



Pobudite ljudsku
znatiželju. To je
dovoljno da se
otvore umovi, ne
preopterećujte ih.

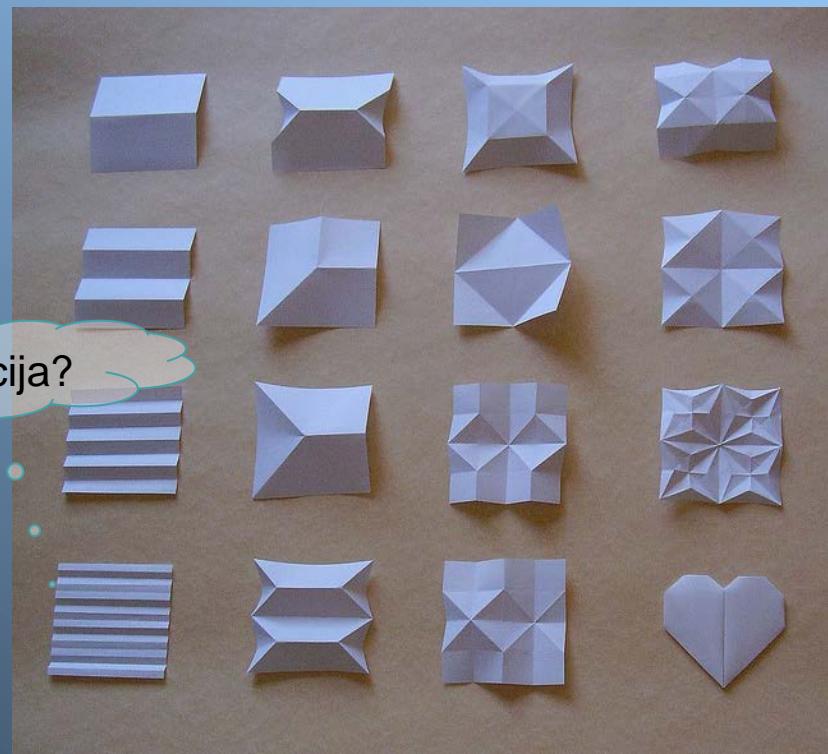
Ubacite im samo
iskru. Bude li u njima
dobrog goriva, vatra
će se uhvatiti.
Anatole France

VAŽNOST ORIGAMIJA

I NJEGOVA PRIMJENA U
OBRAZOVANJU

Sanja Srblijinović Čuček





Origami više nije dječja igra



ali će se tražiti
znanje origamija
od malih nogu.

ORIJENTACIJA



NABORA



ISPUPČENO

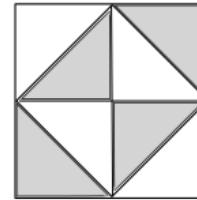
UDUBLJENO

IZRAVNATO

BAZA

- ima određeni broj vrhova
- sklopiva je
- može dati više modela
- može se matematički opisati

