

Spreading the Young Scientist “Disease” – A brief introduction of the IATDMCT Young Scientists and report on Young Scientist activities during the 11th IATDMCT meeting in Montreal , Canada, October 4-8, 2009

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The Young Scientist (YS) group of the International Association of Therapeutic Drug Monitoring and Clinical Toxicology (IATDMCT) was founded after an initiative of then President elect Prof. Hans Maurer and Dr. Frank Peters, both Homburg, during the 9th IATDMCT meeting in Louisville, Kentucky, in 2005.

The initiative was inspired by the positive experience with TIAFT's YS committee that had shown that dynamic and active YS can be a great benefit for scientific societies. Frank Peters was appointed chairman of the newly founded IATDMCT YS group and soon was joined by the YS secretary Denise McKeown, to organize future YS initiatives. This included a YS lunch and workshop during the IATDMCT meeting in Nice, 2007, as well as the formation of a YS committee consisting of a chairman, a secretary, a webmaster, a mailing list co-ordinator and five further committee members.



In IATDMCT, members younger than 31, or working on an academic degree, can join the association as so-called YS members, paying a reduced membership fee and being informed about YS activities.

Fig. 1. IATDMCT YS committee chairman Frank Peters and the YS workshop speakers Susie Davies, Franck Saint-Marcoux, Jenny Button, and Markus Meyer (left to right).

Members no longer qualifying for YS membership, but younger than 41 years can highlight their interest in YS issues in their profile on the IATDMCT website and will then also receive YS information. As of October 2009, there were 61 members with YS membership status and eleven regular members with specific interest in YS activities. The YS committee has become a well-respected part of the IATDMCT. The YS activities during the Montreal meeting started with an informal lunch giving the YS, especially the first time attendees, the opportunity to meet and get to know each other. The lunch was followed by the 2nd IATDMCT YS workshop co-chaired by Frank Peters and Jenny Button, a committee member, who opted in for the YS secretary Denise McKeown, who could not attend the meeting this year.



Fig. 2. Young Scientists enjoying lunch.

The workshop covered topics from various fields of Therapeutic Drug Monitoring and Clinical Toxicology:

The first presentation was given by Markus Meyer, Homburg, who spoke on polymorphisms of metabolic enzymes and their clinical relevance. Markus addressed many enzymes that are polymorphically expressed including of course cytochrome P450 (CYP) 2D6, well-known to most scientists in TDM, clinical and forensic toxicology. Using the anticoagulant warfarin as an example, he showed how genotyping of the warfarin metabolizing enzyme CYP2C9 and warfarin's target enzyme Vitamin K epoxide reductase complex subunit 1 (VKORC1) can help finding the correct warfarin dose for an individual patient reducing the incidence of bleeding, a dangerous side-effect of warfarin.

The next presentation by the YS committee member Franck Saint-Marcoux, Limoges, was on Bayesian estimates as helpful pharmacokinetic tools in TDM. He presented a web-based facility for dose-adjustment in TDM which is available to clinicians and laboratories for initial dosage estimates based on clinical pharmacokinetic data. Using the recommended dosage, almost three quarters of patients treated with mycophenolate mofetil had AUCs within the target range, even after a single recommendation, underlining the relevance of such tools.

The two final presentations addressed the issue of new designer drugs and were given by YS committee members Susie Davies and Jenny Button. Susie gave an overview on novel designer drugs trends seen in the UK. She described the characterization of new designer drugs found in drug amnesty bins from dance venues and obtained from test purchases via the Internet. Her data showed that piperazines are still going strong in the UK and that new compounds such as the beta-keto-amphetamines are on the rise. In the following talk, Jenny presented a series of case examples of intoxications with new designer drugs. She focused on symptoms observed in these cases and also provided information on the pharmacology and toxicology of the new drugs, as far as they are known. With 36 attendees, the YS workshop was one of the best attended of the whole meeting.

The YS were also very active during the rest of the meeting contributing over 30 oral and numerous poster presentations. Sixteen and nine YS entered their work in the competition for IATDMCT YS prizes for best oral presentation and best poster, respectively, which were awarded for the first time at the Montreal meeting. Owing to the very high quality of these entries the YS committee members acting as the jury for these prizes had a very hard time in selecting the winners. The YS prize for best oral presentation went to Flora Musuamba for her presentation on "Development and validation of multiple linear regression formulas and a Bayesian estimator for mycophenolic acid long term therapeutic drug monitoring" and the YS prize for best poster went to Isabelle Delattre for her poster on "Empirical Models for Dosage Optimization of Four beta-Lactams in Critically Ill Septic Patients Based on Therapeutic Drug Monitoring of Amikacin". Both awardees were from the Université Catholique de Louvain. Since the decision had been very close the YS committee was happy to hear that two of the runners up in the YS competition won awards for best oral presentation of the meeting: Kristof Maudens from Ghent, Belgium, in Clinical Toxicology and Mohammed Al-Ghoul from Louisville, Kentucky, in TDM.

Last but not least, Theresa Gray and David Schwope from Marilyn Huestis' group informed Frank Peters about their intention to propose the formation of a YS organization within the Society of Forensic Toxicologists (SOFT) and they discussed the YS experiences in IATDMCT and TIAFT. Meanwhile the proposal of a YS organization within SOFT has been approved by the SOFT board clearing the way for more YS activities in this society as well. Regarding the considerable overlap of persons and interests of the YS groups of TIAFT, IATDMCT and SOFT it is expected that future cooperation between these groups will promote YS interests and further spread the YS "disease" which will ultimately be beneficial for all three associations.