This issue of “Swiss Medical Informatics” is dedicated to e-learning. In the last few years, e-learning has been a buzzword. As often with buzzwords: they lack a clear definition. As a consequence many misunderstandings occur. Personally, I prefer a broad definition for e-learning that encompasses every form of learning that is supported by electronic media. A more restrictive definition does not help to refine the term since electronic media allow supporting learning in many different ways. There are still a lot of new applications to come. It is probably better to distinguish the different facets of e-learning, which can be described with e-content, e-training, e-collaboration, e-communication, e-assessment and e-administration. In medicine, we predominantly find content and training centred e-learning. The articles in this issue of “Swiss Medical Informatics” confirm this. Only one article out of seven deals with e-administration. It is no surprise that in half of the articles images play a major role. Medicine is an image rich science and the multimedia capabilities of modern computers ask for images or other media. Nevertheless, approaches in presenting the images and in integrating them into the curriculum vary widely. While in the articles of Basel, Berne and Geneva the collection and presentation of (predominantly microscopic) images are of central importance, in the article by Bonvin from the University of Lausanne the emphasis is put on the setting in which the students interact with these images. It is a wonderful example of how the integration of IT into a reorganized microscopy course can lead to an enhanced learning experience for medical students. The importance of “blending” e-learning with so-called traditional methods is once more demonstrated.

At the University of Basel, Glatz has together with her husband developed the image database PathoPic. This image database is the backbone to a variety of presentation formats. It contains more than 8’000 images mostly from microscopic pathology. Their pathology course is used not only in Basel, but also by other universities in Germany and Switzerland. Because of its open architecture, the system is also used by non-medical institutions such as schools.

The virtual microscope, as described by Wohlwend from the University of Geneva and also by Glatz, is a fascinating innovation which totally replaces a traditional technology. This technology is of great value for tele-diagnostic purposes. But it remains to be verified whether dynamically generated images from virtual microscopes foster better learning and understanding of histology among medical students. Research in learning anatomy with dynamic 3D-models on computer monitors has led to unexpected results. Several studies showed that especially students with poor spatial ability learn less well with these dynamic models than with static 2D-images, while good students learn equally well with both methods. Additionally, after a short period key views suffice for good students.

At the University of Berne, Woermann concentrates on microscopic and other sorts of images as well as on media in general, e.g. heart sounds. The goal of his project is to enrich the curriculum with a growing collection of medical media, which are all presented in a uniform user interface and offer a variety of interactions. It is the goal of the project that in the end users can rearrange all media according to their needs and interests. A system like this asks for consistent metadata.

Zand from the University Hospital of Geneva describes a learning content management system. It is based on the Open Source software BolinOS. The system is used by a great number of people and institutions in the hospital. They all contribute to a growing amount of learning resources. Since BolinOS is Open Source, one can add new features in the form of plug-ins. The list of plug-ins and consequently the list of features have become quite long since the start in 2001. Zand et al. does not hide that not everyone welcomes their system despite its great and wonderful features.

In medicine, patient simulations belong to the much-appraised forms of e-learning. Their great advantage is that learners may make mistakes without harming anybody. Computer patient simulations can vary from simple question and answer cases to highly interactive and
dynamic clinical scenarios. Loroch presents in his article the Virtual Internet Patient Simulator VIPS, a private initiative by M-A Raetzo and himself. This patient simulation is unique with respect to its solution of how to ask questions without presenting the user already formulated questions. Loroch also stresses the importance of integrating e-learning in a setting to be successful. “Blended Learning”, the combination of traditional learning and teaching methods with e-learning, is not just a buzzword.

The article of Schnellmann from the University of Zürich focuses more on the administrative side of e-learning. The Swiss Education and Research Network SWITCH runs the federated identity management system, the so-called AAI (Authentication Authorisation Infrastructure). This system allows registered users to access all programs with one single logon. It thus restricts access to e-learning resources to legitimated persons only. In Zürich, they succeeded to integrate the university hospital staff involved in teaching into this system.

As these articles show, e-learning has many sides and can have many forms. As the prerequisites for successful e-learning such as blending with traditional methods are increasingly applied, e-learning is more and more recognised as a valuable and important enrichment of the educational curriculum. Nevertheless, we still need to research the best ways of using and profiting from IT in the learning process [4] as well as to define the additional value of e-learning.

References