

IGOR JURAK, PH.D.

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UNIVERSITY OF RIJEKA
DEPARTMENT OF BIOTECHNOLOGY
RADMILE MATEJCIC 2, R221
RIJEKA 51000
CROATIA

EDUCATION

JULIUS MAXIMILIAN UNIVERSITY OF WUERZBURG
Ph.D., Natural Sciences
Dissertation: The Molecular Mechanism of Cytomegalovirus
Species Specificity

WUERZBURG, GERMANY
2006

UNIVERSITY OF ZAGREB
Faculty of Science, Division of Biology
M.S. in Molecular biology
Thesis "Gene analysis of a gastrointestinal stromal tumor (GIST)
and a mixed ovarian cancer".

ZAGREB, CROATIA
1998

PROFESSIONAL RESEARCH EXPERIENCE

UNIVERSITY OF RIJEKA
Rijeka, Croatia
Associate professor
Assistant professor

2018 - PRESENT
2013 - 2018
Department of Biotechnology
Principle investigator; Molecular virology laboratory, Head
- Investigating molecular mechanism that control HSV-1
latent and lytic infection
Administrative duties: 2018 – present; President of the committee
for doctoral studies; 2019 – present; Deputy Head of the Department
Teaching duties - undergraduate and graduate students – courses
EBIL 133Virology, EBIL 144, Antivirals, Modul 8 Autophagy

HARVARD MEDICAL SCHOOL
Boston MA, USA
Postdoctoral fellow

2007- 2013
Biological Chemistry and Molecular Pharmacology Department
Advisor: Donald M. Coen
- investigating roles of miRNAs in HSV-1 infection

ROBERT KOCH INSTITUTE
Berlin, Germany
Postdoctoral fellow

2006-2007
Division of Viral Infections
Advisor: Wolfram Brune
- Investigating cytomegaloviruses and apoptosis

**RUDOLF VIRCHOW CENTER
FOR EXPERIMENTAL
BIOMEDICINE** Wuerzburg,
Germany
Graduate student

2002-2006
Advisor: Wolfram Brune
- Investigating molecular mechanisms of the cytomegalovirus
species specificity

RUDJER BOSKOVIC INSTITUTE
Zagreb, Croatia
Graduate student

1999-2002
Division of Molecular Medicine
Advisors: Koraljka Gall-Troselj and Oliver Vugrek

FUNDED RESEARCH PROPOSALS

CROATIA – CHINA BILATERAL PROGRAM (10.000 EUR)	2020-2021
CROATIAN SCIENCE FOUNDATION – RESEARCH GRANT (150.000 EUR)	2014-2019
CROATIAN SCIENCE FOUNDATION - Career development of young investigators – support for a graduate student; 2014-2018	2014-2020
EUROPEAN SOCIAL FOUND - dr. Ivana Ratkaj – IJ mentor (200.000 Eur)	2015-2017
UNIVERSITY OF RIJEKA – SUPPORT FOR YOUNG INVESTIGATORS (annual evaluation and resubmission) (30.000 Eur)	2018-2021 2013-2017
MARIE CURIE CAREER INTEGRATION GRANT FP7-PEOPLE-2012-CIG (100.000 Eur)	2013-2017
GRANTS AND SCHOLARSHIPS TO MEMBERS OF THE LABORATORY: FEMS, FEBS, CROATIAN ACADEMY OF SCIENCE; FOUNDATION OF UNIVERSITY OF RIJEKA ETC.	2013-2020

HONORS AND AWARDS

COUNTRY AMBASSADOR - AMERICAN SOCIETY FOR MICROBIOLOGY 2018-PRESENT
MARIE CURIE MICRO GRANT, 2014
GUEST PROFESSOR AT UNIVERSIDAD EUROPEA DE MADRID, 2014
KEYSTONE SYMPOSIA SCHOLARSHIP, 2011
INTERNATIONAL HERPESVIRUS WORKSHOP TRAVEL AWARD, 2009, 2010
**EXCELLENCE IN SCIENCE AWARD; AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF
SCIENCE (AAAS), 2007**
**THE BEST PRESENTATION AWARD; 2ND CROATIAN CONGRESS OF MICROBIOLOGY WITH
INTERNATIONAL PARTICIPATION; 2000**

PATENTS

CULLEN BR, UMBACH JL, COEN DM, KRAMER MF, JURAK I, KNIPE DM. VIRAL MICRORNA.
Provisional application filed March 3, 2008. PCT application filed March 3, 2009

