Edgar E. Gonzalez Kozlova

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Education

Ph.D. | Bioinformatics
Universidade Federal de Minas Gerais | 2016

BS | Biological Sciences
Universidad Nacional Mayor de San Marcos | 2012

Skills

Computing

Programming Languages
R • Python • Perl • Bash
IDEs • Markdowns
Nextflow • Matlab
Operating Systems
Linux • Mac • Windows
HPC Platforms
SSH •LSF • PBS • AWS

Bioinformatics

Genomics & Transcriptomics
RNA-seq (Single Cell & Bulk)
RRBS • WES • Microarrays
Structural Biology
PyMol & GROMACs
Sequence Alignment
STAR • Bowtie • BWA • GATK
Samtools • Blast • Clustal

Laboratory

Molecular Biology
PCR • RT-qPCR • Western Blot
ELISA • Immuno-Blotting (SPOT)
Proteomics
Electrophoresis • Chromatography
HLPC • FPLC • Cell Culture
Peptide synthesis • Vectors
Animal handling
Mice • Rats • Rabbits
Reptiles • Amphibians

Social

Languages
English (Fluent) • Spanish (Fluent)
Russian (Spoken) • Portuguese (Fluent)
Media
Reddit/Bioinformatics & Slack moderator
Co-director of Postdoc Executive Committee

EMPLOYMENT & RESEARCH

Icahn School of Medicine | Postdoctoral Fellow

Department of Genetics & Genomics Sciences
Labs of Dr. Gnjatic & Dr. Dogra | Oct 2018 - Present

- Leading and assisting modeling Multi-OMICs data to profile cancer viral diseases by leveraging sequencing and clinical data.
- Started and continued collaborations on multiple projects with national and international institutions.

Universidade Federal de Santa Catarina | Postdoctoral Fellow

Department of Pharmacology & Microbiology
Lab of Dr. Daniel Mansur & Dr. Andre Bafica | Apr 2016 - Sep 2018

- Study of protein evolution, structure, and sequence of viral proteins (VLPs); Protein design and expression in bacterial systems.
- Proteomic, Genomic, Transcriptomic and Single cell data analysis of samples infected with Dengue, Zika and Mycobacterium tuberculosis.

Universidade Federal de Minas Gerais | Ph.D. Student

Department of Immunology & Biochemistry
Lab of Dr. Carlos Chavez-Olortegui | April 2012 - Jan 2016

- Exclusive dedication as researcher. Tasks/Projects: Computational and experimental identification of B-cell epitopes; Multi-Omic bioinformatic analysis; SSH server support; responsible for disposal of toxic residues, lab biosecurity, and animal keeper of project related animals.

Universidad Nacional Mayor de San Marcos | Intern

Department of Biochemistry
Lab of Dr. Armando Yarleque | Apr 2005 - Aug 2012

- Part time researcher. Main duties: Research lead and support. Performed on immunochemical and biochemical assays; immunizations on mice, rabbits and horses; and isolation or purification of proteins from complex samples with various chromatographic methods.

Museum of Natural History | Intern

Department of Herpetology
Lab of Dr. Cesar Aguilar | Apr 2005 - Aug 2012

- Part time researcher. Collection and keeping of reptiles and amphibians, venom extraction, surgery and feeding. Main duties: Research support and animal works including feeding, nursing and museum guide for visits.

AWARDS

AACR: Annual Meeting 2020

Scholar in training award and selected short talk

Keystone: Advances in Cancer Immunotherapy 2020

Scholarship recipient and eposter presentation

Excellence in Mentoring Award 2020

Icahn School of Medicine - Graduate School of Biomedical Sciences

Teaching

Molecular biology
Masters program (2020) UNMSM, Peru.
NGS & Functional Biology

Minicourse (2018) UNESC, Brazil.
Bioinformatic tools for biomedical research.

Co-Mentor (2018) UFSC, Brazil.
Project: Co-evolution of Phages and Mycobacteria

Workshop (2018) UFSC, Brazil.
RNAseq dataset identification and expression analysis
<Link to Class Slides>

Workshop (2014) UFMG, Brazil.
Introduction to data mining techniques

Professor assistant (2007-2012) UNMSM, Perú.
Assisted with theoretical and experimental class presentations.

