

**LIONEL A. CHRISTIAEN****Director, Group leader**

Sars International Center for Marine Molecular Biology  
 University of Bergen  
 Ph: +47 922 08 816, Email: lionel.christiaen@uib.no

**Professor**

Center for Developmental Genetics,  
 Department of Biology,  
 New York University  
 100 Washington Square East, New York, NY 10003, USA  
 Ph: 212-992-8695, Fax: 212-995-4015, Email: lc121@nyu.edu

**Education**

University Paris XI (Orsay)	Ph.D. Developmental Biology	2004
University Paris VI/ENS	Master Developmental Biology	2000
University Paris XI/ENS	Agrégation Life and Earth Sciences	1997
Ecole Normale Supérieure (ENS, Paris)	B.S. Biology - Biochemistry	1994-96
Lycée Faidherbe	Prep. School, Maths and Biology	1992-94

**Positions and Employment**

2021-present	Director, Sars International Centre for Marine molecular Biology, University of Bergen, Bergen, Norway.
2021-present	Senior Researcher, Department of Heart Disease, Haukeland University Hospital, Bergen, Norway
2020-present	Professor, Centre for Developmental Genetics, Department of Biology, New York University, New York, NY, USA.
2015-2020	Associate Professor (with tenure), Centre for Developmental Genetics, Department of Biology, New York University, New York, NY, USA.
2009-2015	Assistant Professor, Centre for Developmental Genetics, Department of Biology, New York University, New York, NY, USA.
2005-2009	Postdoctoral associate, Molecular & Cell Biology, UC Berkeley, CA, USA.
2005	Postdoctoral fellow, INRA/CNRS, Gif-sur-Yvette, France.
2000-2004	Ph.D. candidate, CNRS/University Paris XI, Paris, France.
1999-2000	Ecole Normale Supérieure, section E/S (Biology), Paris, France.
1997-1999	Civil Service, IRD French cooperation, La Paz, Bolivia.
1994-1997	Ecole Normale Supérieure, section E/S (Biology), Paris, France.

**Honors and Awards**

2018, 2019	Whitman Fellow, Marine Biological Laboratory, Woods Hole (USA)
2014	Young Investigator / H.W. Mossman Developmental Biologist Award, American Association of Anatomists (USA)
2004	Post-doctoral fellowship, Association for Research against Cancer (France)
2000	Ph.D. fellowship, Ministry of Education, Science and Technology (France)
1997	<i>Agrégation</i> of Life and Earth Sciences (teaching degree, national rank : 3 <sup>rd</sup> ). ENS/Université Paris XI (Orsay)
1994	Recruited at the <i>Ecole Normale Supérieure</i> (section E/S, national rank : 4 <sup>th</sup> )

**Publications pending peer review (Preprints)**

67. Burcu Vitrinel, Christine Vogel, Lionel Christiaen. *Rnf149-related is an FGF/MAPK-independent regulator of pharyngeal muscle fate specification*. 2022. **BioRxiv** 2022.01.07.475354; doi: <https://doi.org/10.1101/2022.01.07.475354>
66. Naoyuki Ohta, and Lionel Christiaen. *Cellular remodeling and JAK inhibition promote zygotic gene expression in the *Ciona* germline*. **BioRxiv** 2021.07.12.452040; doi: <https://doi.org/10.1101/2021.07.12.452040>

