



# Yarmouk Newsletter

Published by The Dept. of Public Relations and Media

Issue No. 29

## HRH Prince El Hassan Patronizes the 15<sup>th</sup> International Conference on the History and Archeology of Jordan



HRH Prince El-Hassan bin Talal patronized the opening of the activities of the 15<sup>th</sup> International Conference on the History and Archeology of Jordan, entitled "Thoughtful Archaeology in the Ecosphere and Sociosphere" organized by the Department of Antiquities in cooperation with Yarmouk University.

The opening ceremony was attended by HRH Princess Dana Firas, Sheikha Mai bint Mohammed Al Khalifa from the Kingdom of Bahrain, the Minister of Tourism and Antiquities Nayef Al-Fayez, the President of Yarmouk University Professor Islam Massad, the Director General of the Department of Antiquities Dr. Fadi Balawi, the presidents of official and private universities, deputies, former ministers and officials, faculty deans, faculty members, and students from Yarmouk University.

In his speech at the opening of the conference, His Highness said that such meetings confirm that cultures transcend borders to reach a common understanding regarding cultural heritage and its association with the future. His Highness also pointed out that heritage is an advanced resource that supports identity, memory,

and our sense of place and time and that it has a central role in achieving sustainable development represented by intellectual communication and diversity. He further pointed to the possibility of investing in workshops for preserving archaeological and historical sites. HRH then signed a mosaic mural and inaugurated the exhibition entitled "Jordan - the Story of Civilization".

For her part, Sheikha Mai bint Mohammed Al Khalifa pointed out that Bahrain hosts a UNESCO regional center for the preservation of world human heritage sites, emphasizing that archaeological sites that are registered in the World Heritage List must be exceptional and meet certain criteria. She then stressed that tourism cannot be promoted without integrating it with antiquities in one system. She added that the center located in Bahrain launched a competition under the title "The Tale of Traces" that aims at reporting the story and memory of the place and record them in a film or brochure or any other means.

In his turn, the Minister of Tourism and Antiquities, Mr. Nayef Al-Fayez, said that this conference is an opportunity to benefit from the

Cont. Page 2

## HRH Prince El Hassan Patronizes the 15<sup>th</sup> International Conference on the History and Archeology of Jordan - Cont.



meeting of archaeologists, researchers, and specialists to discuss how to preserve Jordan's heritage and maintain its sustainability for future generations. He also explained that choosing the symbol of the oldest statues that were discovered at the archaeological site of Ain al-Ghazal as a permanent logo for the conference confirms that our homeland is as old as history, which always motivates us to promote our historical and archaeological heritage globally.

For his part, the President of Yarmouk University, Professor

Islam Massad, called on the conference participants to come up with recommendations that would make an effective contribution to the study of Jordan's cultural heritage. He also pointed out that the university has the lead among Jordanian academic institutions in studying and preserving Jordan's cultural heritage, as the Faculty of Archeology and Anthropology has the largest academic unit in Jordan working in the field of archeology, anthropology, ancient writings, and the maintenance and management of heritage resources.

The Director-General of the Department of Antiquities, Dr. Fadi Balawi, said that the conference aims at shedding light on archaeological sites and monuments in light of the changes within their ecosphere and sociosphere and trying to develop the vision of the Department of Antiquities in partnership with all institutes, scientific institutions, and international partners to confront environmental and social changes in the vicinity of archaeological sites.

The head of the Supreme Scientific Committee of the conference, Dr. Fayez Khasawneh, stated that the conference is to narrate the story of Jordan in its 15<sup>th</sup> update. He added: "in spite of the woes and tribulations of marching armies, the people of Jordan as well as the entire Levant or Bilad Alsham, managed to build abiding social structures" and that they developed several moral codes of ethics and values.

## The Conference Activities of the Second Day

The 15<sup>th</sup> International Conference, "History and Archeology of Jordan", entitled "Thoughtful Archaeology in the Ecosphere and Sociosphere" continued its activities at Yarmouk University for the second day, including 12 scientific sessions tackling 13 different scientific themes where 57 in-person and 11 online scientific papers were presented. The first session, which was moderated by Dr. Mustafa Al-Naddaf and Dr. Abdullah Al-Shourman, included several papers, namely "on Pilgrimage to Mecca with the First Caliphs: The Umayyad Durub al-Hajj al-Shami across Jordan", "Sustaining Good Practices in Jordanian Museum Education", "Terraces as Proxies for Environment Change", "Tokens and Counters from EBA Jordan: A Case Study of Khirbat al-Batrawy", and "The Concept of Civilization Crossroads for the Young Generation".

