International Society for Therapeutic Ultrasound (ISTU): Past, Present, and Future

Introduction: The International Society for Therapeutic Ultrasound (ISTU) provides a foundation for international collaboration on issues related to therapeutic ultrasound. Established in 2001, ISTU’s principal mission is to foster the diffusion of knowledge concerning the scientific and clinical aspect of therapeutic ultrasound. Over the years, ISTU has developed a series of initiatives that have supported this mission. This document will outline some of our history, our present initiatives, and our plans for the future of this Society.

In 2000, a group of scientists and clinicians at Chongqing University in the PRC contacted various individuals around the world and suggested that a meeting be held in Chongqing on the topic of High Intensity Focused Ultrasound (HIFU). The Chongqing group, together with the company, Chongqing HAIFU Technology Co., Ltd. was interested in an international exchange of information concerning the use of this technology for the treatment of disease, particularly the non-invasive use of HIFU for the treatment of benign and malignant tumors. A meeting was subsequently held in May of 2001, organized by Zhibiao Wang and Feng Wu at Chongqing University, PRC, and by Gail ter Haar of the Institute of Cancer Research, UK. Approximately 100 scientists, engineers, and clinicians from several countries attended this meeting.

Although the discovery by Frank and William Fry in the early 1950’s that high-intensity sound waves could be used to generate localized tissue damage significantly predated even the use of ultrasound as a diagnostic modality, most foreign visitors were amazed to discover the major advances that has occurred in the development of HIFU technology in the PRC. Accordingly, at the urging of a number of attendees, it was decided in Chongqing in May, 2001, that additional meetings on the topic should be organized and an International Society formed. A temporary Board was appointed and Gail ter Haar was elected the first President of ISTU.

In June of 2002, a meeting, titled the Second International Symposium on Therapeutic Ultrasound, was held in Seattle, USA, and organized by Larry Crum from the University of Washington. At this meeting, over 90 oral and poster presentation were made, attendance was in excess of 130, and a Symposium Proceedings was published by the American Institute of Physics (AIP), containing 74 papers. In addition, plans for the Society evolved and the Third ISTU was scheduled for Lyon, France for June, 2003. Subsequently, an ISTU Symposium has been held every year since then, with the following meeting locations: 2004: Kyoto, Japan; 2005 Boston, USA; 2006: Oxford, UK; 2007: Seoul, Korea; 2008: Minneapolis, USA; 2009: Aix-en-Provence, France; 2010: Tokyo, Japan.

In Oxford, UK, in 2006, the Board adopted a set of Statutes that formalized the formation of the Society. These Statutes called for the Election of a President for a term of three years, and the election of five Board Members per year, each to serve for a term of three years, thus establishing a Board of 15 Members. It also established a General Assembly of Members to approve changes to the Statutes. Succeeding Dr. ter Haar as the Second President of ISTU was Prof Kullervo Hynynen of Boston, USA. An ISTU Secretariat was also established and Dr Constantin Coussios, of Oxford, UK was appointed Secretary. The third president, Prof. Lawrence Crum, was elected in Aix en Provence in 2009.

As the Society grew and matured, a set of Prizes and Awards were established; currently, at each Symposium, the William Fry Distinguished Service Award, the Fred Lizzi Early Career Award, and various Student Paper Awards are given.
Past recipients of the **William Fry Award** include:

- Professor Kit Hill (awarded in Lyon in 2003)
- Professor Wes Nyborg (awarded in Boston in 2005)
- Professor Peter Wells (awarded in Oxford in 2006)
- Professor Floyd Dunn (awarded in Minneapolis in 2008)
- Professor Dominique Cathignol (awarded in Aix-en-Provence in 2009)

Past recipients of the **Fred Lizzi Early Career Award** include:

- Dr Mike Bailey (APL, University of Washington, awarded in Minneapolis in 2008)
- Dr Elisa Konofagou (Depts of Biomedical Eng. & Radiology, Columbia University, awarded in Aix-en-Provence in 2009)
- Dr Mickael Tanter (INSERM, France, awarded in Aix-en-Provence in 2009)

The prizes and awards of the ISTU have the following administrative protocol:

- A “Prizes and Awards” committee, composed of at least one member of the ISTU Board, manages the administration of all ISTU Prizes and Awards.
- At least three months before the annual meeting, a notice is sent to all ISTU Members by the ISTU Secretary announcing the prizes and awards and requests nominations.
- Nominations of candidates for the Fred Lizzi Early Career Award may come from self-nomination of ISTU Members, by the nomination of any individual (not necessarily an ISTU member) familiar with the nominee, and by members of the Prizes and Awards Committee.
- After a slate of candidates for the Fred Lizzi Early Career Award is received by the Prizes and Awards Committee, they evaluate and rank the candidates, and forward their ranking to the Board.
- The Board selects the winner of the Early Career Award; the winner is presented with a plaque, a monetary award of US$1000, and is formally recognized at the annual meeting.
- The local organizing committee of the annual meeting submits a ranked list of candidates for the William Fry Award, typically recognizing an individual from the particular geographical region in which the annual meeting is held; however, the committee is not constrained to select a candidate from the local region.
- The Board selects the winner of the William Fry Award; the winner is presented with a plaque, a monetary award of US$1000, and is formally recognized at the annual meeting.
- The ISTU Secretary also announces to the ISTU membership, in advance of an annual meeting, that Student Prizes will be presented to the top three student papers at the annual meeting. Eligible students must submit a poster to be presented and defended in a special poster session for student prizes.
- The Prizes and Awards committee will rank the top three students and submit these recommendations to the Board.
- The Board selects the winners of the Student Paper Prize Award; the winning students are given monetary awards.

The continued growth of ISTU and the increasing responsibilities of the Officers and Board motivated its leadership to consider engaging a management organization to accept responsibility for undertaking much of ISTU’s increasing administrative responsibilities. Accordingly, at the 2009 Symposium in Aix-en-Provence, the General Assembly approved the engagement of the staff of the American Institute of Ultrasound in Medicine (AIUM) to manage the Society. Currently, AIUM staff are empowered to undertake the following activities for the ISTU:
• Provide both routine administration functions and specialized management activities as directed by the Board,
• Maintain membership records and renewals,
• Manage the financial matters of the Society,
• Maintain the ISTU website and provide timely web services,
• Assist in the organization and management of the annual symposium,
• Act as a contracting authority, and
• Provide assistance with special projects as needed.

In order to provide the funds necessary to maintain the Management Contract with the AIUM, as well as to provide for its other financial needs, ISTU generates income by the following means: (1) By charging a fee for annual membership; (2) by requiring a percentage (currently 5%) of the registration fee for its annual symposium to be remitted to the Society; (3) by requesting that any excess funds generated by an annual symposium to be remitted to the Society, and (4) by the acceptance of gifts and donations.

Future plans for the Society are to expand the membership base, increase income, and develop outreach activities to further enlarge the technical, educational and clinical activities associated with therapeutic ultrasound. Immediate plans are to provide travel support to students and early career researchers so that they can attend our annual symposium.