

Sihem Cheloufi, Ph.D.

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PERSONAL STATEMENT:

The research program in my laboratory brings together expertise in stem cell, RNA and chromatin research to understand the mechanisms of cellular plasticity with the broader vision to apply our findings in therapeutic settings. My research group is leveraging molecular biology, systems biology and biochemical approaches to understand the role of chromatin and regulatory RNAs in mammalian cell fate decisions. In particular, we focus on histone chaperone and RNA processing pathways. Guided by our expertise and findings, we have recently expanded our work to investigate the regulation and function of endogenous retroviruses in cellular plasticity.

Training: My expertise in the fields of stem cell and chromatin biology comes from my ~6 years postdoctoral training in the Hochedlinger lab at MGH and Harvard Stem Cell Institute where I performed several RNAi screens to investigate epigenetic determinants of cell identity. My efforts led to several research articles and reviews including unraveling the role of CAF-1 histone chaperone in cellular reprogramming. I also have 7 years training in genetics and RNA biology from my PhD in the Hannon lab at CSHL where I discovered a novel microRNA biogenesis pathway in erythropoiesis and contributed to the publication of several research articles on small RNA biogenesis pathways in various cellular contexts. I also gained expertise in embryo manipulation and genetic engineering during my training at the CSHL mouse course (AY 2003). Moreover, I built a strong foundation in molecular genetics from my undergraduate studies and internships at King's College London and the Institute of Child Health, UCL (AY 1998-2001).

Mentorship: As a junior faculty I am currently expanding my research team. Since I started my laboratory, I have trained and mentored several students and research assistants including, four graduate students, five junior specialists and nine undergraduate students. My trainees are authors on my lab's most recent publications and my students at all levels were awarded research fellowships. For example, Archie Patel and Jonah Frazier two undergraduates in the lab received the UCOP diversity and disparities traineeship award (AY 2022) and Reuben Franklin, the first PhD student to graduate from my lab, won the TRASCEND postdoctoral fellowship as part of our Stem Cell Center CIRM training grant (AY 2023). My students also received other awards, including travel grants for attending conferences and won best poster and oral presentation awards. Moreover, my trainees are members of professional societies that fit best their projects including ISSCR, RNA and ASBMB. I am also involved in mentoring and training students from my collaborators' labs at UCR, COH and MIT. I am fully committed to provide the necessary training and guidance to my trainees and promote their scientific growth and success.

Service: I am actively involved in reviewing grant proposals and research manuscripts. For example, I participated in the NIH Early Career Reviewer (ECR) Program and consequently served on NIH study sections. I also served as an external reviewer for the European Research Council, the Swiss National Science Foundation and the Natural Sciences and Engineering Research Council of Canada. I also engage every year to review abstracts for the ISSCR annual conference. I am constantly communicating our findings through conferences, workshops and visiting other institutions worldwide. For example, I was recently invited to present my lab's work at the 2023 GRC on Epigenetics, the 2022 CSHL chromatin and epigenetics conference and Institute Curie's DEEP Laboratory of Excellence seminar series.

CURRENT POSITION

Member, Center for RNA Biology and Medicine	2022 – present
Member, Institute for Integrative Genome Biology	2020 – present
Member, Interdisciplinary Center for Quantitative Modeling in Biology	2019 – present
Member, Stem Cell Center	2017 – present
Assistant Professor, Department of Biochemistry	2017 – present

EDUCATION

- Postdoctoral Fellow
Massachusetts General Hospital & Harvard Stem Cell institute
Konrad Hochedlinger Lab 2011-2017
- PH. D in Genetics
SUNY Stony Brook/Cold Spring Harbor laboratory
Greg Hannon Lab 2001-2010
- Mouse Development, Stem Cells & Cancer Course,
Cold Spring Harbor Laboratory 2003
- B. S Thesis
Institute of Child Health, University College London
Sue Malcolm Lab 2000-2001
- B. S in Molecular Genetics
King's College University of London, UK 1998-2001
- English Diploma, King's College University of London, UK 1997-1998
- Baccalaureate, Lycée Polyvalent, Tlemcen, Algeria 1994-1997

