

OLGA ANCZUKÓW, Ph.D.

Assistant Professor
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RESEARCH INTERESTS

My research is aimed at understanding how misregulation of alternative RNA splicing contributes to breast and ovarian cancer, and developing novel therapeutic strategies to target splicing regulators and their targets. My laboratory is using patient-derived models and RNA-sequencing to identify oncogenic splicing factors and their targets that contribute to metastasis and drug resistance. My unique expertise in both RNA biology and cancer research allows me to connect these distinct fields, and by combining innovative tools and interdisciplinary approaches, has the potential to identify novel biomarkers and personalized drugs for cancer therapy.

ACADEMIC APPOINTMENTS

Assistant Professor The Jackson Laboratory for Genomic Medicine, CT, USA	2016-present
Affiliated Assistant Professor Department of Genetics and Genome Sciences, University of Connecticut School of Medicine	2016-present
Investigator Institute for Systems Genomics, University of Connecticut	2016-present
Senior Fellow Cold Spring Harbor Laboratory, NY, USA	2013-2016

RESEARCH TRAINING

Postdoctoral Fellow Cold Spring Harbor Laboratory, NY, USA Mentor: Professor Adrian R. Krainer	2008-2013
Ph.D. and M.S. Research Assistant CNRS UMR5201, Lyon, France Mentor: Dr. Sylvie Mazoyer	2002-2007
Visiting Scientist Molecular Medicine Partnership Unit, EMBL-Heidelberg University, Germany Mentor: Dr. Niels Gehring	2005
Research Assistant International Agency for Research on Cancer, WHO, Lyon, France Mentor: Dr. Olga Sinilnikova	2002
Research Assistant Human Molecular Genetics Laboratory, Medical School, Lyon, France Mentor: Dr. Patrice Bouvagnet	2001

EDUCATION

Ph.D., Molecular Biology and Breast Cancer Université Claude Bernard Lyon 1, Lyon, France	2007
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M.S., Molecular Genetics and Breast Cancer

Ecole Normale Supérieure de Lyon and Université Claude Bernard Lyon 1, Lyon, France 2003

B.S., Molecular and Cellular Biology

Ecole Normale Supérieure de Lyon and Université Claude Bernard Lyon 1, Lyon, France 2001

HONORS & AWARDS

National Institutes of Health /National Cancer Institute

Career Transition Award, 'Pathway to Independence' R00 2016-2019

RNA Society

Scaringe Young Scientist Postdoctoral Award 2015

American Association for Cancer Research

Advances in Breast Cancer Research Conference, Scholar-in-Training Award 2015

Gordon Research Conference

Post-Transcriptional Gene Regulation Conference, Poster prize 2014

National Institutes of Health /National Cancer Institute

Career Transition Award, 'Pathway to Independence' K99 2013-2016

Terri Brodeur Breast Cancer Foundation

Postdoctoral Fellowship Award 2013-2014

American Association for Cancer Research

Advances in Breast Cancer Research Conference, Scholar-in-Training Award 2011

American Association for Cancer Research

101st Annual Meeting, Scholar-in-Training Award 2010

American Association for Cancer Research

Advances in Breast Cancer Research Conference, Scholar-in-Training Award 2009

Department of Defense Breast Cancer Research Program

Postdoctoral Fellowship Award (declined) 2009-2011

Susan Komen Breast Cancer Foundation

Postdoctoral Fellowship Award 2009-2011

French Foundation for Medical Research 'Fondation pour la Recherche Médicale'

Postdoctoral Fellowship Award 2008

Philippe Foundation

Postdoctoral Award 2008

French Cancer Research Foundation 'Association pour la Recherche sur le Cancer'

Ph.D. Fellowship Award 2007

French Cancer Research Foundation 'Ligue Contre le Cancer'

