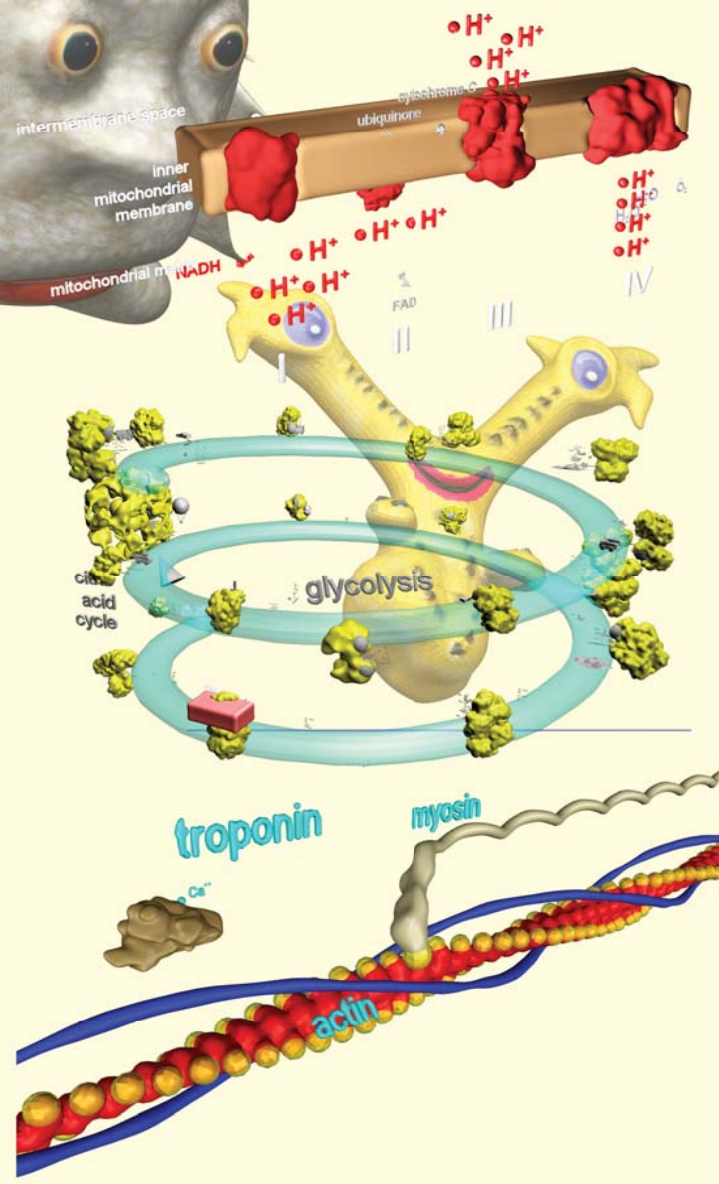
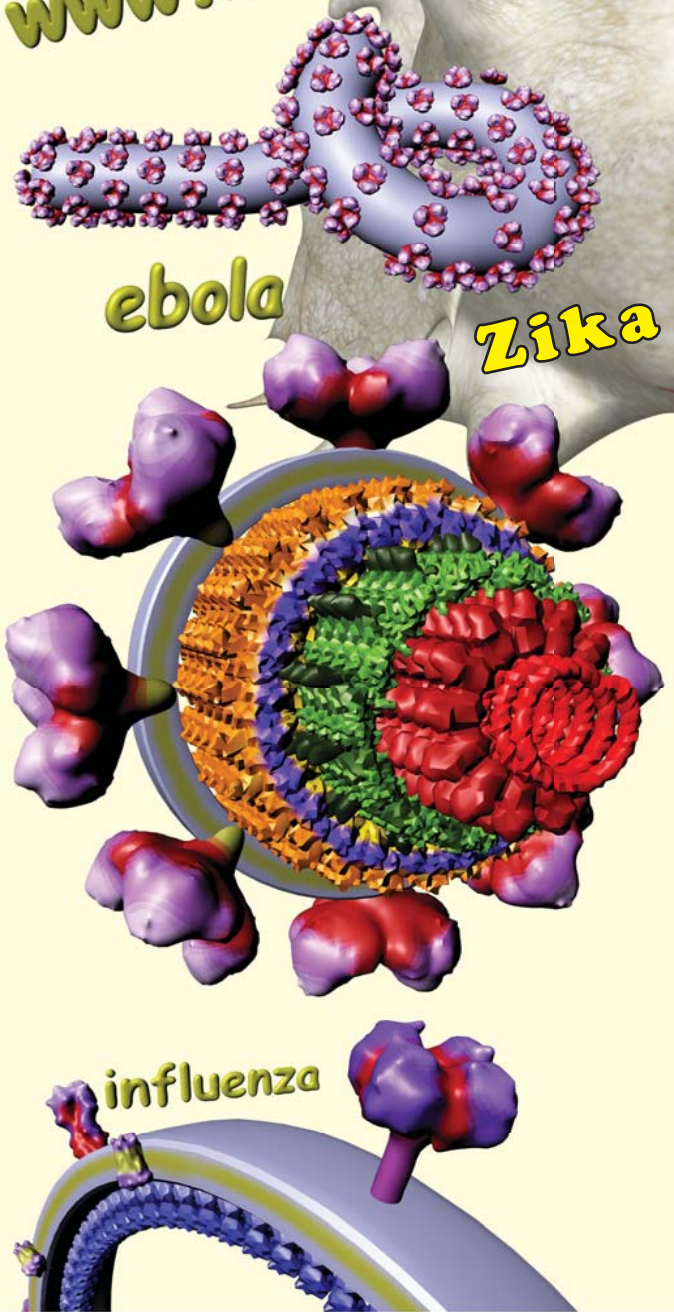


