ diploma and working with EBTI re the examination. Dave thanked all the members of the Education Committee.

The membership approved the activities presented by the Education Committee Chair.

c/Report from the External Proficiency Testing committee chair, Helle Bruunsgaard

#### Committee membership

Helle, the new chair, started with an overview of the committee membership, introducing Martin Bernheiden (Germany), Elena Longhi (Italy) and Sandra Tafulo (Portugal) as new members.

#### Coronavirus and EPT

Helle mentioned that all EPT schemes have been operational, but there have been delays in courier services and also fewer participations in some regions.

#### EPT standards for providers

A newer version will come addressing the standard 8 on sample distribution, standard 13 on data analysis and standard 23 on Assessment of haematopoietic chimerism and engraftment monitoring

#### New EPT standards

An evaluation is needed together with the Accreditation Committee regarding the new EPT standards regarding core and supplemental techniques. The EPTC will await decisions in the Standard committee regarding the Intermediate HLA typing.

The EPTC wants to strengthen the interaction with other parts of EFI including laboratories, other committees, Commissioners and Inspectors.

The membership approved the activities presented by the EPT Committee Chair.

d/ Report from the Scientific Committee, Luca Vago

#### Committee membership

An overview of committee membership was presented. Ludvig Sollid will step down from his role as advisory member. John Trowsdale agreed to renew his role as advisory member and Katharina Fleishhauer agreed to step in as an advisory member. This has to be approved by the EC. Two positions as regular members are vacant, to be filled in by the autumn meeting (James Traherne stopped as he moved to the USA).

#### EFI conferences

For the annual meeting planned for Nantes, the LOC is complimented for their excellent work as they presented their plans at the SC meeting. The SC gave feedback which will be implemented (after a fruitful discussion).

#### EFI Scientific Committee Webinars

The webinars so far attracted a lot of participants and were highly successful so they might be continued with next speakers F. Sallusto on Immunodominant T cell epitopes in cancer and Mark Dawson op Epigenetic control of immune recognition.

#### Young EFI

The SC discussed and endorse Lotte Wieten 's proposal to foster a more active engagement of young EFI members in the EFI conference program. Various interesting possibilities as a special session with young investigators and a young poster scoring committee will be further discussed in the SC and presented at the autumn meeting. The membership approved the activities presented by the Scientific Committee Chair.

e/ Report from the Standards Committee Cahir, Katy Latham.

#### Committee membership

An overview of the committee members was presented. Some members confirmed their 2<sup>nd</sup> or 3<sup>rd</sup> rotation. A deputy chair will be appointed after the Amsterdam meeting. Finally, a face to face meeting was held here in Amsterdam (Sarah and Urs were unable to attend but Natasa joined via Teams).

#### EFI standards

The B3.5.1 standard regarding the number of hours a Director / Co-Director must be available on site will be adapted as more people work remotely.

#### **Revision Timelines**

V8.1 with minor amendments will be shared with the members. V9 is a major revision and the topics to include are: DNA sequencing standards, clinical practice with a focus on solid organ, overall structure and data storage. The committee working groups will cover each topic and share their feedback at the Autumn meeting.

The membership approved the activities presented by the Standards Committee Chair.

f/ Report of the EFI IT & Bioinformatics Committee presented by the Chair Eric Spierings

#### Committee membership

There are now 5 members in this committee (Eric Spierings, James Robinson, Jose Nunes, Nico Vince and Mathijs Groeneweg)

#### Easychair

The ISS used the Easychair to test drive the system. There were discussions with the Scientific committee on scoring and additional fields, It has been setup for the EFI 2022 conference and used. The interim evaluation will be finalised and minor issues should be overcome. So it will be used again for the 2023 conference.

#### Data Standards

HML has matured during the 18<sup>th</sup> IHIWS. The IT & Bioinformatics Committee will work on data standards and data storage standards together with the Standards Committee, in which the aim is to formulate recommendations.

#### Questions from the membership

Pierre-Antoine Gourraud asked why the committee has mixed IT and bioinformatics and suggested that these should be clearly separated. ES responded that this is correct, but some bioinformatics is also dealt with in the scientific committee.

The membership approved the activities presented by the IT and Bioinformatics Committee Chair.

#### 7. Next EFI conference – April 26-29, 2023 Nantes, France

The President presented a slide showing the location and dates of the 36<sup>th</sup> EFI meeting planned for 24-29<sup>th</sup> April 2023 in Nantes. Theme: Big Data in Immunogenetics at the cross-road of care, tools and research.

#### 8. EFI medal

- a. The EFI medal was presented to Francesca Quintieri who served on the EPT committee for many years (even with GB Ferrara) and the laudation was presented by Falko Heinemann, the former chair of the EPT committee.
- b. An EFI medal was presented to Jaume Martorell who served as a councillor, EFI inspector and commissioner and the laudation was given by Eduard Palou.
- c. The 3<sup>rd</sup> EFI medal was presented to Ed Petershofen who served on the permanent Accreditation Committee for many years and the laudation was given by the former chair of the AC, Andrea Harmer (also showing the famous coloured checklist).

#### 9. Installation of new Officers & Councillors.

Our President thanked the outgoing Officers and councillors: Mats Bengtsson, Gwendaline Guidicelli, Dave Roelen, Katarzyna Bogunia-Kubic, Katerina Tarassi, Marco Andreani and Kay Poulton. She welcomed Dave Roelen as the new secretary, Kay Poulton as deputy secretary, Jean Villard as the new treasurer, Neema Mayor, Luca Vago, David Turner and Antonij Slavcev as incoming Councillors.

The General Assembly was closed at 19.00



### CEPPELLINI LECTURER 2022 – PETER DOHERTY \_\_\_\_



During the Opening Ceremony of each annual EFI Conference, a scientist who has made substantial contributions to the field of Immunogenetics presents the Ceppellini Lecture, the highest scientific recognition from our Society. The Lecture is named in memoriam of the Italian geneticist Ruggero Ceppellini (1917-1988), one of the most prominent pioneers in H&I research. The first Ceppellini Lecture was delivered in 1988 by the late founder of EFI, Jon van Rood.

Over the past five EFI Conferences, it has been held by Jacques Neefjes (2021), Pamela Bjorkman (2019), Lorenzo Moretta (2018), John Kappler (2017), and Effie Petersdorf (2016). A complete list of Ceppellini Lecture Awardees can be found on the EFI website (https://efi-web.org/fileadmin/ Efi\_web/About\_EFI/20210930\_Ceppellini\_Lecture.pdf). This year's Ceppellini Lecture was delivered by Laureate Professor Peter Doherty, Patron of the Doherty Institute at the University of Melbourne, Australia. In 1966, Peter Doherty graduated from the University of Queensland in Veterinary Science and became a veterinary officer. Moving to Scotland, in 1970 he received his PhD from the University of Edinburgh Medical School. His main contributions to science relate to understanding the main function of HLA molecules, and how they allow our immune cells to recognize virus-infected cells. For his discoveries about transplantation and "killer" T cell-mediated immunity, Professor Doherty shared the 1996 Nobel Medicine Prize with Swiss colleague Rolf Zinkernagel. In addition to the Nobel Prize, Professor Doherty also shared the Paul Ehrlich Prize (Germany), the Gairdner International Award (Canada), and the Lasker Award for Basic Science (USA) with Rolf Zinkernagel. The first veterinarian to win a Nobel, he was Australian of the Year in 1997.

Apart from his scientific output, Professor Doherty is the author of several "lay" books, including A Light History of Hot Air, The Beginners Guide to Winning the Nobel Prize, Sentinel Chickens: What Birds Tell us About our Health and our World and Pandemics: What Everyone Needs to Know. Passionate about promoting an evidence-based view of reality, his most recent book The Knowledge Wars is a "warts and all" view of science for non-scientists, even for people who don't like science. It also suggests how any thoughtful citizen can bypass the facile propagandists and probe the scientific evidence for and against some of the big issues, like climate change or GM foods.

In his Ceppellini Lecture, recorded in Melbourne and aired during the Opening Ceremony of the Conference, Professor Doherty gave a captivating overview of his landmark contributions to Immunology and Immunogenetics, on how they have improved our understanding on immune responses to pathogens and cancer, and on how this knowledge has translated into new therapies. Moreover, he took the chance to share with the audience his insightful thoughts on the role of scientists in our society, and on how this role has been challenged during the recent COVID-19 pandemic.

# JAUME MARTORELL – EFI MEDAL LAUREATE 2022 \_\_\_\_

Jaume was born in Mallorca but soon moved to Barcelona where he obtained an MD from the Autonomous University of Barcelona. Straight away he started to work at the Immunology Department of the Hospital Clínic of Barcelona, where he became medical Specialist in Immunology and got his PhD degree in 1988 under the direction of Dr. Jordi Vives.

In fact, Jaume has spent all his professional life working for this institution, except from some months in 1991 engaged as a visiting scientist in the Molecular Immunology Department of Roswell Park Memorial Institute in



Buffalo. He became the head of the H&I section of the Immunology department of Hospital Clínic in 1993 and he was the Director when this lab got EFI accreditation in 1996. He also got involved in hospital management after completing his training with a Master in "Hospital and Health Services Management" from the University of Barcelona in 2000.