Ph.D. Fellowship Award 2004-2006

Michel d'Ornano Foundation, Normandy District Council

Undergraduate Scholarship Award 1998-2003

GRANTS

Funding agency: **NIH/NCI**
 Grant number: 4R00CA178206-03
 Principal Investigator: Anczukow-Camarda
 Grant period: 07/01/2016 – 06/31/2019

Funding agency: **NIH/NCI**
 Grant number: 1K99CA178206-01
 Principal Investigator: Anczukow-Camarda
 Grant period: 09/01/2013 – 06/31/2016

Funding agency: **Terri Brodeur Breast Cancer Foundation**
 Grant number: 66810-101
 Principal Investigator: Anczukow-Camarda
 Grant period: 01/01/2013 – 12/31/2014

Funding agency: **Susan G. Komen For the Cure**
 Grant number: KG091029
 Principal Investigator: Krainer/Anczukow-Camarda
 Grant period: 06/04/2009 – 06/03/2012

Funding agency: **Fondation pour la Recherche Médicale**
 Grant number: SPE20070709581
 Principal Investigator: Anczukow-Camarda
 Grant period: 01/01/2008 -12/31/2008

Funding agency: **Association pour la Recherche sur le Cancer**
 Principal Investigator: Anczukow-Camarda
 Grant period: 01/01/2007-12/31/2007

Funding agency: **Ligue Contre le Cancer**
 Principal Investigator: Anczukow-Camarda
 Grant period: 09/01/2006-31/12/2006

Funding agency: **Ligue Contre le Cancer de Saône-et-Loire**
 Principal Investigator: Anczukow-Camarda
 Grant period: 09/01/2004-08/31/2006

MENTORING EXPERIENCE

Young Jin Kim, Graduate Program, Stony Brook Medicine, NY, USA	2015
Chitra Mohan, Graduate Program, Stony Brook University, NY, USA	2014
Chenle Hu, Jericho Senior High School, NY, USA, Semi-finalist Intel Science Talent Search	2012-2013
Tobiloba Oni, Graduate Program, Stony Brook University, NY, USA	2013
Nitin Shirole, Graduate Program, Stony Brook University, NY, USA	2012
Chen Shen, Graduate Program, Stony Brook University, NY, USA	2011
Martin Fan, Undergraduate Program, Watson School of Biological Sciences, NY, USA	2010
Ludivine Gouny, Undergraduate Program, Université Claude Bernard Lyon 1, France	2007
Marie-Joseph Salles, Undergraduate Program, Université Claude Bernard Lyon 1, France	2006
Sarah Triboulet, Undergraduate Program, Université Claude Bernard Lyon 1, France	2006

SCIENTIFIC SERVICE

Invited speaker and panelist, <i>Beyond Genetics: Genomics in breast cancer, diagnosis, treatment and research</i> , The Jackson Laboratory and the Connecticut Breast Health Initiative Inc., Farmington, CT	2017
Invited speaker and panelist, <i>Connecticut Think Pink Event 2017</i> , Farmington, CT	2017
Invited speaker and panelist, <i>Center of Excellence for Women in STEM</i> , Bay Path University, MA	2016
Ad hoc interviewer, MD/PhD Program, University of Connecticut School of Medicine, CT	2016
Invited session chair, <i>Splicing Factors Mutations In Cancer Workshop</i> , MSKCC, New York, NY	2015
Ad hoc reviewer for faculty promotions, Université Pierre et Marie Curie, Paris, France	2015
Workshop panelist, <i>Career Development Workshop</i> , Cold Spring Harbor Laboratory, NY	2014
Workshop panelist, <i>Grant Writing Workshop</i> , Cold Spring Harbor Laboratory, NY,	2013
Ad hoc grant reviewer (<i>National Science Center Poland, MRC UK-ASM Newton Fund</i>)	2012-current
Manuscript reviewer (<i>Cell, Nature Structural Molecular Biology, PNAS, Plos Biology, Cancer Research, Plos One, Biomaterials, RNA Journal</i>)	2008-current