AWARDS & HONORS

NIGMS Maximizing Investigator's Research Award (MIRA)	2023
City of Hope – UC Riverside Biomedical Research Initiative Award	2019 & 2023
Cancer Research Coordinating Committee Award, University of California	2020 & 2022
Regents Junior Faculty Fellowship, UC Riverside Academic Senate	2019
Women Faculty Association travel award, University of California Riverside	2019
Omnibus Travel Awards, UC Riverside Academic Senate	2018-2023
Integrative Genomics Core Pilot Award	2018
Harvard Medical School Epigenetics Seed Grant Award	2015
DoD Peer-Reviewed Cancer Research Program visionary postdoctoral fellowship award	2016
Future of Science Fund Scholarship, Keystone Symposia	2015
Society for Developmental Biology Travel Award	2007
Excellence in Research Award, Sigma Xi society	2003
Sigma Xi society Travel Award	2003
Young Science Writer Awards, Daily Telegraph	2001
Algerian Ministry of Education and Scientific Research Award	1997

SELECTED ORAL PRESENTATIONS AS FACULTY

UCI Microbiology and Molecular Genetics Seminar Series	Jan 2024
UCR 21st Annual CEPCEB Awards & Lecture Ceremony	Dec 2023
Inaugural New Investigator in Chromatin and Epigenetics (NICE) conference	Oct 2023
Epigenetics Gordon Research Conference The Grammar of Retrotransposon Regulation and Influence on Cell Fate Decisions	Aug 2023
87th CSHL Symposium on Quantitative Biology: Stem Cells Manipulation of Chromatin Accessibility Reveals Selective Epigenetic Regulation of Retrotransposons	June 2023
Bay Area Chromatin Club Seminar Series, Special Guest <i>Decoding the Dark Matter of the Genome through the Lens of Histone Chaperones</i>	April 2023
NIDDK LCDB Seminar series, Bethesda, MD <i>Decoding the Dark Matter of the Genome through the Lens of Histone Chaperones</i>	April 2023
NCI Special Seminar, Frederick, MD <i>Epigenetic Mechanisms of Cellular Plasticity</i>	April 2023
CSHL Epigenetics and Chromatin Conference, NY <i>Lineage specific transcriptional control by the histone chaperone CAF-1</i>	Sept 2022
DEEP Laboratory of Excellence, Institut Curie, Paris <i>How the Histone Chaperone Network and Small Non-Coding RNAs Control Cellular Plasticity</i>	June 2022
Subhash Mukhopadhyay symposium, Adamas University, India <i>Epigenetics Mechanisms of Cellular Plasticity</i>	Jan 2022
Ribo Forum Seminar Series, University of California Los Angeles <i>How Chromatin Accessibility and Non-Coding RNAs Control Cell Fate Decisions</i>	Jan 2022
Chromatin Club Seminar Series, University of Michigan, Ann Arbor, MI <i>How Chromatin Accessibility Sustains Lineage Fidelity</i>	Nov 2021
EMBO Workshop: Physiology and Function of Histone Variants <i>CAF-1 Keeps Transcription Factors Accessibility in Check</i>	Sept 2021
Society for Mathematical Biology Annual Conference, UC Riverside <i>Mathematical Modeling of Cell Fate Decisions Upon Manipulation of Chromatin Accessibility</i>	June 2021
Mayo Clinic Epigenomics Seminar Series, Rochester, MN <i>How Chromatin Organization and Small Non-Coding RNAs Influence Cellular Plasticity</i>	May 2021
Inland Empire Stem Cell Consortium, University of California Riverside <i>Chromatin Accessibility and Cellular Plasticity</i>	Oct 2019
International Society for Stem Cell Research Annual Conference, Los Angeles <i>Chromatin Accessibility and Cellular Plasticity</i>	June 2019

SELECTED ORAL PRESENTATIONS AS TRAINEE

Harvard Medical School Epigenetics Symposium <i>The histone chaperone CAF-1 safeguards somatic cell identity</i>	October 2015
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Abcam Epigenetics Meeting on Bridging Development and Disease & Non-coding RNAs, Harvard Medical school <i>The histone chaperone CAF-1 safeguards somatic cell identity during transcription factor-induced reprogramming</i>	May 2015
Keystone Conference on Transcriptional and Epigenetic influences on stem cell states, Steamboat Springs, Colorado <i>RNAi screens identify CAF-1 histone chaperone as a barrier to reprogramming</i>	March 2015
New England RNA data club, Harvard Medical School, Boston <i>A dicer-independent miRNA biogenesis pathway that requires Ago catalysis</i>	August 2010
microRNAs in Human Disease Conference, St. Kitts and Nevis <i>A dicer-independent miRNA biogenesis pathway that requires Ago catalysis</i>	Feb 2010

