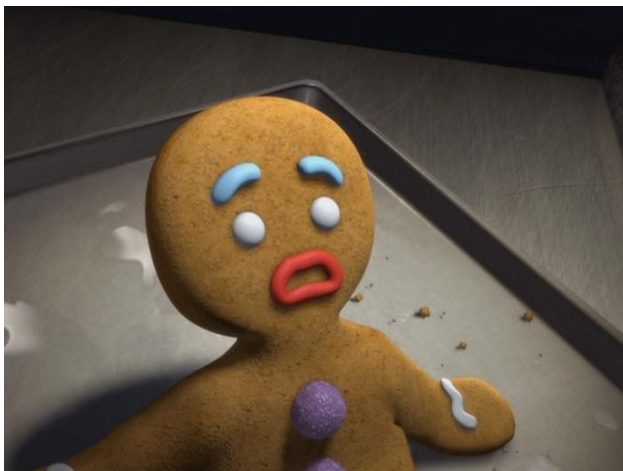


Seminární newsfeed

Aneb co se děje ve světě vědy

Soutěž o nejchutnější cukroví/dezert

- Dezert/cukroví donést v úterý 3.12. na rozsvěcení stromu před děkanátem, v počtu 40 ks + recept
- 3 vítězové soutěže získají mikinu z munishopu
Registrace do 29/11 do 12:00



Odkaz na [FB událost](#)

MUNI
SCI

Rozsvěcování vánočního stromu na Kotlářské

3.12.2019, 15.00-17.00

PRO
3. Rozsvěcování vánočního stromu na
Kotlářské

Veřejná · Pořádá Přírodovědecká fakulta Masarykovy
univerzity

★ Mám zájem ✓ Zúčastním se ➔ Sdílet ▾ ...

🕒 Úterý 3. prosince 2019 v 15:00 až 17:00
Příští týden · -2-2°C Sněhové přeháňky

Integrative Studies of Immune Recognition Complexes

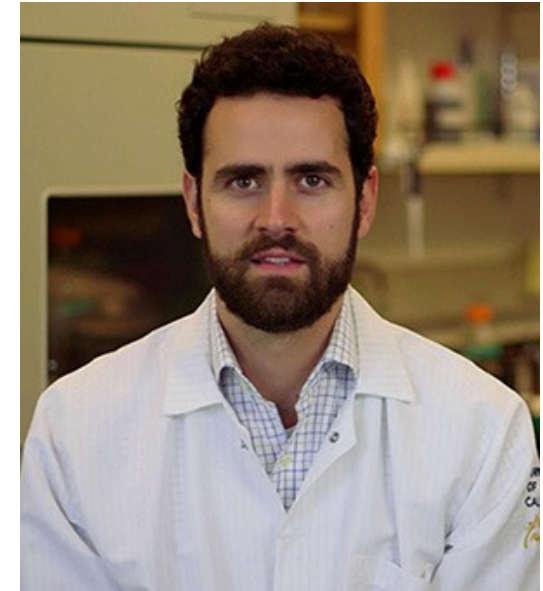


Sgourakis
Research
Group

Speaker

Assoc. Prof. Nikolaos G. Sgourakis

Department of Chemistry and Biochemistry, University of California, Santa Cruz,
USA



ARTICLE

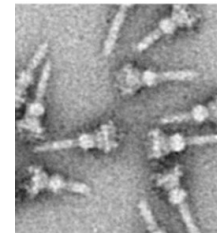
Received 16 Sep 2016 | Accepted 14 Mar 2017 | Published 16 May 2017

DOI: [10.1038/ncomms15260](https://doi.org/10.1038/ncomms15260)

[OPEN](#)

An allosteric site in the T-cell receptor C β domain plays a critical signalling role

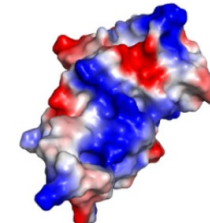
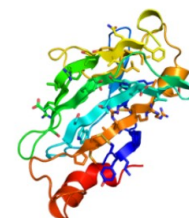
Kannan Natarajan¹, Andrew C. McShan², Jiansheng Jiang¹, Vlad K. Kumirov², Rui Wang¹, Huaying Zhao³, Peter Schuck³, Muluaem E. Tilahun¹, Lisa F. Boyd¹, Jinfa Ying⁴, Ad Bax⁴, David H. Margulies^{1,*} & Nikolaos G. Sgourakis^{2,*}



