Dr. Sofia Kyratzi

Lecturer / Researcher
Department of Product and System Design Engineering
University of the Aegean

1. Personal

Full Name:	Sofia Kyratzi
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2. Research Interests

Geometric Modeling, Solid Modeling, Computational Geometry, 3D Reconstruction from a single sketch (polyhedron's projection), Sketch Realizability, Computer Graphics, Computer Aided Design (CAD), 3D Parametric Modeling, Human Computer Interaction for CAD systems, Computer Aided Sketching.

3. Education

2002 – 2007 ***PhD – Department of Product and Systems Design Engineering, University of the Aegean.***

Phd Thesis: "Industrial-Product Concept Development: Geometric and Information Models for Interactive Design".

Research Topics: CAD, Geometric Modeling, Computer Graphics, Solid Modeling, Sketch Interpretation, Realizability of a Sketch.

2000 – 2002 ***Msc in Medical Informatics,***

Medical Department, Aristotle University of Thessaloniki.

Msc Thesis: "An Integrated Tele – Echography System: An Environment for presentation and processing DICOM images."

Research Topic: Human Computer Interaction, Image Processing, Medical Images.

1995 – 2000 ***Bsc in Mathematics, Department of Mathematics, Aristotle University of Thessaloniki.***

4. Research Experience

September 2001 – October 2002 ***Informatics and Telematics Institute, Center for Research and Technology, Hellas.***

- Research Project: OTELO (IST-2001-32516, mObile Tele-Echography using an ultra-Light rObot).
  Research Topics: Image Processing, Design and Development of Graphical User Interface, Medical Images.

November 2002 – today ***University of the Aegean – Department of Product and Systems Design Engineering.***

- EUREKA SPSF: "A Virtual Reality Environment for Furniture Presentation".
- F-JEWEL: Parametric CAD system for the reconstruction of traditional jewels".
- Functional specifications of a computer-aided design system for garments (S.C. Prof. N. Sapidis).
- Design and Prototyping of industrial products (S.C. Prof. N. Sapidis).

5. Academic Experience

February 2006 – today ***Instructor – Department of Product and Systems Design Engineering, University of the Aegean***.

Undergraduate Courses: Introduction to Computer Aided Design, Engineering Drawing, Multimedia Design and Technology, Computer Aided Design, Computer Graphics.

Postgraduate Courses: Introduction to Computer Aided Design, Computer Based Design and Analysis.

November 2002 – January 2006 ***Instructor under the Scholarship Program "Iraklitos: Research Scholarships in the University of the Aegean"***.

Undergraduate Courses: Product and Systems Development Methods, Computer Graphics, Introduction to Computer Aided Design.

Postgraduate Courses: Computer based Design.

November 2002 – January 2004 ***Instructor – Department of Product and Systems Design Engineering, University of the Aegean.***

Undergraduate Courses: Product and Systems Development Methods, Introduction to Computer Aided Design.

6. Research Publications

Publications in International peer-reviewed Scientific Journals

(J1) Improved computational tools for concept development based on sketches and advanced CAD, N. Sapidis, S. Kyratzi and P. Azariadis, *Computer-Aided Design and Applications, 2(6), pp. 707-716*, 2005.

(J2) Extracting a Polyhedron from a Single-View Sketch: Topological Construction of a Wireframe Sketch with Minimal Hidden Elements, S. Kyratzi, N. Sapidis, *Computers & Graphics, 33(3), pp. 270-279, 2009*.

(J3) From Sketch to Solid: An Algebraic Cross-Section Criterion for the Realizability of a Wireframe Sketch, S. Kyratzi, N. Sapidis, *Computing, 86(2-3), pp. 219-234, 2009*.

(J4) 3D Object Modeling using Sketches, S. Kyratzi, N. Sapidis, *Information Resources Management Journal (IRMJ), 24(4), pp. 27-49*, 2011.

(J5) Realizability of a Sketch: An Algorithmic Implementation of the Cross-Section

Criterion, S. Kyratzi, P. Azariadis, N.S. Sapidis, *Computer Aided Design and Applications, 8(5), pp. 665-679*, 2011.