MENTORSHIP AS FACULTY (Current trainees in bold)

Postdoctoral Trainees

- **Reuben Franklin**, Cell, Molecular and Developmental Biology Program 2023-present
2023: TRANSCEND Postdoctoral Traineeship, CIRM Stem Cell Training Grant

Graduate Trainees

- **Brian Zhang**, Cell, Molecular and Developmental Biology Program Summer 2022-present
- **Meijuan Chen**, Cell, Molecular and Developmental Biology Program Fall 2022-present
2023: RNA society membership award sponsored by UCR's RNA center
2022: UCR RNA Center Inaugural Symposium Poster Presentation
- Reuben Franklin, Cell, Molecular and Developmental Biology Program 2018-2023
2023: UCR CNAS Dean's Fellowship
2022: First author on the first research article from the Cheloufi Lab
2022: Best oral presentation award at UCR's Institute for Integrative Genome Biology Annual Symposium
2021: Nominated to apply for the HHMI Gilliam Fellowship for Advanced Studies
2021: First author on a review article from the Cheloufi Lab
2021: Co-first author on a collaborative paper with Dr. Qi Chen's group at UCR
2019: 2nd prize poster presentation award at the 8th Inland Empire Stem Cell Consortium
2019: Americans for Cures Foundation Travel Award
2019-present: Member, International Society for Stem Cell Research (ISSCR)
2019: Science Community Outreach at local elementary schools
2018: Eugene Cota Robles Fellowship
2018: UCR Summer GradEdge/JumpStart Program
- Yiming Guo Livel, Biochemistry and Molecular Biology Program 2018-2020
2021: Transferred PhD to University of Alabama Birmingham
2020: Second author on the first research article from the Cheloufi Lab
2019: Presenter at the UCR Stem Cell Center Seminar Series
2019: Americans for Cures Foundation Travel Award

Junior Specialists:

- **Camille Groneck**, Christine Disteche lab trainee Sept 2023
- Meijuan Chen, Shou-wei Ding lab trainee (current graduate student) 2021-2022
2022: co-author on a collaborative project in the Cheloufi Lab

- 2022-present: Member, RNA Society
- Ho Jung Jeong, UC Berkeley Graduate 2021-2021
- Jose Luis Orozco, UCLA Graduate 2018-2019
- Sandy Hanna, UCR graduate with Honors 2018

Undergraduate Trainees (current in Bold)

- **Brandon Lee**, Biochemistry Major Fall 2023-present
- **Jonah Frazier**, RISE scholar Summer 2023-present
- Shreyans (Archie) Patel, UCR Biology major 2021-2023
2022: UCOP Diversity and Disparities in Cancer Research Traineeship Supplement
2021: Dean's and Chancellor's Honor list
- Brian Zhang, CMDDB major (NSF PERSIST & Chancellor's Honor list) Summer 2022
- Arushee Sangani, Biochemistry Major Summer 2021
City of Hope Eugene and Ruth Roberts summer internship Co-mentored student
- Sarah Miller, CMDDB major (SALSA-HHMI summer fellowship) 2018-2019
- MiHyun (Amy) Jang Summer 2019
City of Hope co-mentored summer student (Rockne lab)
- Carmen Chiem, Biochemistry Major 2017-2018
2022: co-author in a publication from the Cheloufi Lab
- Jiahui Ni, Pharmaceutical Science Major 2017
exchange student from Fudan University

MENTORSHIP AS TRAINEE

Graduate Trainees

- Daniel Wesche, M.Sc. in Molecular Mechanisms of Disease 2012-2013
Nijmegen Center for Molecular Life Sciences, Radboud University, The Netherlands
Master's thesis under my supervision: *The role of lncRNAs in cellular reprogramming*
2012: Molecular Mechanisms of Disease (MMD) Scholarships,
2015: Co-author of Nature publication on CAF-1 in cellular reprogramming.
- Nade Abazova, M.Sc. in Molecular Biosciences, University of Heidelberg 2012-2013
Master's thesis under my supervision: *The role of histone modifications in reprogramming*
2015: Co-author of Nature publication on CAF-1 in cellular reprogramming.
- Xin Zhou, Ph.D. SUNY Stony Brook University 2010
Project: improved design of shRNA based on structural mimics of miR-451