MENTORING EXPERIENCE

Marina Matešić	(2015-20) Department of Biotechnology. Doctoral thesis , mentor
Andreja Zubković	(2015-20) Department of Biotechnology. Doctoral thesis , mentor
Dorotea Neuberg	(2020) Department of Biotechnology, BSc thesis (6 months) mentor
Nina Đukić	(2020) Department of Biotechnology, MSc thesis (6 months) mentor
Josip Mihalac	(2020) Department of Biotechnology, MSc thesis (6 months) mentor
Noa Čemeljić	(2019) Department of Biotechnology, BSc thesis (6 months) co-mentor
Ana Vignjević	(2019) Department of Biotechnology, MSc thesis (6 months) mentor
Ivona Viduka	(2019) Department of Biotechnology, MSc thesis (6 months) co-mentor
Lara Duvnjak	(2018) Department of Biotechnology, MSc thesis (6 months) mentor
Ana Vidulić	(2018) Department of Biotechnology, MSc thesis (6 months) mentor
Ines Žarak	(2018) Department of Biotechnology, MSc thesis (6 months) mentor
Laura Radić	(2018) Department of Biotechnology, MSc thesis (6 months) mentor
Ana Mihatović	(2018) Department of Biotechnology, MSc thesis (6 months) mentor
Lucija Kovačević	(2018) Institute Ruđer Bošković. Doctoral thesis , co-mentor
Filip Uljanić	(2017) Department of Biotechnology, BSc thesis (6 months) mentor
Lara Djaković	(2016) Department of Biotechnology, MSc thesis (6 months) mentor
Klaudia Knežević	(2016) Department of Biotechnology, BSc thesis (6 months) mentor
Ticijana Zornada	(2015) Department of Biotechnology, MSc thesis (6 months) mentor
Eli Podnar	(2015) Department of Biotechnology, BSc thesis (6 months) mentor
Ivana Bertovic	(2014) Department of Biotechnology, MSc. thesis (6 months) mentor

STUDENT HELP/MENTORING

Sizun Jiang	(2013) Harvard Program in Virology; graduate student rotation (3 months)
Andrew Leader	(2012) Undergraduate student summer fellowship(3 months)
Marissa Herrman	(2011) Harvard Program in Virology; graduate student rotation (3 months)
Leah Silverstein	(2009) Harvard Program in Biological and Biomedical Sciences; graduate student rotation (3 months)
Hui-Jun Lim	(2008) Harvard Program in Virology; graduate student rotation (3 months)
Po-Jen Yen	(2008) Harvard Program in Virology; graduate student rotation (3 months)
Margarita Krivitski	(2008) Harvard College; undergraduate student summer fellowship(3 months)
Kerstin Heyl	(2006) Humboldt University of Berlin, Germany; undergraduate student pre-thesis (6 months)
Susanne Yung	(2004) University of Wuerzburg, Germany; thesis in Biomedicine (6 months)

PUBLICATIONS – IGOR JURAK (GOOGLE 01.2.2020: H-INDEX 13; CITATION 1399)
 NUMBER OF PUBLICATIONS 23; INCLUDING NATURE, EMBO, J. VIROL, PNAS, NUCL ACIDS RES.