Publications in International peer-reviewed Scientific Conferences

(C1) The Dicom Viewer for the Otelo Tele-Echography System, Ch. Collyda, S. Kyratzi, G. Triantafyllidis, N. Boulgouris and M. G. Strintzis, *in Proc 6th World Multiconferece on Systemics, Cybernetics and Informatics (SCI 2002), Orlando, USA, 2002*.

(C2) A Virtual Reality Environment Supporting the Design and Evaluation of Interior Spaces, S. Vosinakis, P. Azariadis, N. Sapidis, S. Kyratzi**,** *4th INTUITION International Conference and Workshop on Virtual Reality and Virtual Environments, 4-5 October 2007, Athens*.

(C3) An Interactive Sketching Method for 3D Object Modeling, S. Kyratzi, N. Sapidis, *3rd ACM International Conference on Digital Interactive Media in Entertainment and Arts (DIMEA 2008), Athens, Greece, 10-12 September 2008, pp. 335-342, ACM Press*.

Publications in Greek peer-reviewed Conferences

(GC1) Προκαταρκτικός Σχεδιασμός Βιομηχανικού Προϊόντος με Υπολογιστή: Νέες Στρατηγικές Έρευνας και Μέθοδοι στην Αυτόματη Κατασκευή Τρισδιάστατου Στερεού από Σκίτσο. Σ. Κυρατζή, Ν. Σαπίδης, 3ο *Συνέδριο Βιομηχανίας «Ελληνική Βιομηχανία: Προς την Οικονομία της Γνώσης», ΤΕΕ, Ιούλιος 2006, Αθήνα.*

7. Refereeing

Int. Research Journals	Computer Aided Design, International Journal of Computer Mathematics, 3D Research
Int. Research Conferences	Computer Graphics International 2010 (CGI'10), International Conference on Computer Graphics, Visualization and Computer Vision'2011 (WSCG'11)

8. Citations

Cited Publication		**(J1) Improved computational tools for concept development based on sketches and advanced CAD,** N. Sapidis, S. Kyratzi and P. Azariadis, *Computer-Aided Design and Applications*, *2(6), pp. 707-716*, 2005**.**		
No. Citations		**3**		
Rec	Authors	Title	Published in	Year
1.	S Roth-Koch	Creative Shape Interpretation in Paper Scribbles.	3rd International Conference on Geometric Modeling and Imaging (GMAI).	2008
2.	S Roth-Koch & E. Westkaemper	The implementation of a sketch-based virtual product development.	Production Engineering, 4 (2-3), pp. 175-183.	2010
3.	S Roth-Koch & E. Westkaemper	3-D shapes out of 2-D freehand sketches: Creative spatial interpretation of sketches.	Proc. of the 8th Int. Sym. on Tools and Methods of Competitive Engineering, (TMCE), pp. 609-620.	2010

Cited Publication		**(J2) Extracting a Polyhedron from a Single-View Sketch: Topological Construction of a Wireframe Sketch with Minimal Hidden Elements**, S. Kyratzi, N. Sapidis, *Computers & Graphics, 33(3), pp. 270-279, 2009***.***		
No. Citations		**3**		
Rec	Authors	Title	Published in	Year
4.	P.A.C. Varley	The Use of Neighbourhood Matching in Constructing Hidden Object Topology	Proc. of the World Congress on Engineering (WCE), Vol. 1, July 1-3, London, U.K.	2009
5.	P.A.C. Varley & P.P. Company	A new algorithm for finding faces in wireframes	Computer-Aided Design, 42 (4), pp. 279-309.	2010
6.	M. A. Fahiem & A. Shah	A Novel 3D Reconstruction Approach Based on Camera Perspectives	Journal of American Science, 6(7), pp. 342-352.	2010

Cited Publication		**(C2) A Virtual Reality Environment Supporting the Design and Evaluation of Interior Spaces,** S. Vosinakis, P. Azariadis, N. Sapidis, S. Kyratzi, *4th INTUITION International Conference and Workshop on Virtual Reality and Virtual Environments, 4-5 October 2007, Athens.*		
No. Citations		**1**		
Rec	Authors	Title	Published in	Year
7.	H. Bin Zainudin & K. Bin Md Isa.	The usability of 3D Interactive Navigation in Communicating Interior Space Lighting.	Conference on Research and Innovation in Information Systems (ICRIIS).	2011