Since his early days, he began to work in the field of histocompatibility, quickly becoming a reference in Spain. He was the soul of many Spanish Histocompatibility Workshops, being the one everybody looked for when an issue arose in this area of knowledge. He has also been the visible head of histocompatibility in many multi-disciplinary transplantation committees. In addition, he has collaborated with diverse Immunology and Transplant scientific societies, forming part of the board of some of these societies or even being the President of the Catalan Society for Immunology.

Within EFI, Jaume served as an EFI accreditation inspector for many years and he was the EFI commissioner for Accreditation Region 9-10 (Spain and Portugal) from 2001 until 2009. He has also participated actively in many EFI meetings and was a councillor of the EFI Executive Committee from 2014 to 2017. On top of this, he has collaborated with many educational activities held in different countries (Mexico, Colombia, Moldova) making EFI and its accreditation program well known.

Jaume could look like very diligent, rigorous, dedicated and committed at work, and he is indeed. However, at the same time, he could also be very friendly and cheerful when the moment required him to be. Besides, his honesty is an example to anybody that has worked together with him. This well-deserved EFI medal symbolizes our gratitude to Jaume for his contribution to our society and for making life better to his colleagues and, more importantly, to the patients who have benefited from his outstanding work.

Eduard Palou

# ED PETERSHOFEN – EFI MEDAL LAUREATE 2022

Dr Eduard Petershofen began his training at the University of Oldenburg where he studied biology and teaching. After graduating as a biologist he went on to complete his doctoral degree at the University in Braunschweig and then studied medicine in Hannover.

After qualifying as a physician Ed went on to gain specialist qualifications in both Histocompatibility & Immunogenetics and Transfusion Medicine. He pursued his interests in both fields working at the German Red Cross Blood Donor Institute in Oldenburg where he fulfilled the role of Medical Director. His expertise includes the serology and molecular biology of HLA, platelets and red blood cells.

Ed trained as an EFI inspector in 1999 and performed his first inspection in Berlin. In 2005 he succeeded Prof E Albert as EFI Commissioner for Germany and from 2012-2021 served as the Co-Chair of the Accreditation Committee. Ed's abilities as a teacher have been of great value to the accreditation programme, his presentations at inspectors' workshops were always informative and also delivered with great humour which was much appreciated by the inspectors. He is also very practical and as a regular speaker at new inspector training days he devised tools to help new inspectors understand how to prepare for and carry out inspections.



Ed worked tirelessly as a Co-Chair and in particular took the lead in developing EFI's relationship with National Accreditation Bodies (NABs). In Germany he was responsible for achieving recognition of EFI as the owner of the appropriate standards for H&I and for establishing joint EFI/DAkKS accreditation inspections. Ed also travelled to other countries to support local commissioners in discussions with their own NABs. For over 20 years Ed was a key member of the EFI Accreditation Committee, he clearly demonstrated his belief in the benefits accreditation brings to patients and promoted EFI far and wide. The friends and colleagues Ed has worked with over all these years are in no doubt that he is a very deserving recipient of the EFI Medal.

Andrea Harmer

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# FRANCESCA QUINTIERI – EFI MEDAL LAUREATE 2022 \_\_\_\_



In May 2022, the EFI Executive Committee awarded the honorable EFI medal to Signora Dottoressa Francesca Quintieri and it was a great pleasure for me to give the laudation for her.

Francesca Quintieri studied Biology and Pharmacy at the "Sapienza Università di Roma". Then she started working and researching in the field of immunology in the Department of Immunology of the Italian National Institute of Health the famous "Istituto Superiore di Sanità (ISS)" in Rome.

She had the opportunity to spend some time in laboratories abroad in the 1980's: First in Prof. E. J. Yunis's Immunogenetics Department at the Sidney Farber Cancer Institute in Boston and later in the Immunology Laboratory at St. Thomas' Hospital, Medical School in London.

When she came back to Rome, she worked as a research fellow again in the Immunology Department at the ISS. At that time she was involved in various institutional tasks for instance in the context of different Italian laws for Transplantation. It was also the beginning of Francesca's long lasting work in the field of External Proficiency Testing. She organized the first laboratory exchanges for EPT in 1994, with the assistance of Prof. Curtoni and other colleagues. When the Italian National Transplant Center, the Centro Nazionale Trapianti was founded, Francesca was appointed as the Manager of the Italian EPT Program for Immunogenetics by the General Director of the CNT. She was member of the National EPT Steering Committee for more than 20 years until 2022.

Francesca's work was always closely associated with EFI. She was the National Representative for the Region 7 (Italy) from 2004 until 2021, which meant a period of almost 20 years! She succeeded the famous GB Ferrara in 2004 and last year Elena Longhi took over this task from Francesca.

Dear Francesca, it was always a real pleasure working together with you for all the years when I was Chair of the EPTC. On behalf of all EFI Executive Committees members and all other colleagues within EFI I thank you for all your contributions you made for the community in so many years and we all wish you all the best for the future!

Falko Heinemann

### Julia Bodmer Award 2022 – Jesse Bruijnesteijn \_\_\_\_\_

The Julia Bodmer Award (JBA) is presented each year to a young scientist that provided remarkable contributions to the field of H&I, and represents the first lecture during the Opening Ceremony the annual EFI Conference. The Award celebrates the memory of Lady Julia Bodmer (1934-2001), one of the founders of EFI, of which she served as President from 1996 to 1998. Julia passionately encouraged and supported younger scientists, and strongly believed in the importance of mentoring the new generations to pass the torch and maintain research alive. The JBA winner is selected by majority voting within the EFI Scientific Committee, in a competitive review process between the applications filed. The first JBA Lecture was delivered in 2002 by Benedicte Lee. Over the last five EFI Conferences, it has been held by Cristina Toffalori (2021), Asbjørn Christophersen (2019), Maxime Rotival (2018), James Lee (2017) and Hannah Siddle (2016). A complete list of JBA winners can be found on the EFI website (https://efi-web.org/fileadmin/Efi\_web/ About\_EFI/20210930\_Julia\_Bodmer\_Award.pdf).

This year, the JBA was awarded to Jesse Bruijnesteijn from the Biomedical Primate Research Centre in Rijswijk, the Netherlands. Jesse obtained his Master's degree in Analytical chemistry at Vrije Universiteit in Amsterdam in 2015, before joining Ronald Bontrop's laboratory in Rijswijk, where in 2021 he was awarded cum laude (with honors) a PhD for his work on the characterization of Killer Cell Immunooglob-



ulin-like Receptors (KIRs) in macaque species and humans. Jesse finetuned a number of state of the art techniques, including Cas9-mediated enrichment and SMRT sequencing on Oxford Nanopore and PacBio platforms, and employed them to answer fundamental biological questions, providing novel and relevant insights into the genetic mechanisms driving diversification of the KIR gene cluster in primates. During the EFI Conference, Jesse gave an outstanding and captivating lecture, outlining the promise of these new technologies for comparative genomic studies, and confirming to fully deserve the Award as brilliant representative of the next generation of H&I researchers.

# The Jon van Rood award and best abstract session



The best abstract session at EFI conferences consists of the highest scoring abstracts, following review by the Scientific Committee of all abstracts, submitted for an oral or oral/ poster presentation. This year there were seven presentations delivered at the best abstract session of EFI 2022.

The session was of a very high standard and included a variety of topics related to immunogenetics.

The presentations were scored by a team of 'Past EFI Presidents', chaired by Steven Marsh. All presentations received positive feedback from the scoring committee, and the final winners were announced during the closing ceremony as:

 $1^{st}$  Prize, the Jon van Rood Award: Ilse Gille "Chimeric HLA-Antigen Receptor (CHAR) T-cell development – a new approach to target HLA sensitization".

2<sup>nd</sup> Prize: Anna Christina Dragon "Engineered T cells overcoming rejection by antibodies (CORA-T cells) through selective targeting of alloreactive B cells in solid organ transplantation".

3<sup>rd</sup> Prize: Pietro Crivello "Immunopeptidome divergence of HLA class I mismatches predicts survival after 9/10 matched unrelated stem cell transplantation".

Congratulations to all the presenters in this excellent session.

# **Report of the Efi Scientific Committee**

During the recent annual EFI conference, the members of the Scientific Committee met to discuss their contributions to the Society, and how to preserve and improve its scientific standing.

In particular, the committee discussed rotations in its membership, acknowledging the request of James Traherne to step down from his position as Regular Member, and the end of mandate of Katharina Fleischhauer as Regular Member and of Ludvig Sollid and John Trowsdale as Advisory Members. Upon discussion amongst the members and the Executive Committee, by unanimous vote John and Katharina were respectively asked to serve a second mandate as Advisory Member and to step in as second Advisory Member, to which they agreed. We thank James and Ludvig for their precious contributions to the Scientific Committee, and wish to continue to benefit from their fundamental inputs to the Society. Two positions as Regular members have been advertised, and we encourage applications in particular from candidates with specific expertise in the area of the outgoing members, i.e. autoimmunity (Ludvig Sollid) and MHC

Genetics (James Traherne), although we welcome applications of all members with recognized expertise in H&I research and the desire to put this at the service of our Committee.

Following this discussion, Pierre-Antoine Gourraud, Sonia Bourguiba and Nicolas Vince presented their excellent work in drafting the scientific program for the upcoming annual EFI conference, to be held at Nantes on April 24-29, 2023. The Scientific Committee provided its comments and suggestions to the draft, that was subsequently submitted for approval to the Executive Committee.