**Publications (peer-reviewed, reverse chronological order).**

65. Song M, Yuan X, Racioppi C, Leslie M, Stutt N, Aleksandrova A, Christiaen L, Wilson MD, Scott IC. *GATA4/5/6 family transcription factors are conserved determinants of cardiac versus pharyngeal mesoderm fate*. 2022. **Sci Adv**. doi: 10.1126/sciadv.abg0834. PMID: PMC8916722.
64. Bernadskaya YY, Yue H, Copos C, Christiaen L, Mogilner A. *Supracellular organization confers directionality and mechanical potency to migrating pairs of cardiopharyngeal progenitor cells*. 2021. **Elife**. doi: 10.7554/eLife.70977. PubMed PMID: 34842140; PMID: PMC8700272.
63. Nomaru H, Liu Y, De Bono C, Righelli D, Cirino A, Wang W, Song H, Racedo SE, Dantas AG, Zhang L, Cai CL, Angelini C, Christiaen L, Kelly RG, Baldini A, Zheng D, Morrow BE. *Single cell multi-omic analysis identifies a *Tbx1*-dependent multilineage primed population in murine cardiopharyngeal mesoderm*. 2021. **Nat Commun**. 12(1):6645. doi: 10.1038/s41467-021-26966-6. PMID: PMC8599455.
62. Tjörnberg, A., Omar Mahmood, Christopher A Jackson, Giuseppe-Antonio Saldi, Kyunghyun Cho, Lionel Christiaen, Richard Bonneau. *Optimal tuning of weighted kNN- and diffusion-based methods for denoising single cell genomics data*. 2021. **PLOS Computational Biology** 17 (1), e1008569
61. Elijah K Lowe, Claudia Racioppi, Nadine Peyri eras, Filomena Ristoratore, Lionel Christiaen, Billie J Swalla, Alberto Stolfi. *A cis-regulatory change underlying the motor neuron-specific loss of *Ebf* expression in immotile tunicate larvae*. 2020. **Evolution & Development**, e12364
60. Woo Jun Shim, Enakshi Sinniah, Jun Xu, Burcu Vitrinel, Michael Alexanian, Gaia Andreoletti, Sophie Shen, Brad Balderson, Guangdun Peng, Naihe Jing, Yuliangzi Sun, Yash Chhabra, Yuliang Wang, Patrick P L Tam, Aaron Smith, Michael Piper, Lionel Christiaen, Quan Nguyen, Mikael Bod en, Nathan J. Palpant. *Comparative analysis of diverse cell states establishes an epigenetic basis for inferring regulatory genes governing cell identity*. 2020. **Cell Systems** 11 (6), 625-639. e13.
59. Vitrinel, B., Dylan E. Iannitelli, Esteban O. Mazzone, Lionel Christiaen, Christine Vogel. *Simple method to quantify protein abundances from 1000 cells*. **ACS Omega**. 2020. Doi: 10.1021/acsomega.0c01191.
58. Ohta, N., Ng, J.T., Kaplan, N., Gravez, B.J., and Lionel Christiaen. *Asymmetric Fitness of Second-Generation Interspecific Hybrids Between *Ciona robusta* and *Ciona intestinalis**. **G3 (Bethesda)**. 2020 Jun 9;g3.401427.2020. PMID: [PMC7407461](https://pubmed.ncbi.nlm.nih.gov/32401427/) doi: 10.1534/g3.120.401427.
57. Racioppi, C., Wiechecki, K.A., and L. Christiaen. *Combinatorial chromatin dynamics foster accurate cardiopharyngeal fate choices*. 2019, **Elife**. Nov 20;8. pii: e49921. doi: 10.7554/eLife.49921. PMID: **31746740** PMID: [PMC6952182](https://pubmed.ncbi.nlm.nih.gov/31746740/) DOI: [10.7554/eLife.49921](https://doi.org/10.7554/eLife.49921)
56. Prummel, K., Hess, C., Nieuwenhuize, S., Parker, H., Rogers, K.W., Kozmikova, I., Racioppi, C., Burger, S., Brombacher, E.C., Burger, A., Felker, A., Chiavacci, E., Shah, G., Huisken, J., Kozmik, Z., Christiaen, L., Mueller, P., Bronner, M., Krumlauf, R., and C. Mosimann. *A conserved regulatory program drives emergence of the lateral plate mesoderm*. **Nat Commun**, 2019, 10(1):3857. doi: 10.1038/s41467-019-11561-7.