Atomic structure of the Type-III secretion system needle

The structure of the Type-III secretion system needle from *Salmonella typhimurium* provides new insights into a conserved bacterial secretion pathway

[More info](#)



Solution structure of a Viral Immunoevasin protein

The NMR/Rosetta structure of mo4 from mouse Cytomegalovirus reveals a novel immunoevasin fold with diverse functions

[More info](#)

Odkaz na [lab](#), [článek](#)

CEITEC

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PRINCIPAL INVESTIGATOR

SEMINAR SERIES AUTUMN 2019

WHERE: University Campus, Building A11, Room 205

WHEN: Every Friday – from 13:00 September – December (Autumn Semester)



Pá 29. 11. 2019,
13h, A11/205

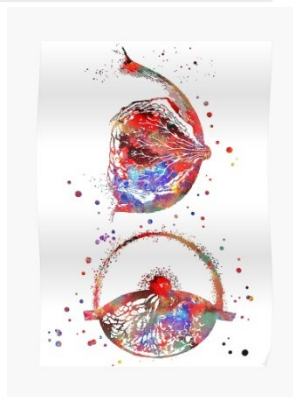
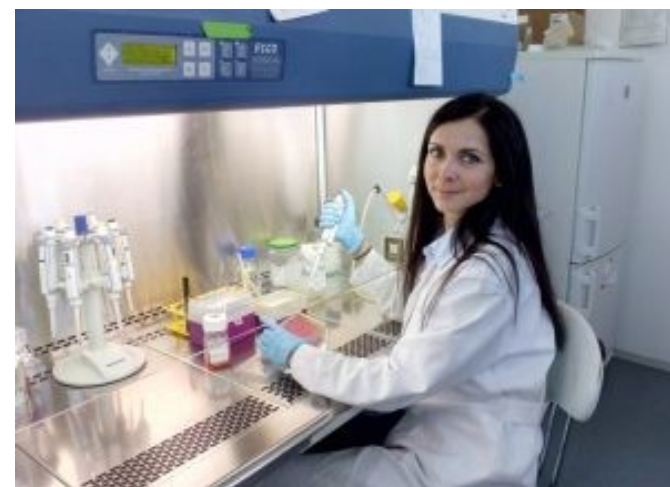
29/11/2019

Zuzana Koledová

**Shaping the Breast:
Mechanisms of Mammary
Gland Morphogenesis**



Department of Histology
and Embryology, Faculty
of Medicine




Our current main research topics are:

1. Regulation of mammary epithelial branched pattern formation by fibroblast growth factor (FGF) signalling.
2. The role of fibroblasts in mammary epithelial branching morphogenesis.
3. The role of FGF signalling in lung development.

Article | Published: 21 October 2019

This is an unedited manuscript that has been accepted for publication. Nature Research are providing this early version of the manuscript as a service to our customers. The manuscript will undergo copyediting, typesetting and a proof review before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers apply.

Search-and-replace genome editing without double-strand breaks or donor DNA

Andrew V. Anzalone, Peyton B. Randolph, Jessie R. Davis, Alexander A. Sousa, Luke W. Koblan, Jonathan M. Levy, Peter J. Chen, Christopher Wilson, Gregory A. Newby, Aditya Raguram & David R. Liu 

Nature (2019) | [Cite this article](#)

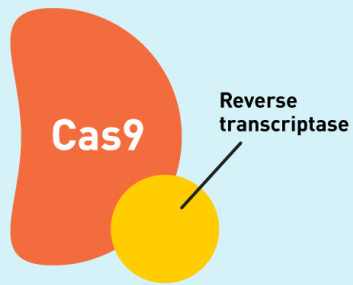
136k Accesses | **2** Citations | **2661** Altmetric | [Metrics](#)

Odkaz na [Nature](#)

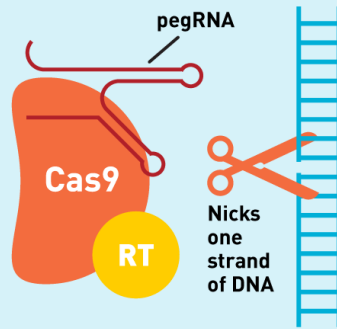
Search-and-replace genome editing

1.