Finally, the Committee discussed on the relevance of promoting the active participation of the youngest members of our Society to its scientific activities, endorsing the Young EFI program and suggesting strategies for future improvement, such as having sessions of the Conference dedicated to younger speakers, or pairing experience moderators with younger H&I researchers.

Luca Vago chair of the Scientific Committee



# UPDATE FROM THE EFI EDUCATION COMMITTEE – September 2022

#### Firstly....

This is my first report to the Newsletter as Chair of the Education Committee, and I would like to take the opportunity to thank David Turner for all his hard work, enthusiasm, and commitment to Education within EFI over the last 12 years. He will be a hard act to follow but with the help of the members of the Committee we have several exciting projects to continue to support and develop. We are also saying goodbye to Monika Lindemann and Anthony Slavec (who has now joined the Executive committee) and I thank Monika and Tony for their help and contributions to the work of the Committee.

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

Online ESHI Diploma exams were undertaken by 6 candidates at the end of May and beginning of June this year. Five candidates passed the modules they had applied for. In total 35 candidates have undertaken the oral examination with only 4 (11%) candidates failing all modules and 3 (9%) candidates failing some of the modules applied for. Information on the application process for the ESHI examinations can be accessed via the Section of Surgery Transplant Immunology page of the UEMS website (at: https://uemssurg. org/divisions/transplant-immunology/). The next examinations are planned to take place in person in Leiden on 30<sup>th</sup> September. The European Board for Transplant Immunology (EBTI) in collaboration with the Education Committee are in the process of developing a set of multiple-choice questions (MCQs) to further support the examination process for the ESHI Diploma. It is envisaged these questions would form Part 1 of the Examination and if successful candidates would progress to the part 2 oral examination. This examination structure will bring the ESHI Diploma in line with other examinations offered by the UEMS.

#### e-Learning

The 30 minutes presentations on different aspects of H&I including transplant immunology, HSCT, solid organ transplantation, disease association and transfusion are still available to EFI members via the website. Log on to the EFI

website and navigate to the e-learning section, then follow the instructions to register and create an account to access the talks. Links to other learning resources are also on the same page of the website. We hope to have other e-learning resource content (e.g. EFI Conference Teaching Sessions and Summer School talks) available via the website very soon.

#### **European Technical H&I Qualification (ETHIQ)**

The aim of this scheme was to create a qualification that gives a measure of both knowledge and technical competence in H&I. The scheme is for technical staff working in EFI accredited laboratories, with supervision given by senior staff in their own lab. The pilot allowed 4 colleagues working in France to successfully complete the logbook, associated work and undertake an online assessment involving a series of multiple-choice questions (MCQs). The portfolio has now been developed for completion online and it is hoped that EFI members will be able to apply for the online ETHIQ via the EFI website very soon.

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

We have developed an online system for EFI members to record CME/CPD activities (with input from colleagues on the Accreditation committee and the Executive Committee). The system is supported by a UK company called CPDMe and will be available via a link on the EFI website. Activities can be recorded under 4 different categories (Educational, Clinical, Professional or Academic) and self-reflective notes and other supporting documentation can be linked to each activity. A visual summary allows at a glance oversight of your CME/CPD activities, and an annual statement can be produced when required. Final preparations for launching are underway, including development of a set of instructions for use. Unfortunately, a few delays have meant it was not possible to launch CPDMe at the EFI 2022 conference, however we hope to have this available for all EFI members very soon.

Deborah Sage Chair Education Committee

# UPDATE FROM THE EFI EXTERNAL PROFICIENCY TESTING COMMITTEE

Since the last newsletter the Committee has met virtually twice and had one hybrid meeting during the EFI conference in 2022.

Covid-19 and external proficiency testing (EPT) programs: All EPT schemes have been operational. There have been delays in courier services and there have been fewer participants in some regions.

EFI standards for providers: The committee is currently working on minor changes of standards.

List of local EPT providers on the EFI website: We are updating information

for all schemes and we plan an extension to also include schemes for complement fixing antibodies. This update will be submitted to the website during the next weeks.

EFI standards for laboratories: The committee has evaluated the current standards carefully. In version 8 of the

standards a new concept of supplemental techniques was introduced. Based on the feedback we received we have decided that there is no need for updates now.

Procedure manual and our mission: We have decided to work to strengthen the interaction with other parts of EFI including laboratories, other committees, commissioners, and inspectors. The chair gave a presentation of the work in the External Proficiency testing Committee at the yearly inspectors workshop in in relation to the EFI Conference 2022 and how inspectors can use the committee. We received very constructive input during and after the meeting and we have initiated several projects based on these inspirations.

The committee encourages laboratories, commissioners, and inspectors to reach out their regional coordinator with questions, concerns, or suggestions in relation to all aspects of EPT. A list of the regional coordinators can be found on the EFI website https://efiweb.org/committees/ept-committee.

On befall of the EFI EPT Committee, Helle Bruunsgaard Chair EFI External Proficiency Testing Committee

### **REPORT OF THE EFI ACCREDITATION COMMITTEE**

First of all I would like to remind you that the Accreditation Committee is composed of all regional commissioners and members of the EFI Accreditation Permanent Commission. As promised during General Assembly at Amsterdam conference I am adding a Table with commissioners and numbers of accredited laboratories by EFI regions as well as the Permanent Commission table. At the moment 89 inspectors are actively serving EFI Accreditation Program, taking into account that all members of the Accreditation Committee are inspectors as well. The only exception is the Manager of the EFI Accreditation Office, who is involved in the process in more administrative way. Few of the aspirant inspectors that attended New Inspectors' Workshop in April still need to perform a trainee inspection to be able to join inspectors pool. Apart from our usual work that enables 276 laboratories to renew their EFI accreditation and supports laboratories asking for the first application packets we are trying to improve our own performance and better formalize our activities. We are happy that Accreditation Committee proposal to follow WMDA and JACI in preparing for accreditation as a certifying body according to ISO 17065 was accepted by the EFI Executive Committee and General Assembly. Although we can't expect that the process will be quick and easy, we have been making steps forward in this direction.

Blanka Vidan Jeras EFI Accreditation Committee, Chair

#### Commissioners and laboratories by Regions

Region number	Region name	Number of labs	Commissioners
01	Nordic Region	12	Dr. Taina Jaatinen
02	Benelux	11	Dr. Junior Lardy
03	UK + Ireland	20	Prof. Kay Poulton Dr. Colin Brown
04	Germany	42	Dr. Sabine Scherer Dr. Andreas Heinold Dr. Andrea Dick
05	Central- East Europe + Russia	20	Prof. Zorana Grubic MSc. Ingrid Faé
06+11	France + Switzerland	34	Dr. Agnes Basire Dr. Sylvie Ferrari-Lacraz
07	Italy	52	Dr. Franco Papola Dr. Benedetta Mazzi Dr. Marco Andreani
08	South-East Europe + Israel + Armenia + Turkey	30	Dr. Nina Svetlitzky Prof. Milena Ivanova
09+10	Spain + Portugal	25	Dr. Eduard Palou Dr. José Vicario
99	Out of Europe + Commis- sioners' labs	30	Prof. Gottfried Fischer Dr. Christien Voorter

EFI Accreditation Permanent CommissionChairDr.Co-ChairDr.General SecretaryDr.Manager EFI Accreditation OfficeMrs

Dr. Blanka Vidan Jeras Dr. Christien Voorter Dr. Sabine Scherer Mrs. Sonja Geelhoed

# UPDATE FROM THE IT & BIOINFORMATICS COMMITTEE

The IT & Bioinformatics Committee supports EFI in all questions and efforts that may require an informatics-related solution. Currently, the committee consists of 5 members: Mathijs Groenewegen (NL), Nicolas Vince (F), James Robinson (GB), Jose Nunez (CH), and Eric Spierings (NL, Chair). The committee has no cap on the number of members; anyone who would like to support the committee in reaching their goals is encouraged to contact us.

In the past year, the committee worked closely together with the Scientific Committee and the EFI2022 organizers to implement a new abstract submission platform. The pros and cons of the new setting have been evaluated. For 20222023, the committee will continue to work with the Scientific Committee and the organizers of the 2023 conference to further optimize the abstract submission.

HLA data standards advanced significantly during the 18th International HLA & Immunogenetics Workshop. New standards were developed for communicating HLA antibody data within the IHIW/DasH. For HLA typing data, most companies have now implemented the HML standard into their NGS software suits. For 2022-2023, the IT & Bioinformatics Committee will actively collaborate with the Standards Committee to initiate recommendations for HLA data communication and storage.

# EFI YOUNG PROFESSIONALS WORKING GROUP

On Thursday during lunch break at the 2022 EFI Conference in Amsterdam we organized a "Young" EFI session. Here we pitched the initiative of a EFI young professionals working group, an idea that we initiated together with the EFI scientific committee.



The EFI president's announcement during the opening ceremony was very helpful since several colleagues from different countries attended the session, as can be seen in the group photo.

During this session we presented our idea of setting up a EFI Young Professionals working group. Important is that the definition of "young" is relative and it does is not refer to age, but it refers to EFI members who are (relatively) new in the field, for instance technicians, PhD student and postdoctoral researchers. With the EFI Young Professionals working group we hope to get "young" EFI members more involved in EFI, for example by organizing events specifically for this group of members, both for social (networking) as for professional matters (education, training and science). In an interactive session we also introduced ourselves to each other and we discussed about the group's ideas and needs for a potential EFI Young Professionals working group.