The second session, which was moderated by Dr. Talal Okasha and Dr. Claudia Buhrig, included: "Madaba Institute for Mosaic Art and Restoration and its Role in Promoting Cultural Heritage through Corona Pandemic", "the Excavations of Umm Qais / Jadara 2005 - 2016 in Jordan", "Wadi Sabra and its Theatre Reconsidered", "Rome's Legacy in Petra: New Data from Petra Downtown" and "Physical in Situ and Digital / Virtual Reconstructions and the International Heritage Charters and Conventions: A Critical Overview".

The third session, which was moderated by Dr. Hani Hayajneh

and Dr. Dominik Bonatz, included: "Water Sources for the Ancient Bedouins of Northern Arabia /Jordan Badia", "From Shamans to Priests: the Regional Role Played by the Neolithic in Jordan and the Idea of Religion", "The Palace of the Copper Axes at Batrawy: Architecture, Finds and International Relationships in the 3<sup>rd</sup> Millennium BC", "Salah Al-Din Al-Ayyubi Road between Damascus and Cairo across Jordan - A Study in History and Archeology", and "The Technical School of the Central Nabataean Temples".

The fourth session, which was moderated by Dr. Nizar Al-Adarbeh and Zeyad Ghnemat, included: "Evaluating Typologies of Churches at Umm Al-Jimal", "Digital Library of Living Traditions - A Proposal for the Intangible Cultural Heritage in Jordan", "Support to Livelihoods through Cultural Heritage Development", "Curative Water in Jordan - Therapy, Tourism and Archeology", and "Jordan Cultural Landscape, the Making of Significant Experience for the Museum of Folklore in Amman".

The fifth session, which was moderated by Dr. Raed Al-Ghazawi and Dr. Abdullah Al-Rawashdeh, included: "The City of Jadara and its Human Heritage and Global Civilization", "Conservation and Restoration of Organic Artifacts - Case Study of the Museum of the Lowest Place on Earth", "Khirbat As-Sar, a Site between the Ammonite and Mamluk History of Jordan", "Funeral Rituals in the Southern Levant, A Comparative Study in Light of Archaeological

## The Conference Activities of the Second Day - Cont.

Findings", "Flint Sources for Prehistoric Exploration and Use in the Contemporary Districts and Tafileh and Shawbak (south Jordan) as Seen from a Geoarchaeological Perspective".

The sixth session, which was moderated by Dr. Maher Tarbosh and Mohammad al-Shalaby, included: "Mamluk and Ottoman Mosques on the Shami Hajj Road in Jordan", "Preserving the Past to Develop the Future: Rethinking Communities and Landscapes Relationships Starting from the Madaba Map", "the Documentation of Amman Heritage Houses Using EAMENA Methodology", "the First Results of the New Eastern Jarash Project", and "Mapping for Tracking Networks of Skull Removal Mortuary Remains - An Analytical Approach of Chronological and Spatial Distributions to the Mortuary of Removed Skulls and Materials during the Neolithic Period".

The seventh session, which was moderated by Dr. Lamia El-Khoury and Khaled Al-Tarawneh, included: "Maintenance and Restoration of a Lead Ark / Jerash (Applied Study)", "the Conservation and Community Participation of Prince Alin Aq El Nasery Palace in Historic Cairo: Applications for Similar Sites in Jordan", "Ain Ghazal Statue at Louvre Abu Dhabi: Exploring Stories of Cultural Connections", "New Aspects of Social Life in the Hisma Region - Southern Jordan in the Light of Newly Discovered Ancient North Arabian Inscriptions", "the Jaya Palace (Shobak): First Results of the excavations 2018 and 2021".

The eighth session, which was moderated by Dr. Abdel Halim Al-Shiyab and Dr. Carol Palmer, included: "Historical Islamic Architecture in Northwestern Jordan - Heritage Mosques in Irbid Governorate", "Education is the First Step of Protection before Archaeological Excavation: Khuraybit es-Sooq Site as a Challenging Example", "Al-Hasa Castle in its Ecosphere and Sociosphere", "Approaching Islamic Archeology of Jordan: Projects, Opportunities and Challenges", and "Cultural Heritage and the Fight Against Illicit Trafficking in Jordan".