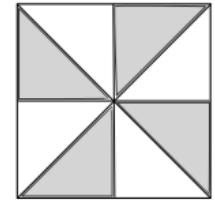
BAZA OMOTNIĆE



blintz base



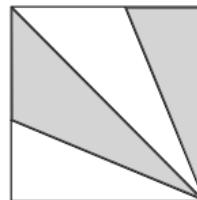
BAZA VODENJE BOMBE



waterbomb base

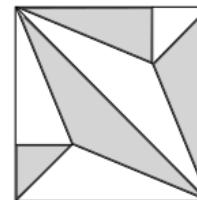


BAZA ZMAJA



kite base

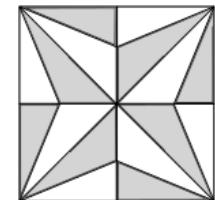
BAZA RIBE



fish base



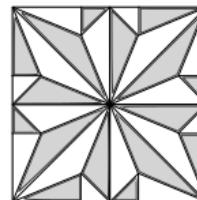
BAZA PTICE



bird base



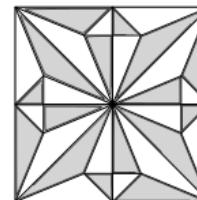
BAZA IRISA



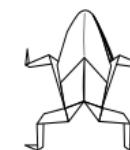
lily base



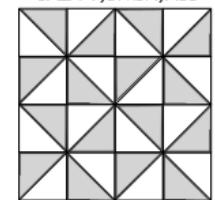
BAZA ŽABE



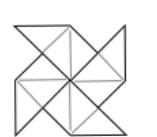
frog base

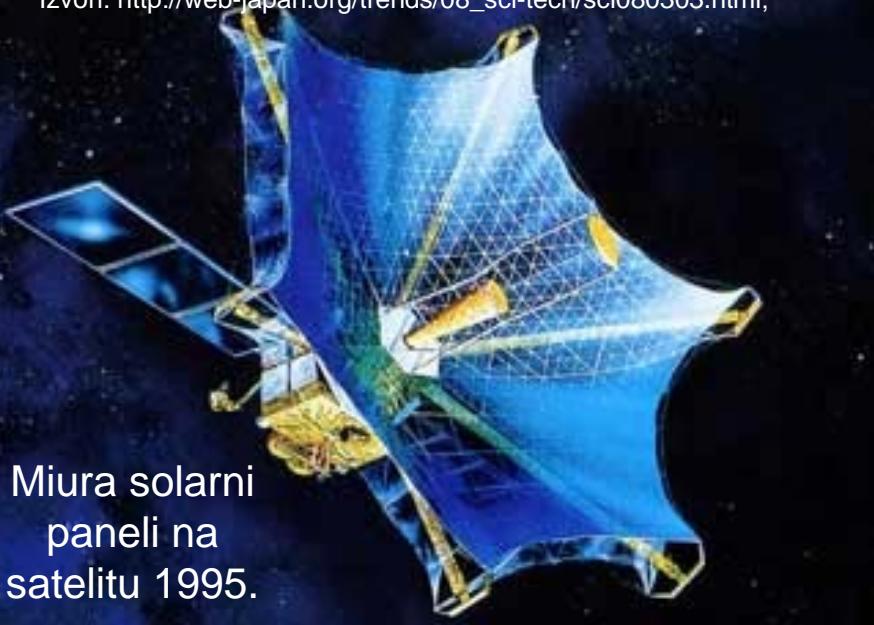


BAZA VJETRENIJAČE

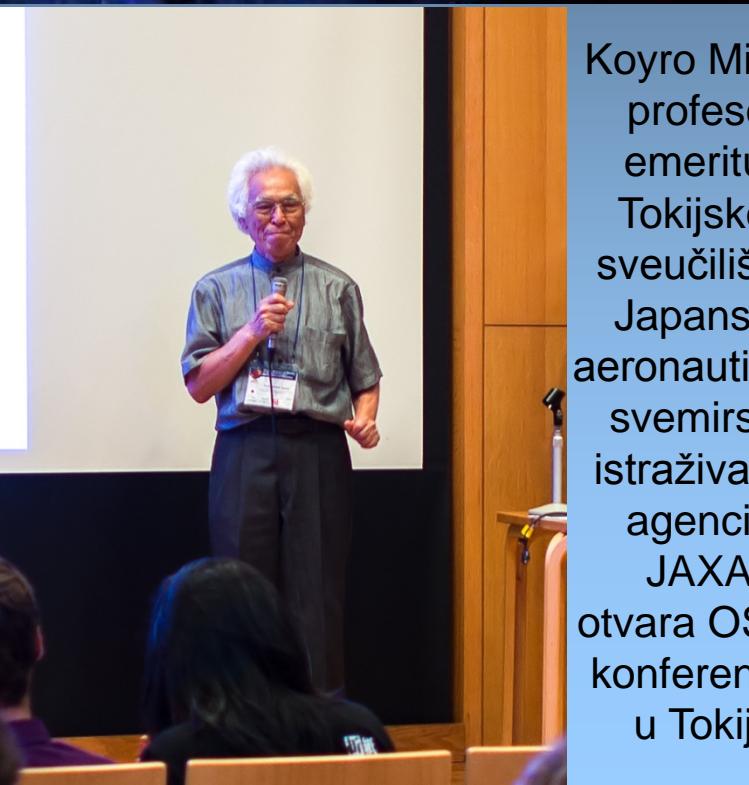


windmill base





Miura solarni paneli na satelitu 1995.



Koyro Miura,
profesor
emeritus
Tokijskog
sveučilišta i
Japanske
aeronautičke i
svemirske
istraživačke
agencije
JAXA,
otvara OSME
konferenciju
u Tokiju

Metamaterijali — materijali čija je funkcija određena strukturom, ne sastavom — dizajnirani su da lome svjetlo i zvuk, čak priguše seizmičke valove od potresa.

| www.overvelde.com/research/origami-inspired-metamaterial-3-2/

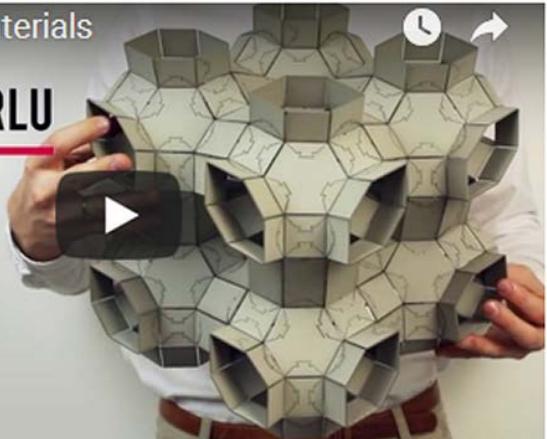
Harvard, SEAS 2017.

Soft Robotic Matter @AMOLF Research Team

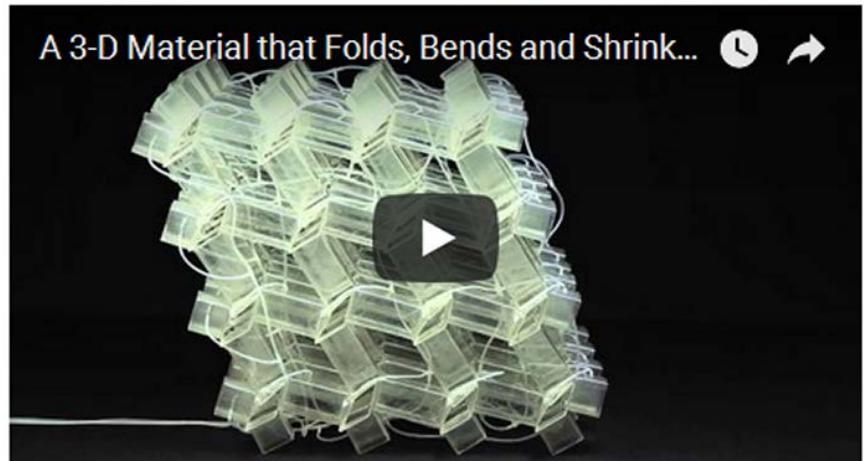
Reconfigurable Materials

HECODVWJHQRLU
C QJUH YABS

Harvard, Škola za
inženjerstvo i
primijenjene
znanosti John A.
Paulson (SEAS)



A 3-D Material that Folds, Bends and Shrink...



Reconfigurable
centralized
encapsulated
applications
both functional
While it
introduces
stiffness
consistency
periodic
analytical
has the
numerical
metamaterials
arbitrary
reconfiguration
Publications
Overview
Rational
Nature
Volkskrift
Babaee
K., (201
Advanced
Quantum



Akira Yoshizawa
Autoportret

Yoshizawa Akira 1911. – 2005.

Moje origami kreacije, u skladu sa zakonima prirode, zahtijevaju korištenje geometrije, znanosti i fizike. One također uključuju religiju, filozofiju i biokemiju. U prvom redu, želim da otkrijete radost kreiranja vlastitom rukom ... mogućnost kreiranja iz papira je neograničena. A. Y.

Fridrich Froebel je pred dvjestotinjak godina uveo savijanje papira u dječje vrtiće. Akira Yoshizawa je savijanje papira doveo do lijepo umjetnosti.

U mladosti, kao tvornički crtač poučavao je radnike osnovima matematike i mehanike koristeći presavijanje papira.

Osmislio je simbologiju i dijagramiranje origami modela, tj. prikazivanja koraka savijanja od ravne površine do gotovog modela.