The prime editor complex includes a **Cas9 enzyme**, modified to only nick one strand of DNA, and a **reverse transcriptase enzyme**, which can generate new DNA by copying an RNA template.

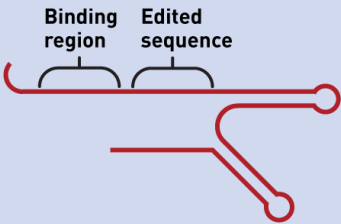


An engineered “**pegRNA**” (prime editing guide RNA) sends the editor to its target, where **Cas9 nicks the DNA**.

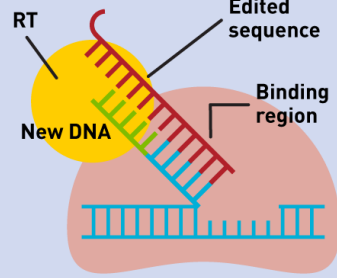


2.

The **pegRNA** has two special components: a **section that binds to the nicked DNA**, preparing the nicked strand to have new DNA letters added, and a **section of RNA letters** that encode the desired edit.

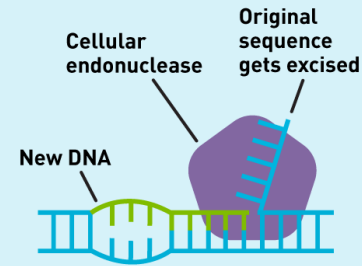


To transfer the edited sequence from the pegRNA to the target DNA, the **reverse transcriptase** reads the **RNA** and attaches the corresponding DNA letters to the end of the **nicked DNA**.



3.

An **endonuclease** in the cell naturally excises the **old segment** of DNA and seals the **new letters** into the genome.

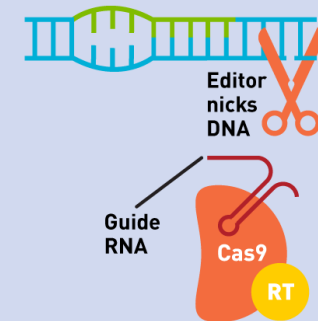


Now, the target site is left with **one edited strand** and **one unedited strand**.

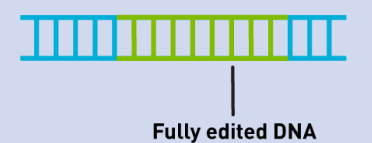


4.

To resolve the mismatch, favoring the permanent installation of the edited DNA, a **different guide RNA** directs the **prime editor** to nick the unedited strand.



This nick prompts the cell to remake that nicked strand, using the **edited strand** as a template, thus completing the edit.

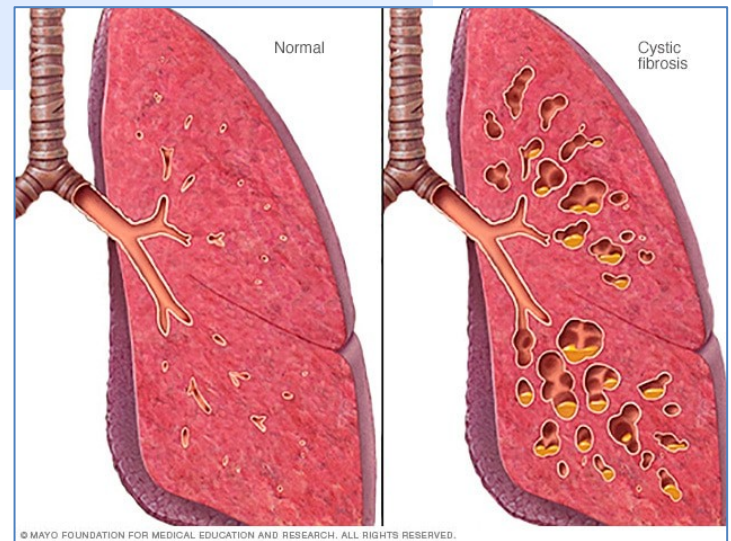


Lékaři mají první účinný lék na cystickou fibrózu. Jeho vývoj však trval desítky let

1. 11. 2019

Nová terapie proti cystické fibróze nejen zlepšuje funkce plic nemocných, ale také ukazuje jasné známky toho, že lék útočí přímo na genetické kořeny nemoci. Podle deníku Washington Post je to takový přelom, že řadu pacientů i lékařů přivedl k slzám. Lék je zatím schválen pro pacienty starší 12 let, časem by ale mohl být povolen i pro děti.

