

Obituary in memory of Slavik Jablan (1952–2015)

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After a long and brave battle with a serious illness, our dear friend and colleague Slavik Jablan has passed away on February 26, 2015. The world is deprived of a remarkable mathematician, a great artist, wonderful man and dear friend. He made significant contributions to many areas of mathematics: geometry, group theory, mathematical crystallography, the theory of symmetry, antisymmetry, colored symmetry, combinatorial geometry and knot theory, visual mathematics and mathematical art.

Slavik Jablan was born on June 10, 1952 in Sarajevo, in former Yugoslavia (now Bosnia and Herzegovina). He grew up in Sarajevo, Dubrovnik and Belgrade. He studied at the University of Belgrade and graduated in 1977 in theoretical mathematics from the Faculty of Mathematics, University of Belgrade, where also obtained his MA in 1981 and Ph.D. in 1984, with a thesis entitled *Theory of Simple and Multiple Antisymmetry in E^2 and $E^2 \setminus \{0\}$* . In 1985 and 1988, he pursued an advanced scientific program in colored symmetry at the University of Kishinev in the former USSR (now Chişinău, Republic of Moldova), Visiting scientific program, USA & Canada, 1990, Lectures at the University of Wisconsin (Madison, Department of Math)

and Indiana University (Bloomington, Department of Anthropology), Visiting scientific program Tsukuba University, Tsukuba, Science City, Japan, 1999, Fulbright Scholar, 2003-2004, USA, and many others.

Slavik Jablan started his career at the PTT School center and at the Pedagogical Academy for Teacher Training in Belgrade where he worked until 1984. He moved to the Faculty of Philosophy, Department of Mathematics at the University of Niš, where he was a professor of geometry until 1999. In that year he returned to Belgrade, to work at the College of Information and Communication Technology. Last ten years of his life professor Slavik Jablan was working part-time at the Belgrade Metropolitan University. Firstly, he taught math courses to the students of information technology. From 2006, at Department of Graphic design at the Belgrade Metropolitan University he introduced a new course named Visual mathematics, unique in this part of Europe. This course, designed by professor Jablan is conceived as a series of essays on the visualization of natural, mathematical, geometric and abstract structures. Starting from the premise that even the most abstract structures can be visualized and thus become understandable, this course combines knowledge in the field of computer graphics, mathematics, design and other disciplines of art and architecture and provides a precise basis for the design of visual representation.

During the years he worked as a researcher at the Mathematical Institute of the Serbian Academy of Science and Arts, where he was the Editor of the *VisMath* electronic journal (<http://www.mi.sanu.ac.rs/vismath>), and the Editor in Chief of *Symmetry* journal. He was a member of the *ISIS-Symmetry* Advisory Board (*The International Society for the Interdisciplinary Study of Symmetry*) as well as a member of many others math society.)

Slavik Jablan was a member of Editorial Board of *Mathematica Moravica* (<http://www.moravica.ftn.kg.ac.rs>). This journal was founded in hard time for Serbia during the nineties of the last century. A group of scientists who founded this mathematical journal had the idea to show to the world that science exists in Serbia outside of Belgrade. This group of founders were agree that professor Slavik Jablan will be the best choice for the position of Editor for classical geometry. Therefore, the first decisions on acceptance of a scientific papers for publishing in *Mathematica Moravica* from the field of classical geometry are signed by Slavik Jablan. Premature death of Slavik Jablan is a great loss for redaction. It can be said that passed away a man who was always ready to help with personal commitment and work or with advice on who can and more important who wants to contribute to the journal's quality to be as good as possible.

His scientific roots were in deriving and cataloguing groups of simple and multiple antisymmetry of based on an antisymmetry characteristic (abbreviated AC) method that he developed in his Ph.D. thesis. Using AC methods it was possible to derive and to distinguish different antisymmetry groups

based on its antisymmetry characteristic. He was also interested in enantiomorphism forms and chirality. He published more than 30 scientific papers on this topic as well as several monographs: *Theory of Symmetry and Ornament*, APXAIA, Belgrade, 1984 (in Serbo-Croatian); *Geometry in Pre-Scientific Period & Ornament Today*, Math. Inst., History of Math. and Mech. Sci., 3, Belgrade, 1989; *Theory of Symmetry and Ornament*, Math. Inst., Belgrade, 1995. <http://www.mi.sanu.ac.rs/jablans/mon.htm>); *Symmetry, Ornament and Modularity*, World Scientific, New York 2002.

