EUROPEAN FEDERATION



For Immunogenetics

JANUARI 2018 - ISSUE 84

.....FROM THE EFI PRESIDENT

DEAR EFI MEMBERS,

Happy New Year for 2018!

2017 was quite busy with meetings in the H&I field. Apart from the annual EFI. ASHI and APHIA conferences, the 13th International Summer School on Immunogenetics in Dublin organized by EFI, and in September, the 17th International Histocompatibility and Immunogenetics Workshop and Conference in Asilomar, USA, were held as well. The organizers of the IHIWS made an excellent choice by selecting a wonderful location providing a great atmosphere to the participants of the workshop to discuss the results and to strengthen existing collaborations, or to build new ones. I would like especially to thank Marcelo Fernandez-Viñas and his team for their efforts in organizing and coordinating, as well as the tremendous work done in collecting and analyzing the data. We are expecting new interesting and useful results for science and medical practice as a result of applying NGS technology in the H&I field to be published soon. The summary of the workshop can be found in the current issue of the EFI newsletter.

Straight after the IHIWS, the ASHI annual meeting took place in San Francisco where the regular meeting of the ASHI, APHIA and EFI Presidents was held. Also, in view of continuity, the meeting was attended by the newly elected ASHI and EFI Presidents. First, the discussion was about how to help integrate the IHIWS into the three societies' annual meetings. It was agreed that whichever society was the regional society wherever the IHIWs were held, would act as the point of liaison between the three societies for future workshops.

The next host of the 18th IHIWS is Europe and the workshop councilors



approved the nomination from Amsterdam. Congratulations! This is a great opportunity for EFI to prove its strength in creating a better coordination between the WS organizers and the H&I associations. This could be done by creating a group of representatives from the three societies which would liaise with the organizers of the future IHIWS. In addition to this, the EFI Executive Committee has decided the 2021 EFI meeting is to be held in Amsterdam which will make a closer collaboration with IHIWS possible.

The next topic subjected to discussion focused on the frequency of organizing International Summer Schools. This is an excellent platform for collaboration between the members of the three societies, and above all, this opportunity will allow those who are entering H&I to gain knowledge from distinguished experts in the field. That is why the point was raised again for the Summer School to be held every year, strongly supported by the EFI Executive Committee. It is expected that the decision of the ASHI and APHIA Boards will support this. Further discussion about the possibility of hosting the ISS in areas of the world outside the APHIA, ASHI and EFI regions was also brought up, especially as a way to bring areas outside our three regions into our world histocompatibility alliance.

As usual, the autumn season was overloaded for the members of the EFI Committees. Two teleconferences were held: the EFI Executive Committee and Coordinators & EFI Officers in September, as well as the autumn meeting held in October. I would like to describe in more detail the topics that have been discussed during the EFI Executive Committee and coordinators teleconference and meeting.



Speed and Precision in Real Time

- Low to intermediate resolution HLA typing of 11 loci in real time
- From setup to final results within an hour
- TaqMan[®] technology provides flexibility and multiplexing power to easily add reaction mixes to enhance resolution
- Seamless analysis in new SCORE[™]6 software with all test data stored in a central database for easy access and retrieval

For Research Use Only

Manufactured by:

LERUP SSP



@2016 CareDx, Inc. All service marks and trademarks are owned or licensed by CareDx, Inc. or its affiliates. All rights reserved. LK-10378 Rev. 1 08/16



EFI website http://www.efiweb.eu **Editor-in-chief** Sebastiaan Heidt

Editorial address:

EFI Newsletter LUMC, Dept. of Immunohematology and Blood Transfusion, Bldg. 1, E3-Q P.O. Box 9600 2300 RC Leiden, The Netherlands **EFI Executive Committee 2017**

EFI President E. Naumova (Bulgaria) **President Elect** J. Mytilineos (Germany)

EFI Secretary

M. Bengtsson (Sweden) **Deputy Secretary**

D. Roelen (the Netherlands)

EFI Treasurer G. Guidicelli (France)

Deputy Treasurer K. Gagne (France)

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

Councillors

P.A. Gourraud (France) T. Kauke (Germany) N. Mayor (UK) V. Miotti (Italy) F. Oguz (Turkey) J. Villard (Switzerland)

Past Presidents

J.J. van Rood, B.A. Bradley, E. Albert, J. Hors, M-M Tongio, J.G. Bodmer, F.H.J. Claas, S. Curtoni, E. Thorsby, F.Garrido, D. Charron, S.G.E. Marsh, I.I.N. Doxiadis, G. Fischer

The editor and the EFI officers do not accept responsibility for the contents of published articles. Opinions expressed by contributors are not necessarily those of the editorial board. Please support the advertisers in this issue of EFI Newsletter

ISSN 0962-9521

....FROM THE EDITOR'S DESK

First of all, happy new year to all of you from the editor's desk! This year, EFI members will travel to the beautiful city of Venice, Italy for the 32nd annual EFI conference. The first announcement can be found in this newsletter, whereas a detailed program will be published in the next issue of the newsletter. As all of you, I am looking forward to this meeting, which has the inspiring motto: "Art and Science: the evolving picture of Immunogenetics".

This newsletter also contains a lot of information of the different committees of EFI, which provides a good overview of all the current developments within EFI. It is good to see that so many activities are being pursued in the EFI community. Also, there is a detailed report on the very successful Summer School, which was held in Dublin, Ireland. It is good to hear that EFI is advocating to reinstall the annual organisation of the Summer School, instead of once every two years.

A report on the very successful 17th International HLA and Immunogenetics Workshop (IHIWS) in Pacific Grove, California can also be found in this edition of the newsletter. The next IHIWS in 2021 will be organised in Amsterdam, the Netherlands. Some information on the aims of this workshop is included in this newsletter.

As always, I hope that 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 85 is March 25, 2018. Please send your contributions by e-mail to s.heidt@lumc.nl



CONTENTS.

From the EFI President	1
From the editor's desk	3
Membership update	5
Summary of the EFI Executive Committee meeting in Sofia, October 22 nd 2017	7
The Julia Bodmer Award	9
EFI Annual Conference Bursaries	9
Scientific Committee	9
Standards Committee Report	9
32 nd Annual EFI Conference	10
Update from the EFI Education Committee	11
News from the EFI Committee for External Proficiency Testing	12
Accreditation Committee Update	13
17 th International HLA and Immunogenetics Workshop Report	13
18 th International HLA and Immunogenetics Workshop	18
Report on the International Summer School in Dublin, Ireland	19
Highlights from the HLA journal	25
The Italian Association of Immunogenetics and Transplant Biology Winter School	27



FlowDSA-XM[™] Taking Flow Crossmatching to the Next Level

Advanced Crossmatch Testing

FlowDSA-XM simplifies the complexity of conventional crossmatch testing with clear results. The assay combines traditional flow cytometry with microbeads technology. Together, these proven technologies distinguish leukocyte antibodies from autoantibodies, allowing you to obtain selective detection in the first run.

Learn more at **onelambda.com**

Advancing Transplant Diagnostics Since 1984

For Research Use Only. Not for use in diagnostic procedures. © 2017 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified.

Selective Detection

Crossmatch testing that distinguishes leukocyte antibodies from autoantibodies

Familiar Workflow

Combines traditional flow cytometry cellular crossmatch with microbeads technology



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

This was a brainstorm session about 'How to further explore the collaboration with other organizations in the field of H&I and transplantation'. As you already know, EFI has recently reached a number of agreements about cooperation with other scientific organizations such as EFIS and EBMT, as well as the extended agreements with our sister organizations, ASHI and APHIA. As discussed at the Executive Committee meeting in Mannheim, representatives from the EFI Committees should be selected so that they can coordinate each of those collaborative activities related to science, education, accreditation and promotion. So, we all agreed that it is very important for EFI to work with the other scientific organizations to increase the visibility of our society. Regarding the EBMT, a possible field of collaboration could be our participation in the upcoming process of changing the database, PROMISE. So far, the way of uploading the HLA data made it difficult to perform research. It is very important that laboratories are more engaged in the submission of genetic data and also that they have access to clinical data. Other options that were considered were related to organizing joint training/educational sessions, as well as working together on standards such as JACIE, and the requirement for H&I support. As a result of the discussion, a working group has been created to include members of the Executive Committee and the Scientific Committee. This working group will meet with the EBMT EXCOM during the next EBMT meeting in Lisbon, March 2018, in order to discuss possible collaborations.

The other big society that EFI has a signed agreement with is EFIS. One suggestion is to ask representatives from this society to be invited to organize educational sessions in basic immunology at our annual meetings. Mutual announcements on the website for each society's meeting should also be done. An upcoming meeting is scheduled with the EFIS Board in order to outline more specific forms of collaboration. Regarding ESOT, a working group with representatives of the Executive Committee, Education Committee and Scientific Committee was created to discuss the focus on further cooperation.

Following the discussion in Mannheim, the exchanged letters and talks in San Francisco with the WMDA President Carlheinz Müller, it was generally agreed that all the topics outlined in the Memorandum of Understanding are opportunities for cooperation. On the other hand, bringing all that to life requires substantial resources on both sides. In fact, our two organizations did collaborate with the joint session planned at the EFI conference in Venice. Finally, we agreed that we should aim at topics and projects we have to work on anyway because this is where our cooperation will greatly enhance our efficiency. The MoU should be discussed further during the WMDA Board meeting in Minneapolis, but no feedback has been received yet.

During the Executive Committee meeting in Sofia, it was also discussed that the strategic needs for both EFI and the national H&I societies are very similar. Regular meetings with the Executive Committee and the national societies could strengthen the relationship not only between the EFI and the national societies, but also between themselves. The different points of mutual interest which can be included in the agenda are those concerning the accreditation process, creating common tools for education and the setting up of European policy/recommendations. A joint meeting is scheduled with the chairmen of H&I societies in Europe during the Venice EFI conference.

Dear Colleagues, dear friends,

Writing all this in this festive season of the year when we all feel the spirit of Christmas in our hearts, I am very grateful to all members of EFI who have actively participated in various activities of our organization, making it stronger, more recognizable and attractive.

I warmly thank you all and wish you and your families, happiness and every success this holiday season and throughout the coming year.