Undergraduate Trainees

- Chris Hsiung, CSHL undergraduate research program, Hannon laboratory 2008
Differential small RNA loading in mammalian AGO complexes

TEACHING

Courses

BCH180R Epigenetics	Fall 2023-present
BCH 185 Epigenetics in Development and Disease	Fall 2022-present
BCH 211 Molecular Biology Graduate Course	Spring 2018-present
BCH 110C General Biochemistry Upper Division Course	Fall 2018-present
BCH 197 Research for Undergraduate Students	Fall 2017-present
BCH 240 Special topics in Biochemistry: Stem Cell Biology	Fall 2017-present

Guest lectures

BCH 252 Biochemistry Seminar Series	Fall 2023
Environmental Toxicology Seminar Series	Spring 2022
BCH 252 Biochemistry Seminar Series	Winter 2022
BCH 095 Topics in Biochemistry for Career Planning	Fall 2018

PROFESSIONAL ACTIVITIES & SERVICES

Ad Hoc Journal Reviewer

Molecular Cell, Cell Reports, Developmental Cell, Epigenetics and Chromatin, Molecular Systems Biology, Gene Therapy, Frontiers in Genetics, Frontiers in Molecular Biosciences, Frontiers in Cell and Developmental Biology

Ad Hoc Grant Reviewer

- NIH Center for Scientific Review, MIRA R35, MRAC study section 2023
- European Research Council (ERC), external reviewer 2023
- NIH Center for Scientific Review, Early Career Reviewer, MG study section 2022
- Swiss National Science Foundation, Division Biology and Medicine, external reviewer 2022
- UCR Biochemistry Department Wedding Prize Award 2017-present

Publishing

Review Editor, Frontiers in Genetics (RNA section)

Conferences, Workshops, Training Programs

- Participant, California Institute for Regenerative Medicine (CIRM) Graduate Training Program to Advance Interdisciplinary Stem Cell Research, and Workforce Diversity 2021- 2026 Education,
- Panelist, Advancement and Retention in Academe Mentoring workshop Winter 2023
- Session Chair, Inaugural Symposium of UCR Center for RNA Biology and Medicine Fall 2022
- Abstract Reviewer, International Society for Stem Cell Research (ISSCR) Annual Conference 2019-present
- Organizer, UCR Junior Faculty Slack Platform 2021-present
- Host for UCR seminar series (Biochemistry and Molecular Biology, Stem Cell Center & Institute for Integrative Genome Biology) 2017-present
- Panelist, CMDB & Biomedical Sciences Graduate programs Review Fall 2021
- Participant, DoD Regenerative Medicine Stakeholder's Meeting Spring 2018
- Panelist, UCR School of Medicine Post-Graduate Professional Development Fall 2018

Professional Memberships

- Member, the American Society for Biochemistry and Molecular Biology 2022-present
- Member, the RNA society 2021-present
- Member, International Society for Stem Cell Research (ISSCR) 2011-present
- Member, Society for Developmental Biology 2005-2011

PUBLICATIONS AS FACULTY

*** Corresponding author: # Trainees**

- Shah K, He S, Turner DJ, Corbo J, Rebbani K, Bateman JM, **Cheloufi S**, Igreja C, Valkov E, Murn J. A paradigm for regulation at the effector interface with RNA-binding proteins. PMID: 37790431 bioRxiv [**Preprint**], 2023
available from: <https://doi.org/10.1101/2023.09.20.558714> (Under review)

This is a collaborative effort with the Murn lab where we provide mechanistic insights on The RBP-Effector communication by investigating the function of a neuronal RBP in regulating protein translation and cell morphology.