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Tablets are optimal for education in virtual reality.

BioAnim Educational Apps for Tablets and Mobiles



Contents of the Bioanim Package

Human Eye General Structure shows you the main anatomical features of the human eye. *Eye optics - distance adaptation and spectacles*. In this virtual reality (VR) scene you can apply a “contact lens” in front of the eye. With sliders you change the lens focus distance, the object distance and the eye shape. So you learn how near- and far- sightedness can be corrected for. *Retina structure* shows in interactive 3D the pigment cell layer, rods and cones sensory cells and the nerve cells like the horizontal, bipolar, amacrine and ganglion cells. The VR world about retina - rods and cones shows the ultrastructure of the eye sensory cells. *Mechanism of eye sensory cell excitation* provides the description in the virtual reality of the biochemical processes taking place on the cell membrane involving rhodopsin, sodium channels etc. *Colour Vision* VR scene illustrates how the colour is coded in the eye receptor cells.

Ear Structure is described in five VR scenes as: Structure and function of the *organ of Corti*, where the sound is coded into the electrical excitation. *Frequency Coding* (description and the edutainment game). *Semicircular channels* is a VR scene about the sense for equilibrium.

Sense of *taste and smell* is described in four VR scenes, showing olfactory membrane structure and a detailed taste bud structure.

Skin structure (skin layers and sensory structures shows in a VR scene the important organs and tissues, for example the mechanoreceptor named the Pacinian corpuscle.

Muscle spindle with its static and dynamic responses explained.

Golgi tendon organ - a mechanoreceptor in the muscle tendon.

Muscle Contraction Overview - two VR scenes lead us from muscle to the sarcomere structure. Myosin bundle, sliding filaments and actin-myosin interaction are three VR scenes illustrating molecular basis of the muscle contraction. Sarcoplasmic reticulum function VR scene shows how the electrical stimulus is translated into biochemically based excitation leading to the sliding of the muscle filaments. Kinesin and Dynein are explained in two VR scenes showing these two motor proteins that “walk” on the microtubules.

The cell tour has three VR scenes describing the most important features of the animal, plant and prokaryotic (bacterial) cell structure.

Photosynthesis. We dive here into the plant leaf, learning about its structure and the places where the photosynthesis occurs. The VR scene about chlorophylls and light catching shows how photons get trapped in a sequence of pigments. Calvin cycle are two VR scenes describing the “dark” biochemical reactions of the photosynthesis.

Glycolysis, citric acid cycle (Krebs cycle) and respiration chain are three scenes that lead us in the virtual reality through the complex sequences of enzymes working in one of the most basic biochemical processes in the cell.

ATP pump and bacterial Flagellum structure. These VR scenes are about the structure and function of the two related molecular motors embedded in the cell membrane.