#	Authors	Title	Journal
-	Matešić Pribanić M et al.	Short transcripts upstream of the LAT promoter are precursors of miR-H1, an HSV-1 encoded miRNA non-essential for the efficient replication in cultured cells	Doctoral thesis and publication – final preparation
-	Zubković A et al.	A comprehensive analysis and reevaluation of HSV-1 encoded miRNAs	Doctoral thesis and publication – final preparation
-	Matešić Pribanić M, Zubković A, Jurak I	microRNA cosmos of HSV-1	<i>Periodicum Biologorum</i> –special issues (2020) Submitted
1.	Aparicio-Puerta E, Lebrón R, Rueda A, Gómez-Martín C, Giannoukakos S, Jaspez D, Medina JM, Zubkovic A, Jurak I , Fromm B, Marchal JA, Oliver J, Hackenberg M.	sRNAbench and sRNAtoolbox 2019: intuitive fast small RNA profiling and differential expression. Aparicio-Puerta E, Lebrón R, Rueda A, Gómez-Martín C, Giannoukakos S, Jaspez D, Medina JM,	Nucleic Acids Res (2019)
2.	Pan D, Li G, Morris-Love J, Qi S, Feng L, Mertens ME, Jurak I , Knipe DM, Coen DM.	Herpes Simplex Virus 1 Lytic Infection Blocks MicroRNA (miRNA) Biogenesis at the Stage of Nuclear Export of Pre-miRNAs.	MBio (2019)
3.	Maja Cokarić Brdovčak, A. Zubković, I. Jurak	HSV-1 Deregulation of Host MicroRNAs - Accepted	Non-coding RNAs (2018)
4.	Cokarić Brdovčak M, Zubković A, Ferenčić A, Šoša I, Stemberga V, Cuculić D, Rokić F, Vugrek O, Hackenberg M, Jurak I .	Herpes simplex virus 1 miRNA sequence variations in latently infected human trigeminal ganglia	Virus Research (2018)
5.	Lutz G, Jurak I , Kim ET, Kim JY, Hackenberg M, Leader A, Stoller ML, Fekete DM, Weitzman MD, Coen DM, Wilson AC	Viral Ubiquitin Ligase Stimulates Selective Host MicroRNA Expression by Targeting ZEB Transcriptional Repressors	Viruses (2017)
6.	Malatesti N, Munitic I, Jurak I	Porphyrim-based cationic amphiphilic photosensitisers as potential anticancer, antimicrobial and immunosuppressive agents	<i>Biophys. Rev.</i> (2017)
7.	Džakula S, Zagradišnik M, Gudan Kurilj L, Šoštarić Zuckermann A, Conrado I, Jurak I , Hošteter M	Pathologic analysis of the mouse trigemiona ganglia due to research of teh herpes simplex virus 1 Harapin Ivica (ur.) Zagreb, Hrvatska veterinarska komora 2016. Zbornik radova 6. Hrvatski kongres s međunarodnim sudjelovanjem	Conference Article collection (2016)
8.	I. Jurak , M. Hackenberg, J. Kim, C.M. Preston, R.D. Everett, A.C. Wilson, D.M. Coen	Expression of HSV-1 miRNAs in Cell Culture Models of Quiescent and Latent Infection.	J Virol , (2014)
9.	I Jurak , L.B. Silverstein, M. Sharma, D.M. Coen	Herpes Simplex Virus is Equipped With RNA and Protein Based Mechanisms to Repress the Expression of ATRX, An Effector of Intrinsic Immunity	J Virol (2012)
10.	Jurak , A. Griffiths, D.M. Coen	Mammalian alphaherpesvirus miRNAs,	<i>Biochim Biophys Acta</i> , (2011)

11.	M.F. Kramer, I. Jurak , J.M. Pesola, S. Boissel, D.M. Knipe, D.M. Coen	Herpes simplex virus 1 microRNAs expressed abundantly during latent infection are not essential for latency in mouse trigeminal ganglia	<i>Virology</i> (2011)
12.	U. Schumacher, W. Handke, I. Jurak , W. Brune	Mutations in the M112/M113-coding region facilitate murine cytomegalovirus replication in human cells	<i>J Virol</i> (2010)
13.	I. Jurak , M.F. Kramer, J.C. Mellor, A.L. van Lint, F.P. Roth, D.M. Knipe, D.M. Coen	Numerous conserved and divergent microRNAs expressed by herpes simplex viruses 1 and 2	<i>J Virol</i> (2010)
14.	JP. Kamil, A.J. Hume, I. Jurak , K. Munger, R.F. Kalejta, D.M. Coen	Human papillomavirus 16 E7 inactivator of retinoblastoma family proteins complements human cytomegalovirus lacking UL97 protein kinase	<i>PNAS</i> (2009)
15.	J.L. Umbach, M.F. Kramer, I. Jurak , H.W. Karnowski, D.M. Coen, B.R. Cullen	MicroRNAs expressed by herpes simplex virus 1 during latent infection regulate viral mRNAs	<i>Nature</i> (2008)
16.	I. Jurak , U. Schumacher, H. Simic, S. Voigt, W. Brune	Murine cytomegalovirus m38.5 protein inhibits Bax-mediated cell death	<i>J Virol</i> (2008)
17.	I. Jurak , W. Brune	Induction of apoptosis limits cytomegalovirus cross-species infection	<i>EMBO J</i> (2006)
18.	R. Beluzic, M. Cuk, T. Pavkov, K. Fumic, I. Baric, S.H. Mudd, I. Jurak , O. Vugrek	A single mutation at Tyr143 of human S-adenosylhomocysteine hydrolase renders the enzyme thermosensitive and affects the oxidation state of bound cofactor nicotinamide-adenine dinucleotide	<i>Biochem J</i> (2006)
19.	K. Gall-Troselj, M. Mravak-Stipetic, I. Jurak , W.L. Ragland, J. Pavelic	Helicobacter pylori colonization of tongue mucosa--increased incidence in atrophic glossitis and burning mouth syndrome (BMS)	<i>J Oral Pathol Med</i> (2001)
20.	Jurak , I, M. Ivic-Kardum, J. Pavelic, K. Gall-Troselj,	Polymerase chain reaction (PCR) based detection of Streptococcus mitis and Leptotrichia buccalis from periodontal pockets	<i>Periodicum Biologorum</i> (2001)
21.	K. Gall-Troselj, I. Jurak , M. Mravak-Stipetic, J. Pavelic	Importance of changed tongue mucosa for Helicobacter pylori colonization	<i>Periodicum Biologorum</i> (2001)
22.	J. Pavelic, K. Gall-Troselj, I. Jurak , M. Mravak-Stipetic	Helicobacter pylori in oral aphthous ulcers	<i>J Oral Pathol Med</i> (2000)
23.	M. Ivic-Kardum, I. Jurak , K. Gall-Troselj, K. Pavelic	The effect of scaling and root planing on the clinical and microbiological parameters of periodontal diseases	<i>Acta stomatologica Croatica</i> (2000)