[Odkaz](#) na článek na čt24





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Ig Nobel prizes

The Ig Nobel Prizes honor **achievements that make people LAUGH, and then THINK**. The prizes are intended to celebrate the unusual, honor the imaginative — and spur people's interest in science, medicine, and technology.

letošní vítězové

Fyzika: Proč mají vombati hranaté výkaly

Anatomie: Měření odlišné teploty levého a pravého varlete u oblečených a nahých francouzských poštáků

Medicína: Pizza může ochránit před nemocemi a smrtí, pokud je vyrobená a konzumovaná v Itálii

Vzdělávání: Využití tréninkových pomůcek na psy při výcviku chirurgů

Biologie: Mrtví zmagnetizovaní švábi se chovají jinak než živí zmagnetizovaní švábi

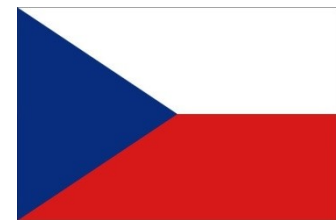
Chemie: Výpočet množství slin, které vytvoří typické pětileté dítě

Technologie: Stroj na přebalování lidských dětí

Ekonomie: Jaké bankovky nejlépe přenáší nebezpečné bakterie

Mír: Výzkum příjemnosti škrábání se

Psychologie: Zlepšuje tužka v puse náladu?



2014 – Jaroslav Flégr,
toxoplasmóza
2014 – Vlastimil Hart,
psi a magnetické pole



About the Golden Goose Award

The Golden Goose Award honors scientists whose federally funded work may have been considered silly, odd or obscure when first conducted, but has resulted in significant benefits to society. In 2012, a coalition of business, university and scientific organizations created the Golden Goose Award, conceived by Rep. Jim Cooper (D-TN) as a strong counterpoint to criticisms of basic research as wasteful federal spending such as the late Sen. William Proxmire's (D-WI) Golden Fleece Award. Learn more about the award, including past winners and supporters: <http://www.goldengooseaward.org>.

[web](#)

2019: The Blood of the Horseshoe Crab

[YouTube](#)

AWARDEES: Jack Levin and Frederik Bang

SCIENCE: Limulus Amebocyte Lysate (LAL) Test

FEDERAL FUNDING AGENCIES: Atomic Energy Commission, National Institutes of Health, U.S. Public Health Service

2019: The Frog Skin that Saved 50 Million Lives

[YouTube](#)

AWARDEES: David Sachar

SCIENCE: Contribution to Oral Rehydration Therapy for Treatment of Cholera

FEDERAL FUNDING AGENCIES: National Institutes of Health, USAID, Centers for Disease Control and Prevention, U.S. Public Health Service

2019: Advancing Autoimmunity

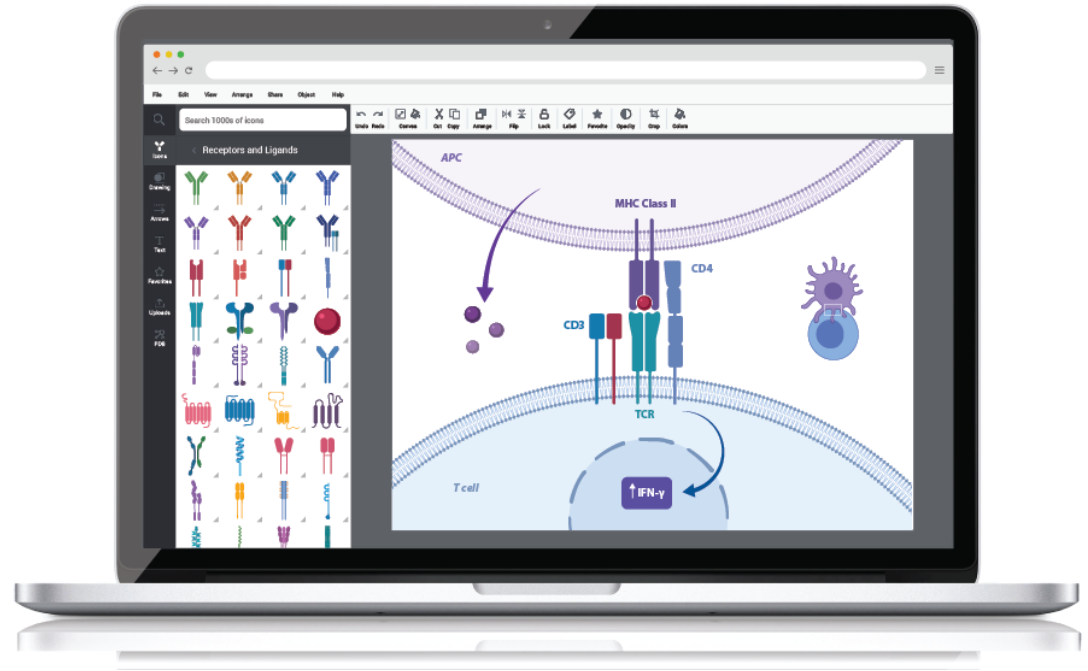
[YouTube](#)