- He S, Valkov E, **Cheloufi S*** & Murn J. The nexus between RNA-binding proteins and their effectors. **Nature Reviews Genetics**, doi:10.1038/s41576-022-00550-0 (2022)
This is a collaborative invited review article with the Murn lab at UCR on RNA related projects in the lab. The review is centered on the communication between RNA binding proteins and their effectors, how they converge to regulate biological processes and their significance in disease.
- Hsu PP, Do BT, Vermeulen SY, Wang Z, Hirz T, Aziz N, Replogle JM, Abbott KL, Block S, Darnell AM, Ferreira R, Milosevic JT, Schmidt DR, Chidley C, Su XA, Harris IS, Weissman JS, **Cheloufi S**, Sykes DB & Vander Heiden MG. Nucleotide depletion promotes cell fate transitions by inducing DNA replication stress. *BioRxiv* 503984 [**Preprint**], August 16, 2022
Available from: <https://doi.org/10.1101/2022.08.16.503984> (Under review)
This is a collaborative project with the Vander Heiden lab at MIT. Sihem Cheloufi performed ATAC-seq and RNA-seq experiments, contributed intellectually to the study and assisted in data interpretation and editing the manuscript.
- Franklin, R. #, Guo, Y. #, He, S., Chen, M. #, Ji, F., Zhou, X., Frankhouser, D., Do, B. T., Chiem, C. #, Jang, M. #, Blanco, M. A., Vander Heiden, M. G., Rockne, R. C., Ninova, M., Sykes, D. B., Hochedlinger, K., Lu, R., Sadreyev, R. I., Murn, J., Volk, A. & **Cheloufi, S***. Regulation of chromatin accessibility by the histone chaperone CAF-1 sustains lineage fidelity. **Nature Communications** 13, 2350, doi:10.1038/s41467-022-29730-6 (2022).
In this research article Sihem Cheloufi Conceived and designed the study. She performed and analyzed the experiments. She Supervised and coordinated all the collaborations. Interpreted the data and wrote the manuscript with input from all authors. Co-author trainees include R. Franklin who and Y. Guo both graduate students and C. Chiem and M. Jang both undergraduates students.
UCR press release: <https://news.ucr.edu/articles/2022/04/29/how-genome-organization-influences-cell-fate>
- Shi, J., Zhang, Y., Tan, D., Zhang, X. #, Yan, M., Zhang, Y., Franklin, R. #, Shahbazi, M., Mackinlay, K., Liu, S., Kuhle, B., James, E. R., Zhang, L., Qu, Y., Zhai, Q., Zhao, W., Zhao, L., Zhou, C., Gu, W., Murn, J., Guo, J., Carrell, D. T., Wang, Y., Chen, X., Cairns, B. R., Yang, X. L., Schimmel, P., Zernicka-Goetz, M., **Cheloufi, S.***, Zhang, Y., Zhou, T. & Chen, Q. PANDORA-seq expands the repertoire of regulatory small RNAs by overcoming RNA modifications. **Nature Cell Biology** 23, 424-436, doi:10.1038/s41556-021-00652-7 (2021).
This is a collaborative project between the Cheloufi Lab and Dr. Qi Chen's lab at UCR's Biomedical Division. Here Sihem Cheloufi Conceived the project on the role of small RNAs in cell fate decisions in collaboration with Dr. Qi Chen's group using PANDORA-seq technology. She Designed and supervised all the stem cell work in both labs where she trained her graduate student Reuben Franklin et co-mentored Xudong Zhang from the Qi lab. Sihem Cheloufi Analyzed and interpreted the data and contributed to writing the manuscript. Reuben Franklin is co-first author.
UCR press release: <https://news.ucr.edu/articles/2021/04/05/new-method-expands-world-small-rnas>
- Franklin, R. #, Murn, J. & **Cheloufi, S***. Cell Fate Decisions in the Wake of Histone H3 Deposition. **Frontiers in Cell and Developmental Biology** 9, 654915, doi:10.3389/fcell.2021.654915 (2021)
This is an invited review article, Sihem Cheloufi Structured the review, proposed the ideas discussed, analyzed the literature and wrote the paper. R. Franklin is a graduate student trainee in the Cheloufi lab.
- Blanco, M. A., Sykes, D. B., Gu, L., Wu, M., Petroni, R., Karnik, R., Wawer, M., Rico, J., Li, H., Jacobus, W. D., Jambhekar, A., **Cheloufi, S.**, Meissner, A., Hochedlinger, K., Scadden, D. T. & Shi,

Y. Chromatin-state barriers enforce an irreversible mammalian cell fate decision. **Cell Reports** 37, 109967, doi:10.1016/j.celrep.2021.109967 (2021).

This is a collaborative project with established investigators in the epigenetics and stem cell fields. Sihem Cheloufi Intellectually contributed to the overall study, designed and performed the ATAC-seq experiments and assisted with data interpretation and manuscript writing.