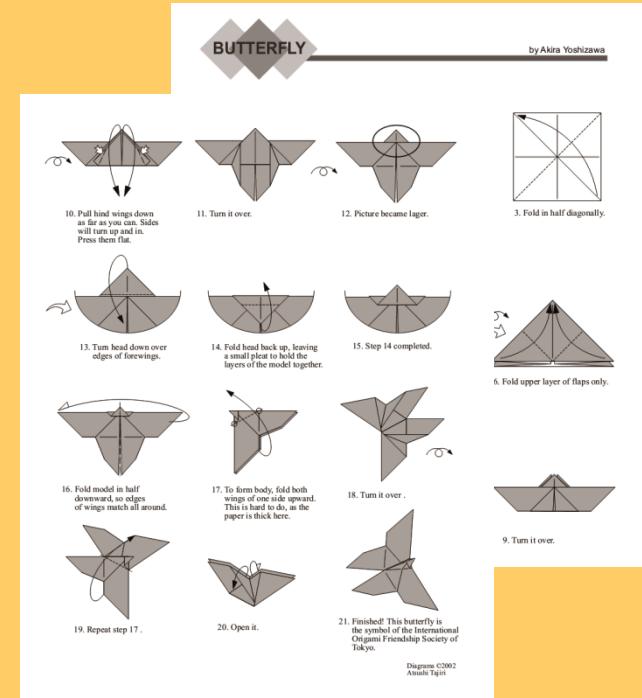
Izvori:

http://www.azquotes.com/author/75997-Akira_Yoshizawa

https://www.flickr.com/photos/de_buurman/5676776075/

<http://sanja-origamiart.blogspot.hr/2012/04/akira-yoshizawa-robert-j-lang-google.html>

<http://blog.sanriotown.com/gigistone:hellokitty.com/files/2007/12/butterfly-yoshizawa.pdf>





Yoshizawa Sensei

Uzdigao je origami od tradicionalnog umijeća do lijepе umjetnosti i dao kreativni impuls vrtoglavom mnoštvu otkrića i kreacija u papiru u zadnjih 60 godina, širom svijeta

Do 1989. kreirao 50 000 originalnih origami modela, a tek nekoliko stotina objavio u svojih 18 knjiga.

Inspirirao Google Doodle 2012. na svoj 101. rođendan - dan Ludolfovog broja 3.14

RATOVI BUBA – natjecanje u matematici



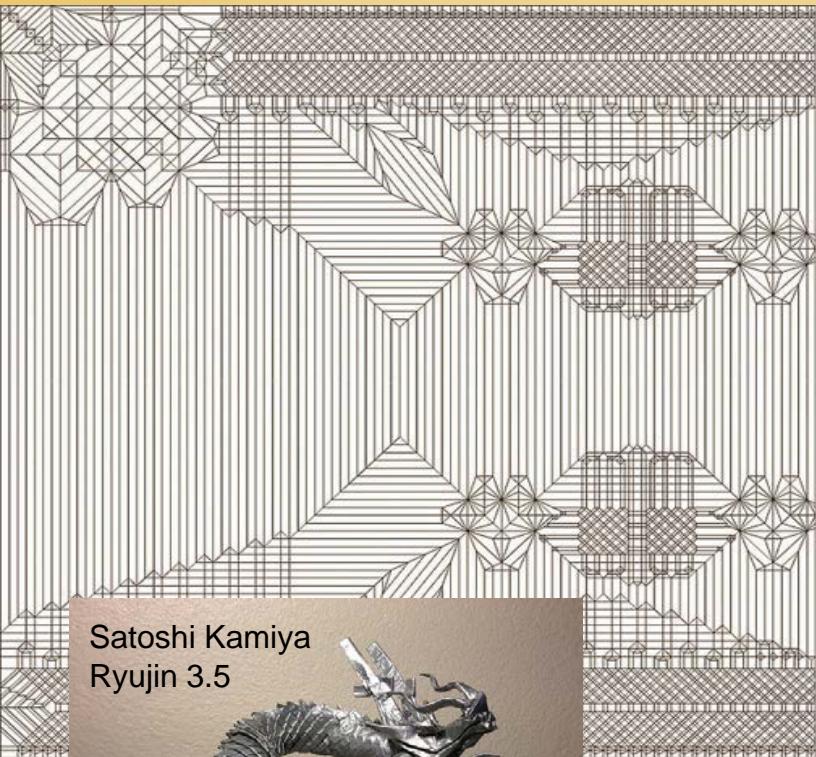
Članovi Tanteidana (*origami detektivi*) pokrenuli su 1990-tih mjesечно natjecanje u kreiranju kompleksnih buba, popularno nazvani Ratovi buba (Bug Wars). Revolucija je ležala u matematici. Do tada nije bilo poznato kako je moguće složiti kompleksni model s mnogo tankih izdanaka (nogu, krila, ticala i sl) bez rezanja, od jednog lista papira, bez rezanja i lijepljenja.

**Tanteidan je magazin
Japanskog akademskog
origami društva JOAS**

Izvori: https://en.wikipedia.org/wiki/Japanese_rhinoceros_beetle;
https://en.wikipedia.org/wiki/Hercules_beetle; origami.gr.jp/index-e.html;
<http://www.newyorker.com/magazine/2007/02/19/the-origami-lab>;

Tajni sastojak superkompleksnog origamija

— m a t e m a t i k a



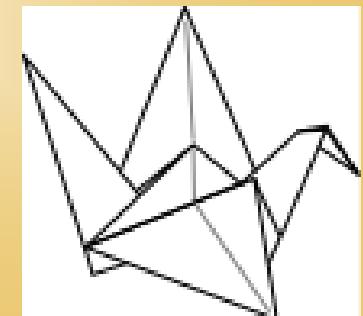
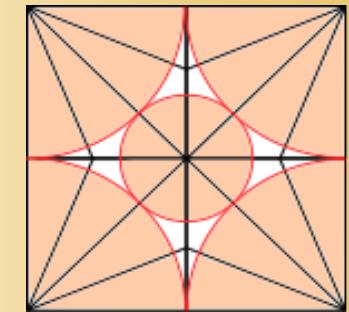
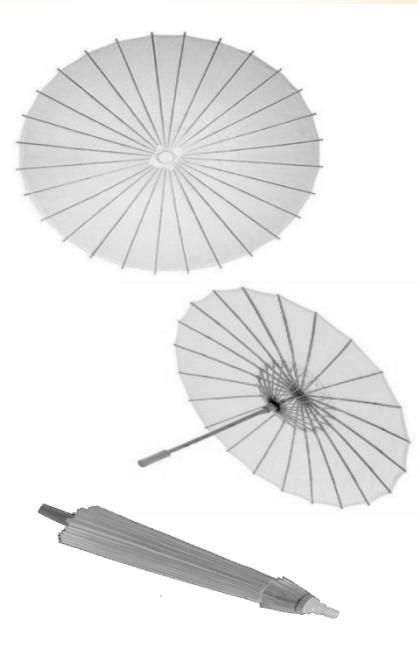
stick figure štapićasta figura

Prikazuje broj potrebnih vrhova za gotovi model. Koristi se u dizajniranju origami modela. Opisao Robert Lang u knjizi Origami Design Secrets.



circle packing pakiranje krugova

Sklopljeni krug postaje vrh, tj. krak štapićaste figure.