Elissaveta Naumova EFI President

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:

- E. Ratajova, Prague, Czech Republic
- S. Pobalová, Prague, Czech Republic
- H.I. Mora-Jensen, Copenhagen, Denmark
- A. Gul Yilmaz, Antalya, Turkey
- S. Wienzek-Lischka, Giessen, Germany
- D. Rudik, Moscow, Russia
- S.M. Figueredo Lopez, Asunción, Paraguay
- L. Supino, Rehovot, Israel
- C. Muñoz Herrera, Cali, Colombia
- S. Bahram, Strasbourg, France
- B. Ray, Waukesha, USA
- G. Benedek, Jerusalem, Israel
- I. Simac, Rijeka, Croatia
- A. Anand, London, UK



Advanced Antibody Detection



Characterize DSA Profiles Pre- and Post- Transplantation

One Lambda's broad selection of solid phase immunoassays meet your HLA detection needs. Build a more complete patient antibody profile with HLA single antigens and HLA single antigen supplement.



Find the complete list of specificities at go.1lambda.com/SA-supplement and for more information on our Antibody Detection & HLA Typing products visit www.onelambda.com

One Lambda, Inc. | Leading HLA Diagnostics for over 32 years



SUMMARY OF THE EFI EXECUTIVE COMMITTEE MEETING IN SOFIA, OCTOBER 22ND 2017

The EFI Executive Committee (EC) meets two times a year, at the annual conference and at an autumn meeting. Many other of the hardworking EFI committees also meet at the same time, and the day before the EC meeting there is a meeting with the whole EC and all the Committee Chairs. At this meeting, the Committee Chairs present their work and ongoing projects and things that need to be approved by the EC. Important news and changes are presented elsewhere in this newsletter. This year there was also a "brainstorm" session on how to further engage in collaboration with other societies.

This year's meeting was in the beautiful city of Sofia that also welcomed the participants with nice summer weather.

New members

This was the first meeting for three new Councillors and also the President-elect. Our President Elissaveta Naumova welcomed them all to the EC. The new members, Neema Mayor, Jean Villard, Pierre-Antoine Gourraud, and Joannis Mytilineos then introduced themselves with a short description of their background in the H&I field.

Relationship with other organisations

One focus that the EC have had during last years has been to formalize the relationships both with national H&I societies and other international societies. We now have signed agreements with the Italian, British, Polish, German, Dutch, Spanish, Portuguese and French societies but also with EBMT and EFIS.

A substantial amount of time was spent on the discussion how to substantiate all those agreements. Regular meetings with the national societies should strengthen the links not only with EFI but also between the national societies. The strategic need for EFI and the national societies are similar and all should benefit from increased cooperation in for example common training tools or issues with national accreditation bodies. We have also received an invitation to discuss possible collaborations with EBMT. There will be a lot of Mats Bengtsson, EFI Secretary

possibilities for EFI and its members in the future!

The organization of the International Summer School (ISS) was also discussed. The very successful arrangement in Dublin this year is described elsewhere in this newsletter. From the start of the summer school, there were courses every year, but rather recently it was decided to have the arrangement only every second year. EFI's opinion is clearly that we would like to go back to have it every year and our sister societies ASHI and APHI will be approached with this suggestion.

Past and Future EFI meetings.

Caner Süsal was not able to participate in the meeting but had sent a written report of the Mannheim meeting. It was a very successful meeting in all aspects with 1000 registered participants. The benefit for EFI from the meeting was an outstanding €130.000. Congratulations to Caner and the Local Organizing Committee!

Valeria Miotti gave an update on upcoming meeting in Venice and everything is going according to plan. We all look forward to this meeting. It was also very reassuring to learn from Antonio Martinho that the planning for Lisbon 2019 is also according to schedule. No update had been requested for the 2020 conference in Glasgow.

To arrange the EFI meeting in 2021 we received 4 bids. Very attractive proposals were received from Copenhagen, Vienna and St. Petersburg but in the end, it was decided to have the EFI annual Conference 2021 in Amsterdam. Congratulations to Eric Spierings and Sebastiaan Heidt. The meeting will be a combined EFI and International HLA and Immunogenetics Workshop (IHIWS) meeting. We will open up for bids to arrange our annual conference in 2022 and 2023. An ongoing discussion within the EFI board for many years is to have an agreement with one professional conference organiser (PCO) to take care of the commercial side of the meeting. Many of the important

commercial partners have asked for a better continuity in the arrangements. A similar structure of the arrangement in Kos with a local PCO for the venue and another for the companies is one model that will be considered. The EC continue to explore various options to find the best solution.

EFI budget

Gwendaline Guidicelli gave an update on the finances. Have we not had such a good profit from Mannheim we would have had a negative balance this year but now it will be a positive balance of ξ 75.000. The forecast budget for 2018 will be with a net result of ξ 3000. The benefit from this year will be saved and used for special projects such as website update.

EFI website

Eric Spierings reported on the progress with our website: www.EFI-web.org is now the primary domain. The server has a new IP address that unfortunately during a period, broke the link to Wiley and the HLA journal. Eric also discussed the EFI congress app, this have been a different one for most of the meetings and it would be much easier if we could have just one app. Eric, with the help of the three new councillors, will come up with a plan how to proceed.

Social media

Neema Mayor and Sandra van Hensbergen will start to develop a strategy for our presence on social media. Soon you will be able to find news and updates on your favorite platform!

It was two really busy days for the EFI board but a very productive meeting!





🔥 ONE LAMBDA



VOLUME +100B



Amplify the Possibilities with SABRTM

LinkSēq[™] SABR HLA Typing Kits

Single Antigen Bead Resolution from Linkage Biosciences

The Resolution You Need

- Separate key alleles within serological groups
- Type for allele level differences corresponding to antibodies detected in Single Antigen Bead assays

LinkSēq Confidence

- Greater Accuracy with Real-Time PCR
- Greater Contamination Protection

LinkSēq Simplicity

- Same LinkSēq Workflow—90 minutes from DNA to typing results
- Same SureTyper[™] Analysis
- One 384 well tray—A, B, C, DRB1, DRB345, DQA1, DQB1, DPA1, and DPB1 typing

LinkSēq No probes. No gels. No wait.

For more information, visit us at **linkagebio.com**

Toll Free: **866.575.8915** Int'l Tel: **1.415.346.5262**

CE-IVD—In Vitro Diagnostic Use (European Union Only). Linkage Biosciences, LinkSèq, and SureTyper are trademarks of Linkage Biosciences Incorporated. © 2017 Linkage Biosciences, Inc. All Rights Reserved.

The Julia Bodmer Award _____

Applications are invited for the prestigious Julia Bodmer Award, to be delivered on Wednesday May 9, 2018 during the Opening Session at the next EFI Conference in Venice, Italy. The Julia Bodmer Award is given to a young scientist in recognition of their outstanding work within the Immunogenetics field. The Award also acknowledges the laboratory in which the scientist has performed their research.

Any member of EFI can propose a candidate for the Julia Bodmer Award. The application must include the candidate's CV with a list of publications and a letter of support from the head of the candidate's laboratory. Candidates must be an EFI member (or become a member at the time of application) and be no more than 10 years past completion of their doctoral thesis if applicable; candidates who have not undertaken or completed a doctoral thesis are also eligible.

All applications will be reviewed by the Scientific Committee who will make the final decision on who will receive the Award. In addition to the presentation at the Opening Ceremony of the EFI Conference, the Award winner will also be invited to contribute a dedicated "Julia Bodmer Review" to HLA, the official journal of EFI. He/she will receive \in 1000 in addition to the expenses for registration, travel and lodging for attending the EFI Conference.

Applications must be sent in writing to the EFI Secretary via Sandra van Hensbergen at the EFI Central Office, (ajvanhensbergen@lumc.nl) before March 15, 2018.

EFI ANNUAL CONFERENCE BURSARIES

EFI Personal Bursaries for the annual EFI Conference to be held in Venice, Italy on May 9th-12th 2018. Full details on how to apply for EFI personal bursaries are given on the EFI website in the document entitled "EFI Personal Bursaries". The application form for the EFI Personal Bursaries is also available on the EFI website.

In addition to the deadlines given for personal bursary applications, a deadline of February 26th 2018 has been set for applications for bursaries specifically to support attendance at the annual EFI conference in Venice. Preference for these applications will be given to members who have been selected to present an abstract at the EFI conference (either oral or poster presentation). Only one bursary per laboratory will be awarded.

All bursaries are awarded on the strict condition that the recipient submits a report of ~1 page on any scientific session of the conference, which will be published in the EFI newsletter, following the conference.

For all bursary applications, the following are required: completed "EFI Personal Bursary Application Form"; CV of applicant; letter of support from lab director; submitted abstract where appropriate and confirmation of selection for oral or poster presentation as soon as this is available.

These must be sent to the EFI Secretary via Sandra van Hensbergen at the EFI Central Office, (ajvanhensbergen@ lumc.nl).

SCIENTIFIC COMMITTEE ____

Jean-Marie Tiercy (University of Geneva) has stepped down after 5 years of service due to his retirement. The Scientific Committee thanks Jean-Marie for his expertise and professional input throughout these years. Eight EFI members from 5 different countries sent their applications to join the Committee. All applicants are thanked for their interest and willingness to serve. The elected new member is James Traherne (University of Cambridge), who took service starting from November 15, 2017. The Scientific Committee welcomes James and looks forward to working with him.

STANDARDS COMMITTEE REPORT

The EFI Standards v7.0 have been approved by the EFI Executive Committee on October 22nd, 2017. Standards and tracking document, which notes all the changes from version 6.3, are available on the EFI website (http://www.efiweb.eu/ efi-committees/standards-committee.html). I hope that you will find the new version of the standards logical in your daily routine.

With our new biannual revision cycle, the next version of the

standard is planned to become active after two years. We are currently planning the next version of the standards, and suggestions and comments regarding the development of the EFI standards are welcomed.

Juha Peräsaari (Helsinki, Finland) juha.perasaari@bloodservice.fi Chair of the EFI Standards and Quality Assurance Committee



EUROPEAN IMMUNOGENETICS AND HISTOCOMPATIBILITY CONFERENCE

ART AND SCIENCE: THE EVOLVING PICTURE OF IMMUNOGENETICS

VENICE LIDO AND THE CONFERENCE VENUES

Venice Lido is a wide sandbar island that faces the Venetian Lagoon and the city of Venice.

The EFI Congress will be taking place at Venice Convention Center. Exhibition, Catering and Poster Area will be located at Venice Lido Palazzo del Casino. The Opening Ceremony and Plenary Sessions will take place at Palazzo del Cinema.