PROFESSIONAL MEMBERSHIPS

American Association for Cancer Research Member	2009-present
RNA Society Member	2011-present
Yale RNA Club Member	2016-present
Connecticut RNA Salon Founding Member	2016-present

ADDITIONAL TRAINING AND EDUCATION

<i>Workshop on Leadership in Bioscience</i> , Cold Spring Harbor Laboratory, NY, USA	2014
<i>The Genome Access Course</i> , Cold Spring Harbor Laboratory, NY, USA	2014
<i>The Software Carpentry Bootcamp</i> , Cold Spring Harbor Laboratory /iPlant Initiative, NY, USA	2014
<i>Translational Cancer Research for Basic Scientists Workshop</i> , AACR, Boston, MA, USA	2013
<i>BioMedical Course</i> , Collaborative Institutional Training Initiative, AACR/DFHCC/MGH	2013
<i>Oncogene and Tumor Suppressor Course</i> , European School of Cancerology, Paris, France	2004

PUBLICATIONS

Original peer-reviewed publications

1. **Anczuków O***, Akerman M*, Cléry A, Wu J, Shen C, Shirole HN, Raimer A, Sun S, Jensen MA, Hua Y, Allain FHT, Krainer AR (2015). *SRSF1-regulated alternative splicing in breast cancer*. **Molecular Cell**, 60(1), 105-117. PMC4597910. Citations 28, IF 14.0.
2. Cléry A, Sinha R, **Anczuków O**, Corrionero A, Moursy A, Daubner G, Valcárcel J, Krainer AR, Allain F (2013). *Isolated Pseudo-RRMs of SR proteins can regulate splicing via a non-canonical and sequence-specific RNA recognition mode*. **PNAS**, 110:E2802-11. PMC3725064. Citations 40, IF 9.8.

3. Wu J, **Anczuków O**, Krainer AR, Zhang MQ, Zhang C (2013). *OLego: Fast and sensitive mapping of spliced mRNA-Seq reads using small seeds*. **Nucleic Acid Research**, 41:5149-5163. PMC3664805. Citations 47, IF 8.2.
4. **Anczuków O**, Rosenberg AZ, Akerman M, Das S, Zhan L, Karni R, Muthuswamy SK, Krainer AR. (2012). *The splicing factor SRSF1 regulates apoptosis and proliferation to promote mammary epithelial cell transformation*. **Nature Structural Molecular Biology**, 19:220-8. PMC3272117. Citations 138, IF 12.7.
5. Das S, **Anczuków O**, Akerman M, Krainer AR. (2012). *Oncogenic splicing factor SRSF1 is a critical transcriptional target of MYC*. **Cell Reports**, 1:110–117. PMC3334311. Citations 72, IF 7.2.
6. **Anczuków O**, Buisson M, Leone M, Coutanson C, Lasset C, Calender A, Sinilnikova OM, Mazoyer S. (2012). *BRCA2 Deep Intronic Mutation Causing Activation of a Cryptic Exon: Opening Towards a New Preventive Therapeutic Strategy*. **Clinical Cancer Research**, 18:4903-4909. PMID: 22753590. Citations 27, IF 7.8.
Comment in: Fackenthal JD, Lee Y, Olopade OI. (2012). *Hidden dangers: a cryptic exon disrupts BRCA2 mRNA*. **Clinical Cancer Research**, 18(18):4865-7
7. **Anczuków O**, Ware MD, Buisson M, Zetoune AB, Stoppa-Lyonnet D, Sinilnikova OM, Mazoyer S (2008). *Does the nonsense-mediated mRNA decay mechanism prevent the synthesis of truncated BRCA1, CHK2, and p53 proteins?* **Human Mutation**, 29:65-73. PMID: 17694537. Citations 60, IF 5.8.
8. **Anczuków O**, Buisson M, Salles MJ, Triboulet S, Longy M, Lidereau R, Sinilnikova OM, Mazoyer S (2008). *Unclassified Variants Identified in BRCA1 Exon 11: Consequences on Splicing*. **Genes, Chromosomes and Cancer**, 47:418-26. PMID: 18273839. Citations 32, IF 3.5.
9. Zetoune AB, Fontaniere S, Magnin D, **Anczuków O**, Buisson M, Zhang CZ, Mazoyer S (2008). *Comparison of nonsense-mediated mRNA decay efficiency in various murine tissues*. **BMC Genetics**, 9:83. PMC2607305. Citations 66, IF 2.6.
10. Buisson M, **Anczuków O**, Zetoune AB, Ware MD, Mazoyer S (2006). *The 185delAG mutation in the BRCA1 gene triggers translation reinitiation at a downstream AUG codon*. **Human Mutation**, 27:1024-9. PMID: 16941470. Citations 52, IF 5.8.
11. Sinilnikova OM, Ginolhac SM, Magnard C, Leone M, **Anczuków O**, Hughes D, Moreau K, Thompson D, Coutanson C, Hall J, Romestaing P, Gerard JP, Bonadona V, Lasset C, Goldgar DE, Joulin V, Venezia ND, Lenoir GM (2004). *Acetyl-CoA carboxylase alpha gene and breast cancer susceptibility*. **Carcinogenesis**, 25: 2417-24. PMID: 15333468. Citations 34, IF 5.7.