The ninth session, which was moderated by Dr. Pearce Paul and

Dr. Alexander Ahrens, included: "Analyzing Cultural Heritage Trends in Higher Education at Jordanian Universities", "Cultural Globalization: Arabizi, Reality and Recommendations", "Rapid Tectonoc Evolution of the Levant during the Pleistocene and its Implications to Topography and Local Lakes' Formation and Disappearance - Factors Affecting Human Migration and Settlement", "Capacity Building for Sustainable Preservation", and "Unveiling the Memory of Amman: Retrieving the Roman Heritage of Al Hashimi Street as Part of Amman Urban Heritage".

The tenth session, which was moderated by Dr. Lorenzo Nigro and Dr. Joseph Greene, included: "Ba'ja PPNB Site Jamila's Grave CR36.1.44 from Gloomy Soil to Museum Lights", "3D Virtualization of the Roman Aqueduct of Gadara, the Ancient World's Longest Water Aqueduct", "Preliminary Report on the Excavation of the Lower Terrace of the Temple of Zeus (Gerasa / Jerash) and "Southern Jordan in the Late Prehistory: New Data from Polish Archaeological Research Conducted in years 2019 - 2021".

The eleventh session, which was moderated by Julie Bonneric and Leena Bakkar, included: "New Light on Transjordanian Cooking Ware from the Roman to the Umayyad Periods", "Valorization and Site Development at the Iron Age Site of Busayra", "Architectural Analysis of Beit Ras Theater and its Connection with the City Walls", and "the Procedures for Rehabilitating of Ajloun Castle as an Archaeological Tourist Site in Light of International Standards and Development Requirements."

The last session, which was moderated by Aktham Alabbadi included: "Result of Archeological Excavations at Tell Shiekh Isa Byzantine Church Astonishing Discoveries 2019", and "a Sundial or Traditional Game - A Comparative Study."

The activities of the second day also included launching an exhibition of posters on research projects in the fields of archeology, anthropology, restoration and maintenance of heritage sources, in addition to an exhibition for selling books in archeology specializations from the Department of Antiquities.

## ALECSO Chair for Educational Studies and Research in Yarmouk

### Joins the Network of Scientific Chairs



The Arab League Educational, Cultural and Scientific Organization (ALECSO) in Tunisia approved the request of Yarmouk University to join the ALECSO Chair for Educational Studies and Research since July 2022. The incumbent of the chair, Dr. Fawaz al-Momani, stated that the ALECSO Chair for Educational Studies and Research was established at Yarmouk University by a decision of the University Deans' Council on February 24, 2020. He then mentioned that the chair is affiliated with the Scientific Network of ALECSO Chairs and that it aims at contributing to the various state institutions in conducting studies and implementing educational programs and research in the Hashemite Kingdom of Jordan and the Arab region. He also added that the chair contributes to the dissemination of knowledge by holding academic and scientific seminars and by establishing links with local and international institutions, universities, and scientific institutes.

## Cooperation between Yarmouk and the University of Mexico



The President of Yarmouk University, Professor Islam Massad, met with a delegation from the University of Mexico, El Colegio de México, headed by the President of the University, Dr. Silvia Giorguli, in the presence of the Mexican Ambassador in Amman, Roberto Rodriguez Hernandez, to discuss possible ways of cooperation in social sciences and humanities, international relations, and studies of the Middle East and the Arab world as well as teaching Arabic to non-native speakers. Massad first welcomed the delegation and stressed the importance of strengthening cooperation through agreements and memoranda of understanding that contribute to achieving the desired outcomes, which reflects positively on the two

parties. Such agreements, he explained, can include teaching Arabic and Spanish in a way that enhances the skills needed by students and opens up new horizons for them in the labor market. He also indicated that a special program for teaching Arabic to non-native speakers can be prepared at the university's language center to meet the expectations of the students of the University of Mexico, whether face-to-face or online.

The Mexican ambassador expressed the embassy's support for cooperative relations between Mexican educational institutions and Yarmouk University, stating that the University of Mexico is a gateway for cooperation with various universities, institutes and educational institutions in Latin America, especially as it has more than fifty years of experience in research and studies related to Asia, Africa and Latin America.