55. Wang, W., Niu, X., Stuart, T., Jullian, E., Mauck, W., Kelly, R., Satija, R.\* and L. Christiaen\*. *A single cell transcriptional roadmap for cardiopharyngeal fate diversification*. **Nat Cell Biol**, 2019, 21(6):674-686. doi: 10.1038/s41556-019-0336-z. (\* co-corresponding authors).
54. Athanasiadou, R., Neymotin, B., Brandt, N., Wang, W., Christiaen, L., Gresham, D., and D. Tranchina. *A Complete Statistical Model for Calibration of RNA-seq Counts using External Spike-ins and Maximum Likelihood Theory*. **PLOS Comp Biol**, 2019, 15(3):e1006794. doi: 10.1371/journal.pcbi.1006794.
53. Kaplan, N., Wang, W., and L. Christiaen. *Initial characterization of Wnt-Tcf functions during Ciona heart development*. **Dev Biol**, 2019, pii: S0012-1606(18)30458-5. doi: 10.1016/j.ydbio.2018.12.018.
52. Racioppi C., Coppola U., Christiaen L., and F. Ristoratore. *Transcriptional regulation of Rab32/38, a specific marker of pigment cell formation in Ciona robusta*. **Dev Biol**, 2019 pii: S0012-1606(18)30004-6. doi: 10.1016/j.ydbio.2018.11.013.
51. Bernadskaya, Y., Gline, S., Brahmhatt, S., Wang, W., and L. Christiaen. *Discoidin-domain receptor coordinates cell-matrix adhesion and collective polarity in migratory cardiopharyngeal progenitors*. **Nat Commun**, 2019, 10(1):57. doi: 10.1038/s41467-018-07976-3. PMID:PMC6320373; Preprint: **bioRxiv**. 154880; doi: <https://doi.org/10.1101/154880>
50. Razy-Krajka, F., Gravez, B., Nicole Kaplan, Claudia Racioppi, Wei Wang and L. Christiaen. *An FGF-driven feed-forward circuit patterns the cardiopharyngeal mesoderm in space and time*. **eLife**, 2018, 7. pii: e29656. doi: 10.7554/eLife.29656. PMID: PMC5809146
49. Burguera D, Marquez Y, Racioppi C, Permanyer J, Torres-Méndez A, Esposito R, Albuixech-Crespo B, Fanlo L, D'Agostino Y, Gohr A, Navas-Perez E, Riesgo A, Cuomo C, Benvenuto G, Christiaen LA, Martí E, D'Aniello S, Spagnuolo A, Ristoratore F, Arnone MI, Garcia-Fernández J, Irimia M. *Evolutionary recruitment of flexible ESRP-dependent splicing programs into diverse embryonic morphogenetic processes*. **Nat Commun**. 2017. 8(1):1799. doi: 10.1038/s41467-017-01961-y.
48. Brozovic M, Dantec C, Dardaillon J, Dauga D, Faure E, Gineste M, Louis A, Naville M, Nitta KR, Piette J, Reeves W, Scornavacca C, Simion P, Vincentelli R, Bellec M, Aicha SB, Fagotto M, Guérout-Bellone M, Haeussler M, Jacox E, Lowe EK, Mendez M, Roberge A, Stolfi A, Yokomori R, Brown CT, Cambillau C, Christiaen L, Delsuc F, Douzery E, Dumollard R, Kusakabe T, Nakai K, Nishida H, Satou Y, Swalla B, Veeman M, Volff JN, Lemaire P. *ANISEED 2017: extending the integrated ascidian database to the exploration and evolutionary comparison of genome-scale datasets*. **Nucleic Acids Res**. 2018. 46(D1):D718-D725. doi: 10.1093/nar/gkx1108.
47. Racioppi C, Valoroso MC, Coppola U, Lowe EK, Brown CT, Swalla BJ, Christiaen L, Stolfi A, Ristoratore F. *Evolutionary loss of melanogenesis in the tunicate Molgula occulta*. **EvoDevo**, 2017, 8(1). doi: 10.1186/s13227-017-0074-x
46. Gandhi, S., Razy-Krajka, F., Christiaen, L\*, and A. Stolfi\*. *CRISPR knockouts in Ciona embryos*. **Adv Exp Med Biol**. 2018;1029:141-152. doi: 10.1007/978-981-10-7545-2\_13 (\* co-corresponding authors).
45. Wang, W., Racioppi, C., Gravez, B., and L. Christiaen. Purification of Fluorescent Labelled Cells from Dissociated Ciona Embryos. **Adv Exp Med Biol**. 2018;1029:101-107. doi: 10.1007/978-981-10-7545-2\_9.
44. Gandhi, S., Haeussler, M., Razy-Krajka, F., Christiaen, L.\*, and A. Stolfi\*. *Evaluation and rational design of guide RNAs for efficient CRISPR/Cas9-mediated mutagenesis in Ciona*. **Dev Biol**, 2017, 425(1):8-20; doi: 10.1016/j.ydbio.2017.03.003; BioRxiv; doi: <http://dx.doi.org/10.1101/041632>; \* co-corresponding authors). PMID: PMC5502750