There were positive responses for initiating this working group and quite some interest in contributing to it. As a follow up of this session at the EFI Conference, we have been in contact with EFI about this initiative and we have approached several members to participate in the working group. The initial working group will consist of six to eight members from different countries within EFI. We have now planned our first meeting to further formulate the goals of the working group. If you are interested in receiving more information about the EFI Young Professionals or if you would like to actively participate in the working group (we are specifically looking for members from Southern and Eastern European countries), you can reach us via a.brandsma@sanquin.nl and timo.olieslagers@mumc.nl.

Best regards, Arianne Brandsma & Timo Olieslagers



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# A BIG THANK YOU FROM THE NETHERLANDS! \_\_\_\_

This year's Annual EFI conference was held between Tuesday May 17 and Friday May 20 in Amsterdam, the Netherlands as a hybrid event. It was actually the first ever EFI conference that was accessible both live and online. Whereas initially the registration numbers remained low, we are very pleased that we finally hosted 791 delegates on-site and 243 delegates online. The on-site delegates were from 48 different countries, and the online delegates from 44 different counties. Interestingly and importantly, the online event clearly made it possible for delegates from more distant counties to join the meeting. The physical location was the Beurs van Berlage, which is an old stock exchange dating from 1903 in the city center of Amsterdam. The classical Jugendstil décor and compact floorplan made for a very social and interactive meeting.

As per tradition, the meeting started with the opening ceremony where the Julia Bodmer awardee Jesse Bruijnesteijn, the HLA award winner David Langton, and Ceppellini lecturer Sir Peter Doherty gave their lectures. Jesse Bruijnesteijn held an excellent lecture on KIR haplotype diversity in humans and rhesus macaques, and David Langton showed data from his paper on the influence of HLA genotype on the severity of COVID-19 infection. While professor Doherty unfortunately could not be present in Amsterdam, he held a fantastic pre-recorded lecture, and we could witness the actual handing over of the award by Ronda Holtsworth. Afterwards, the welcome reception was opened by a joint performance of Dutch harpist Remy van Kesteren and videoartist Jurjen Alkema. Many of us had goosebumps by the sheer beauty of music and visuals.

The meeting continued the following days with exciting plenary sessions on tolerance in solid organ transplantation, big data and systems biology, tolerance induction through gene therapy, future perspectives in stem cell transplantation, and a state of the art session on COVID-19. Besides these plenary sessions, there was a special joint session with EBMT, there were high quality parallel sessions where oral abstracts were presented, and the traditional Wine and Cheese poster session, where digital posters were presented. A new aspect beyond the regular teaching sessions were the interactive teaching sessions, in which the attendants were actively engaging with faculty and each other on the subjects molecular mismatch tools and the possible permissiveness of DSAs. Since these sessions were highly



appreciated, we hope they will be continued in coming EFI conferences.

After the General Assembly on Thursday, the Networking Event took place in the Westergasfabriek in Amsterdam, which used to be an old gas factory dating from 1885. Following an excellent meal in an industrial setting, there was time for the traditional dance party, this year musically entertained by the band Knockout. The party lasted till late at night and made old times revive.

The last day of the meeting gave the podium to the best abstract awardees to present their work and to compete for the Jon van Rood Award. During the closing ceremony llse Gille from Leiden, the Netherlands was awarded the Jon van Rood award for her presentation on the development of Chimeric HLA Antigen T-cells to target HLA-specific B cells in the solid organ transplant setting. Additionally, the best poster awards were handed out to Kazu Osoegawa, Ray Sajulga and Céline Dard for their high quality posters. The closing ceremony also included a very special performance from Dutch TV personality, magician and medical doctor Victor Mids. His interactive show dealt with perception, illusion and confusion, and left the audience in wonder how his magic tricks could possibly work.

While the EFI 2022 conference was definitely a challenge to organize with rescheduling a year, Corona uncertainties and a last-minute decision to go hybrid, it was definitely worth it. We would sincerely like to thank the Dutch HLA Working Party for all their help in putting together the scientific and social program, and the EFI education and scientific committee for their excellent input. We would like to thank the EFI office for working with us and are very grateful for the EFI Executive Committee to have placed the scientific content of the meeting as top priority. We are indebted to the sponsors for keeping faith in the EFI Conference an financially supporting the event. Finally, we would like to thank all the delegates that joined us either onsite in Amsterdam or online through the interactive platform.

Eric Spierings and Sebastiaan Heidt

# BURSARY REPORTS FROM THE EFI ANNUAL MEETING IN AMSTERDAM

EFI offers a wide range of bursaries and among those are the bursaries for attending the annual meeting. There is no age restriction but applicants must be EFI members for at least one year at the time of application. In 2022 we received 13 applications from our members. Bursaries are preferentially given to participants with presentations at the conference. All recipients of a bursary were grateful to EFI for receiving the support, which enabled them to attend the meeting. For the meeting in Amsterdam, 8 bursaries were given and here are their reports.

#### Marta Dratwa, Wroclaw, Poland

As a young PhD student in the field of immunogenetics, I was delighted to be able to take part in this great international event organised in such an interesting place located on the Amstel River with one hundred and sixty beautiful river channels. The conference was held under the slogan "Tolerance. Acceptance and Permissiveness"these words are of great importance in the current world situation, but are also used in the context of immunogenetics. I also attended a meeting of young EFI members, during which we discussed ideas for engaging and improving the involvement of young conference participants. Lectures given during the Friday plenary session 'State of the Art: COVID-19' made a great impression on me. There were a few sessions that I was especially interested in participating in, however the one that specifically piqued my interest was the abstract session titled "Stem Cell Transplantation".

The first presentation by Esteban Arrieta Bolanos delved into the topic of a core group of structurally similar HLA-DPB1 alleles driving permissiveness after hematopoietic stem cell transplantation. They showed that permissive HLA-DPB1 mismatches defined by the T-cell epitope (TCE) model improve the selection of unrelated donors in allogeneic hematopoietic stem cell transplantation (alloHSCT). They used multidimensional scaling techniques based on 28 polymorphic amino acid positions, resulting in the stratification of HLA-DPB1 alleles from the TCE group 3 (TCE3) into subgroups of "core" TCE3 alleles and the remaining "non-core"

alleles. Summarizing this lecture, the 'core' TCE3 donors are the main drivers of HLA-DPB1 permissiveness and its favorable outcomes after alloHSCT. The next presentation, by Stéphane Buhler showed the results of high throughput sequencing monitoring of the T-cell receptor after HSCT, with sixyear follow-up period. The overlapping of clonotypes in recipients after 6 years of HSCT was very low compared to the profile of their donors, especially in the donor and recipient group serologically positive for cytomegalovirus (CMV).

The third presentation, by Jürgen Sauter, was about stem cell donation probability by age, gender, CMV status and HLA genotype frequency. They found that the probability of donating for a male donor aged 18 to 20 years with known CMV status is 12.5 times higher than for a female donor of the same parameters. Interestingly, in the group of female donors of the same age and HLA genotypes frequency but with unknown CMV status this indicator rises to almost 70. For rare HLA genoin AML patients with CMV infection than in those without CMV. Additionally, CD147 rs4919859 C allele was shown to be more common in patients with CMV infection. A logistic regression model confirmed that the CD147 rs4919859 C allele and the recipient CMV status are independent markers of CMV infection.

The following presenter, Kazutoyo Osoegawa proposed a new classification of HLA-allelic mismatches based on peptide binding profile. They hypothesized that mismatches in alleles that differ by AA that are not directly involved in peptide binding may not be immunogenic and can be classified as acceptable mismatches. They observed significant differences between an HLAmatched cohort and a non-permissible cohort (N), the N group having dismal overall survival, disease-free survival and higher acute Graft-versus-Host Disease (aGvHD). In the N cohort, the risk of death was higher than in the other two groups (HLA-matched and putative permissible cohorts).



types, a female donor 55-60 years of age with unknown CMV status is only 1.5 times more likely to donate than a male donor aged 18-20 years with known CMV status.

Another presenter, Piotr Łacina, showed the results of a study on the expression and polymorphism of CD147 as markers of CMV infection in acute myeloid leukaemia (AML) patients. They found that serum CD147 levels were higher The next presentation, by Zuleika Calderin Sollet, was about CD4- and CD8- T cell receptor (TCR) repertoire reconstruction after alloHSCT. T cells take up to one year for CD4 and two years for the CD8 cells to reach normal count and full function. They showed that naïve donor T cells (CD45RO-/ CCR7+/CD95-) accounted for 50% of the total number of T cells, memory T cells were dominant in post-HSCT sam-

ples. Surprisingly, more than 50% of the CD4 and 34% of CD8 clones shared before and after HSCT increased the incidence.

The second-to-last abstract was presented by Chrysanthi Tsamadou. They showed the associations between donor AA genotype rs2204985 at the TCRA-TCRD locus and worse outcome after 9/10 HLA-matched unrelated HSCT. HLA mismatch analysis showed an association between donor AA genotype and significantly poorer overall survival and disease-free survival as compared to donor G allele after single HLA mismatch transplantation. These findings suggest that donor AA genotype in combination with single HLA mismatches may adversely affect HSCT outcome and should therefore be avoided.