Manuscripts submitted or in preparation

12. **Anczuków O***, Das S, Lin KT, Wu J, Akerman M, Hu L, Fan M, Muthuswamy SK, Krainer AR. *Non redundant functions of splicing factors in breast-cancer initiation and metastasis*. In preparation.

Review articles/ Books/ Chapters/ Thesis

13. **Anczuków O** and Krainer AR (2016). *Splicing-factor alterations in cancers*. **RNA**, 22:1285-301. PMID: 27530828. Citations 4, IF 4.9.
14. **Anczuków O** and Krainer AR (2015). *The spliceosome, a potential Achilles heel of MYC-driven tumors*. (2015) **Genome Medicine**, 7:107. PMC4618744. Citations 1, IF 5.8.
15. **Anczuków O**. *Conséquences moléculaires des mutations germinales sur l'expression des gènes de prédisposition au cancer du sein*. Thèse de doctorat: Biologie moléculaire: Lyon 1: 2007.

Non-peer reviewed journals

16. **Anczuków O**, Lin KT, Das S, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Abstract A078: Differential functions of splicing factors in breast-cancer initiation and metastasis*. **Molecular Cancer Research**, 2013, 11 (10 Supplement), A078-A078
17. **Anczuków O**, Lin KT, Das S, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Abstract B53: Differential functions of splicing factors in breast-cancer initiation and metastasis*. **Cancer Research**, 2013, 73 (3 Supplement), B53-B53
18. **Anczuków O**, Rosenberg A, Muthuswamy SK, Krainer AR. *Role of the splicing factor SF2/ASF in mammary epithelial cell transformation*. **Cancer Research**, 2010, 70 (8 Supplement), 1-1

SCIENTIFIC COMMUNICATIONS

Invited talks

1. Invited talk. BIDMC Immunology Workshop, Boston, MA, 2017
2. Invited talk. JAX Cancer Center Annual Retreat, Portland, ME, 2016
3. Invited talk. JAX Faculty Annual Retreat, Portsmouth, NH, 2016
4. Invited talk. JAX Cancer Center Retreat, 2016.
5. Invited talk, Inselspital, Universitätsspital Bern, Bern, Switzerland, 2016.
6. Invited talk, Cancer Research UK Institute, Cambridge, UK, 2016.
7. Invited talk, Wistar Institute, Philadelphia, PA, 2016.
8. Invited talk, The Jackson Laboratory for Genomic Medicine, Farmington, CT, 2016.
9. Invited talk, The Lerner Research Institute at Cleveland Clinic, Cleveland, OH, 2016.
10. Invited talk, University of Rochester Center for RNA Biology, Rochester, NY, 2016.
11. Invited workshop introduction, *Workshop On Splicing Factors Mutations In Cancer*, Memorial Sloan Kettering Cancer Center, New York, NY, 2015.
12. Invited talk, Columbia University, New York, NY, 2015.
13. Invited talk, Cambridge University, Cambridge, UK, 2015.
14. Invited talk, Duke-NUS Medical School, Singapore, 2015.
15. Invited talk, Stony Brook Medicine, Stony Brook, NY, 2015.
16. Invited talk, Massachusetts General Hospital, Charleston, MA, 2015.
17. Invited talk, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA, 2015.
18. Invited talk, Capital Medical University, Beijing, China, 2014.
19. Invited talk, Cold Spring Harbor Laboratory, NY, 2014.