Archimedean Solids, like the Platonic ones, consist of regular polygons meeting at each vertex. However the faces are multiple different regular polygons, some of which are reflections of each other.

Truncated Tetrahedron Cuboctahedron Truncated Hexahedron

Truncated Cuboctahedron Snub Cube Icosidodecahedron

Jo Nakashima - YouTube video kako dijagramirati u Inkscapeu

#1

Volim ori-
matematičke
izazove!

RAČUNALNI PROGRAMI ZA ORIGAMI DIZAJN:

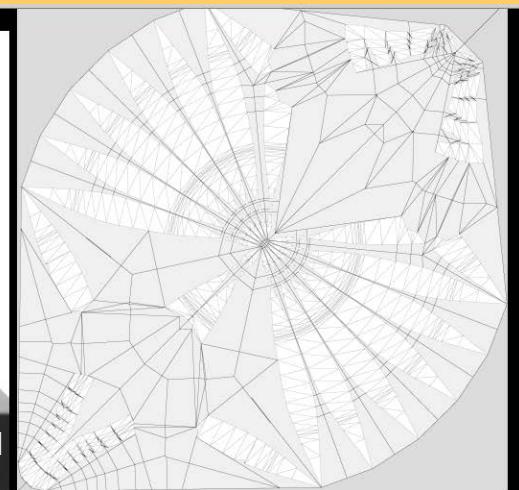
Robert Lang: TreeMaker <http://www.langorigami.com/article/treemaker>

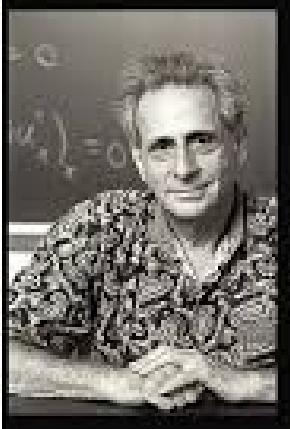
Tomohiro Tachi: Freeform Origami, Origamizer, Rigid Origami Simulator
<http://origami.c.u-tokyo.ac.jp/~tachi/software/>



T.Tachi 2006.

Title 3D Teapot
Date(creation) 2006.02
Creator Tomohiro TACHI





Američki matematičar i fizičar

Origami helps in the study of mathematics and science in many ways.... Using origami anyone can become a scientific experimenter with no fuss.

(Martin David Kruskal)

izquotes.com

inhabitat.com/fantastic-aluminum-origami-kiosks-pop-up-in-london/make-recycled-aluminum-origami-kiosks-london-3

Firefox has prevented the outdated plugin "Adobe Flash" from running on http://inhabitat.com.

inhabitat

NEWS

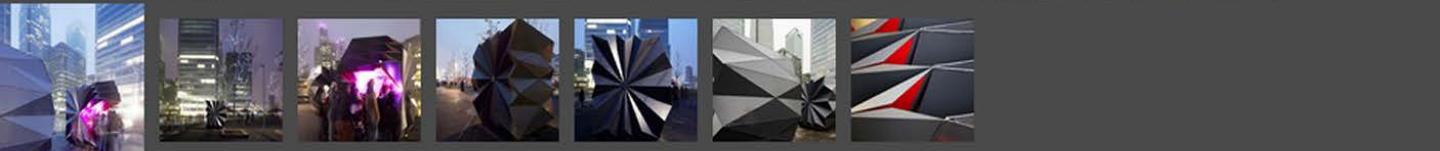
ENVIRONMENT

ARCHITECTURE

DESIGN

INNOVATION

KIDS



foldit BETA 09:16:04 GMT

PUZZLES BLOG CATEGORIES FEEDBACK GROUPS FORUM

GET STARTED: DC Win Beta Windows (Vista/8)

Are yo

Are yo

SEARCH Google

mozak brainbuilder

Reconstruct a neuron each day play Mozak

What's New

Developer Preview Release Soon

Energy Brands, Register NOW!