The last presentation, by Jacek Nowak was about permissiveness of HLA mismatch, and how it depends much on haplotype phase location of the mismatch. They showed that the treatmentrelated mortality, occurrence of aGvHD, and the incidence of high-grade aGvHD were significantly dependent on both the number of mismatched HLA molecules and the number of mismatched extended MHC haplotypes. Additionally, the incidence of chronic GvHD (cGvHD) and the incidence of extended cGvHD were highly dependent on the number of mismatched extended MHC haplotypes with switched phases. Additional multivariate analyses showed that the number of mismatched extended MHC haplotypes was an independent predictive value for the risk of cGvHD and overall survival of patients after HSCT from an unrelated donor.

#### Bushra Al Hadra, Sofia, Bulgaria

The meeting was filled with impressive sessions covering key concepts in histocompatibilityranging from tolerance in solid organ and stem cell transplantations to big data and systems biology. The Plenary sessions over the three days were within the main themes: Tolerance, acceptance and permissiveness in solid organ transplantation; Future perspectives in hematopoietic stem cell transplantation; Tissue specific tolerance and immunity, and Bioinformatics, big data and systems biology.

This year Julia Bodmer Award went to Dr. Jesse Bruijnesteijn, who gave an excellent talk about KIR gene cluster characterization in humans and rhesus macaques by applying transcriptome and genome approaches.

There were a number of interesting plenary, teaching, and special sessions, oral and poster abstract sessions, but the one I was interested in the most was the abstract session "NK cells and Reproductive Immunology". The session was chaired by assoc. prof. Lotte Wieten and prof. John Trowsdale.

The first abstract was presented by Ms. Nanine de Groot from the Biomedical primate research center (BPRC) in Nederland. The aim of the study she presented was to distinguish functional KIR haplotype profiles (inhibitory and activating) in 298 rhesus macaques. By using segregation analysis, they were able to define 73 new haplotype configurations and 101 novels KIR alleles. Similar to A haplotypes in humans, they were able to define inhibitory profile haplotypes with no or one gene encoding for an activating receptor, as well as haplotypes with more activating profiles like B haplotype in humans. Furthermore, they have investigated the KIR gene distribution on the different KIR profiles which showed that KIR3DL05. 3DS02, 3DS04, 3DS05, and 3DS06 genes are highly frequently observed in haplotype configurations with activating profiles. The conclusion of the study was that similar to humans, the different KIR configuration profiles are nearly equally distributed in rhesus macaques and suggest a balancing selection.

The following presenter was Luciana Vargas from the University of Colorado Aurora. She introduced a pipeline (PUNG/Prioritizing Unresolved New Genotypes) for determining the unresolved genotypes generated from the bioinformatic pipeline PING. The presented data suggest that PING used in combination with PUNG allows for reducing the number of unresolved genotypes by determining whether they are a product of low-quality sequence, misaligned reads, or new alleles in much reduced time when compared to manual analysis of the data.

The next presentation by Danillo Augusto (University of California San Francisco) was about a new next-generation sequencing (NGS) method for the whole NK cell receptome (LRC and NKC gene complexes). As a short-read NGS method, the library preparation steps included enzymatic fragmentation of the genomic DNA, followed by end repair, adapter ligation, magnetic beadbased clean-up, and size selection and indexing. To "catch" the target gene complexes they have used biotinylated probes and streptavidin beads to capture the biotin-labeled genes, resulting in approximately 99% coverage of the targeted regions.

The next presenter, Wesley Marin (University of California) talked about expanding the PING pipeline for processing whole genome sequence (WGS) data. He showed that for WGS data the PING pipeline provides low frequencies of unresolved and ambiguous genotypes resulting in accurate genotype results. It is important to mention that the WGS version of PING is not available yet.

Juliette Krop (Leiden University Medical Centre/LUMC) presented interesting data about the composition and the interaction of the maternal immune system cells with the trophoblast cells in different trimesters. In most of the



studies, the decidua is enzymatically digested which leads to a much lower frequency of myeloid cells. Here they used imaging mass cytometry (IMC) whereby no cells are lost. The data showed that myeloid cells are presented at high frequency in the decidua in all the trimesters and that at the term of pregnancy the trophoblasts are less often in contact with the immune cells.

The last speaker of this session, Xuezi Tian from LUMC, the Netherlands gave a talk about "The histopathology features of the placenta in oocyte donation pregnancies and association with fetalmaternal HLA mismatching". The data she presented showed that autologous pregnancies with pre-eclampsia had the highest maternal vascular malperfusion (MVM) lesions and the Oocyte donation (OD) healthy group had the highest inflammatory pathology scores. Furthermore, three individual inflammatory lesions were found abundant in the OD/healthy group: chorioamnionitis, basal villitis, and chronic deciduitis with plasma cells. For the total HLA and HLA class I higher inflammatory pathology scores was found in the fully allogenic OD/healthy group than in the autologous healthy group.

#### Suzanne Bezstarosti, Leiden, The Netherlands

The theme of the 35<sup>th</sup> EFI Conference was 'Tolerance, Acceptance and Permissiveness'. Being organized in Amsterdam, these keywords did not only apply to the topics that were covered during the meeting, but also applied to the city the conference was held in.

The theme of "Tolerance" was the keyword in the first plenary session on Wednesday morning, where Sophie Brouard discussed B cells with regulatory properties and the role of microbiota in immunoregulation. Next, James Hutchinson presented an overview of regulatory macrophages in solid organ transplantation and Fadi Issa concluded the session by presenting the Two Study, in which kidney transplant patients are being treated with autologous regulatory T cells.

The keyword ''Acceptance" was applicable to one of the Special Sessions on Thursday: Acceptable an Unacceptable Antigen in Solid Organ Transplantation. In this session, Stefan Schaub discussed the pros and cons of the solid phase assay to determine anti-HLA antibodies. He clearly explained that it is important to remove specificities that are presumed as false positives, which can be done by taking

immunosuppression in kidney transplantation.



the patient's sensitization history into account, but also by considering "bead behavior" and eplet analysis of the reactivity pattern. Moreover, it is important to remove specificities that are presumed as less harmful. This could be done based on a low MFI, specific loci such as HLA-C and HLA-DP, but maybe also based on specific (low) risk eplets. Next, David Turner discussed the utility of the virtual crossmatch of kidney transplantation. The benefits of the virtual crossmatch are reduced cold ischemia time and reduced on call commitment for laboratory staff and most transplantation centers in the UK now omit the wet crossmatch routinely. Lastly, Nils Lachman discussed the use of HLA eplet analysis for the determination of acceptable and unacceptable antigens in kidney transplantation. For instance, instead of a MFI cutoff, an eplet cutoff could be introduced in the interpretation of the single antigen bead assay. In this way, the predictive power to predict the flow or CDC crossmatch is higher than antigen MFIs. Therefore, eplet analysis is a promising tool for a more detailed immunological risk assessment in kidney transplant patients.

As a PhD student that started with my research at the end of 2019, only a few months before the COVID pandemic, this congress was my first on-site EFI Conference. I was very thankful for the opportunity to present my own work during the two abstract sessions on Solid Organ Transplantation and during the GenDx symposium, where I discussed the use of HLA eplets to tailor Besides the excellent scientific program, the social program was very well organized, starting with the Welcome Reception in the Hall of the Beurs van Berlage, where Dutch harpist Remy van Kesteren delivered a stunning performance accompanied by a beautiful animated projection on the walls. The keyword ''Permissiveness" was certainly relevant for the networking event on Thursday evening, where the band brought everyone to the dancefloor; demonstrating that immunologist do not only have exquisite scientific skills, but also great dance moves.

#### Matea Tarabene, Split, Croatia

This year's 35<sup>th</sup> annual EFI Conference in was the first one I attended since I've started working in the field of immunohistocompatibility at the Tissue Typing Laboratory in the Clinical Hospital Centre Split. It was held at the lovely venue of Beurs van Berlage in Amsterdam- the Netherlands, formerly used as a stock trade. The interior of the venue was absolutely breathtaking and so appropriate for the occasion, which is only to be expected from such an important conference. Taking into consideration that the announced program was very interesting, current and full of new knowledge it is safe to say that I had a hard time picking which sessions to attend or which to cover for this report.

The session I found particularly interesting was a teaching session about donor-specific HLA antibodies which addressed how HLA antibodies can be detected and which are acceptable in stem cell or solid organ transplantation.

The session started with Stefan Schaub, a transplant nephrologist from the University Hospital Basel addressing the importance of donor HLA antibody detection prior to an organ transplant in order to minimize the patient's immunological risk and for the exclusion of incompatible donors. Due to their high polymorphism and high ex-pression rate, "non-self" or mismatched HLA are major targets for the immune system. Indeed, after blood transfusions, pregnancies or transplants the immune system may produce antibodies against the mismatched HLA. If these circulating HLA antibodies are directed against HLA of a subsequently transplanted organ, they immediately bind to their targets on the vascular endothelial cells of the allograft. The bound HLA antibodies will then activate the complement system as well as macrophages and neutrophils leading to severe endothelial cell damage and allograft dysfunction. This clinico-pathological entity induced by preformed donor-specific HLA antibodies (HLA-DSA) is called antibodymediated or humoral rejection and is responsible for most early allograft losses. Single antigen beads (SAB) analysis has emerged as an ideal tool to define the specificity of HLA-antibodies. By comparison of the donor's HLA-typing with the HLA-antibody specificities of the recipient, the presence or absence of donor-specific HLA-antibodies (HLA-DSA) can be determined "virtually" without performing a cell-based crossmatch (i.e., virtual crossmatch). All day-of-transplant sera were tested for class I (i.e., HLA-A/B/C) and class

II (i.e., HLA-DR/DQ/DP) HLA-antibodies using SAB on a Luminex platform. A positive result was defined as a baseline normalized mean fluorescence intensity (MFI) more than 500. Quantiplex beads (OneLambda) were used to calculate standard fluorescence intensities for better comparison between different laboratories, but the definition of a positive result was based on MFI as described earlier. Preliminary assignment as HLA-DSA was performed on a serologic level by virtual crossmatching (i.e., comparison of the HLA-typing of the donor with the HLA-antibody specificities of the recipient). If only one of several different HLA-alleles of a serologically defined HLA-antigen on the SAB was positive, high resolution

typing of the donor was performed to determine true donor specificity. The overall incidence of clinical/subclinical rejection was significantly higher in patients with HLA-DSA than in patients without HLA-DSA.