43. Lam K.Y., Westrick Z.M., Müller C.L., Christiaen L., and R. Bonneau. *Fused Regression for Multi-source Gene Regulatory Network Inference*. **PLoS Comp Biol.**, 2016, 12(12):e1005157. doi: 10.1371/journal.pcbi.1005157
42. Tolkin, T., and L. Christiaen. *Rewiring of an ancestral Tbx1/10 - Ebf - Mrf network for pharyngeal muscle specification in distinct embryonic lineages*. **Development**, 2016, 143(20):3852-62
41. Evans-Anderson, H., and L. Christiaen. *Ascidians as simple chordate models for heart development and regeneration*. **J. Cardiovasc. Dev. Dis.**, 2016, 3(3). pii: 25.
40. Bernadskaya, Y., and L. Christiaen. *Transcriptional control of developmental cell behaviors*. **Ann Rev Cell Dev Biol**, 2016, 32:77-101.
39. Stolfi, A., Ryan, K., Meinertzhagen, I., and L. Christiaen. *Migratory neuronal progenitors arise from the neural plate borders in tunicates*. **Nature**, 2015, 527(7578):371-4.
38. Kaplan, N., Razy-Krajka, F., and L. Christiaen. *Regulation and evolution of cardiopharyngeal cell identity and behavior: insights from simple chordates*. **Curr Op Gen Dev**, 2015, 32:119-128.
37. Diogo, R.\* , R. Kelly\*, L. Christiaen\*, M. Levine, J.M. Ziermann, J. Molnar & E. Tzahor\*. *A new heart for a new head in vertebrate cardiopharyngeal evolution*. **Nature**, 2015, 520(7548):466-73 (\* co-corresponding authors; invited review)
36. Gline, S., Kaplan, N., Bernadskaya, Y., Abdu, Y., and L.Christiaen. *Surrounding tissues canalize motile cardiopharyngeal progenitors towards collective polarity and directed migration*. **Development**, 2015, 142(3):544-54.
35. Stolfi, A., Gandhi, S., Salek, F., and L.Christiaen. *Tissue-specific genome editing in Ciona embryos by CRISPR/Cas9*. **Development**, 2014. 141(21):4115-20. doi: 10.1242/dev.114488.
34. Stolfi, A., Sasakura, Y., Chalopin, D., Satou, Y., Christiaen, L., Dantec, C., Endo, T., Naville, M., Nishida, H., Swalla, B., Volff, J.-N. , Voskoboynik, A., Dauga, D., Lemaire, P. *Guidelines for Nomenclature of Genetic Elements in Tunicate Genomes*. **Genesis**, 2014, 53(1):1-14. doi: 10.1002/dvg.22822
33. Stolfi, A., Lowe, E., Racioppi, C., Ristoratore, M., Brown, C.T., Swalla, B., and L. Christiaen. *Divergent mechanisms regulate conserved cardiopharyngeal development and gene expression in distantly related ascidians*. **eLife**, 2014, 3:e03728. doi: 10.7554/eLife.03728
32. Racioppi, C., A. K. Kamal, L. Zanetti, F. Razy-Krajka, G. Gambardella, D. di Bernardo, R. Sanges, L. Christiaen\* and F. Ristoratore\* (\* co-corresponding authors). *Fibroblast growth factor signalling controls nervous system patterning and pigment cell formation in Ciona intestinalis*. **Nat Commun**, 2014, 5:4830.
31. Razy-Krajka, F., K. Lam, W. Wang, E. Siu, A. Stolfi, R. Bonneau, and L. Christiaen. *Collier/Olf/EBF-dependent transcriptional dynamics control pharyngeal muscle specification from primed cardiopharyngeal progenitors*. **Dev Cell**, 2014, 29(3):263-76.
30. Wang, W., Razy-Krajka, F., Siu, E., Ketcham, A., and L. Christiaen, *NK4 Antagonizes Tbx1/10 to Promote Cardiac Versus Pharyngeal Muscle Fate in the Ascidian Second Heart Field*, **PLOS Biology**, 2013, 11(12):e1001725
29. Christiaen, L., *Cis-regulatory Timers for developmental Gene Expression*, **PLOS Biology**, 2013, 11(10): e1001698. doi:10.1371/journal.pbio.1001698
28. Haupaix N., Stolfi A., Sirour C., Picco V., Levine M., Christiaen L., and H. Yasuo, *p120RasGAP mediates ephrin/Eph-dependent attenuation of FGF/ERK signals during cell fate specification in ascidian embryos*, **Development**, 2013, **140**(21): p. 4347-52
27. Stolfi, A., and L. Christiaen, *Genetic and genomic toolbox of the chordate Ciona intestinalis*, **Genetics**, 2012, **192**(1): p. 55-66
26. Christiaen, L. *Developmental Cell Behavior*. **Semin Cell Dev Biol**, 2012, **23**: p. 289