- Schwarz, B. A., Cetinbas, M., Clement, K., Walsh, R. M., **Cheloufi, S.**, Gu, H., Langkabel, J., Kamiya, A., Schorle, H., Meissner, A., Sadreyev, R. I. & Hochedlinger, K. Prospective Isolation of Poised iPSC Intermediates Reveals Principles of Cellular Reprogramming. **Cell Stem Cell** 23, 289-305 e285, doi:10.1016/j.stem.2018.06.013 (2018).

This is a collaborative project with my postdoctoral training lab where I performed RNA-seq time series experiments during reprogramming, data analysis of reprogramming intermediates cell populations and manuscript writing.

- **Cheloufi, S.** & Hochedlinger, K. Emerging roles of the histone chaperone CAF-1 in cellular plasticity. **Current Opinion in Genetics and Development** 46, 83-94, doi:10.1016/j.gde.2017.06.004 (2017).

This is an invited review article as part of a special issue on Cell Reprogramming that I wrote while transitioning from my postdoctoral lab at MGH to start my own group at UCR.

- Li, Y., Basavappa, M., Lu, J., Dong, S., Cronkite, D. A., Prior, J. T., Reinecker, H. C., Hertzog, P., Han, Y., Li, W. X., **Cheloufi, S.**, Karginov, F. V., Ding, S. W. & Jeffrey, K. L. Induction and suppression of antiviral RNA interference by influenza A virus in mammalian cells. **Nature Microbiology** 2, 16250, doi:10.1038/nmicrobiol.2016.250 (2016).

This is a collaborative study with a group at MGH and UCR where I contributed with reagents generated while I was a PhD student at CSHL. I also contributed intellectually with ideas during the study and provided feedback on the manuscript.

PUBLICATIONS AS POSTDOC

*** First author; # Trainees**

- Borkent, M., Bennett, B. D., Lackford, B., Bar-Nur, O., Brumbaugh, J., Wang, L., Du, Y., Fargo, D. C., Apostolou, E., **Cheloufi, S.**, Maherali, N., Elledge, S. J., Hu, G. & Hochedlinger, K. A Serial shRNA Screen for Roadblocks to Reprogramming Identifies the Protein Modifier SUMO2. **Stem Cell Reports** 6, 704-716, doi:10.1016/j.stemcr.2016.02.004 (2016).
- Murn, J., Zarnack, K., Yang, Y. J., Durak, O., Murphy, E. A., **Cheloufi, S.**, Gonzalez, D. M., Teplova, M., Curk, T., Zuber, J., Patel, D. J., Ule, J., Luscombe, N. M., Tsai, L. H., Walsh, C. A. & Shi, Y. Control of a neuronal morphology program by an RNA-binding zinc finger protein, Unkempt. **Genes and Development** 29, 501-512, doi:10.1101/gad.258483.115 (2015).
- **Cheloufi, S.***, Elling, U., Hopfgartner, B., Jung, Y. L., Murn, J., Ninova, M., Hubmann, M., Badeaux, A. I., Euong Ang, C., Tenen, D., Wesche, D. J. #, Abazova, N. #, Hogue, M. #, Tasdemir, N., Brumbaugh, J., Rathert, P., Jude, J., Ferrari, F., Blanco, A., Fellner, M., Wenzel, D., Zinner, M., Vidal, S. E., Bell, O., Stadtfeld, M., Chang, H. Y., Almouzni, G., Lowe, S. W., Rinn, J., Wernig, M., Aravin, A., Shi, Y., Park, P. J., Penninger, J. M., Zuber, J. & Hochedlinger, K. The histone chaperone CAF-1 safeguards somatic cell identity. **Nature** 528, 218-224, doi:10.1038/nature15749 (2015).

Harvard Gazette press release: <https://news.harvard.edu/gazette/story/2015/12/researchers-help-cells-forget-who-they-are/>