The session then continued with an additional lecture from Ann-Margaret Little who tried to answer the question: "DSA: what is acceptable in stem cell transplantation?" The most widely used methodology for identification of HLA alloantibodies is based on Luminex bead assays, available from two different commercial sources (Immucor and One Lambda; Thermo Fisher). These assays allow detection of antibodies in a semi-quantitative manner. The use of Luminex beads with a single HLA protein attached (single antigen bead, SAB) permits assignment of the alloantibody specificity. An output value, from the assay, mean fluorescence Intensity (MFI), is widely used to indicate the "strength" of the antigen-antibody interaction. Typically, an MFI value of 1000 is used as a cut-off for positivity, with values from 1000 to 5000 considered "low level" and anything greater than 5000 considered "high level." The highest MFI values obtained ≥18 000 likely indicate saturation of binding of antibody on the beads and at this level, testing serum after serial dilutions can give a more accurate assessment of the antibody level. A recent study of patients receiving haplo-identical transplants identified patients with DSA (MFI < 3000) compared to patients without DSA. This suggests that the MFI level of antibodies detected could be considered when selecting HLA mismatched

donors for transplant. In addition to assays being available to detect DSA, there are also assays that allow distinction between complement binding and non-complement binding immunoglobulin. The biological processes involved in delaying engraftment and/or causing graft failure are multi-factorial; however there is evidence to support a role of complement. A positive C1q assay was associated with higher MFI values and also with graft failure. Either a complement binding assay (C1q) or cell based (crossmatching) assays should be applied and in the absence of a donor against whom the patient has no DSA, then the patient should undergo desensitization therapy especially with DSA > 5000 and/or complement positive. Little is known about the expression of HLA proteins on the cells that mediate engraftment and it is unlikely that the proteins encoded by all HLA loci are equally expressed. HLA-A, B, C and DRB1 proteins are considered high expression loci with other HLA class II loci considered low expressing loci. However there are expression variations for different alleles at a given loci, e.g. HLA-C and DPB1, so a generic grouping of loci into either high or low expression is not appropriate. There is now sufficient evidence in the literature supporting a negative impact of DSA in mismatched haematopoietic stem cell transplantation and all laboratories supporting this service should assess recipients for HLA antibodies and provide advice to the clinical team regarding the findings. At present there is little data regarding what are "safe" antibody levels or targets, to transplant against.



Finally, Malte Ziemann from the University Hospital of Schleswig-Holstein talked about acceptable DSA in solid organ transplantation. Avoiding kidney transplantation in case of a positive complement-dependent cytotoxicity crossmatching due to donor-specific HLA antibodies (DSA) was a pivotal step in establishing transplantation as a modality of kidney replacement therapy in patients with advanced kidney diseases. Still, a negative crossmatching is mandatory for kidney transplantation in the Eurotransplant region. Their study has shown that DSA both before living and deceased donation is associated with significantly lower graft survival. This association was independent of patient sex, which excludes pregnancies as a potential underlying immunizing event against the partner and living donor. It is tempting to attribute the lower hazard ratio of DSA in deceased donation to the higher proportion of patients receiving ATG as induction therapy, as the potential of ATG in preventing rejection episodes and graft loss in patients with DSA is well known. However, ATG was not independently associated with graft survival in the multivariable analyses and it is more likely that they had a weakened immune response. This risk awareness could have led to more careful monitoring and treatment of DSA-positive patients, which might have attenuated the potentially damaging effect of DSA in deceased donation. Only a few DSApositive patients received rituximab. As rituximab can reduce antibody rebound in desensitized patients and anamnestic response in patients with cryptic sensitization to HLA, it might improve graft survival in DSA-positive patients, even in those with low-MFI DSA. On the other hand, rituximab is associated with leukopenia and increased infectious complications, which might increase mortality. Therefore, randomized trials are needed to evaluate the efficacy of rituximab in DSA-positive patients.

Other than these lectures many other topics and subjects were covered during plenary and teaching sessions, as well as luncheon sessions where many of the conference sponsors presented their latest technologies and methods available. All in all, I found the entire conference very useful and stimulating experience, and it was a great pleasure in taking part in an event where so many colleagues from different countries share their findings and ideas.

#### Denise Habets, Maastricht, the Netherlands

With a background in reproductive immunology I was very intrigued to learn more about immune tolerance, acceptance and permissiveness in a transplantation setting, as this motto is also of uttermost importance for ensuring a healthy pregnancy.

With great pleasure I followed the abstract session about NK cells & reproductive immunology, were KIR sequence interpretation challenges were discussed by Wesley Marin from the University of California San Francisco and the Hollenbach lab, Moreover, a method called PING was introduced by Danillo Augusto for high accuracy KIR allele characterization and a bioinformatic algorithm called PUNG was introduced by Luciana de Brito Vargas to determine potential new alleles. Furthermore, in this session Juliette Krop from Leiden University showed that myeloid cells were present in high frequencies in the decidua, which might work together with decidual NK cells in order to ensure proper implantation and Xuezi Tian showed that placental inflammatory lesions were associated with fetal-maternal mismatching, which provides exciting prospects to study immune cell distributions in these lesions in the future.

Furthermore, I learned a lot from the teaching sessions about non-HLA antibodies. In this session there were 3 presenters. First dr. Otten explained what methods are available for detection of non-HLA and which antigens could

be tested. Furthermore, he explained that most non-HLA antibodies are auto antibodies, since there is not much polymorphism present in the antigens tested. The second speaker, dr. Naesens, indicated that 60% of the histologically determined antibody mediated rejections in kidney transplantation did not show HLA donor specific antibodies, with the question whether these were then due to non-HLA antibodies or to non-antibody pathways. For determination of non-HLA antibodies, an endothelial crossmatch would be a possibility. Finally, dr. Berger, as third presenter, explained the permissiveness of non-HLA antibodies in different transplant settings by presenting cases in which screening for these antibodies can be done by current antigen specific assays. However, he also showed that these assays still lack sufficient predictive value to impact clinical decision making and that their validation is generally poor, hereby suggesting that donor specific assays might be of additional value for future testing of non-HLA antibodies, which is needed as these have been shown to negatively impact allograft survival.

I also learned a lot from the interactive teaching sessions about tissue-specific immunity, where dr. Duivenvoorden showed immunological characteristics that might enable us to learn from patients that spontaneously develop tolerance to the graft and provide novel insights in therapeutic strategies to induce tolerance. Moreover I found the interactive talk of dr. Samsom very interesting who presented about mucosal tolerance in the intestine and how this principle of tolerance helps



for understanding the pathogenesis of inflammatory bowel disease and who also presented interesting data of defective IL-10 signaling and how this might relate to intestinal inflammation via antigen presenting cells. The last speaker, dr. van Wijk, presented tolerance in stem cell transplantation.

Furthermore I got a lot of new insights from the hands on teaching session on permissiveness of donor specific antibodies, in which case studies from centers in the Netherlands were presented and the question was raised whether to transplant or not, subsequently giving reasoning as to why or why not. Although these case studies were very detailed and the subject matter was quite new to me, it was really nice to follow this practical application of case studies.

A part that really stood out for me during the conference was the moderated wine and cheese poster session. What a fantastic way of giving young scientists a platform to present their research in an informal setting hereby stimulating networking simultaneously. Overall, not only did I enjoy the key note speakers and the versatility of the different plenary, educational and scientific sessions, I also learned a lot from the immunogenetics and histocompatibility field and therefore I would like to conclude with thanking the organizing committee for granting me this wonderful opportunity.

#### Monica Sorbini, Torino, Italy

I am grateful for the opportunity to join the 35<sup>th</sup> EFI Conference 2022 as an EFI personal bursary recipient and poster presenter. Last year I participated to the virtual version of the EFI Conference, but as a young PhD student in Human Genetics and Immunogenetics, joining this event in person represented a great occasion to meet experts and learn from their experiences. The location in Amsterdam was amazing, and the social events gave me a chance to get in touch with other professionals in the Transplantation field, knowing about new frontiers and technologies in Tolerance and Gene Therapy in Solid Organ Transplantation. During the Opening Ceremony, I could attend the great Ceppellini Lecture held by Professor Peter Doherty, who inspired me as a young researcher with his extraordinary work and passion for Immunology. Later, during the nice aperitif, we were delighted by the sound of a

harpist playing in the beautiful location of Beurs van Berlage, creating such a vibrant and inspiring atmosphere.