25. Tolkin, T., and L. Christiaen, *Development and Evolution of the Ascidian Cardiogenic Mesoderm*. **Curr Top Dev Biol**, 2012. **100**: p. 107-42
24. Wang, W., and L. Christiaen, *Transcriptional Enhancers in Ascidian Development*. **Curr Top Dev Biol**, 2012. **98**: p. 147-72.
23. Tassy, O., D. Dauga, F. Daian, D. Sobral, F. Robin, P. Khoueiry, D. Salgado, V. Fox, D. Caillol, R. Schiappa, B. Laporte, A. Rios, G. Luxardi, T. Kusakabe, J.S. Joly, S. Darras, L. Christiaen, M. Contensin, H. Auger, C. Lamy, C. Hudson, U. Rothbacher, M.J. Gilchrist, K.W. Makabe, K. Hotta, S. Fujiwara, N. Satoh, Y. Satou, and P. Lemaire, *The ANISEED database: digital representation, formalization, and elucidation of a chordate developmental program*. **Genome Res**, 2010. **20**(10): p. 1459-68.
22. Stolfi, A., T.B. Gainous, J.J. Young, A. Mori, M. Levine, and L. Christiaen, *Early chordate origins of the vertebrate second heart field*. **Science**, 2010. **329**(5991): p. 565-8.
21. Haeussler, M., Y. Jaszczyszyn, L. Christiaen, and J.S. Joly, *A cis-regulatory signature for chordate anterior neuroectodermal genes*. **PLoS Genet**, 2010. **6**(4): p. e1000912.
20. Christiaen, L., A. Stolfi, and M. Levine, *BMP signaling coordinates gene expression and cell migration during precardiac mesoderm development*. **Dev Biol**, 2010. **340**(2): p. 179-87.
19. Christiaen, L., E. Wagner, W. Shi, and M. Levine, *The sea squirt *Ciona intestinalis**. **CSH Protoc**, 2009. **2009**(12): p. pdb emo138.
18. Christiaen, L., E. Wagner, W. Shi, and M. Levine, *Isolation of sea squirt (*Ciona*) gametes, fertilization, dechoriation, and development*. **CSH Protoc**, 2009. **2009**(12): p. pdb prot5344.
17. Christiaen, L., E. Wagner, W. Shi, and M. Levine, *Electroporation of transgenic DNAs in the sea squirt *Ciona**. **CSH Protoc**, 2009. **2009**(12): p. pdb prot5345.
16. Christiaen, L., E. Wagner, W. Shi, and M. Levine, *X-gal staining of electroporated sea squirt (*Ciona*) embryos*. **CSH Protoc**, 2009. **2009**(12): p. pdb prot5346.
15. Christiaen, L., E. Wagner, W. Shi, and M. Levine, *Microinjection of morpholino oligos and RNAs in sea squirt (*Ciona*) embryos*. **CSH Protoc**, 2009. **2009**(12): p. pdb prot5347.