OPENING CEREMONY

The Opening Ceremony with concert will take place on May 9, 2018 at Palazzo del Cinema (Auditorium); immediately after the Opening Ceremony conference participants are cordially invited to the Welcome Reception in Palazzo del Cinema foyer.

CONFIRMED PLENARY SESSIONS AND SPEAKERS

May 10, 2018 - AUDITORIUM -Palazzo del Cinema

PLENARY SESSION 1: Governance of immunemodulation in transplantation K. Le Blanc, A.E. Morelli, H. Spits

PLENARY SESSION 2: Solid Organ Transplantation G. Lombardi, C. Legendre, M.M. Sarval

May 11, 2018 - AUDITORIUM -Palazzo del Cinema

PLENARY SESSION 3: HSCT Current clinical perspectives L. Luznik, C. Bonini, M.G. Roncarolo PLENARY SESSION 4:

Immunogenetics beyond HLA F. Cucca, A. Lombardo, S. Sowcer

May 12, 2018 - AUDITORIUM -Palazzo del Cinema

PLENARY SESSION 5: New Frontiers in Immunogenetics I. Amit, H. Rammense, C.J. Wu

IMPORTANT DATES

Registration will be open until Aprill 30, 2018 Early Registration will be possible until March 9, 2018

Abstract Submission will close on January 15, 2018

ACCOMMODATION

As the month of May is to be considered peak season in Venice and due to limited availability of rooms, we do advise you to make your reservation as early as possible in order to have the best choice of available hotels.

VENEZIA UNICA CITY PASS

The registration fee includes also the Venezia Unica City Pass, that is a card that offers three days (72 hours from the first validation) of public transportation use with the ACTV Company in the city area. The public transportation from/to Marco Polo Airport is provided by another company, named Alilaguna, and is not included in Venezia Unica card.

ABSTRACT SUBMISSION, REGISTRATION and ACCOMMODATION bookings for the Conference are now open!

25th AIBT ANNUAL MEETING

25th Annual Meeting of the Italian Society for Immunogenetics and Transplantation Biology (AIBT) will take place on May 9, 2018 at Palazzo del Casino.

CONFERENCE SECRETARIAT

Planning Congressi s.r.l. via Guelfa, 9 40138 Bologna (Italy)

VENICE LIDO, MAY 9-12, 2018

www.efi2018.org

JOINT CONFERENCE EFI-AIBT

EI

25th Annual Meeting of the Italian Society for Immunogenetics and Transplantation Biology (AIBT)

UPDATE FROM THE EFI EDUCATION COMMITTEE

EFI/ASHI/APHIA Summer School

An EFI sponsored joint Summer School meeting was held in Trinity College in Dublin, Ireland, 24th-26th July 2017. The meeting has been well received and accounts of it can be read in this Newsletter. Discussions are ongoing between the three societies to see whether the agreed change to the frequency of the Summer School (every two years) can be revisited. It has been noted by EFI that the Summer School provides a great opportunity for learning and networking and that returning to an annual event will be beneficial for the training and experience of young scientists in the field of H&I.

European Specialisation in H&I (ESHI) Diploma

The ESHI Diploma, the qualification set up by EFI under the auspices of the Union Européene des Médicins Spécialistes (UEMS), continues to be offered to senior scientists working in H&I. The Diploma is 'modular'; candidates must apply for at least one of the mandatory areas (Solid Organ Transplantation or HSCT) with two other optional modules available (Disease Association and Transfusion).

The requirements to apply for the exam are detailed in the 'Portfolio' document available on the UEMS website (http:// www.uemssurg.org/divisions/transplantation/transplant-immunology2). Applicants must demonstrate a period of sustained training (3 years for medics and 5 for scientists) within H&I, undertaken in an EFI accredited lab under appropriate supervision. Training is demonstrated by participation in national and international meetings and courses, publication of papers, undertaking local H&I related qualifications, and visiting other host labs to learn aspects of the syllabus that the local lab may not provide. Upon acceptance of the Portfolio logbook the candidate will be invited for examination, either at the annual EFI Conference or at the Autumn EFI Business meeting.

The examination is an oral exam in which the candidate will be asked questions based on their Portfolio logbook as well as two clinical cases and a scientific paper which they will be given one hour before the exam. The candidate must demonstrate that they can give a clinically relevant interpretation of the clinical cases and that they can identify the important aspects of the given paper. Questions can be asked on any aspect of the syllabus as detailed in the Portfolio document depending on which modules the candidate has applied for.

The next exam will be at the EFI meeting in Venice on 8th May 2018. The application deadline is 8th February 2018. Applications for the examination should be made via the Section of Surgery/ Transplantation/Transplant Immunology page of the UEMS website (http:// www.uemssurg.org/divisions/transplantation/transplant-immunology2), where documents can be uploaded. Payment can be undertaken via Paypal upon application.

Since June 2014 a total of 11 candidates have submitted portfolios for consideration to sit the ESHI Diploma exam. Ten candidates have been examined with 8 candidates passing and receiving their ESHI Diploma certificates. The award of the Honorary ESHI Diploma expired on the 31st August 2015 and a total of 251 ESHI Honorary Diplomas were granted. Please note, as described below, the EFI Education Committee and the European Board for Transplant Immunology (EBTI) feel that in the future, evidence of participation in a CME/CPD scheme will be required to ensure ESHI Diploma Fellows are maintaining their knowledge and experience in H&I sufficiently to retain their certification.

EFI Technical H&I Qualification (ETHIQ)

The EFI Education Committee (EDC) continues to work on developing a training program which can be offered to staff working in technical grade posts in H&I, following a questionnaire sent to EFI members which showed overwhelming support for such a scheme. At our last meeting in Sofia in October 2017 we discussed developing a scheme based on a UK H&I qualification. This would need to be in the local language and would require recording of competences assessed by a local training manager, submission of a training portfolio and a final evaluation via an online assessment. It is felt that trialling such a scheme in one country would be the best way to move forward and close links with any local H&I society involved will be required in order to make this work. It is hoped that further information will be available by the time of the Venice meeting.

EFI Continued Medical Education (CME) / Continued Professional Development (CPD): A pilot scheme for 2018.

Recently, the EDC has discussed establishing an EFI CME-CPD scheme to allow members to record professional activities which help them to retain their knowledge and skills in the field of H&I. In some countries such schemes already exist, but the new EFI scheme is aimed at members who have no other formal mechanism for recording CME/CPD events. For those members who hold the European Specialisation in H&I (ESHI) Diploma (either Honorary or by examination) providing evidence of ongoing CME/CPD, either from a local recognised scheme or via this new EFI scheme, will be a mandatory requirement in the future to remain qualified. Also, the recording of training and development events in this EFI scheme will be accepted for EFI Accreditation purposes.

The EFI Executive Committee has authorised the EDC to establish a pilot EFI CME-CPD scheme for 2018. We are therefore looking for volunteers from the EFI membership to undertake the CME-CPD scheme for calendar year 2018. At the end of this period the EDC will review the scheme, its ease of use and how many members have participated, and hopefully launch a full scheme in 2019. At the moment participation on the EFI CME-CPD scheme will be free to EFI members, although in the future a small fee may be required for the re-issue of updated ESHI Diploma certificates.

Details on the new scheme and access to the simple spreadsheet for recording CME-CPD activity are available in the EFI Education Committee area of the EFI website.

Anyone wishing to undertake the pilot scheme must download the spreadsheet and send a completed copy of the 'front page' worksheet to Sandra van Hensbergen at the EFI Office (ajvanhensbergen@lumc.nl) to register.

EFI Education and Training Bursaries

Applications for Education and Train-

ing Bursaries to promote training in the field of H&I by enabling visits to other laboratories, are now being received four times each year.

The next deadline for applications is $\ensuremath{\mathbbm 1}^{st}$ February 2018 for travel in April-

June 2018. Details of the process and the application form are available on the EFI website bursaries page http:// www.efi-web.org/bursaries.html.

News from the EFI Committee for External Proficiency Testing

Since the 2014 EFI conference in Stockholm, the EFI External Proficiency Testing Committee (EPTC) invites people from H&I laboratories and EPT Providers to attend our special educational "Meet the EPT Experts" session and to discuss EPT-related matters at the annual EFI conference.

The EPTC is happy to announce that all "Meet the EPT Experts" presentations are now available in the Members section on the EFI website:

http://www.efi-web.org/resources/ education-presentations/meet-the-eptexperts-sessions.html

 Meet the EPT Experts Session from the 31st EFI Conference in Mannheim/Heidelberg, Germany

<u>Topic:</u> Virtual external proficiency testing and results of patient based clinical scenarios.

Deborah Pritchard, Pontyclun, UK: UK NEQAS H&I - virtual external proficiency testing Yvonne Zoet, Leiden, the Netherlands: Towards "Virtual" External Proficiency Testing: A patient based approach -

Experiences from the ETRL

2. Meet the EPT Experts Session from the 30th EFI Conference in Kos, Greece

<u>Topic:</u> External Proficiency Testing on Chimerism and Engraftment Monitoring.

Andrea Dick, Munich, Germany: External Proficiency Testing on Chimerism and Engraftment Monitoring - the First German EPT Felicity May, Pontyclun, UK: UK NEQAS LI - Post SCT Chimerism EQA

Francesca Quintieri, Rome, Italy: Chimerism Monitoring Scheme -Italian EPT program

 Meet the EPT Experts Session from the 29th EFI Conference in Geneva, Switzerland

<u>Topic:</u> Difficulties of analysing antibody screening results by Luminex SAB assays provided by the two different companies Moshe Israeli, Petach-Tikva, Israel: Harmony & disharmony in HLA Ab testing

Deborah Pritchard, Pontyclun, UK: UK NEQAS H&I Scheme 3 HLA Antibody Specificity Analysis Yvonne Zoet, Leiden, the Netherlands:

Eurotransplant External Proficiency Testing - Analysis of Screening Identification with Single Antigen Beads

Falko Heinemann, Chair of the EFI EPTC

The EFI-EPTC on www.efiweb.eu/ efi-committees/ept-committee.html

|--|

ACCREDITATION COMMITTEE UPDATE



At the end of 2017, two of our Commissioners finished their terms on the Accreditation Committee (AC); Prof Carlo Carcassi in region 7 and Dr Gaudalupe Ercilla in region 9+10. At the Autumn meeting of the AC in October, the Commit-

tee thanked Carlo and Gaudalupe for the significant contributions they have each made to the EFI accreditation programme. Two new Commissioners now start their work on the AC, Franco Papola for region 7a and Eduard Palou for region 9a+10a.