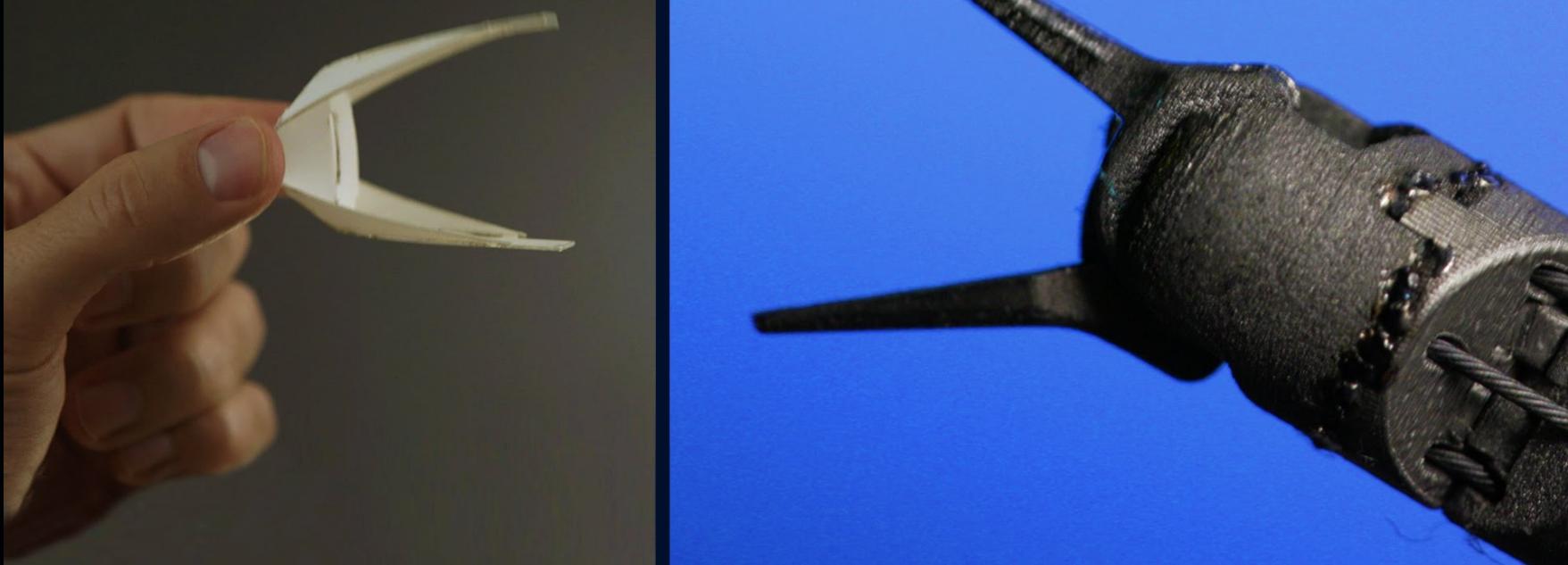
Larsen Energy Branding

1/7

Make's recycled aluminum origami-inspired kiosks in London

London-based studio Make has created some unusual cubicles inspired by the ancient Japanese craft of paper folding. Made from aluminum, the sturdy kiosks can be opened and closed just like an Origami fan. Prefab and portable, they have a variety of uses, but they first appeared as an Info Point in

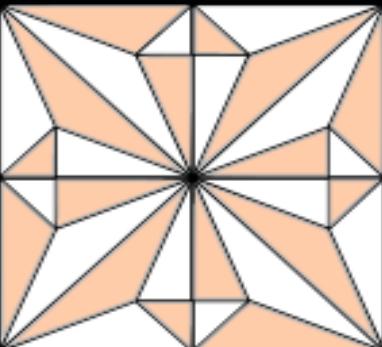
Origami dizajn je vođen matematičkim zakonima. Ako ih se razumije, može ih se primjeniti u inženjerstvu.



IDENTIFYING LINKS BETWEEN ORIGAMI AND COMPLIANT MECHANISMS

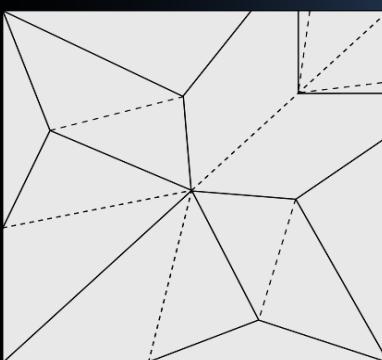
H. C. Greenberg, M. L. Gong, S. P. Magleby, and L. L. Howell

Department of Mechanical Engineering, Brigham Young University,
Provo, UT 84602, USA .



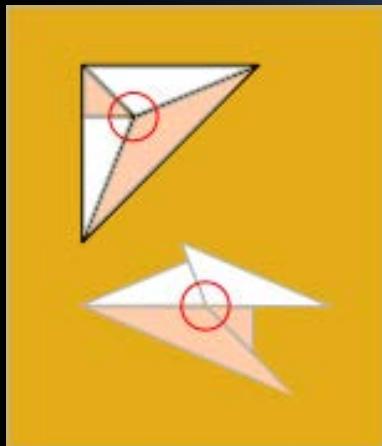
I ORIGAMI ZAKON: DVOBOJNOST

Možete obojati bilo koju shemu savijanja spljoštvivog origami modela u samo dvije boje, bez da jedna boja dotiče drugu.



II ORIGAMI ZAKON: RAZLIKA OD 2

Nabor origami modela može imati dvije orientacije – može biti ispučen, (mountain fold) ili udubljen (valley fold) Broj ispučenih naspram udubljenih nabora u bilo kojem od vrhova plosnato savijenog origami modela uvijek se razlikuje za 2.



III ORIGAMI ZAKON: PARNI I NEPARNI KUTOVI VRHA

Zbir vrijednosti naizmjeničnih kutova u nekom vrhu savijenom iz sredine papira iznosi 180 stupnjeva.

IV ORIGAMI ZAKON: INTEGRITET NABORA

Koliko god da slagali nabore i slojeve papira nekog origami modela, sloj nikad ne može probiti nabor.

Izvori: https://www.ted.com/talks/robert_lang_folds_way_new_origami/transcript

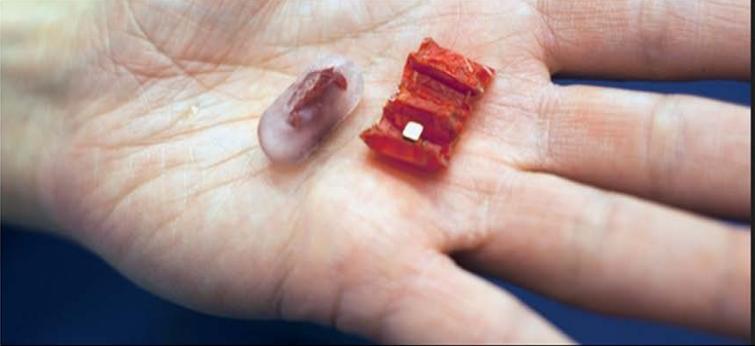
<https://origami.me/crease-pattern-theory/>; https://en.wikipedia.org/wiki/Mathematics_of_paper_folding

Ingestible origami robot | MIT... x origami math - Google pretraž... x Origami Helps Math Take New Sha... x

ingestible-origami-robot-0512 90% C origami robot

MIT News

Browse or Search

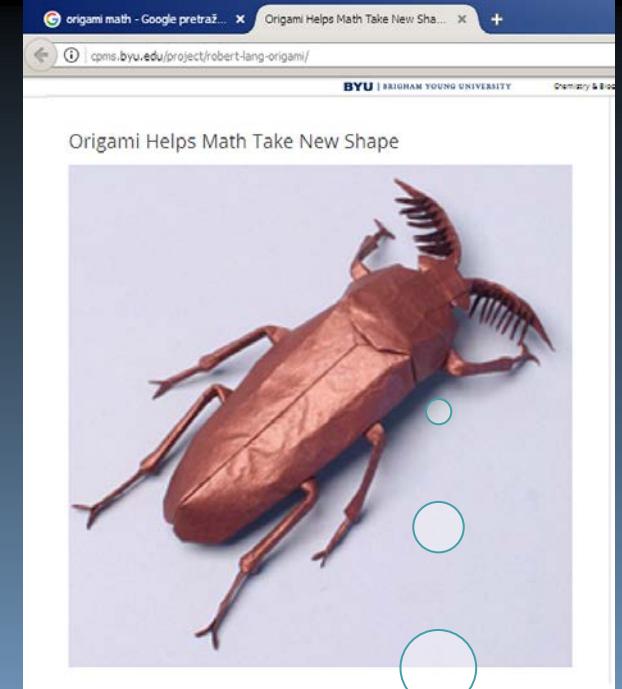


"It's really exciting to see our small origami robots doing something with potential important applications to healthcare," Daniela Rus says.
Pictured, an example of a capsule and the unfolded origami device.