Conference abstracts selected for talks

20. **Anczuków O.** *Role of SR Proteins and Splicing Targets in Breast Cancer and Metastasis.* ‘Post-Transcriptional Gene Regulation Gordon Research Conference’, Stowe, VT, 2016.
21. **Anczuków O***, Akerman M*, Cléry A, Wu J, Shen C, Shirole HN, Raimer A, Jensen MA, Allain FHT, Krainer AR. *SRSF1-regulated alternative splicing in breast cancer.* ‘CSHL Eukaryotic mRNA Processing’ Cold Spring Harbor Laboratory, NY, 2015.
22. **Anczuków O**, Das S, Lin KT, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Role of SR proteins and their splicing targets in breast cancer initiation and metastasis.* ‘20th Annual Meeting of the RNA Society’ Madison, WI, 2015.
23. **Anczuków O**, Das S, Lin KT, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Non-redundant functions of splicing factors in breast-cancer initiation and metastasis.* ‘Biology of Cancer: Microenvironment, Metastasis & Therapeutics’ Cold Spring Harbor Laboratory, NY, 2015.
24. **Anczuków O**, Das S, Lin KT, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Differential functions of splicing factors in breast-cancer initiation and metastasis.* ‘RNA Biology’ Cold Spring Harbor Laboratory Asia, Suzhou, China, 2014.
25. **Anczuków O**, Das S, Lin KT, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Non-redundant functions of splicing factors in breast-cancer initiation and metastasis.* ‘Nineteenth Annual Meeting of the RNA Society’, Québec, Canada, 2014.
26. **Anczuków O**, Lin KT, Akerman M, Das S, Muthuswamy SK, Krainer AR. *Differential role of splicing factors in breast cancer initiation and metastasis.* ‘Cancer Mechanisms and Therapeutics’, Cold Spring Harbor Laboratory, NY, 2013.
27. **Anczuków O**, Rosenberg A, Akerman M, Zhan L, Karni R, Muthuswamy SK, Krainer AR. *SRSF1 regulates apoptosis and proliferation to promote mammary epithelial cell transformation.* ‘Sixteenth Annual Meeting of the RNA Society’, Kyoto, Japan, 2011.
28. **Anczuków O**, Rosenberg A, Muthuswamy SK, Krainer AR. *Role of the splicing factor SF2/ASF in mammary epithelial cell transformation.* ‘AACR 101st Annual Meeting’, Washington DC, 2010.
29. **Anczuków O**, Buisson M, Sinilnikova O, Mazoyer S. *Unclassified variants in BRCA1 exon 11: consequences on splicing.* ‘Human and Medical Genetics Society annual meeting’, Montpellier, France, 2006.

Other conference abstracts

30. **Anczuków O**, Das S, Lin KT, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Non-redundant functions of splicing factors in breast-cancer initiation and metastasis.* ‘AACR Advances in Breast Cancer Research’, Seattle, WA, 2015.
31. **Anczuków O**, Das S, Lin KT, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Non-redundant functions of splicing factors in breast-cancer initiation and metastasis.* ‘Mechanisms & Models of Cancer’, Cold Spring Harbor Laboratory, NY, 2014.
32. **Anczuków O**, Das S, Lin KT, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Non-redundant functions of splicing factors in breast-cancer initiation and metastasis.* ‘Messenger RNA: From Discovery to Synthesis and Regulation in Bacteria and Eukaryotes,’ Cold Spring Harbor Laboratory, NY, 2014.