As announced at the EFI General Assembly and reported in the EFI Newsletter in September, the EFI Board have approved a change in the way inspection travel expenses are covered. The cost of inspection travel expenses will be included in the annual accreditation fee meaning all laboratories will pay the same contribution towards travel expenses. This change is being implemented from January 2018 and the annual accreditation fee for 2018 will be €1050. All laboratories received a letter in October informing them about this change.

The new version 7 of the EFI standards will be implemented for laboratory inspections following the annual EFI meeting in May 2018. The inspectors will receive training for the standards during the Inspectors workshop which will be held immediately before the annual EFI meeting.

17TH INTERNATIONAL HLA AND IMMUNOGENETICS Workshop Report

The 17th International HLA and Immunogenetics Workshop (IHIWS) was held at Asilomar Conference Grounds located in Pacific Grove, California on September 6th - 10th 2017.

The Workshop was organized by Dr. Marcelo Fernandez-Viña at Stanford University, the main topics centred on the study HLA and KIR genomics, HSC transplantation, Serologic Epitopes and development of robust informatics for HLA and KIR research. The main objective was to build on the technological and scientific momentum of the previous sixteen workshops to evaluate Next Generation Sequencing (NGS) and Single Antigen Bead (SAB) technologies for Histocompatibility and Immunogenetics applications.

There were 158 organizations from 46 different countries attending and/or participating in the workshop. We had 279 attendees at Asilomar.

BRIEF DESCRIPTION OF THE PROGRAM

The Program opened with a ceremony and welcoming reception, the topic "Evolution of IHIWS, Past and Present" eloquently presented by the esteemed keynote speaker Sir Walter Bodmer from University of Oxford. The workshop events included presentations from experts in the field of HLA and Immunogenetics as well as presentations by participants that included data related to Workshop projects and opportunities for discussion. The program consisted of the following activities:

Symposia (24 speakers) covering the topics of: Population Genetics, Nomenclature, Disease Association, Bioinformat-

ics, Imputation, TCR, NGS HLA, KIR, Hematopoietic Cell Transplantation, Solid Organ Transplant and Future of HLA Genomics.

Immunogenetics Conference (8 speakers) covering a variety of topics: The industrial revolution of the MHC, HLA Diversity, Antigen Presenting Structures, HLA and KIR expression and disease, Histocompatibility testing for organ transplantation: Present and Future, Immunogenetics of Allogeneic Hematopoietic Cell Transplantation.

Workshop activities included presentations related to the workshop projects.

Breakout sessions focused on topics specific to each workshop component organized by the project leaders to allow wide and inclusive participation and discussion. A variety of topics were included: Database Hackathon, HCT, Immunogenetics of Ageing, SSBT, Mapping Serologic Epitopes and NGS HLA component projects (CWD, Ref Panel, non-CWD, Family studies, KIR, SNP based imputation of HLA alleles, TCR-HLA Interactions)

17th IHIWS Summary results for each component presented by the component chairs. Moderated by Derek Middleton and Gottfried Fischer.

- Informatics and Population Genetics. Presented by Steve Mack, Children's Hospital Oakland Research Institute
- HLA typing by NGS. Presented by Marcelo Fernandez-Viña, Stanford University

- 17th IHIWS KIR Component update. Presented by Cynthia Vierra-Green CIBMTR and Jill Hollenbach, University of California San Francisco (UCSF)
- Epitope Analyses. Presented by Dolly Tyan, Stanford University and Frans Claas, Leiden University Medical Center (LUMC)
- Immunogenetics of HSC Transplantation. Presented by Effie Petersdorf, Fred Hutchinson Cancer Research Center

WHO Nomenclature Committee for Factors of the HLA System, chaired by Steven Marsh. Updates were made to capture all variations in the HLA and KIR systems.

TOPICS AND SPEAKERS

Symposium: Population Genetics

Moderator: Marcelo Fernandez-Viña, Jill Hollenbach

- HLA Dataanalysis: Challenges in the Era of NGS Steven Mack, Children's Hospital Oakland Research Institute
- A genomic view of HLA variation Diogo Meyer, University of São Paulo, Brazil
- Population Genetics of HLA: in the era of NGS José Manuel Nunes, University of Geneva, Switzerland (for Alicia Sanchez-Mazas)

Symposium: Nomenclature and Disease Association

Moderators: Erik Thorsby, Wolfgang Mayr

- IPD-IMGT/HLA Database and extent of HLA diversity Steven Marsh, Anthony Nolan Research Institute
- HLA and Disease Association Henry Erlich, Children's Hospital Oakland Research Institute

Symposium: Imputation & TCR

Moderators: Dominique Charron, Elissaveta Naumova

- Imputation of HLA and KIR from GWAS Data Stephen Leslie, University of Melbourne
- Narcolepsy and TCR introduction Emmanuel Mignot, Stanford University

Symposium: NGS HLA

Moderators: J Alejandro Madrigal, Henry Erlich

- Exploring HLA diversity by NGS in a registry population from Argentina
- Carolyn K Hurley, Georgetown University
- Allelic diversity and haplotype structure of 260 distinct full-length DPB1 sequences
 Gerhard Schöfl, DKMS (German Marrow Donor Program)

Symposium: KIR

Moderators: Daniel Geraghty, Mary Carrington

- NK cell receptor interactions with their MHC class I Ligands
- Andrew Brooks, University of Melbourne
- KIR about the World Paul Norman, Stanford University

Symposium: Hematopoietic Cell Transplantation (HCT)

Moderators: Effie Petersdorf, Carlheinz Muller

 IHWG Study of the Role of Ethnicity in HLA-mismatched HCT

Yasuo Morishima, Aichi Medical University

 French study about effect of DRB and DPB1 mismatches on outcome after HSCT Valerie Dubois, EFS Auvergne Rhone Alpes

- JMDP HLA-DP study update Satoko Morishima, University of the Ryukyus
- Biological mechanisms controlling alloreactivity to HLA-DP Esteban Arrieta Bolaños, Institute for Experimental Cel-

Estepan Arrieta Bolanos, Institute for Experimental Cellular Therapy

Panel discussion

 The impact of definitive HLA typing on unrelated donor hematopoietic stem cell transplant outcome - Does TGS typing make a difference?

Neema Mayor, Anthony Nolan Research Institute Role of KIR in Transplantation

- Katharine Hsu, Memorial Sloan Kettering Cancer Center
 Effect of MICA and HLA-E in HSCT: Results of a German
- Cohort Joannis Mytilineos, Institute of Transfusion Medicine

Joannis Mytilineos, Institute of Transfusion Medicine (IKT)

- Role of MICA The US Experience Medhat Askar, Baylor University Medical Center
 MICA and GVHD
- MICA and GVHD

Seiamak Bahram, Université de Strasbourg Panel discussion

Symposium: Solid Organ Transplant

Moderators: Rhonda Holdsworth, Narinder Mehra

- Immunogenicity and structural characterization of antibody epitopes
- Frans Claas, Leiden University Medical Center (LUMC)Computational modelling of HLA structure and electro-
- statics in transplant immunology and histocompatibility
 Vasilis Kosmoliaptsis, University of Cambridge

Going to the Future: HLA Genomics

Moderators: Martin Maiers, John Trowsdale

- Genomics of MHC micro RNA
 Dimitri Monos, The Children's Hospital of Philadelphia
- Full Characterization of Human MHC and KIR haplotypes and genotypes by de Novo whole genome sequencing on PacBio Sequel platform Nezih Cereb, HistoGenetics
- Workshop remarks, Marcelo Fernandez-Viña, Stanford University

Immunogenetics Conference 1 & 2

Moderators: Steven Marsh, Marcel Tilanus

- The industrial revolution of the MHC
 John Trowsdale, University of Cambridge
- HLA Diversity Marcelo Fernandez-Viña, Stanford University

Immunogenetics Conference 3, 4, 5 & 6

Moderators: Dominique Charron, Clara Gorodezky

- Antigen Presenting Structures James McCluskey, University of Melbourne
- Elevated HLA-A expression impairs HIV control through increased natural killer cell inhibition Mary Carrington, Leidos Biomedical Research Inc.
- KIR and HLA interactions
 Peter Parham, Stanford University
- HLA as predominant genetic factors for autoimmune diseases, infectious diseases, and adverse drug reactions Katsushi Tokunaga, University of Tokyo, Graduate School of Medicine

Immunogenetics Conference 7 & 8

Moderators: Steven Marsh, Sir Walter Bodmer

- Histocompatibility testing for organ transplantation: Present and Future
- Frans Claas, Leiden University Medical Center (LUMC)
- Immunogenetics of Allogeneic Hematopoietic Cell Transplantation
 - Effie Petersdorf, Fred Hutchinson Cancer Research Center

Workshop-Activities: Bioinformatics

Moderators: Martin Maiers, Steven Mack

- 17th IHIWS Database Uniform HLA Data Collection and Storage
- Steven Mack, Children's Hospital Oakland Research Institute and Chia-Jung Chang, Stanford University • Family Haplotype Analysis
- Family Haplotype Analysis
 Kazutoyo Osoegawa, Stanford Blood Center
- Methods for Population Analysis
 - Python for Population Genetics (PyPop)
 Steven Mack, Children's Hospital Oakland Research Institute
 - o Bridging Immunogenomic Data Analysis Workflow Gaps (BIGDAWG)
 Steven Mack, Children's Hospital Oakland Research
 - Institute o Hapl-o-Mat Jan Hofmann, DKMS (German Marrow Donor Program)
- Gene Feature Enumeration and Allele Calling Tool Mike Halagan, Center for International Blood and Marrow Transplant Research
- Distinguishing functional polymorphism from random variation in the sequences of >10,000 HLA-A, -B and -C alleles
 - James Robinson, Anthony Nolan Research Institute
- STR sequencing through HLA genes Erik Rozemuller, GenDx

Workshop-Activities: NGS HLA Related Projects

Moderators: Elissaveta Naumova, Marcel Tilanus

- Extension of HLA allele sequences by full-length HLA allele-specific hemizygous Sanger sequencing (SSBT) Christien Voorter, Maastricht University Medical Center The Netherlands
- Immunogenetics of Aging Milena Ivanova, University Hospital Alexandrovska
- Disease Association Jorge Oksenberg, University of California San Francisco School of Medicine (UCSF)