Photo: Melanie Gonick/MIT ← →

Ingestible origami robot

Robot unfolds from ingestible capsule, removes button battery stuck to wall of simulated stomach.



inhabitat NEWS ENVIRONMENT ARCHITECTURE DESIGN MORE ▾

Ako opet progutam gumbić, spasit će me robot iz pilule



Search articles F G+ T P L

Origami-inspired clothing line that grows with kids wins Dyson award

Tata mi je slavni Robert J. Lang ... Mama ima neko čudno ime... TreeMaker

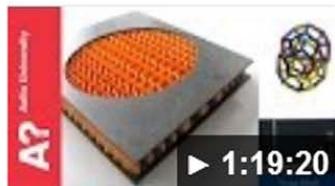


Kako koristiti origami u tehničkim strukama?



Yves Klett: "Technical Tessellations: Origami, Aerospace and Architecture" - MathArt Colloquium Dodavanje na popis

Yves Klett: "Technical Tessellations: Origami, Aerospace and ..."



<https://www.youtube.com/watch?v=xh6UNYjjjUA>

15. ožu 2016. - Učitao korisnik Aalto University

Aalto University Mathematics and Art Colloquium. Guest Lecture, Yves Kleitt: "Technical Tessellations ..."

MIT predavanja

Bilješke, slajdovi i video predavanja na: <http://courses.csail.mit.edu/6.849/fall10/lectures/>

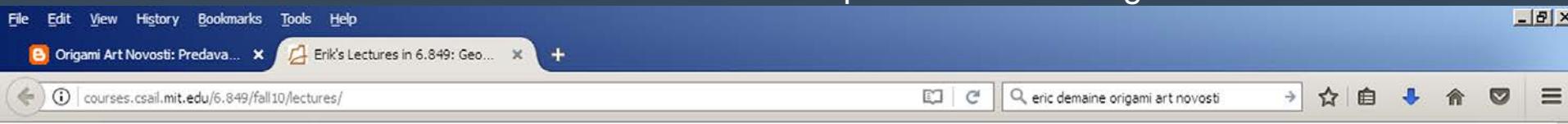
Više na: <http://erikdemaine.org/>

File Edit View History Bookmarks Tools Help

Origami Art Novosti: Predava... Erik's Lectures in 6.849: Geo...

courses.csail.mit.edu/6.849/fall10/lectures/

eric demaine origami art novosti



6.849: Geometric Folding Algorithms: Linkages, Origami, Polyhedra (Fall 2010)

Prof. [Erik Demaine](#)

[Home] [Problem Sets] [Project] [Lectures] [Problem Session Notes]

Erik's Lectures (including video)

These lectures consist of

- videos of the lectures themselves,
- lecture notes handwritten by Erik Demaine and used during lecture, and
- slides of images projected during lecture.

The video-playing websites below automatically show the relevant handwritten notes and slides (as well as letting you flip through manually), while you watch the video in HTML5 or Flash. Alternatively, you can view the notes and slides in PDF, ideally in [Acrobat Reader](#) or another PDF viewer that supports text annotations. The slides are restricted to images for which Erik owns copyright or a license for distribution, which unfortunately biases their selection.

L01	Sept. 8	Overview of the entire class: Topics and problems considered.	Notes	Slides	Video
L02	Sept. 13	[+] Origami intro: Piece of paper, crease pattern, mountain-valley assignment. Simple folds: Folding any shape (silhouette or gift wrapping), 1D flat-foldability characterization, 2D map-folding algorithm.	Notes	Slides	Video
L03	Sept. 15	[+] Single-vertex crease patterns: Characterizations of flat-foldable crease patterns and mountain-valley patterns, combinatorics of the latter, local flat foldability is easy.	Notes	Slides	Video



sample frame from lecture video ([L05](#))



The Origami Forum

Discussion Area for Enthusiasts who practice the Ancient Art of Paperfolding

The Origami Mailing List

Advanced search

Pomoć i podrška

British Origami Society
www.britishorigami.info/ ▾

Origami Resource Center: Know When to Fold
www.origami-resource-center.com/ ▾

Origami Art Novosti: ORIGAMI RJEČNIK
sanja-origamiart.blogspot.com/2010/01/origami-rjecnik.html ▾

OrigamiUSA
<https://origamiusa.org/> ▾

Hrvatsko origami društvo - Croatian Origami Society
<https://hr-hr.facebook.com/HrvatskoOrigamiDrustvo/> ▾

Origami Art Novosti: E.&M.Demaine: Povijest zakrivljene origami ...
sanja-origamiart.blogspot.com/2010/08/e-povijest-zakrivljene-origami.html ▾

Origami Art Novosti: Predavanja prof. E. Demaine-a (MIT)
sanja-origamiart.blogspot.com/2010/12/predavanja-prof-e-demaine-mit.html ▾

EMOZ

www.emoz.es/language/en/

Educational Museum of Origami in Zaragoza

Origami Database | Gilad's Origami Page
www.giladorigami.com/origami-database.html ▾

Search over 2500 origami books, magazines and other publications,

**Bavljenje
origamijem
može
poboljšati
obrazovne
rezultate**

Origami Art Novosti: Predava... X Erik's Lectures in 6.849: Geo... X Folding Didactics – for the res... X

www.foldingdidactics.com

Folding Didactics

Home Catalonia England France Germany Italy Gallery Events Forum History Resources PADORE Contact

Welcome!

So what are "didactics", you ask? It's the theory and practical application of teaching and learning. Like all members of our team, most people fold for recreational purposes, but we also believe that paper folding can have an important place in education, as well as research, health and other areas. Our group aims to promote this wider use of folding, as well as studying the documentation and history of the art.