33. **Anczuków O**, Das S, Lin KT, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Non-redundant functions of splicing factors in breast-cancer initiation and metastasis*. 'Post-Transcriptional Gene Regulation Gordon Research Conference', Newport, RI, 2014.
34. **Anczuków O**, Lin KT, Das S, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Differential functions of splicing factors in breast-cancer initiation and metastasis*. 'AACR Advances in Breast Cancer Research', San Diego, CA, 2013.
35. **Anczuków O***, Akerman M*, Wu J, Jensen MA, Krainer AR. *Of splicing regulation by SRSF1 in breast cancer*. 'CSHL Eukaryotic mRNA processing', Cold Spring Harbor Laboratory, NY, 2013.
36. **Anczuków O**, Lin KT, Das S, Wu J, Akerman M, Muthuswamy SK, Krainer AR. *Differential functions of splicing factors in breast-cancer initiation and metastasis*. 'CSHL Eukaryotic mRNA processing', Cold Spring Harbor Laboratory, NY, 2013.
37. **Anczuków O**, Lin KT, Akerman M, Das S, Muthuswamy SK, Krainer AR. *Differential role of splicing factors in breast cancer initiation and metastasis*. 'AACR Tumor invasion and metastasis', San Diego, CA, 2013.
38. **Anczuków O**, Lin KT, Akerman M, Das S, Muthuswamy SK, Krainer AR. *Role of splicing factors in mammary epithelial cell transformation*. 'CSHL Mechanisms and models of cancer', Cold Spring Harbor Laboratory, NY, 2012.
39. **Anczuków O**, Lin KT, Akerman M, Das S, Muthuswamy SK, Krainer AR. *Role of splicing factors in mammary epithelial cell transformation*. 'Gordon Research Conference, The Biology of Post-Transcriptional Gene Regulation', Newport, RI, 2012.
40. **Anczuków O**, Rosenberg A, Akerman M, Zhan L, Karni R, Muthuswamy SK, Krainer AR. *SRSF1 regulates apoptosis and proliferation to promote mammary epithelial cell transformation*. 'AACR Advances in Breast Cancer Research: Genetics, Biology, and Clinical Applications conference', San Francisco, CA, 2011.
41. **Anczuków O**, Rosenberg A, Akerman M, Zhan L, Karni R, Muthuswamy SK, Krainer AR. *SRSF1 regulates apoptosis and proliferation to promote mammary epithelial cell transformation*. 'CSHL Eukaryotic mRNA Processing', Cold Spring Harbor Laboratory, NY, 2011.
42. **Anczuków O**, Rosenberg A, Muthuswamy SK, Krainer AR. *Role of Alternative Splicing in Mammary Epithelial Cell Transformation*. 'AACR Advances in Breast Cancer Research Conference', San Diego, CA, 2009.
43. **Anczuków O**, Ware MD, Buisson M, Zetoune AB, Stoppa-Lyonnet D, Sinilnikova OM, Mazoyer S. *Does the Nonsense-Mediated mRNA decay mechanism prevent the synthesis of truncated proteins from TP53 and other breast cancer predisposing genes?* P53 Marathon', IARC, Lyon, France, 2007.
44. **Anczuków O**, Buisson M., Salles MJ, Triboulet S, Mazoyer S. *Unclassified variants identified in BRCA1 exon 11: consequences on splicing*. 'RNA and Cancer meeting', Cancéropôle/EURASNET, La Grande Motte, France, 2007.
45. **Anczuków O**, Buisson M, Salles MJ, Triboulet S, Mazoyer S. *Unclassified variants identified in BRCA1 exon 11: consequences on splicing*. 'EMBO Conference pre-mRNA processing and disease', Cortina d'Ampezzo, Italy, 2007.