Workshop-Activities: NGS HLA Projects

Moderator: Gottfried Fisher, Marcelo Fernandez-Viña

- Workshop cell lines NGS HLA typing o Workshop Quality Control
 - Diane De Santis, PathWest, Fiona Stanley Hospital and Sabine Wenda, Medical University of Vienna
- o Cell Lines NGS Workshop Repor Lisa Creary, Stanford University
- o Single Molecule Real-Time (SMRT[®]) DNA sequencing of HLA genes at unambiguous, high-resolution from 126 International HLA and Immunogenetics Workshop cell lines

Thomas Turner, Anthony Nolan Research Institute

- IHIWS Registries report
 - o Jurgen Sauter, DKMS (German Marrow Donor Program)
 - Pablo Galarza, Registro Nacional de Donantes de Células Progenitoras Hematopoyéticas (INCUCAI)
 - o Yung-Tsi Bolon and Bob Milius, National Marrow Donor Program
- Whole-gene HLA class I nucleotide sequence variation and evolution among alleles from >100,000 individuals Nezih Cereb, Histogenetics

Workshop-Activities: NGS HLA Projects, Population Genetics

- Moderators: José Manuel Nunes, Steven Mack • CWD Summaries
- Carolyn Hurley, Georgetown University and Jason Dehn, National Marrow Donor Program
- Dual redundant reference sequencing: characterizing diversity
 - Irina Böhme, DKMS (German Marrow Donor Program)
- Rare & Novel HLA Alleles by NGS HLA Coding noncoding polymorphism
- Medhat Askar, Baylor University Medical Center
- IHIWS Families project contributors, individual brief reports
 - o Kazutoyo Osoegawa, Stanford Blood Center
 - o Reem Ameen, Health Sciences Center-Kuwait University
 - o Xiangjun Liu, BFR Transplant Research Lab Beijing China
 - Maria Elisa Moraes, JRM Investigações Imunológicas - Rio de Janeiro Brazil
- IHIWS Unrelated project contributors, individual brief reports
- o Gonzalo Montero Martín, Stanford University
- o Clara Gorodezky, InDRE & Fundacion Comparte Vida, A.C
- o Rasmi Thomas, Walter Reed Army Institute of Research
- o Winnie Chong, NHS Blood and Transplant UK
- o Lisa Creary, Stanford University

Workshop-Activities: NGS HLA Family and unrelated studies Summaries

Moderators: Dominique Charron, Carolyn Hurley

- Haplotypes in Families Report Kazutoyo Osoegawa, Stanford Blood Center and Medhat Askar, Baylor University Medical Center
- Unrelated Population Analysis Report Marcelo Fernandez-Viña, Stanford University

Workshop-Activities: NGS of Full-length KIR Genes

Moderator: Paul Norman

 Analysis and results KIR Component projects, overview Jill Hollenbach, University of California San Francisco (UCSF)

Workshop-Activities: Mapping of Serologic Epitopes

- Moderators: Dolly Tyan, Frans Claas
- What is an epitope?
- Frans Claas, Leiden University Medical Center (LUMC)Brazil Analysis
- Semiramis Jamil Hadad do Monte, Universidade Federal do Piauí



HISTO SPOT[®] HLA Antibody Analysis

Automated screening and identification with single antigens:

- Easy and reproducible fully automated assay on the MR.SPOT® Processor
- Simplifies your workflows allows a one-step process for screening and identification
- · Flexible throughput and minimal sample volume requirements

BAG Health Care – the experts for HLA and blood group diagnostics



www.bag-healthcare.com

- The Netherlands Analysis Sebastiaan Heidt, Leiden University Medical Center (LUMC) and Cynthia Kramer, Leiden University Medical Center (LUMC)
- Stanford Analysis and Automation of Donor Specific Antibody Assignment and Virtual Crossmatching Chia-Jung Chang, Stanford University and Dolly Tyan, Stanford University
- PIRCHE for T cell help Eric Spierings, UMC Utrecht
- Variations in cell surface expression and stability among HLA-B antigens
- Malini Raghavan, University of Michigan
- Epitope Nomenclature "Where do we go next?", Frans Claas, Leiden University Medical Center (LUMC)

The meeting closed with remarks from the 17th IHIWS Chair: Marcelo Fernandez-Viña, Stanford University.

The 18th IHIWS proposal winner was announced and was followed by a short presentation. The 18th IHIWS will be organized by Eric Spierings and Sebastiaan Heidt with the support of Dutch HLA Working Party, and will take place in May 2021 in Amsterdam.

SUMMARY RESULTS

A database was developed to store, analyse and validate data submitted by all participating laboratories. It includes a Web-Interface for manual and batch data-entry, data queries and use of tools developed at Stanford specifically for the workshop. A total of 2,335,385 samples were registered and NGS HLA typed, including NGS partial gene sequencing data from German and Argentina registries. A database was designed to perform specialized and sophisticated processes such as managing accounts, data access privileges and roles for participants. Tools were integrated to convert XML and HML typing reports to IHIWS XML formats. The tools performed uploads from the SFTP site, validated typing reports prior to upload. NGS HLA typing data contributed by the participating laboratories, was tested using reagents from several (at least 6) commercial companies and locally developed reagents. Informatics and data submission tools were developed to receive and analyse data from different NGS platforms. Novel analyses methods were developed such as assessment of novel variants for all consensus sequences using hlapoly.

Population analysis was performed on NGS HLA data submitted for Registries, Unrelated and Family Haplotypes, Disease Association and Ageing Projects. Non-CWD and unusual haplotypes as well as new criteria to define CWD and rare alleles was reported. Observations of analysis results include observations such as DPB1*04:01 found to be the most popular allele in the 17th IHIWS (in the world), haplotypes differentiated at multiple loci, allele lineage diversification and convergent evolution was observed. Intron variation appeared to be haplotype specific.

The data obtained indicates that even higher levels of diversity are found for all loci when coding and non-coding variations are analysed. The 4 field data shows stronger linkage disequilibrium and identify multiple haplotype specific coding and non-coding variants. The findings of tighter linkage disequilibrium suggest that the current world populations were founded recently. The findings also suggest that both diversification and convergent evolution have played a role in delineating the current diversity of the HLA system.

The on-going process will continue to develop informatics tools for different applications (likely genotypes from SSO typing in solid organ transplantation, registries, etc.). As a result of the data compiled and analysed during this workshop, we concluded that HLA by NGS is mature and can be used for research and clinical applications providing high quality, highly informative data.

Reference cell lines were typed by state of the art technologies; several methods were used and analysed. The cell Lines Project included updates of the HLA types for the reference cell lines from the 13th IHIWS (Repository maintained by FHCRC). Genotypes were assigned by consensus and resolution, with typing by NGS, Cloning and Sequencing and included Sequence References at IMGT.

Proficiency testing was performed on sets of 13th IHIWS cell lines distributed blindly and performed by a variety of platform/software combinations. Analysis and reports were submitted to participating laboratories. Concordance was high for most loci. From the initial analysis, it was concluded that allele dropouts and specific miss-assignments caused majority of discrepancies. Recommendations for test performance improvements were summarized.

The KIR Component goal of the 17th IHIWS was to characterize the nature and extent of KIR allelic diversity across human populations using Next Generation Sequencing. They reported allele-level sequencing from a wide distribution of populations. They also reported results from a large scale (642,105 samples) partial gene sequencing. Their summary included the following observations: Very high levels of variation, but most is very rare. A lot of variation potentially functional. Most populations >90% individuals few/many common types.

Results for the Epitope Component were presented for analysis performed by the Stanford, Brazilian and Dutch groups. Automation of Donor Specific Antibody Assignment and Virtual Crossmatching, Epitope Nomenclature.

The goal of the Hematopoietic Cell Transplantation Component was to increase the availability and efficacy of HCT from alternative donors through an improved understanding of the genetic barrier. The component participants presented a variety of reports based on International collaboration of 60 laboratories over 270 transplant centres, and 21 transplant and donor registries. To date, the HCT Working Group Database includes data submissions of more than 40,000 transplants. The data presented for the 17th IHIWS Transplantation cohort includes 28,460 transplants. They concluded that complete and precise HLA matching of potential unrelated donors is associated with improved clinical outcome compared to mismatching. When HLA matched donors are not available, use of certain HLA mismatched donors is feasible by developing a criteria for the selection of matched donors. Outcome conclusions listed: (1) Risks increase as the number of HLA mismatches increases, (2) HLA 9/10 transplantation from HLA-DQB1-mismatched donors is associated with lower risks of severe acute GVHD and non-relapse mortality, and improved disease-free survival and overall survival compared to mismatching at other loci.

Other aspects of the workshop included the evaluation and discussions regarding the impact of HLA mismatches and KIR polymorphism in HSC transplantation.

17th IHIWS Publications

Human Immunology will be publishing "Proceedings of the 17th International HLA and Immunogenetics Workshop and Conference", a virtual special issue dedicated to the 17th IHIWS. Participants in the 17th IHIWS and Conference are invited to publish reports and original research articles describing the on-going activities and progress of 17th IHIWS projects and components in this virtual issue. Papers describing the results and findings presented at the 17th IHIWS and Conference are invited as well.

Manuscript submissions started beginning on June 1, 2017, submitted manuscripts are being reviewed and published on an on-going basis, with 17th IHIWS-related manuscripts appearing in a special 17th IHIWS section of each issue of Human Immunology, and collected in a single virtual special

issue available on the Human Immunology website. Manuscripts should be submitted online to the journal at http://ees.elsevier.com/him

When submitting their manuscript, authors should select the "17th IHIW" article type option.

IHIWS COUNCIL

Twelve new IHIWS Council Members were elected during the workshop, for a complete list of the current IHIWS Council, please visit our website at: http://ihiws.org/ihiws-council/

The International HLA and Immunogenetics Workshops have been on the forefront promoting new technology and collaboration worldwide, stimulating Immunogenetics research and facilitating rapid translation of new technology and knowledge to patient care. The Stanford team is looking forward to continuing to participate and collaborate in the future.

18TH INTERNATIONAL HLA AND IMMUNOGENETICS WORKSHOP

'Next generation arises' Amsterdam, the Netherlands 2021

Sebastiaan Heidt and Eric Spierings are the co-chairs for the 18th IHIWS with the intended date being in May 2021. The 18th IHIWS will be supported by the Dutch HLA Working Party (HLA-WN), consisting of many internationally wellrespected professionals in the Immunogenetics and Histocompatibility field.