The aim of this site is to draw together information from the different folding didactic groups around the world and to provide a place to share resources. Please use our forum if you wish to discuss anything (you need to register first).

Pages from a specific country will be in their language, but you can change language using the dropdown menu option on the right. Please let us know if your group would like to be listed here.

Search ...

Odobrite jezik

Pokreće Google Previditelj

Recent Posts

- Chinese crafts in Holland: paper making, paper folding & embroidery
- Teaching angles
- David Lister book
- Froebelian influence on

www.foldingdidactics.com

**Primjena
origamija
u obrazovanju**

origametria.com

File Edit View History Bookmarks Tools Help

Origami Art Novosti: Predava... X Erik's Lectures in 6.849: Geo... X Home - Origametria Origametria X

origametria.com

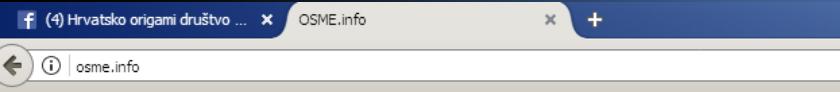
Search

Login / Register

Home Lessons Contact Us Shop English עברית

Teaching Geometry using the Art of Origami.

Hoće li se Hrvatska uključiti?



The logo features the text '7OSME' in large, bold letters, with 'ORIGAMI SCIENCE MATHS EDUCATION' and '5th to 7th September 2018 OXFORD UK' below it. To the left is a stylized graphic of buildings and a person.

Venue Pre-Registration Submission Registration Travel



CALL FOR PARTICIPATION

15 MAY, 2017

Home of the International Meeting on Origami in Science, Mathematics, and Education

OSME is the quadrennial meeting on the intersections between origami, science, mathematics, and education (with additional ties to history, art, and design, among other fields.) It is a peer-reviewed academic conference that also produces a series of books of peer-reviewed papers, the *Origami^N* books (see [here](#), [here](#), and [here](#)).

The most recent meeting was [6OSME](#), held in Tokyo, Japan, August 10–13, 2014.

The next OSME will be the [Seventh International Meeting on Origami in Science, Mathematics, and Education](#), to be held in Oxford, UK, in fall, 2018.

Interested in organizing a future OSME? Please [download and read the guidelines](#).

Contact the [OSME Steering Committee](#) by sending an email to info@osme.info

Accueil > Documentaire > Science

Izvor: https://pluzzvad.francetv.fr/videos/un-monde-en-plis-le-code-origami_22000.html

UN MONDE EN PLIS - LE CODE ORIGAMI

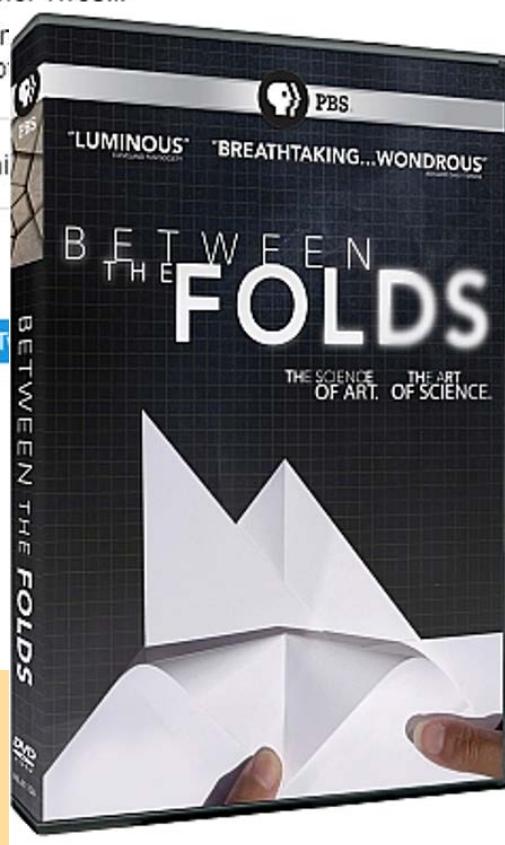


De : François-Xavier Vives
Avec : François-Xavier Vives...
Résumé : Des scier de tout plier pour ob