I attended with pleasure the Plenary Session entitled Tolerance in Solid Organ Transplantation, which was close to my field of research, related to rejection and immune system response and regulation. The take-home message was that allograft acceptance is still very challenging, as it relies on a delicate balance between immunosuppressive therapy, toxicity, rejection and fibrogenesis. The same day, during Abstract Session "Solid Organ Transplantation 1", novel biomarkers for the prediction of allograft rejection were presented, as CD25, HLA-DR and CD226. Many of the talks were focused on this topic, suggesting an increasing interest in new approaches to detect graft damage. Moreover, young colleagues presented posters on the analysis of donor-derived cell free DNA, which is considered a valid and new marker of rejection, and it is exploited to monitor the transplantation outcome in a rapid and non-invasive way. I spent time discussing with them, who analyzed this biomarker in different transplants, as kidney, heart and lung. I believe cellfree DNA could represent a novel tool to improve the patient's quality of life.

plant clinical management of patients, but sometimes they can represent an explanation for DSA negative graft rejection. In fact, later during the same session, Maarten Naesens focused on the impact of non-HLA antibodies on the long-term outcome of non-HLA antibodies as LIMS1 and MICA, which are maybe implicated in the antibodymediated mechanism of rejection.

I also found very interesting the new gene therapy approaches to reach Tolerance presented by Ton Rabelink, Rainer Blasczyk and Megan Levings during the Plenary Session: Tolerance Through Gene Therapy. In particular, iPSC-derived kidney organoids could represent in vitro models to help characterizing the complex landscape created by the interactions between recipient immune system and donor cells, and to develop new personalized therapies.

I really appreciated the MHC and Anthropology Session, where we explored the similarity between human and nonhuman primate genomes, at the level of Histocompatibility genes. I was positively intrigued by the analysis of the distribution of HLA alleles in different populations, which interesting recapitulates the spread of humans from Africa to the rest of the world across millen-



During the Teaching Session "Non-HLA Antibodies: How Permissible Are They in Transplant Settings?", the limitations of current non-HLA assays were investigated by Henny Otten in his talk entitled "Non-HLA antibodies: acquirement and detection". The absence of functional assays, WHO reference sera and standardization limit the evaluation of non-HLA antibodies in the post-transnia. I also learned about the immunologic mechanisms that allow common human viruses such as herpesviruses to switch from lytic to latent phase and vice versa, which could represent crucial topic in these pandemic years. In summary, EFI Conference was a stimulating experience for me and I'm looking forward to joining the next congress in Nantes in 2023!

#### Marija Maskalan, Zagreb, Croatia

Nine years ago, I was writing the report from the 27<sup>th</sup> EFI Conference held in Maastricht which I finished with sentence "Lectures, experience and chance to meet all this excellent people will definitely help me, as a young scientist, with my future work." Now, after working in the field of histocompatibility and immunogenetics for more than ten years, I have the opportunity to thank again the EFI committee for giving me the bursary to attend the 35<sup>th</sup> EFI annual meeting in Amsterdam. I have participated in EFI conferences

rejection and tolerance in humans and how all of this is additionally influenced by microbiota.

The lecture from the Special Joint Session EBMT and EFI by Katharina Fleischhauer about the integrated HLA-DPB1 permissiveness models in stem cell transplantation provided a great overview of the current knowledge about T-cell-epitope Groups and Expression models, their concordance and influence on relapse, GvHD and non-relapse mortality in stem cell transplantation.



whenever that was possible and it has always proven to be an extremely useful and valuable experience, both in gaining practical knowledge and insight into future developments of the histocompatibility and immunogenetics field.

The general theme of the conference "Tolerance, acceptance, permissiveness" was more than ever applicable in all the lectures as well as in everyday post pandemic life.

The Ceppellini lecture given at the opening ceremony by Prof Peter Doherty from the Peter Doherty Institute for Infection and Immunity (Melbourne, Australia) about the immune response to infectious agents, especially to SARS-CoV-2, was an excellent example how great scientists are capable of communicating science to people and how they are always ahead of their time.

In the Plenary Session "Tolerance in Solid Organ Transplantation" the main thought was how to avoid rejection and improve graft survival in solid organ transplantation. The first lecture held by Sophie Brouard about Microbiota and Immunoregulation showed how regulatory B cells are involved in the Special Session with reports from the 18<sup>th</sup> International Histocompatibility Workshop recapped the extensive international collaboration involved for its success. With many projects ongoing, there is no doubt that the 19<sup>th</sup> workshop will bring new data on HLA immunogenic and non-immunogenic epitopes and many other topics.

A lot of interesting presentations focused on KIR, MICA and MICB genes, new technologies in tissue typing but all of them shared the common aim towards improvement of clinical outcomes in transplantation.

The social aspect of this EFI conference was also outstanding. The closing ceremony with an illusionist and medical doctor Victor Mids, showing us what neuromagic is and how our own brain and senses can be deceived, was exceptional.

Finally, I highly recommend to all EFI members to use this excellent opportunity the EFI bursary provides to improve their knowledge and gain valuable connections and acquaintances indispensable for future common projects and goals.

#### Juliette Krop, Leiden, The Netherlands

Tolerance, Acceptance and Permissiveness were the themes of a wonderful EFI conference in Beurs van Berlage, Amsterdam. These open themes were perceived differently by everyone. It was fun to hear how people related these themes to their research during the presentations.

Finally, the scientific community is brought together again to discuss, learn, and laugh. Tuesday evening had an amazing kick-off with warm welcoming speeches and the award ceremony, after which the first social event started. The Ceppellini Lecture from Peter Doherty who gave a wonderful overview of how previous research has helped us to better and quicker understand how to develop a good vaccine for covid, the importance of creating T cell activation by vaccination and the immune system response to covid. The Julia Bodmer Awardee, Jesse Bruijnesteijn, also presented his work in this session. He showed how they characterized the KIR gene of rhesus macaque and how this differs from human KIR genes. It is important to study these differences since only primates express KIR receptors and are therefore the best animal models when studying NK cell biology and taking KIR receptors into account.

Dr. Bruijnesteijn's talk was followed by his co-worker Nanine de Groot the next day in the 'NK cells and Reproductive Immunology' session. In the same session my colleague Xuezi Tian and I presented our work on reproductive immunology. Using imaging mass cytometry, we in vivo visualized the interactions that maternal immune cells have with the invading fetal trophoblast cells. These data suggest an important role for myeloid cells in supporting trophoblast invasion. Xuezi Tian found that in oocyte donation there is an increased risk of a placental pathology lesion, which was associated with a higher number of HLA-mismatches.

Thursday was a very socially active day. It started with the tulip run, where I collected my third tulip and the day was closed with a great network event. This day I was positively impressed by the teaching session on tissue specific immunity as it was very interactive. Speakers prepared questions and really gave a lecture rather than only showing own data. What specifically got my interest was the presentation from Femke van Wijk who explained on HSTCs in people with auto-immune diseases. Since target therapies are not enough to restore the immune cell balance completely and autologous HSCT therapy does. After HSCT the TCR repertoire in these patients becomes much more diverse than before transplant. The first speaker was Janneke Samsom who focused on the immune system in inflammatory bowel disease.

On the last day I was the first presenter in the best abstract session where I



showed our work on chronic intervillositis of unknown etiology (CIUE), which is a pregnancy complication causing in ~50% of cases a pregnancy loss or otherwise severe growth restriction. Using imaging mass cytometry, we visualized the immune cells present in the placental lesions. We found that these cells could be immune suppressive macrophages (CD69+, HLA-DR+, CD38+). My presentation was followed by 6 other very good presentations on varying topics. Two presentations covered a similar topic where they developed CAR T cells, that instead of having an antigen-recognition domain they express HLA. With the idea that these cells could target donor HLA specific B cells in the recipient. Which actually highlights the point that came forward in a lot of presentations during the whole EFI conference; Cellular therapies with less side effects than the current immunosuppressive drugs are the way to go forward with development of immunosuppressive regiments.

# 18<sup>TH</sup> INTERNATIONAL HLA & IMMUNOGENETICS Workshop Meeting

Prior to the EFI Annual Meeting, the 18<sup>th</sup> International HLA and Immunogenetics meeting was held in Noordwijkerhout, the Netherlands May 11-15. This meeting brought together 167 participants from all over the world for 4 days to talk about the progress and plans of the components and projects of the Workshop. In total, 18 projects were covered during the meeting, of which the conclusions were summarized on the final day. Similar to the EFI meeting, this Workshop meeting had the doubtful honour to be the first ever hybrid Workshop meeting. Regardless, I was very good to see people from all over the world calling in to join the discussion, even skipping sleep! For those attending live, besides the science, there was ample opportunity for networking during the dinners, the wine tasting, the Eurovision party, and the networking event on the beach. Eric Spierings and myself look back on a great meeting and thank all who participated. We congratulate co-chairs Katsushi Tokunaga and Takashi Shiina from Japan on winning the bid for the 19<sup>th</sup> IHIWS and look forward to working with the them. The 19<sup>th</sup> IHIWS meeting is planned for May/June 2026 at Gotemba city, Japan.