SELECTED PRESENTATIONS (> 70 presentations)

INTERNATIONAL HERPESVIRUS WORKSHOP, Knoxville, USA, July 2019.

Herpes simplex virus 1 miRNA sequence variations during productive and latent infection

Zubković, Andreja; Cokarić Brdovčak, Maja; Lebrón, Ricardo; Rokić, Filip; Šoša, Ivan; Vugrek, Oliver; Hackenberg, Michael; **Jurak, Igor**

HSV-1 miR-H1 is derived from the 0.7 kb transcript arising from the region upstream of the LAT promoter

Matešić Pribanić and **Jurak, Igor**

COLORADO ALPHAHERPESVIRUS LATENCY SYMPOSIA, Vail, CO, USA, May 2019

Herpes simplex virus 1 miRNA sequence variations during productive and latent infection

I. Jurak

INTERNATIONAL HERPESVIRUS WORKSHOP, Ghent, Belgium, July 2017.

A host miRNA cluster miR-183/96/182 is upregulated during herpes simplex virus 1 productive infection

Maja Badurina, Andreja Zubkovic, Ivana Ratkaj, **Igor Jurak**

INTERNATIONAL HERPESVIRUS WORKSHOP, Kobe, Japan, July 2014.

Expression of HSV-1 miRNAs in Cell Culture Models of Quiescent and Latent Infection

I. Jurak, M. Hackenberg, J. Kim, C.M. Preston, R.D. Everett, A.C. Wilson, D.M. Coen

INTERNATIONAL HERPESVIRUS WORKSHOP, Gdansk, Poland, July 2011.

Restraint of ICP34.5 expression controls outcome of HSV-1 infection in a mouse model.

I. Jurak, Mayuri, M.F. Kramer, J.M. Pesola, H. Lim, P. Yen, D.M. Coen

COLORADO ALPHAHERPESVIRUS LATENCY SYMPOSIA, Vail, CO, USA, May 2011

MiRNAs in HSV infection

I. Jurak, M. Sharma, M.F. Kramer, J.M. Pesola, S. Boissel, D.M. Knipe, D.M. Coen

KEYSTONE SYMPOSIA "MIRNA AND HUMAN DISEASE", Banff, Canada, February 2011

A role for a Herpes simplex virus miRNA in down-regulation of the cellular protein ATRX in productively infected cells?

I. Jurak, Mayuri, M.F. Kramer, J.M. Pesola, D.M. Coen,

INTERNATIONAL HERPESVIRUS WORKSHOP, Salt Lake City, UT, USA, July 2010

Down-regulation of the cellular protein ATRX in herpes simplex virus 1 infected cells

I. Jurak, M.F. Kramer, J.M. Pesola, M. Mayuri, L.B. Silverstein, D.M. Coen