For her part, Giorguli stressed the importance of the meeting, which is her first visit to the Middle East, pointing out her keenness to cooperate with Yarmouk University and open up prospects for joint work. She then pointed to the possibility of cooperation through the exchange of students and faculty members in the fields of social sciences and humanities, such as public administration, history, literature, sociology, demography, urban studies, and economics. She also referred to the possibility of cooperation in conducting and implementing research studies and scientific projects in areas of common interest like immigration and asylum, international relations and digital humanities, studies of the Middle East and the Arab world, and teaching Arabic for university students.

## Yarmouk Receives the Award of the Distinguished Student Branch from the American Concrete Institute



The American Concrete Institute granted the student branch at Yarmouk University the award of "the most distinguished" Student Branch for the year 2021, which is granted annually by the Institute to the most active and distinguished student branch concerning the advanced and professional efforts of

students based on criteria related to the number and quality of activities and competitions organized by student teams in international universities. The team included Qamar Al-Aqili, Sarah Obeidat, Malik Abu Al-Hajjaa, Ahmed Bani Younes, Muhammad Bani Younes, Yasmine Safaqa, Hadeel Al-Shalakhti, Loujain Raji, Sarah Al-Jizawi, Hussam Al-Azzam, Rama Marian, Ahmed Abu Al-Ful, Ahmed Yasser, Jaafar Bani Melhem, Naseem Al Rawashdeh, Nour Al Mahamid, Ihab Al Fuqaha, Moath Al Zoubi, and Yara Obeidat.

Yarmouk University's team organized during 2021 several local competitions that contributed to enhancing students' practical knowledge in the field of concrete, in addition to actively participating in international competitions. The team also organized local and regional seminars in cooperation with student branches from Tanta University in the Arab Republic of Egypt and the Islamic University of Beirut. It also networked students with the labor market and graduate studies, broadened students' horizons towards knowledge and career progress in civil engineering, and participated in several voluntary, social activities.

## Yarmouk Trustees Holds its First Session after the Issuance of the Royal Decree



The Board of Trustees of Yarmouk University headed by Dr. Ruwaida Maaytah had held its first meeting after the issuance of the royal decree to reconstitute it in the presence of the university president, Professor Islam Massad, and other members of the board. At the beginning of the meeting, Maaytah congratulated the members of the board for the issuance of the royal decree extending appreciation to the previous board and praising its great efforts and endeavors in serving Yarmouk University. She then referred to the board's aspirations represented in strengthening the university's progress and deepening its achievements at various academic and research levels.

Maaytah also stressed the support of the Board of Trustees for the presidency of the university to implement its various programs, visions, and strategic plans and to provide support and advice in drawing up the general policy of the university and its future aspirations through the exchange of ideas and viewpoints concerning the university's goals of education, scientific research, and community service.

## New Establishments

To achieve its strategic plan by offering new majors that serve the local, Arab and regional labor market, Yarmouk University declared establishing a faculty of Nursing, a new program in the Faculty of Arts called "Applied English Language", and a Master program in digital marketing in the Faculty of Economy and Administrative Sciences beginning with next academic year 2022 - 2023.

## The Computer and Information Center Launches a Set of Electronic Systems and Services

Based on the vision of Yarmouk University and in line with its mission, the Computer and Information Center launched a set of basic systems and services in cooperation with the various faculties and departments of the university, namely the Deanship of Scientific Research and Graduate Studies, the Accreditation and Quality Assurance Center, the Language Center, and the Procurement and Supplies Department. The Director of the Center, Dr. Muhammad Al-Zamil, indicated that the Center launched a system for supervising university theses, thus making the process of appointing a supervisor for MA and PhD theses fully automated. Also, the center launched the application service for research projects (general scientific research), which enables researchers at the university to apply for research projects through the personnel services system. The center also established two new systems regarding procurement and supplies. The first is concerned with managing tenders and bids, and the other is concerned with managing the holdings of the Jordanian Natural History Museum of the Faculty of Science in cooperation with the staff of the museum. Finally, the center also established a new system for managing the financial resources of the Language Center.