Eric Spierings and Sebastiaan Heidt







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Jen R., Stem Cell and Double Lung Transplant Recipient





\*References for early rejection • Rashef et al BBMT 2014;20:1758–66 • Tang et al BBMT 2014;20:1139:1144 \*HOT: Hand-on Time (based on 48 samples) \*TAT: Turn around time

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# 50 YEARS ANNIVERSARY OF THE DEPARTMENT OF CLINICAL IMMUNOLOGY & STEM CELL BANK, UNIVERSITY HOSPITAL "ALEXANDROVSKA", MEDICAL UNIVERSITY, SOFIA, BULGARIA

Hereby, I would like most sincerely to congratulate prof. Elissaveta Naumova and her team with the 50<sup>th</sup> anniversary of the foundation of the Department of Clinical Immunology in Sofia. Just a few historical data, the immunology laboratory was established in 1971 as a part of the Nephrology department at the Institute for Postgraduate Education of Physicians in Sofia. The head of the laboratory at that time was prof. Gena Stefanova, originally a nephrologist, who specialised in tissue typing in Paris in the laboratory of Jean Dausset, Saint Louis hospital. In 1976 the laboratory moved to new facilities in the Medical Academy (in Sofia) and in 1988 grew into the Department for Clinical and Transplantation Immunology. In 1997

prof. Naumova became the Head of the department. Eli (if I may call her so, because we are close friends for many years), has an education for MD, specialised in internal diseases and clinical immunology and accomplished numerous specialisation stays in the USA, the Netherlands, France and Germany. Eli is a renowned scientist, who is respected in her country and abroad, but is also an active clinical immunologist, treating patients with immunodeficiencies and other immunological disorders. We also, of course, know Eli as our successful EFI President during the years 2015 - 2018. The team in the laboratory in Sofia has been prosperous both in the clinical and scientific field, efficiently supporting the organ

and stem cell transplantation programs in the country. Besides, the scientists working in the lab coordinate various national and international scientific projects on the immunogenetics of ageing (IHIW), diagnostics of immunodeficiencies, rare diseases, etc. Last, but not least, the laboratory provides external proficiency testing exercises for EFI Region 8 (Balkan EPT).

Once again, sincere congratulations with this wonderful anniversary, wishing you success in all your scientific and clinical endeavours. Good luck!

Antonij Slavcev Department of Immunogenetics Prague, Czech Republic



# ANNUAL BALKAN EPT EFI REGION 8 MEETING: A SUMMARIZED REPORT

Elissaveta Naumova, Anastasiya Mihaylova, and Daniela Marinova, Department of Clinical Immunology and Stem Cell Bank, Sofia, Bulgaria Fatma Oguz, Department of Medical Biology, Istanbul Medical Faculty, Istanbul, Turkey

The Balkan EPT program started 18 years ago with HLA typing, whereas new schemes for the detection and identification of alloantibodies. HLA-B27 testing, and cross-matching by CDC and flow cytometry were gradually introduced. The number of participants is constantly growing and 65 laboratories from 9 countries (Bosnia and Herzegovina, Bulgaria, Greece, Italy, Montenegro, North Macedonia, Romania, Serbia and Turkey) participated in the various schemes in 2021. This undeniable interest in the Balkan EPT demonstrates its importance and contribution for the quality assurance in the histocompatibility testing in EFI region 8.

An annual Balkan EPT meeting is organized at the end of each EPT year in accordance with EFI standards for providers, and all participants in the EPT are invited to attend. Along the years it became an important event for professionals from the histocompatibility field

in EFI region 8. The meeting is usually held in different EFI region 8 countries with a scientific program in addition to presentations of EPT schemes results from the previous year. Due to the Sars-Cov-2 pandemic the last two meetings took place in a virtual format. This year's Balkan EPT EFI region 8 meeting was held on February 24, 2022 using the Google Meet platform. There were 73 attendees from 8 countries. The agenda of the meeting included reports on the 2021 BEPT for each of the schemes and an open discussion. The meeting was opened and moderated by Elissaveta Naumova, chair of the EPT steering committee. The first presentation given by Fatma Oguz focused on the results of the 2021 BEPT exercise for HLA typing. The second report, presented by Anastasiya Mihaylova, was dedicated on the 2021 BEPT schemes for HLA antibodies, crossmatching and HLA-B27 testing. Thereafter, the meeting was open for discussions on relevant topics. The questions and

comments worth highlighting focused on some logistical problems that arose in 2021 as well as proposals for the upcoming years. Fatma Oguz informed that the participants in the serological HLA typing continually decrease within the last years. She proposed to the steering committee this scheme to be terminated due to the very small number of participants which no longer meets the EFI standards for EPT providers. The possibilities of implementation in the Balkan EPT of HLA-DP typing (proposed by the commissioner Milena Ivanova) as well as chimerism and KIR typing (proposed by Svetlana Vojvodic) were suggested to be considered in the future.

We hope that, although virtual, the meeting provided the opportunity to discuss interesting and important points concerning EPT in EFI region 8. Fianlly, we would like to thank the participants in the meeting who contributed to the success of this event.



### HIGHLIGHTS FROM THE HLA JOURNAL \_\_\_\_

By Luca Vago, section editor HLA journal

### A new strategy for systematically classifying HLA alleles into serological specificities.

Osoegawa K, Marsh SGE, Holdsworth R, Heidt S, Fischer G, Murphey C, Maiers M, Fernández Viňa MA.

HLA. 2022 Sep;100(3):193-231. doi: 10.1111/tan.14662. One of the main consequences of the exponential growth in the number of newly reported HLA alleles is the difficulty in univocally assigning them to a definite serological specificity, and thus to infer their immunogenicity in the setting of solid organ transplantation. In this interesting study, after an in-depth analysis of the molecular correlates of 82 WHO serological specificities, the Authors developed a new software, named HATS, for automatic assignment of HLA alleles to the most closely matched serotype. In silico prediction were confirmed by evaluating the alleles whose serotypes do not correspond to the first field of the allele name listed in the HLA dictionary. As proposed by the Authors, the comprehensive catalogue of serological specificities identified in this study may represent the guide to design better antibodyscreening panels, improving the detection of incompatibilities non-permissive for organ transplantation.

# Epitope characterization of a monoclonal antibody that selectively recognizes KIR2DL1 allotypes.

Falco M, Meazza R, Alicata C, Canevali P, Muntasell A, Bottino C, Moretta L, Pende D, Lopez-Botet M.

HLA. 2022 Aug;100(2):107-118. doi: 10.1111/tan.14630. Epub 2022 Jun 9.

Despite the extensive genetic polymorphism of Killer cell Immunoglobulin-like Receptors (KIRs), it has been historically challenging to generate reagents capable of discriminating specific KIRs at the protein level, and thus to study their individual contribution to Natural Killer (NK) cell functional responses. In the present study, Falco and coworkers characterized a novel antibody (HP-DM1) capable of binding selectively and specifically to KIR2DL1. Combining site-directed mutagenesis and structural modeling, they show that the new antibody is likely to bind to a conformational epitope that include M44, the residue crucial for HLA-C K80 recognition by KIR2DL1, and infer binding to all known KIRDL1 alleles (except for KIR2DL1\*020 and \*022) and to no other KIR (except for KIR2DS1\*013). In another study published in the same issue of HLA by Authors from the same groups (Meazza et al., https://doi.org/10.1111/tan.14640), the new antibody is immediately put to use, demonstrating its utility in refining the quantification of alloreactive NK cells in potential donors for allogeneic hematopoietic cell transplantation. These interesting studies provide a detailed description of a new valuable reagent for the study of NK cell biology, and a direct example of its value in real-life clinical practice.

#### Utility of assessing CD3+ cell chimerism within the first months after allogeneic hematopoietic stem-cell transplantation for acute myeloid leukemia.

Bendjelloul M, Usureau C, Etancelin P, Saidak Z, Lebon D, Garçon L, Marolleau JP, Desoutter J, Guillaume N. HLA. 2022 Jul;100(1):18-23. doi: 10.1111/tan.14557. In the setting of allogeneic hematopoietic cell transplantation (allo-HCT), host blood cells are replaced by donor-ori-

gin elements, with a kinetics that depend on the transplant platform adopted and in particular on the intensity of the conditioning regimen. Measurement of hematopoietic chimerism allows to verify whether this conversion is following the expected time course, and deviation from that trajectory are associated to clinically relevant events including rejection and relapse. In this interesting paper, Bendjelloul and coworkers employed a gPCR-based assay to analyze chimerism dynamics in 135 recipients of allo-HCT, observing significantly lower overall survival and relapse free survival for patients without full donor chimerism at both day 30 and day 90 after transplant. Of interest, this was not the case when chimerism was measured in purified T cells, suggesting a predominant contribution of residual/reappearing host myeloid cells in determining the detrimental effect. This simple but significant analysis confirm the clinical relevance of monitoring chimerism also in the era of modern transplantation platforms, and provides interesting observations on the relative contribution of different cell subsets to the final outcome of allo-HCT.

In addition, we would like to suggest to the EFI newsletter readership some excellent reviews recently published in HLA, summarizing current knowledge on the association between HLA polymorphism and clinical course of COVID-19 (April issue), on the development of CAR Tregs to improve organ transplantation (June issue) and on unacceptable HLA antigen mismatches in kidney transplantation (July issue). Finally, we would like to point the attention of our readers to two special issues of HLA, published in May and September, collecting the abstract from the 35<sup>th</sup> European Immunogenetics and Histocompatibility Conference (Amsterdam, the Netherlands, May 17-20, 2022) and from the 29<sup>th</sup> Annual Conference of the German Society for Immunogenetics (Graz, Austria, September 12-14, 2022), respectively.





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