AWARDEES: Noel Rose and Ernest Witebsky

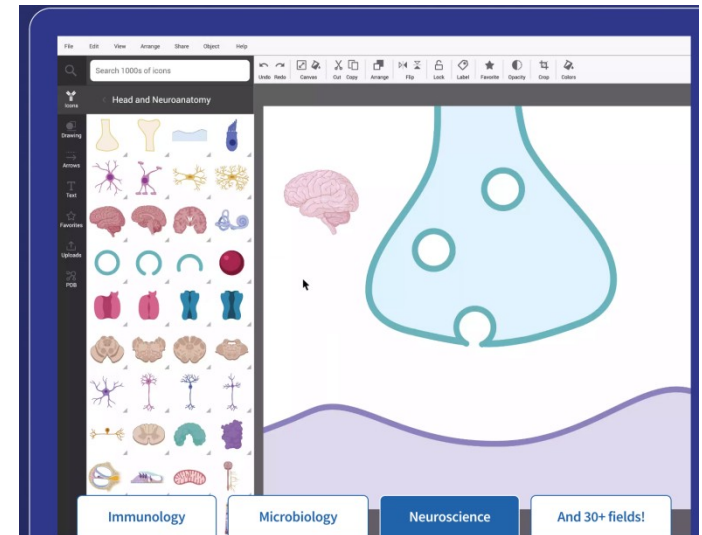
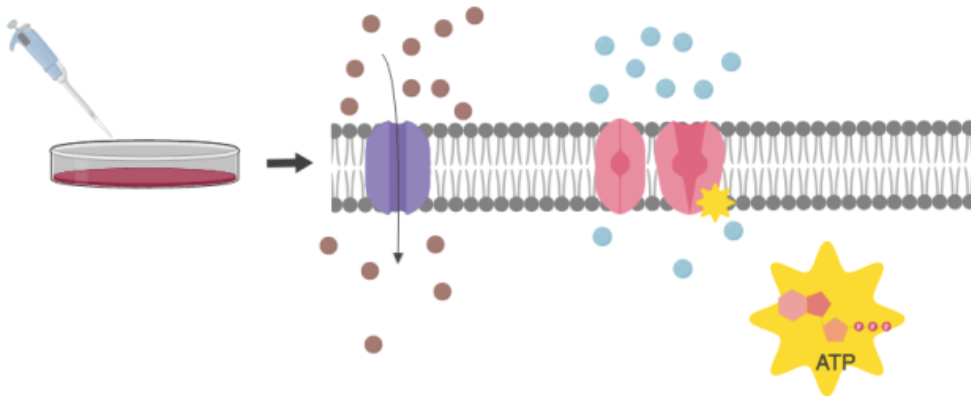
SCIENCE: Autoimmune Diseases

FEDERAL FUNDING AGENCIES: National Institutes of Health

Biorender -
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postery,
prezentace atd.



[Odkaz](#)



A jiné...

- [Záznamy](#) z předešlých Mendel lectures
- [TED](#) talks **TED** Ideas worth spreading
- [Daruj krev](#) s MUNI od 23. 10. 2019
- [The Scientist](#) – web o vědě
- [Věda 24](#) – týdeník na ČT



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