References

Prof. Navneet Dogra | Icahn School of Medicine, NYC, USA
+1 (570) 909-8473
navneet.dogra@mssm.edu

Prof. Sacha Gnjatic | Icahn School of Medicine, NYC, USA
sacha.gnjatic@mssm.edu

Prof. Daniel Santos Mansur | Universidade Federal de Santa Catarina, Brazil
+55 (48) 991801979
mansurds@googlemail.com

Prof. Ricardo Andrez Machado de Avila | UNESC, Brazil
+55 (48) 3431-2757
r_andrez@yahoo.com.br

Collaboration

<Link to Network>

Selected Publications

- 2021 Nat. Com. PMID: Submitted Comella P, **KOZLOVA, EEG.** , ..., Beckmann N, Schadt E. **A Molecular network approach reveals shared cellular and molecular signatures between chronic fatigue syndrome and other fatiguing illnesses. Available at https://doi.org/10.1101/2021.01.29.21250755**
- 2021 Cytometry PMID:33496367 Geanon D, Lee B, **KOZLOVA, EEG.** , ..., Merad M, Rahman A. **A Streamlined Whole Blood CyTOF Workflow Defines A Circulating Immune Cell Signature of COVID19. Available at https://doi.org/10.1002/cyto.a.24317**
- 2020 Cancer Discovery PMID: Submitted Von Felden J, **KOZLOVA, EEG.** , ..., Tewari A, Stolovitzky G, Losic B, Villanueva A. **Unannotated small RNA clusters in circulating extracellular vesicles detect early stage liver cancer. Available at doi:10.1101/2020.04.29.066183**
- 2020 Nature Cancer PMID:Submitted Dogra N, **KOZLOVA, EEG.** , ... , Losic B. and Stolovitzky, G. **exRNA Signatures in Extracellular Vesicles and their Tumor-Lineage from Prostate Cancer. Available at https://doi.org/10.1101/2020.09.28.20190009**
- 2020 Hepatology PMID:33237575 Hernandez-Meza G*, Von Felden J*, **KOZLOVA, EEG.** , ..., Losic B, Villanueva A. **DNA methylation profiling of human hepatocarcinogenesis.**
- 2020 Scientific Reports PMID:32193450 Adrian Bubie, **KOZLOVA, EEG.** , Nicholas Akers, Augusto Villanueva & Bojan Losic **Tumor fitness, immune exhaustion and clinical outcomes: impact of immune checkpoint inhibitors.**
- 2020 Int J Biol Macromol. PMID:32169454 Vivas-Ruiz DE, Sandoval GA, **KOZLOVA, E.E.G.** , ... Sanchez EF. **Fibrinogen-clotting enzyme, pictobin, from Bothrops pictus snake venom. Structural and functional characterization.**
- 2019 Elife PMID:31637998 Delgobo M, Mendes DA, **KOZLOVA, EEG.** , ..., Mansur DS, Van Weyenbergh J, Báfica A. **An evolutionary recent IFN/IL-6/CEBP axis is linked to monocyte expansion and tuberculosis severity in humans.**
- 2019 Biochimie PMID:30946947 Vivas-Ruiz DE, **KOZLOVA, EEG.** , ..., Yarlequé A, Sanchez EF. **Biochemical and molecular characterization of the hyaluronidase from Bothrops atrox Peruvian snake venom.**
- 2019 Biochimie PMID:31476328 Medina-Santos R, ..., **KOZLOVA, EEG.** , Kalapothakis E, Chávez-Olórtegui C. **Diversity of astacin-like metalloproteases identified by transcriptomic analysis in Peruvian Loxosceles laeta spider venom and in vitro activity characterization.**
- 2019 BioRxiv. Espada EC, da Rocha EL, ... **KOZLOVA, EEG.** , ..., Báfica A, Mansur DS, **Flaviviruses exploit fine-tuning of the interferon response to promote replication. Available at https://doi.org/10.1101/784678**
- 2018 Scientific Reports PMID:30297733 **KOZLOVA, EEG.** , Cerf L, Schneider FS, Viart TB, ..., Machado-de-Ávila A, **Computational B-cell epitope identification and production of neutralizing murine antibodies against Atroxlysin-I.**
- 2017 Toxicon PMID:29024770 Dan Vivas-Ruiz; ... , **KOZLOVA, EEG.** ; Eladio F Sánchez; Carlos Chávez-Olórtegui; Armando Yarlequé; **Biochemical, biological and molecular characterization of a new L-Amino acid oxidase purified from Bothrops pictus Peruvian snake venom.**
- 2016 Oxford Bioinformatics PMID:26787662 Viart, B. ; **KOZLOVA, EEG.** ..., Felicori, L, **EPI-Peptide Designer: a tool for designing specific peptide ligand libraries based on Epitope - Paratope Interactions.**
- 2015 BMC Bioinformatics PMID:26696329 **KOZLOVA, EEG.** , Viart BT, ; Avila, RAM. ; Felicori L, Olortegui C. **Classification epitopes in groups based on their protein family.**
- 2013 Revista de la Sociedad Química del Perú, ISSN:1810-634X **KOZLOVA, EEG.** ; ... Yarleque. A. **Purification and biochemical characterization of a spreading factor from the venom of snake Bothrops atrox (Jergon)**
- <Link to long CV version with full list of publications>