The organizing committee has a strong commitment and aims to be very active in making sure all goals of the parts of the workshop are reached. The organizing committee will be supported by a scientific advisory committee with longstanding individuals in the field of Immunogenetics and Histocompatibility.

Preliminary Program

- HLA Epitopes: definition and confirmation of B cell epitopes on HLA
- HLA Epitopes: epitope distribution for different ethnicities
- HLA Epitopes: Development of a uniform nomenclature
- NGS: allelic typing for the HLA region and for KIR
- NGS: speed, epitope typing, multiplexing. How well do low resolution typing results translate to high resolution?
- Hematopoietic cell transplantation
- Population genetics: HLA allele frequencies, linked to HLA epitopes
- Reproductive immunology: HLA-



The 18th International HLA and Immunogenetics Workshop

May 2021, Amsterdam Next Generation Arises





E/C/G polymorphism

- Reproductive immunology: Immunological consequences of reproduction: NIMA/IPA
- The evolution of HLA
- Digital communication of Immunogenetics and Histocompatibility data

Stimulating participation

For a successful workshop, international collaboration is pivotal. The involvement of the international societies for Histocompatibility and Immunogenetics is an important way to get a balanced program and reach a large number of participants. For several research questions and clinical applications, collecting histocompatibility data from diverse ethnic populations is of the essence. To be able to collect data from several ethnic populations throughout the world we aim to install local hubs, with dedicated renowned scientists from that area leading the data collection in those hubs.

We already have instigated such hubs in South America, Asia-Pacific, and China. By using established laboratories as local hubs, a buddy/mentor system will be installed, allowing for less experienced laboratories to include their vital data to the workshop and increasing both the quantity and quality of the data obtained.



IHIWS Venue: The Westergasfabriek

The Westergasfabriek is a renovated 19th century industrial complex set in a beautiful landscaped parkland, just a stone's throw away from Amsterdam city centre. The monumental buildings and the surrounding park of the

Westergasfabriek form a multifunctional space and a modern urban park with international appeal. There is nature, room to work, space for large and small events and a variety of catering, theatre and exhibition facilities.

The 35th EFI Conference

The 18th IHIWS will directly be followed by the 2021 annual EFI meeting in Amsterdam, the Netherlands. This joint structure will allow for the participants of the 18th IHIWS to join the 2021 annual EFI meeting.

Follow the news

More information will soon be available via the IHIWS website.



REPORT ON THE INTERNATIONAL SUMMER SCHOOL IN DUBLIN, IRELAND

Trinity College, located in the heart of the city of Dublin, hosted the 13th International Summer School on Immunogenetics, organized this year by EFI with the support of APHIA (Asia-Pacific Histocompatibility and Immunogenetics Association) and ASHI (American Society for Histocompatibility and Immunogenetics). The meeting was a successful mixture between science and recreation. Among the Faculty's members, the Presidents of the three associations were present: Dr. Elissaveta Naumova for EFI, Dr. Jonathan Downing for APHIA and Dr. Michael Gautreaux for ASHI. Moreover, the tutor team was



completed by Dr. David Turner, Chair of the Education Committee, Dr. Lotte Wieten and Dr. Richard Hagan, all from EFI; Dr. Nattiya Harankarn from APHIA and Dr. John Schmitz from ASHI.

The Faculty was able to generate a very interesting scientific program, consisting of 6 sessions: HLA Basics, HLA and non-HLA genetic systems in transplantation and HLA in transfusion, Techniques used in H&I labs, H&I in HSCT and disease, H&I in solid organ transplantation and Future directions. In the morning and after lunch introductory lectures were presented by the Faculty Members followed by abstract presentations on the subject by all participants.

The organization of the event was very well conducted by Sandra van Hensbergen on EFI's side and Dr. Richard Hagan on the side of Trinity College. More than 70 applications were received for the 2017 Summer School, of which 48 were accepted. The participants welcomed at Trinity College were coming from all over the world, from Canada to Australia and a lot of countries in between. The scientific level of



All loci. All platforms. All in a single tube.

AllType[™] NGS Assay on the Ion S5[™] and Illumina MiSeq[®] Systems

Next generation sequencing is now more convenient than ever.

One Lambda's new AllType NGS assay delivers single tube amplification for all eleven Class I and Class II loci, completely removing the need for amplicon pooling. Samples move directly to library preparation and are prepared for sequencing in a single workday.

Learn more at go.1lambda.com/ngslab

Simple

One PCR reaction per sample No amplicon pooling

Fast

Sample prep in a single workday Results in less than 3 days

Flexible

Run on your platform of choice



Advancing Transplant Diagnostics Since 1984

For Research Use Only. Not for use in diagnostic procedures. © 2017 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified. MiSeq® is a registered trademark of Illumina®.

the abstract presentations was very high and the Faculty graded the presentations given by the participants. The work presented by M.Sc. Gwendolin Simper (from Hannover, Germany), entitled Carbamazepine-induced Adverse Drug Reactions, was graded by the Faculty's members as the best contribution and was rewarded with a special prize: a bursary for participating in the next EFI meeting in Venice, Italy. Congratulations to Gwendolin Simper!

Next to the excellent scientific program, the Faculty also succeeded in successfully organizing the social program for this edition of the Summer School. On Sunday, the participants were welcomed to Trinity College with welcome drinks and a dinner at the Pavilion Bar, where participants had the time to slowly get acquainted with one another and to enjoy the sunny weather. Dinner on Monday was served at the Dining Hall in the 1592 room, were we had the pleasure to enjoy a typical Irish meal in the lovely ancient ambiance of Trinity College, followed by exploration of the Dublin city centre at night. After the scientific programme on Tuesday we got the opportunity to explore the Guinness Storehouse by a guided tour and to enjoy a Guinness beer on the top floor with a marvellous view of Dublin and its surroundings. After the tour, we had burgers and pizza at Oscars, where for some the evening ended in a Jenga competition.

The next International Summer School on H&I will be organized by ASHI in 2019. EFI and ASHI will be announcing more information on their webpages in 2018 – so start preparing your participation!

EFI gave 5 participants the possibility to join the 13th International Summer School by awarding them a bursary which enables them to join the Summer School and here are their reports.

Sophie Laflin¹, Saška Marczi^{2a,2b}, Ben Matern³

- 1. Tissue Typing Laboratory, Addenbrooke's Hospital, Cambridge, UK
- a) Laboratory of Molecular and HLA Diagnostics, Clinical Institute for Transfusion Medicine, University Hospital Osijek, Osijek, Croatia,
 b) Department of Clinical-Laboratory Diagnostics, Faculty of Medicine, J.J. Strossmayer University of Osijek, Croatia

3. Transplantation Immunology, Bioinformatics, Maastricht University Medical Center, Maastricht, the Netherlands

Introduction

On July 24-26, EFI, ASHI, and APHIA hosted the 13th International Summer School on Immunogenetics, at Trinity College in Dublin. It was an excellent opportunity to explore immunology, HLA, laboratory techniques and current research, while meeting with like-minded people from laboratories around the world. The key themes of the programme were: HLA basics, HLA and non-HLA genetic systems in transplantation, HLA in transfusion, techniques used in H&I labs, H&I in HSCT, in disease and in solid organ transplantation, and future directions. Following each educational session, participants had the opportunity to present an abstract of their research.

groups, with assigned tutor leaders. The tutor groups were disregarded for the remainder of summer school, but we formed a fairly cohesive group so the lack of subdivisions went largely unnoticed.

Monday 24th July

We started with interesting presentations covering the basics of HLA. Michael Gautreaux gave a very good overview of the general concepts of HLA genetics. This was followed by an in-depth review of the structure and function of the non-classical HLA class I gene products presented by Lotte Wieten (EFI). The characteristics of HLA-G include alternative splicing, presence of membrane bound and soluble isoforms, restricted tissue expression patterns and an important role in the development of tolerance. HLA-E is ubiquitously expressed, implying that it has an important function. The function of



Sunday 23rd July

Students gathered in The Trinity College campus, which was a great location for hosting the event. The campus is beautiful, and although it can be quite busy, the academic atmosphere helped to keep us interested and focused. The summer school organizers arranged on-site housing for the students, and the campus services were very helpful in directing students where to go.

After arriving at Trinity College, the students and presenters gathered for dinner and drinks at the Pavilion Bar overlooking College Park. The students were divided into colour-coded study HLA-E molecule is complex, and it can lead to immune activation or suppression, because HLA-E may interact with both inhibitory and activating receptors on NK cells and CD8 T cells.

After a short break, we had the first round of abstract sessions presented by the attendees. A lot of the delegates were quite nervous about presenting however the audience were very supportive, asking relevant questions and giving useful suggestions for further work where appropriate.

Following lunch, we had 3 short sessions on NK cell receptors (which seem to be very complicated!) by Elissaveta Naumova, the role of HLA in transfusion, platelet refractoriness, TRALI and transfusion associated GvHD presented by Richard Hagan and an excellent overview of transplant immunobiology by Nattiya Hirankarn. It is useful to understand the immunology of transplantation in order to help us to interpret clinical outcome data and the significance of results produced in H&I laboratories.

At the end of day one we were treated to a delicious three course dinner in the Trinity College Dining Hall after which we wandered into the city of Dublin to experience the local pubs and socialise. Including time for socialization was an important focus at summer school. It was fun, but this time allowed us to get to know the group better, and feel more comfortable collaborating and learning.

Tuesday 25th July

The theme for the first session of the day was "Techniques used in H&I labs". Jonathan Downing started off by recapping the various HLA typing methods and resolution of typing provided by these. Michael Gautreaux discussed testing for HLA antibodies with an emphasis on the advantages of Luminex bead-based technique, but also the challenges in interpreting the data generated by this technique. He discussed the sensitivity of the Luminex assay and pointed out that the assay is qualitative and there is no recommended "cut-off" value for MFI (mean fluorescence intensity) positivity. The variables on which the interpretation depend are: performance of the assay, immunological history of the patient, experience of the testing laboratory in detecting antibodies that are clinically relevant. He emphasized that MFI values can be used as a comparison, but with all these factors it doesn't make sense to define a cut-off.

Implementation of Next Generation Sequencing (NGS) was discussed by John Schmitz. He explained clearly why and how NGS was introduced into his laboratory. It was a very positive and sounded as though NGS is working well in their hands. He discussed methods for measuring quality metrics and sequencing coverage, and mentioned some up-and-coming sequencing platforms. Several of the attendee abstracts presented after this session related to NGS method validations, and this provided a good starting point for discussions.