## A Statement of Action between Yarmouk and US Shenandoah to Implement a Refugee Project



In the framework of the memorandum of understanding signed with the Shenandoah University, USA, Yarmouk University represented by the Refugees, Displaced Persons and Forced Migration Studies Center signed a statement of action with Shenandoah University regarding a research project related to the second goal of the United Nations' Sustainable Development Goals. The goal is related to eliminating hunger, providing food security and improved nutrition, and promoting sustainable

agriculture, especially for refugees and the most vulnerable.

Signing this statement came during the visit of the Shenandoah University delegation, which included the Vice President for Academic Affairs, Dr. Amy Sarch, and the Director of the Barzinji Institute for Global Virtual Learning, Dr. Younus Mirza, to the Refugees Center at Yarmouk University and meeting with the director of the Center, Dr. Reem Al-Kharouf, and the center's staff.

During the visit, Al-Kharouf gave a full explanation about the establishment of the Center, its objectives, and activities. She pointed out that this project represents the Center's strategic plan, which stems from the university's mission in serving the local community and its interest in asylum issues. Al-Kharouf pointed out that the research project, which will be implemented in stages during the academic years (2022 - 2024) will include the establishment of a database, composing research papers, holding joint meetings, and exchanging visits between the Center and the partners in this research project.

Sarch praised the importance of having a center specialized in issues of asylum, displacement and forced migration, explaining that its research studies contribute to providing services to this category of people.

## A Memorandum of Understanding with Libyan Sirte



In the presence of the Cultural Counselor at the Libyan Embassy in Amman, Dr. Ahmed Al-Dweik, the President of Yarmouk University, Professor Islam Massad, met with a delegation from the Libyan University of Sirte represented by the President of the University, Dr. Suleiman Al-Shater, and the Vice President of the University and Director of the International

Cooperation Office, Dr. Al-Tayeb Al-Qabi, to discuss possible ways of cooperation between the two universities through a memorandum of understanding in areas of conducting joint scientific research, joint supervision of master's and doctoral theses, exchanging publications and periodicals, and exchanging invitations of conferences, seminars, and scientific events.

During the meeting, Massad stressed on opening up prospects for academic and research cooperation with Arab universities including Libya, which contributes to developing and raising the level of Arab universities according to international classifications, pointing out that signing the memo with Sirte University would have a positive impact on the educational process in both universities. In return, Al-Shater expressed his happiness to cooperate with prestigious Jordanian universities in light of the agreement concluded between the Jordanian and Libyan Ministries of Higher Education, pointing out that the cooperation with Yarmouk contributes to exchanging experiences and achieving the common interest for the development of education and scientific research between the two universities.

## A Delegation from the US-Jordanian University Cooperation Network Visits Yarmouk



During his meeting with a delegation from the American-Jordanian University Cooperation Network (UCN), the President of Yarmouk University, Professor Islam Massad, affirmed Yarmouk's interest in strengthening academic and research relations with American universities in various scientific, medical, and humanitarian fields. He explained that Yarmouk is proud in its membership in the UCN, as such membership provides it with several opportunities to cooperate with American universities in the fields of scientific research, professional development, and other issues related to several societal concerns. In return, the members of the delegation stressed the importance of strengthening and expanding areas of cooperation between the members of the network so that universities benefit from the international experiences and expertise of researchers from various

universities and get access to the scientific and technological developments in the various disciplines of knowledge.

Interestingly, the meeting was attended by the Vice Presidents of the University, Professor Muwaffaq Alomoush, Professor Riad Almomani, the Dean of al-Hijjawi Faculty of Technological Engineering, the Director of the Department of International Relations and Projects, Dr. Muwaffaq Otoom, the Dean of the Faculty of Science, Dr. Khaled Al-Batayneh, the Head of the Geography Department, Dr. Khaled Al-Hazayma, and the Head of Earth and Environmental Sciences Department, Dr. Rashid Jaradat, the Director of the Refugees, Displaced Persons and Forced Migration Studies Center, Dr. Reem Al-Kharouf, the Director of Public Relations and Media, Dr. Nawzat Abu Al-Asal, Dr. Samira Daroub, Dr. Gbola Adesogan, Dr. Gregory Kiker, Dr. Rafael Munoz-Carpena, and Dr. Nargizla Liuglat from the University of Florida in America, Dr. Chris Brittus from the University of Nevada in America, and Dr. Wael Elrayes from the University of Nebraska, Dr. Kaveh Khoshnood from Yale University, Dr. Christopher Mayhorn from North Carolina State University, and Dr. Mark Johnson from the University of Wisconsin-Madison.