- Apostolou, E., Ferrari, F., Walsh, R. M., Bar-Nur, O., Stadtfeld, M., **Cheloufi, S.**, Stuart, H. T., Polo, J. M., Ohsumi, T. K., Borowsky, M. L., Kharchenko, P. V., Park, P. J. & Hochedlinger, K. Genome-wide chromatin interactions of the Nanog locus in pluripotency, differentiation, and reprogramming. *Cell Stem Cell* 12, 699-712, doi:10.1016/j.stem.2013.04.013 (2013).
- Van Stry, M., Oguin, T. H., 3rd, **Cheloufi, S.**, Vogel, P., Watanabe, M., Pillai, M. R., Dash, P., Thomas, P. G., Hannon, G. J. & Bix, M. Enhanced susceptibility of Ago1/3 double-null mice to influenza A virus infection. *Journal of Virology* 86, 4151-4157, doi:10.1128/JVI.05303-11 (2012).
- Polo, J. M., Anderssen, E., Walsh, R. M., Schwarz, B. A., Nefzger, C. M., Lim, S. M., Borkent, M., Apostolou, E., Alaei, S., Cloutier, J., Bar-Nur, O., **Cheloufi, S.**, Stadtfeld, M., Figueroa, M. E., Robinton, D., Natesan, S., Melnick, A., Zhu, J., Ramaswamy, S. & Hochedlinger, K. A molecular roadmap of reprogramming somatic cells into iPS cells. *Cell* 151, 1617-1632, doi:10.1016/j.cell.2012.11.039 (2012).
- **Cheloufi, S.*** & Hochedlinger, K. Reproductive biology: Stem cells bear eggs. *Nature* 491, 535-536, doi:10.1038/491535a (2012).

PUBLICATIONS AS GRADUATE STUDENT

- Karginov, F. V., **Cheloufi, S.**, Chong, M. M., Stark, A., Smith, A. D. & Hannon, G. J. Diverse endonucleolytic cleavage sites in the mammalian transcriptome depend upon microRNAs, Drosha, and additional nucleases. *Molecular Cell* 38, 781-788, doi:10.1016/j.molcel.2010.06.001 (2010).
- Cifuentes, D., Xue, H., Taylor, D. W., Patnode, H., Mishima, Y., **Cheloufi, S.**, Ma, E., Mane, S., Hannon, G. J., Lawson, N. D., Wolfe, S. A. & Giraldez, A. J. A novel miRNA processing pathway independent of Dicer requires Argonaute2 catalytic activity. *Science* 328, 1694-1698, doi:10.1126/science.1190809 (2010).
- Chong, M. M., Zhang, G., **Cheloufi, S.**, Neubert, T. A., Hannon, G. J. & Littman, D. R. Canonical and alternate functions of the microRNA biogenesis machinery. *Genes and Development* 24, 1951-1960, doi:10.1101/gad.1953310 (2010).
- **Cheloufi, S.***, Dos Santos, C. O., Chong, M. M. & Hannon, G. J. A dicer-independent miRNA biogenesis pathway that requires Ago catalysis. *Nature* 465, 584-589, doi:10.1038/nature09092 (2010).

CSHL press release: <https://www.cshl.edu/alternative-pathway-of-microrna-generation-is-uncovered/>

- Tam, O. H., Aravin, A. A., Stein, P., Girard, A., Murchison, E. P., Cheloufi, S., Hodges, E., Anger, M., Sachidanandam, R., Schultz, R. M. & Hannon, G. J. Pseudogene-derived small interfering RNAs regulate gene expression in mouse oocytes. *Nature* 453, 534-538, doi:10.1038/nature06904 (2008).
- Murchison, E. P., Partridge, J. F., Tam, O. H., **Cheloufi, S.** & Hannon, G. J. Characterization of Dicer-deficient murine embryonic stem cells. *Proceedings of the National Academy of Sciences U S A* 102, 12135-12140, doi:10.1073/pnas.0505479102 (2005).

PUBLICATIONS AS AN UNDERGRADUATE

- Qureshi, A., Zheng, R., Parlett, T., Shi, X., Balaraman, P., **Cheloufi, S.**, Murphy, B., Guntermann, C. & Eagles, P. Gene silencing of HIV chemokine receptors using ribozymes and single-stranded antisense RNA. *Biochemical Journal* 394, 511-518, doi:10.1042/BJ20051268 (2006).

PATENTS

- Novel Structurally Designed shRNAs, Patent # 8,993,532, **Cold Spring Harbor Laboratory**, Gregory J. Hannon, Huntington, N.Y. (US); and Sihem Cheloufi, Boston, Mass. (US) Filed on April 22nd 2011 and issued on March 31st 2015.
- Methods for controlling cell fate and consequences for disease, Patent # 10,059,945, **Massachusetts General Hospital**, Konrad Hochedlinger and Sihem Cheloufi. Date files on Feb 27th 2017 and issued on August 28th 2018