The afternoon session focused on HLA in haematopoietic stem cell transplantation and HLA in disease. Richard Hagan gave an overview of the different types of stem cell matches, focusing on haplo-identical matching. He discussed some of the challenges that are inherStorehouse (keen not to miss our 6pm tour) for a fun and informative guided tour and enjoyed a pint of Guinness in the bar. The Storehouse is well worth a visit, The Gravity Bar, at the top of the building provides amazing 360° views of the city skyline, and Guinness tastes best in Dublin! Afterwards we headed to Oscars by Christchurch for some well-deserved burgers and pizza.



ent in the matches, including the age of the donor and matching for CMV. Solutions for these challenges are being pursued, and tools such as EMDIS that help share information and match donors with patients. The specifics and clinical implications of KIR were presented by Elissaveta Naumova. She discussed a variety of disease associations, and how their mechanisms were associated with imbalances in the NK cell inhibiting and activating receptors. Nattiya Hirankarn expanded on disease associations, and described how they can be categorized by specific antibodies. The conclusion is that understanding the mechanism for disease associations is critical for improving outcomes and developing drugs and treatments. John Schmitz discussed HLA's relationship with HIV infection and progression, to cement the idea that HLA has implications outside of immunology and transplant compatibility. There are specific HLA types which are shown to slow the progression of AIDS, while homozygous HLA is associated with faster progression.

After the last presentation of the day we power-walked over to the Guinness

Wednesday 26th July

The first session on Wednesday morning focused on H&I in solid organ transplantation. Michael Gautreaux kicked off by discussing the options available for difficult to transplant, highly sensitised patients (HSP). There are several options for such patients depending on the level of risk the transplant team are willing to accept. For example, the team may wish to pursue HLA incompatible transplantation (HLAi), where the level of antibody is reduced pre-transplant by a combination of plasmapheresis, IVIg, or B cell depleting monoclonal antibody rituximab. This may enable transplantation from an HLAi live donor but obviously has a higher risk of antibody mediated rejection episodes posttransplant. Alternatively, lower risk options are paired exchange programmes whereby incompatible live donor pairs swap with other incompatible pairs to get a more favourable/compatible match. This can be beneficial for HLAi and ABOi live donor pairs but very highly sensitised patients may still struggle to find a suitable match.

The second talk, about deceased donor organ allocation in the UK, followed on

nicely. David Turner described in detail, the UK matching algorithm used for allocating deceased donor kidneys and the challenges of trying to balance equity of access with best use of the organ. The UK scheme places importance on HLA match, wait time and donor recipient age difference. Rare HLA antigens are defaulted to more common, structurally similar, HLA antigens for the purposes of HLA matching to prevent disadvantaging patients with rare HLA types. Unacceptable HLA mismatches (HLA to which the recipient has produced specific antibodies against) are listed at the time of patient registration & reviewed regularly; no donor offers will be received from donors with these antigens. Consequently, HSP receive very few donor offers and remain on the waiting list for a long time. David concluded by suggesting some potential changes to the allocation scheme to improve outcomes and benefit HSP such as looking at electrostatic mismatch scores instead of whole antigen mismatches when calculating mismatch grade. Some mismatches may be more immunogenic than others and using a more sophisticated mismatch scoring system may improve transplant outcomes. In order to help HSP he suggested that patients with the worst "matchability score" (calculated at time of registration and based on sensitisation level, HLA type and blood group) be given extra points to put them closer to the top of the list when a suitable donor is available. Currently highly sensitised patients have to wait 7 years before they become attain a priority status and are moved to the top of the list. It is unfair to make these patients wait 7 years when it can be predicted from the start that they will be difficult to transplant.

John Schmitz concluded the session with his talk on the role of non-HLA specific antibodies in transplant outcome. This is an evolving field in transplantation as more commercial kits are becoming available. For example, the ELISA based tests for angiotensin type II receptor and endothelin receptor type A (One Lambda) and the Olerup XM-ONE[™] assay in which isolated endothelial precursor cells are used in a flow cytometry crossmatch to detect anti-endothelial cell antibodies. Olerup claim these tests identifies patients at increased risk of antibody mediated rejection due to the presence of donor specific anti-endothelial antibodies. These tests have had mixed reviews

from users and it is still debatable how much benefit there would be in adding these tests to the routine clinical repertoire of the laboratory.

"Future Directions" was an apt title for the final session of the summer school, in which the latest achievements in the field of cellular therapies were presented by Lotte Wieten. She explained the role of the HLA in presenting short peptides of abnormal, tumour protein sequences to the T cells. Furthermore, antibody therapy directed against immune checkpoints (immunologic regulators) was explained and discussed. David Turner followed with a talk about the potential use of inducible pluripotent stem cells in transplantation.

Lotte Wieten returned for the final presentation about epitope matching. There are several different ways to classify the structural differences of HLA molecules. Duquesnoy has developed HLAMatchmaker which predicts epitopes based on surface expression of polymorphic amino acids within a 3,5 Å radius. Kosmoliaptsis, in Cambridge UK, is looking specifically at the physiochemical properties of the amino acids that define the epitopes and assigning them an electrostatic mismatch score and a hydrophobicity mismatch score. Then there is PIRCHE II which takes into account the HLA-DR type of the recipient and its ability to present fragments of foreign mismatched HLA molecules to CD4⁺ T cells in the indirect allorecognition pathway. The take home message of the session was that not all mismatches are equal and suggests that a move to epitope matching rather than bog standard HLA matching is likely in solid organ transplantation.

Following lunch the last few attendees

presented their abstracts and the organisers decided on who to award the best abstract prize to. Before we all went our separate ways, the prize was awarded to attendee Gwendolin Simper from Hannover, for her abstract "Interaction of carbamazepine with HLA molecules and the impact of the T cell receptor (TCR) repertoire in CBZ-induced adverse drug reactions."

We would like to thank EFI for awarding us bursaries, enabling us to attend the very informative 13th International Summer School on Immunogenetics.

Valentina Atanasova, Department of Clinical Immunology and Stem Cell Bank, University Hospital Alexandrovska, Sofia, Bulgaria

This year, the 13th International Summer School on Immunogenetics was held at Trinity College, 24-26 July in Dublin, Ireland. First of all, I would like to thank the organising group for the 2017 EFI/ASHI/APHIA International Summer School for granting me a bursary allowing me to attend the meeting. What impressed me most was the high academic level of the meeting and the chance to meet the lecturers - leading experts in the field of immunogenetics.

All educational sessions were very informative and covered basics as well as advanced topics. On Monday, July 24th, the lectures were focused on HLA and non-HLA genetic systems in transplantation & HLA in transfusion. The fundamentals of immunogenetics were presented clearly by the lecturers, which was an appropriate starting point for the schooling.

On Tuesday, the first session was dedicated to the techniques used in the H&I labs and technology behind the



second- and third- generation sequencing methods, the challenges resulting from them, the possible limitations as well as their current and future application in routine practice. The session about H&I in HSCT and diseases was very interesting in terms of clinical aspects: matching criteria in HSCT, clinical implications of KIR genes, HLA in autoimmunity and infectious diseases. The next educational session was dedicated to solid organ transplantation and provoked much discussion as drawing attention to important issues that many experts meet such as highly sensitised patients in kidney transplantation etc. The last topics turned attention to regenerative medicine, iPS and their reliability for successful application. The role of the HLA in presenting the short peptides of abnormal protein sequences was explained in the last talk "Using epitope matching to avoid sensitization".

Following each educational session, the students were allowed to briefly presented their own research. This complemented the program and enabled participants to get acquainted with the experiences of other young scientists from many countries around the world.

The organizers had prepared a relaxing social program. After the intense academic atmosphere, we were surprised with an exciting trip to Guinness including a tour around the storehouse and having a glass of the famous Irish beer amid panoramic views of Dublin. Afterwards we ended the day in an Irish Pub with pizza and burgers. Finally, I would like to extend my sincere thanks to the Organizing Committee of the 13th International Summer School that provided me with this chance to take part in such an excellent meeting which will definitely help me in my future work.

Ritu Aggarwal, Department of Immunopathology, Postgraduate Institute of Medical Education and Research, Chandigarh, India

This year, the International Summer School on Immunogenetics was held in the setting of the lush green and serene campus of the Trinity college, Dublin, an epitome of knowledge. The participants travelled from around the globe in pursuit of knowledge in the field of Immunogenetics. The organizers had a diligently designed curriculum which was spread over two and a half days. Several stalwarts including, Jonathan Downing (APHIA), Michael Gautreaux (ASHI), Richard Hagan (EFI), Nattiya Hirankarn (APHIA), Elissaveta Naumova (EFI), John Schmitz (ASHI), David Turner (EFI) and Lotte Wieten (EFI) were roped in as faculty. Each day, the session commenced after a sumptuous breakfast at the Buttery Food court. There was a two-hour lecture session followed by presentation of abstracts by the participants. Similarly, the post-lunch session also included faculty lectures and abstract presentations. There was an evident enthusiasm among the participants during the discussion following the lecture and abstracts. This provided an opportunity to the participants to discuss and clear doubts on various theoretical and practical aspects of Immunogenetics. The participants greatly benefited by the input received from the faculty as

well as from the fellows during the abstract presentation. The lunch session provided an opportunity for one-to-one interaction with the faculty for possible prospective collaborations. The participants utilized this opportunity to the fullest for networking.

The talks on the first day were centred around the basics of HLA and its relevance in transplantation and transfusion. Non-classical HLA and NK cell receptors were discussed as well. The second day included a comprehensive session on HLA typing, including the emerging field of next and third generation sequencing. The role of HLA in autoimmunity and infectious diseases was well discussed. The lecture on clinical implications of KIR genes was par-



ticularly informative. The programme on the final day included lectures in challenging field of transplantation in highly sensitized patient, deceased organ allocation and non-HLA antibodies. The lectures under the umbrella of future directions were informative and up-todate. The talks were lucid and covered basic, as well as practical aspects of immunogenetics, which are seldom touched upon in typical conferences and were of immense importance in day to day clinical practice. I feel that the structured 3-day training program was indeed valuable in refreshing and upgrading my knowledge. It provided a platform to network with experts in the field. A continuing contact with them will aid in trouble shooting day-to-day queries.

