

## Morphology on the cloud - Virtual Campus, an integrated didactic platform for biomedical studies

Giuseppe Anastasi<sup>1</sup>, Demetrio Milardi<sup>1</sup>, Angelo Favalaro<sup>1</sup>, Giancarlo Ceresetti<sup>2</sup>, Simona Corso<sup>3</sup>, Antonio Esposito<sup>4</sup>, Nicoletta Gagliano<sup>5</sup>, Carla Martinelli<sup>6</sup>, Maurizio Vertemati<sup>7</sup>, Daniela Zarcone<sup>8</sup>, Paolo Govoni<sup>9</sup>, Antonio Zicca<sup>8</sup>, Sergio Castorina<sup>10</sup>, Raffaele de Caro<sup>11</sup>, Massimo De Felici<sup>12</sup>, Guido Macchiarelli<sup>13</sup>, Domenico Ribatti<sup>14</sup>, Chiarella Sforza<sup>15</sup>, Nadir M. Maraldi<sup>16</sup>, Carlo Tacchetti<sup>4</sup>

<sup>1</sup> Department of Biomedical and Dental Sciences and of Morphological and Functional Imaging, Anatomy section, University of Messina

<sup>2</sup> IT Unit, Edi.Erme, Milan

<sup>3</sup> Department of Oncology, University of Turin and Candiolo Cancer Institute - FPO, IRCCS

<sup>4</sup> Experimental Imaging Centre, IRCCS San Raffaele and University Vita-Salute San Raffaele, Milan

<sup>5</sup> Department of Biomedical Sciences for Health, Histology section, University of Milan

<sup>6</sup> Department of Health Sciences, Histology section, University of Milan

<sup>7</sup> "L. Sacco" Department of Biomedical and Clinical Sciences, University of Milan

<sup>8</sup> Department of Experimental Medicine, Anatomy section, University of Genoa

<sup>9</sup> Department of Biomedical, Biotechnological and Translational Sciences (S.Bi.Bi.T), University of Parma

<sup>10</sup> Department of Biomedical and Biotechnological Sciences, Anatomy section, University of Catania

<sup>11</sup> Department of Neuroscience, Anatomy section, University of Padua

<sup>12</sup> Department of Biomedicine and Prevention, Histology section, University of Rome 2

<sup>13</sup> Department of Health Sciences, Anatomy section, University of L'Aquila

<sup>14</sup> Department of Basic Medical Sciences, Neurosciences and Sense Organs, Anatomy section, University of Bari

<sup>15</sup> Department of Biomedical Sciences for Health, Anatomy section, University of Milan

<sup>16</sup> Laboratory of Musculoskeletal Cell Biology, IOR-IRCCS, and University of Bologna

The current Core Curricula of Degree courses in Biomedical areas has enormously compressed the hours dedicated to the student for self-learning in morphological subjects. The result is a reduced student attitude to integrate the information received by attending lectures and practical sessions, with the indispensable consultation of texts dealing with morphological and 'functional' subjects, a key experience to autonomously logically identify the rational of the morphology/function relationship in the human body, at the macroscopic and microscopic level.

These changes are occurring at a time when new medical imaging technologies become more and more informative in both morphological and functional areas.

As a consequence, we are modifying our way of organize lessons compared to the generations of colleagues who have preceded us. More and more frontal lessons are organized with a logical morpho-functional approach. For example, the reference to the anatomy of the living, displayed through invasive or not invasive imaging, is added to the necessary and traditional anatomy of the cadaver. The reference to the pathology helps to define how the alteration of morphological integrity is reflected on function, both at the macro and microscopic level, and so on.

However, there are no organized easy-to-use guided tours for the student to allow, in the shortest possible time, to 'rationally see' what he has studied, in the various imaging contexts available at the macro- and microscopic level. At the same time, there are no 'data bank' of resources for the preparation of the lessons.

That is why we have imagined 'virtual campus' an integrated digital learning platform for self-learning. The platform has been thought and realized thanks to a group of teachers of 'morphologic' and 'functional' biomedical subjects and computer engineers belonging to a publishing house.

The presentation will explain the rationale behind the platform, its structure and the educational opportunities offered.