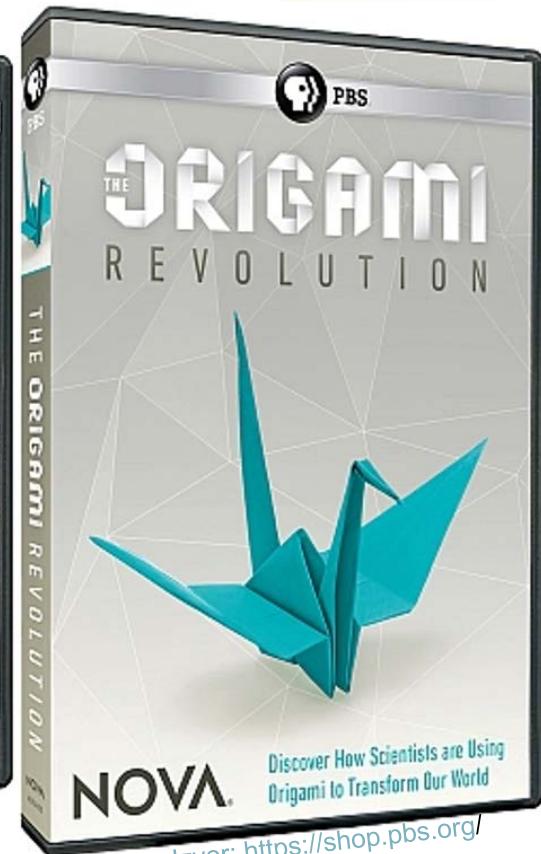
Sciences et techni

J'aime 0

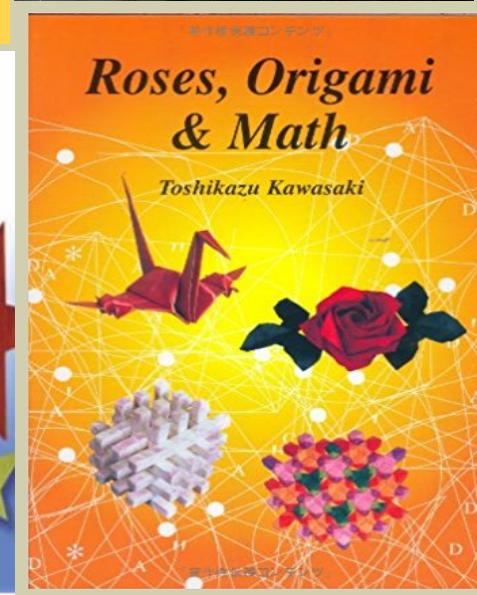
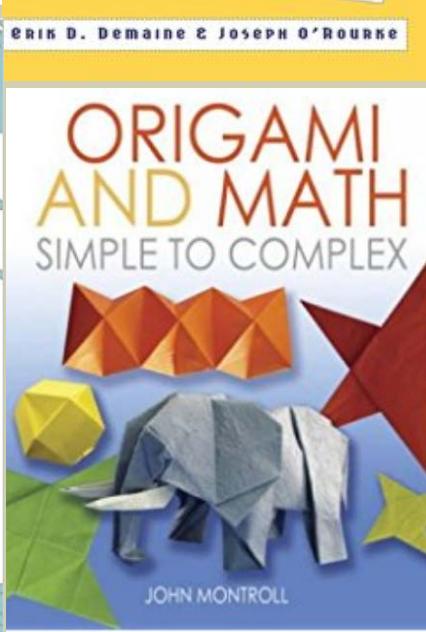
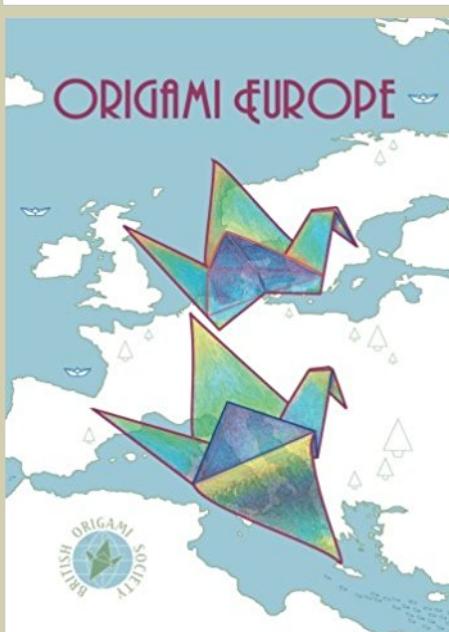
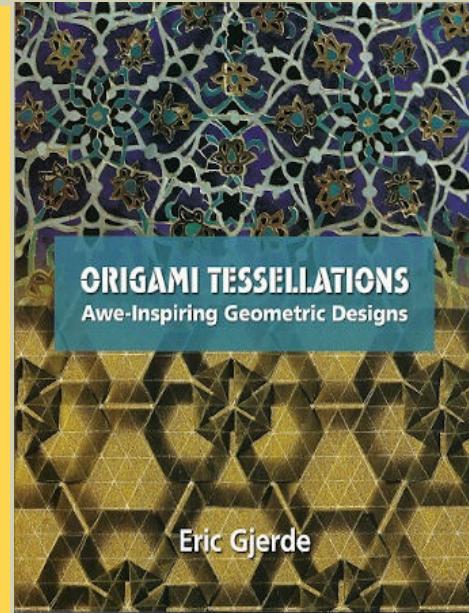
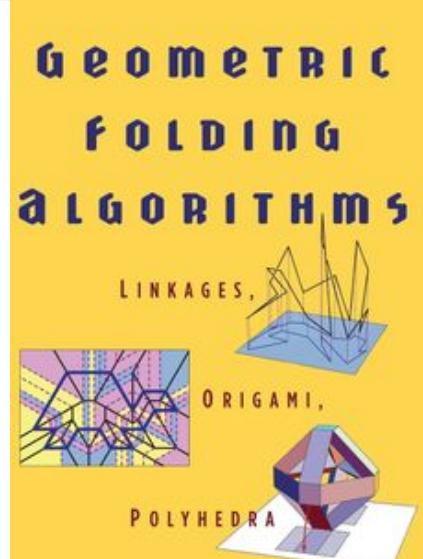
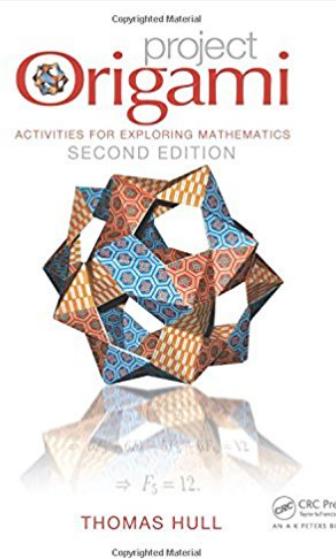
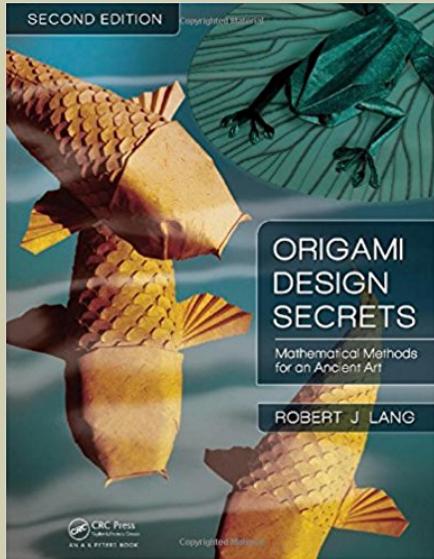
T



Kultni origami dokumentarci...
Svakako pogledati!



Izvor: <https://shop.pbs.org/>



Izvori: <https://www.amazon.com/> pretraživanje: origami + math; origami + linkages

S
N
A
S
Z
Z

džepni
laboratorij
zorni astrakt
problematsko
razmišljanje

T
E
H
N
O
L
G
I

robotika
mehanizmi
podatljivi mehanički
metamaterijali

E
N
Ž
E
R
S
M
O
V

analiziranje
racionalni programi
morfozne strukture

M
A
T
E
M
A
T
I
K

osjećaj za 3D i kretanje u prostoru
geometrija
proporcije
logičko razmišljanje
razlomci
mjere

ORIGAMI
Ijekovita
billjka
današnjice

memoriranje
samopouzdanje
antidepresiv
socijalne vještine
usredotočenost
ADHD
ADD
koordinacija
rehabilitacija
meditacija
Mentalna gimnastika
vizualno-motorna

likovni
fizika
matematika
biologija
kemija
jezici
zemljopis
povijest
m o g u Ć i
š k o l s k i
origami
projekti



Vaša pitanja?