Bio Virus Structure in 3D Virtual Reality - Have you tried yourself to assemble the coat of the Ebola virus? I have and you can enjoy my results in the interactive 3D virtual reality here! In addition to the ebola virus, you can explore also the structure of the HIV (HIV=human immunodeficiency virus) virus, influenza virus, adenovirus, morbillivirus (=measles), Zika virus and bacteriophage - the strange but very important virus that infects only the bacterial cells and has played a very important role in the genetics (as well as the adenovirus).

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About us

We (Bioanim, <http://www.bioanim.com>) create educational and scientific virtual reality software projects about the structure and function of the cell, tissue, human body and other topics from the field of biology or medicine. We develop products helping to learn about those topics that are hard to understand from the textbooks or videos only. We started to participate in EU projects in 1999 and have been since involved in FP5, FP6, FP7 and other types of EU projects. Our company Amnim PIC number is 990486013. In the last time we are especially proud of our virtual reality apps for iPad and Android devices - try our ear project which you can download for free from <http://www.bioanim.com> ! We are also intensively engaged in managing new ways of food and energy production and establishing the educational bridges between Europe and Asia (www.fonsr.org).

Some of Bioanim Projects

1986-1996 Design and programming of the Neuro Event Manager – a computer program for the analysis of the electrophysiological data (1MB source code, more than 200 batch commands).

1996-97 Multimedial software package “Electrical phenomena in the living cell” supported by Ministry of Education of Slovenia and acknowledged as an official educational tool in slovene schools.

1998 Sense organs – educational software package. Supported by Ministry of Education of Slovenia and acknowledged as an official educational tool in slovene schools.

1999 Systems of Organs I. and Cell-Tissue-Human Body. Both Educational software packages were supported by Ministry of Education of Slovenia and acknowledged as an official educational tool in slovene schools.

1999 Tomaz Amon joins the IST project Web-based Standard Educational Tools(WebSET, IST-1999-10632)as a member of the UMA (SME company) team. WebSET project develops advanced Web-based technologies to implement innovative cost-effective learning tools that can be run on any workstation platform including a standard PC of average capacity.

2000 The software package “Cell-Tissue-Human Body” has been selected for inclusion in the Awesome Library, a collection of the top 5% of sites in the field of K-12 education.

2002 Bioanim becomes a partner in the IST project (IST-2001-34204) named School LABORatory anticipating FUTURE needs of European Youth (LAB@FUTURE). LAB@FUTURE experiments Social Constructivism, in combination and dialogue with activity theory, focusing on expansive learning, within a mixed and augmented realities set-up.

2002 Bioanim becomes a partner in the Socrates - Minerva project named “LearningFolders (LeFo)” - open source online educational publishing and support for primary schools. (Minerva 100152-CP-1-2002-1-EE-MINERVA-M).

2003 Tomaz Amon becomes a member in the research group LMSE - Laboratory of Microsensor Structures and Electronics, Faculty of Electrical Engineering, University of Ljubljana.

2004 Bioanim becomes a partner in the Socrates - Minerva project Radiation Games in Virtual Reality (116947-CP-1-2004-1-SI-MINERVA-M).

2005 Bioanim becomes a partner in the IST project Cinema and Science (CIS-CI) 6th Framework, Contract.Nr.FP6-511114.

2005 Bioanim becomes a partner in the project Improving Nascent Skills to Produce Interactive Resources for Education (INSPIRE), Leonardo da Vinci Community No. 2005 -UK/05/B/F/PP-162_305.

2006 The Silk Route Agreement established with Bioanim as one of its partners. www.fonsr.org

2008 Bioanim becomes a partner in the project Scenario Development for Lifelong Learning in 3D multi-user environments (LLL3D, Project No. 135450-LLP-1-2007-1-DE-KA3-KA3MP).

2009 Bioanim becomes partner in the Slovene project “e-content for the continuous development in Slovenia” .

2009 Bioanim becomes partner in the TErenCe—An Adaptive Learning System for Reasoning about Stories with Poor Comprehenders and their Educators. Collaborative project. FP7-ICT-2009-5, project number: 257410.

2014 Bioanim becomes partner in the TEMPUS project: Establishment of Innovative Multidisciplinary Centres for the Development of Virtual Laboratories in Biology and Medicine (EMICVL - Start date – December 1st 2013. Proj. No.: 54428-TEMPUS-1-2013-1-UK-TEMPUS-JPCR).

2017 Bioanim becomes partner in the ERASMUS project: WOMEN POWER CODE. Proj.No.: 2017-1-UK01-KA204-036557