In last 15 years Slavik Jablan was working in knot theory where he developed the *LinKnot* software and contributed with many significant scientific papers and a monograph, entitled *LinKnot - Knot theory by computer*, World Scientific, Singapore (2007) and webMathematica book *LinKnot* (<http://math.ict.edu.rs>). From the very beginning of his work in Knot theory, he had different approach to knots and his work was based on work with the families of knots and links. This has also opened the door of experimental mathematics on large sets of data, giving the possibility to propose hypotheses but also to check some.

Slavik Jablan was advisor on two PhD thesis: his first PhD student was Ljiljana Radović, and the second PhD student, Ana Zeković, defended her PhD theses on the same day when Slavik Jablan passed away.

Jablan was one of the most important researchers in visual mathematics. All his life he was trying to make a bridge between science and art. He was interested in the history of ornamental art and pattern analysis, modularity, visual perception, Celtic art, ornamental design, key-patterns, Roman mazes and labyrinths, Paleolithic ornaments, or op-art puzzles... His contribution to the symmetry approach of ornamental design by *SpaceTiles*, *KnotTiles*, and specially *OpTiles* based on modularity will be remembered by all. As a painter and Math-artist has more than 15 exhibitions and the award at the International Competition of Industrial Design and New Technology CEVISAMA '87 (Valencia, Spain) for *Two-Colored Ornamental Tilings* based on modularity, and *Mathematics and Design* (1998). The concept of visual geometry and visual mathematics, mostly based on the symmetry analysis of visual arts and ornamental, he presented at the conferences of ISIS-Symmetry, BRIDGES, Gathering for Gardner and many others as well as in the series of lectures all around the world-at the University of Wisconsin (Madison, Dept. Math.), Indiana University (Bloomington, Dept. Anthropology), Technische Universität (Vienna, Austria, Dept. Geometry), *Symmetry and Visual Perception* at Faculty of Philosophy (Belgrade, Dept. Experimental Psychology), *Symmetry and Visual Arts* at the National Museum (Belgrade), *Classification of Ornaments* at the Museum of Contemporary Art (Belgrade)...

His love and passion for ornamental art lasted all his life. He was invited to give contribution "*Classification of Ornaments*" for the catalog of the exhibition "*Memory update - Ornaments of Serbian Medieval Frescoes*", held

in Museum of Applied Arts, Belgrade, November 2013. - March 2014. In November 2014 he had his last exhibition, *Do you like Paleolithic ornamental art?* in the RTS Gallery in Belgrade.



Exhibition *Do You like Paleolithic op art*,
Galery of RTS Belgrade, November 2014.

In last two years of his life, in spite of his illness, he has done so much, published several significant papers in Knot theory, he was mentoring A. Zeković PhD, took part in 13th Serbian Mathematical Congress and Geometrical Seminars. In the period from 2013 - 2014 it was successfully realized Tempus project entitled: *Visuality & Mathematics: Experimental Education of Mathematics through Visual Arts Sciences and Playful Activities* in which professor Slavik Jablan with a group of renowned European mathematicians and artists from Belgium, Austria, Finland and Hungary and a group of renowned Serbian scientists from Mathematical Institute of the Serbian Academy of Sciences and Arts, University of Novi Sad and Belgrade Metropolitan University from Serbia was, on a unique way, combine mathematics with art, with the aim to introduce a new teaching methods in the educational institutions in Serbia in mathematics and natural science and make it more attractive to students.

Also, he had two exhibitions, last one in November 2014, at the RTS Gallery in Belgrade, which was followed by several lectures and workshops, working on Visual Mathematics book for World Scientific, which should be published this year. . . He had a mission of spreading mathematical ideas through art all around the world. We all were able to learn how to live and fight in spite of the problems. He will be remembered for his enthusiasm, vision, enormous creativity and his great mind always full of new ideas.

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