During the visit, the delegation members met with a group of researchers from Yarmouk University in two specialized workshops. The first was held at the Deans' Council Hall in the presence of Dr. Muwaffaq Otoom, Dr. Khaled Al-Bataineh, Dr. Rashid Jaradat, and Dr. Khaled Al-Hazayme, to discuss ways of cooperation and networking between researchers from both parties in areas like dry lands, water and climate change. The other was held at the Refugees, Displaced Persons and Forced Migration Studies Center to discuss ways of cooperation and empowering researchers in areas of asylum and forced migration.

## Cooperation between YU and Osmania University in Turkey



The Vice President of Yarmouk University for Administrative Affairs, Professor Riad Almomani, met a

delegation from Osmania University in Turkey including the assistant dean of the Faculty of Theology, Dr. Ahmed Dogan, and the coordinator of the international program, Fonda Ozbekir, to discuss ways of enhancing the existing academic cooperation between the two universities.

During the meeting, Almomani stressed Yarmouk's constant keenness to strengthen cooperation with Turkish universities to provide students with the opportunity to complete their studies and faculty members with the opportunity to visit Turkish universities and enhance their experiences in various fields. In return, the members of the delegation affirmed the importance of strengthening cooperation with Yarmouk university, noting that such cooperation would push the scientific and educational process of both universities.

## Prince El Hassan Participates in the Closing Session of the International Conference of Jordan's History and Archeology



During his participation in the closing session of the fifteenth international conference entitled "History and Archeology of Jordan", HRH Prince El Hassan bin Talal stressed the need to build a participatory and integrative approach that considers the spatial, social and economic dimensions to establish a graphic line of dialogue on antiquities and heritage and its relationship to place, plants, water, culture and society. His Highness pointed out the importance of regional cooperation in the study of human culture and its common wealth, calling for investing in the communal heritage of humanity as this can develop a culture of inclusive and multidisciplinary perspective. His Highness further expressed his hope that the region will establish an institution for regional cultural heritage in the Levant and that the end of this conference will mark the beginning of joint work to build a culture of understanding, cultural dialogue, and an understanding of universal values.

The Minister of Tourism and Antiquities, Nayef Al-Fayez, praised the support and attention provided by HRH Prince El-Hassan bin Talal to the conference, and he noted his highness's keenness to observe the academic outcomes and recommendations presented by the 294 participants in the conference and to support the tourism and antiquities sector in Jordan, as the country is rich in archaeological sites that it tells the story of successive civilizations in the region. He then pointed out the importance of holding such conference, which constitutes a platform for exchanging experiences and knowledge among researchers in various fields of antiquities and coordinating efforts between concerned authorities, which contributes to protecting the civilizational and cultural heritage in the region.

However, the closing session of the conference, which was attended by Sharifa Nouf bint Nasser, President of Yarmouk University, Professor Islam Massad, the Director of the Department of Public Antiquities, Dr. Fadi Balawi, and a number of officials, academics and archaeologists, included a set of recommendations made by the participants in the conference. Most of the recommendations emphasize the need to continue studying and researching the various fields of archeology, anthropology and cultural heritage in a way that contributes to preserving the civilizational and cultural legacy and enable the community to engage with the sustainability and preservation of archaeological sites.

## A Scientific Team from Yarmouk Begins Archaeological Survey in Tel Ya'amoun



In terms of the agreement concluded between the Faculty of Archeology and Anthropology at Yarmouk University and the Finnish University of Helsinki, a specialized archaeological team in cooperation with the Department of Antiquities began an archaeological survey work in the southern and western regions of Irbid, through a joint project entitled "Archaeological Surveys in Tel Ya'amoun". The team relied on aerial maps and photographs of Tel Ya'amoun, aiming at documenting archaeological sites that include drawing, photography, surface layers, documentation, and analysis of architectural ruins in pursuit of understanding the social life of the people of the region. The team was supervised by the Head of the Archeology Department, Dr. Maher Tarboush, and the Head of the Heritage Resources Conservation and Management Department, Dr. Hussein Sababha, and Dr. Ahmad Al-Shurman. The Finnish side included Dr. Ante Lahelma, Dr. Marta Lorenzon, and several technicians from the University of Helsinki.