Our host Dr Richard Hagan had left no stone unturned in rendering the course memorable for all of us. The evening excursions were tastefully planned to maintain the mood and spirit of the group. The elaborate dinner at Trinity College was a star attraction and will always be cherished. Local sight-seeing was in sync with must to do in Dublin. The walking tours to the Dublin city centre and the Guinness Storehouse were spectacular and provided an opportunity to explore the rich culture of the historic city. I would like to thank EFI for the bursary which enabled me to attend and gain from the scientific feast.

Presentations of the 2017 Summer School can be found at the member area of both the EFI and APHIA websites.

HIGHLIGHTS FROM THE HLA JOURNAL

Strain-based HLA association analysis identified HLA-DRB1*09:01 associated with modern strain tuberculosis.

Toyo-Oka L, Mahasirimongkol S, Yanai H, Mushiroda T, Wattanapokayakit S, Wichukchinda N, Yamada N, Smittipat N, Juthayothin T, Palittapongarnpim P, Nedsuwan S, Kantipong P, Takahashi A, Kubo M, Sawanpanyalert P, Tokunaga K. HLA. 2017 Sep;90(3):149-156. doi: 10.1111/tan.13070. Epub 2017 Jun 14. Highlights: Whereas it is well known that HLA class II molecules play an important role in the host immune system, no studies have been performed to assess the possible association between HLA class II genes and susceptibility to tuberculosis. This is the first ever study to investigate the possible association of HLA class II genes with TB caused by modern and ancient Mycobacterium tuberculosis (MTB). The authors found HLA-DRB1*09:01 and HLA-DQB1*03:03 to be associated with modern strain tuberculosis (the alleles being in strong linkage disequilibrium), suggesting the importance of strain-specific analysis to determine susceptibility genes associated with tuberculosis.

Pronase treatment improves flow cytometry crossmatching results.

Apithy MJ, Desoutter J, Gicquel A, Guiheneuf E, Westeel PF, Lesage A, Piot V, Choukroun G, Guillaume N. *HLA*. 2017 Sep;90(3):157-164. doi:

10.1111/tan.13073. Epub 2017 Jun 28. Highlights: While flow cytometry crossmatching is a widely used method for detecting donor-specific antibodies in the setting of transplantation, immunoglobulin binding by Fc receptors and B-cell surface immunoglobulins can By Luca Vago, Section Editor HLA journal

lead to unacceptable background when using B cells as targets. The authors determined whether pronase treatment would improve the reliability flow cytometry crossmatching results, and found indeed an increase of the sensitivity and specificity in B cell flow cytometry crossmatching assays.

Human leukocyte antigen distribution and genomic ancestry in Brazilian patients with sickle cell disease.

da Silva-Malta MCF, Rodrigues PS, Zuccherato LW, de Souza FCB, Domingues EMFL, Souza VR, Tarazona-Santos E, Martins ML.

HLA. 2017 Oct;90(4):211-218. doi: 10.1111/tan.13102. Epub 2017 Aug 11. Highlights: Ethnicity has an impact on complications in patients that undergo hematopoietic stem-cell transplantation, as well as on the likelihood of identifying an HLA matched donor. The authors investigated the genomic ancestry and the distribution of HLA allele groups in Brazilian patients with sickle cell disease, for which hematopoietic stem-cell transplantation is the only established curative treatment. The results indicated that Brazilian patients with sickle cell disease are very admixed, which indicated to the authors that this group of patients could be a promising target for admixture mapping of genes involved in complications after hematopoietic stem-cell transplantation.

Gene polymorphism and HLA-G expression in patients with childhoodonset systemic lupus erythematosus: A pilot study

Cavalcanti A, Almeida R, Mesquita Z, Duarte ALBP, Donadi EA, Lucena-Silva N.

HLA. 2017 Oct;90(4):219-227. doi: 10.1111/tan.13084. Epub 2017 Jul 11.

Highlights: the non-classical HLA Class I molecule HLA-G has been linked in a number of previous studies with maintaining the delicate balance between tolerance to self and autoimmunity. In this study, the Authors analyze for the first time its role in childhood-onset systemic lupus erythematosus, one of the most challenging systemic autoimmune diseases. Upon analysis of a well characterized polymorphism linked to HLA-G expression level in patients and healthy controls, the authors conclude that this common in/del variant has small effect on childhood-onset SLE susceptibility, however they intriguingly observe that the serum levels of HLA-G are significantly linked to the development of hematological manifestations of the disease.

Role of de novo donor-specific anti-HLA antibodies in kidney graft failure: A case-control study.

Castro A, Malheiro J, Tafulo S, Dias L, Martins LS, Fonseca I, Beirão I, Castro-Henriques A, Cabrita A.

HLA. 2017 Nov;90(5):267-275. doi: 10.1111/tan.13111. Epub 2017 Aug 24. Highlights: it is well established that preformed donor-specific anti- HLA antibodies (DSA) confer an increased risk of acute rejection and reduced graft survival after kidney transplantation, but fewer studies addressed the role of de novo development of DSA after transplant. In a well conducted casecontrol comparison between patients who developed kidney graft failure and those who did not, the Authors demonstrate that post-transplant de novo DSA



HistoTrac AUTOMATING YOUR LABORATORY

An Innovative Software System for the Histocompatibility Laboratory



It is offered in modules to facilitate the building of a system that accommodates the testing services provided by your laboratory. The Core Package is the center of the software, providing for all the basic functions of the laboratory. Add modules, now or later, depending on your needs.

Information

- HistoTrac Laboratory Information System
- Patient/Donor Database
- Workflow Management
- Reporting

Innovation

- EuroTransplant Data Exchange
- HistoTrac on the Web
- Paired Kidney Exchange
- Platelet Matching

Integration

- HL7 Interfaces: (ADT, Orders, Results, Billing)
- Reagent Vendor Interfaces (Assign, HLA Fusion, MatchIt!, SBTengine, Score, SureTyper, uTYPE, and NGS by vendor)
- Data Conversion
- Custom Development
- Custom Reporting
- Training and Implementation Support



Find more information visit our website at www.HistoTrac.com or email Susan.Metz@SystemLink-Inc.com.

SystemLink, Inc. is a software development company focused on the needs of the histocompatibility community. HistoTrac is a customizable Laboratory Information Management System in use in the United States, Canada, Europe and New Zealand. Over the last 16 years, HistoTrac has become the primary software system for HLA labs in North America.

are clearly associated with graft loss, particularly if against HLA class II antigens. Importantly, they suggest that the eventual development of de novo DSA should be monitored regularly after transplant to identify patients with a higher risk of graft failure.

A novel multiplex polymerase chain reaction assay for detection of both HLA-A*31:01/HLA-B*15:02 alleles, which confer susceptibility to carbamazepine-induced severe cutaneous adverse reactions.

Nguyen DV, Vidal C, Chi HC, Do NTQ, Fulton R, Li J, Fernando SL. *HLA*. 2017 Dec;90(6):335-342. doi:

10.1111/tan.13143. Epub 2017 Oct 2.

Highlights: one of the most striking examples of how immunogenetics can inform pharamcogenomics is represented by the well-established link between presence of HLA-A*31:01 and HLA-B*15:02 and risk to develop severe cutaneous adverse reactions (SCARs) upon exposure to carbamazepine, one of the most widely used anticonvulsive drugs. Accordingly, the screening for these alleles has been highly recommended before starting therapy with this drug. Therefore, in this study, the Authors developed and validated a multiplex polymerase chain reaction-based assay to specifically detect the risk alleles. Being highly reliable, rapid, sensitive and cost-effective, this newly developed assay might

facilitate screening of individuals at potential risk.

In addition, we would like to point the attention of the EFI newsletter readership to an excellent review on the genetics of complex diseases (from the 2017 Julia Bodmer Award winner J.C. Lee, December issue), as well as on the role of HLA in T cell mediated drug hypersensitivity (AJ Redwood et al., epub ahead of print). Finally, HLA also published the Obituary by R. E. Bontrop, A. Brand and F. H. J. Claas in memory of J.J. van Rood, one of the brightest and most courageous scientists of our era, and a constant example for all members of our Society.

THE ITALIAN ASSOCIATION OF IMMUNOGENETICS AND TRANSPLANT BIOLOGY WINTER SCHOOL



The Miramonti Hotel, in the beautiful location of Gambarie, close to the city of Reggio Calabria, on the Aspromonte Mountain, hosted from November the 30th to December the 2nd 2017 the annual Winter School, organized by Valerio Misefari, past President of the Italian Association of Immunogenetics and Transplant Biology (AIBT) and by the AIBT board. The primary goal of this three-day seminar was to enable discussion among the participants on the following topics: kidney transplantation, haematopoietic stem cell transplantation, National Registry of volunteer HSC

donors and EFI activities. Lectures were presented on basic aspects of transplant immunology, immunogenetics, as well as on recent developments in the field of histocompatilibility, on the new EFI standards and ESHI Diploma, followed by intensive interaction between participants and tutors.

Among the faculty members, the President of AIBT, Valeria Miotti was present, besides Antonina Piazza, Emanuele Cozzi, Angela Nocco, Giuseppina Ozzella, Massimo Martino, Michela Falco, Mariella Cuzzola, Giuseppe Console, Andrea Bontadini, Franco Papola, Renato Marciano, Benedetta Mazzi and Marco Andreani. The meeting was really successful for the more than 60 participants (Physicians, Biologists and Technicians), coming from many different regions of Italy. At the end of each session there was a scheduled time for an open discussion between the participants and the tutors related to the different hot topics in the field of H&I.

After many hours of intense daily work the activity rapidly shifted towards issues related to the tasting of regional food & wine, enjoying good music and chilling with friends and colleagues. In fact, really excellent were the meals at the Miramonti Hotel restaurant and unforgettable was the karaoke organized the last night, mostly supported by the voices of the youngest participants, and the dances that involved participants and tutors.



For a confident result. For a better match. For a waiting patient. MIA FORA[™] NGS

MIA FORA^M

For high-resolution HLA genotyping, Immucor's MIA FORA NGS* 11 FLEX provides complete coverage of Class I and Class II loci in one pass.

- Sample to sequencing in <24 hours
- · Available as 5, 6, 9 and 11 gene kits
- MIA FORA 3.0 software with Smart Flagging System
- Compatible with both Windows workstations and Linux servers

Discover how MIA FORA NGS 11 FLEX can deliver the confidence in results your patients deserve.

Visit immucor.com/miaforavideo to learn more.