14. Christiaen, L., E. Wagner, W. Shi, and M. Levine, *Whole-mount in situ hybridization on sea squirt (*Ciona intestinalis*) embryos*. **CSH Protoc**, 2009. **2009**(12): p. pdb prot5348.
13. Christiaen, L., E. Wagner, W. Shi, and M. Levine, *Isolation of individual cells and tissues from electroporated sea squirt (*Ciona*) embryos by fluorescence-activated cell sorting (FACS)*. **CSH Protoc**, 2009. **2009**(12): p. pdb prot5349.
12. Christiaen, L., A. Stolfi, B. Davidson, and M. Levine, *Spatio-temporal intersection of *Lhx3* and *Tbx6* defines the cardiac field through synergistic activation of *Mesp**. **Dev Biol**, 2009. **328**(2): p. 552-60.
11. Christiaen, L., B. Davidson, T. Kawashima, W. Powell, H. Nolla, K. Vranizan, and M. Levine, *The transcription/migration interface in heart precursors of *Ciona intestinalis**. **Science**, 2008. **320**(5881): p. 1349-52.
10. Christiaen, L., Y. Jaszczyszyn, M. Kerfant, S. Kano, V. Thermes, and J.S. Joly, *Evolutionary modification of mouth position in deuterostomes*. **Semin Cell Dev Biol**, 2007. **18**(4): p. 502-11.
9. Beh, J., W. Shi, M. Levine, B. Davidson, and L. Christiaen, *FoxF is essential for FGF-induced migration of heart progenitor cells in the ascidian *Ciona intestinalis**. **Development**, 2007. **134**(18): p. 3297-305.
8. Davidson, B., W. Shi, J. Beh, L. Christiaen, and M. Levine, *FGF signaling delineates the cardiac progenitor field in the simple chordate, *Ciona intestinalis**. **Genes Dev**, 2006. **20**(19): p. 2728-38.
7. Davidson, B. and L. Christiaen, *Linking chordate gene networks to cellular behavior in ascidians*. **Cell**, 2006. **124**(2): p. 247-50.

6. Tiozzo, S., L. Christiaen, C. Deyts, L. Manni, J.S. Joly, and P. Burighel, *Embryonic versus blastogenetic development in the compound ascidian Botryllus schlosseri: insights from Pitx expression patterns*. **Dev Dyn**, 2005. **232**(2): p. 468-78.
5. Moret, F., L. Christiaen, C. Deyts, M. Blin, P. Vernier, and J.S. Joly, *Regulatory gene expressions in the ascidian ventral sensory vesicle: evolutionary relationships with the vertebrate hypothalamus*. **Dev Biol**, 2005. **277**(2): p. 567-79.
4. Moret, F., L. Christiaen, C. Deyts, M. Blin, J.S. Joly, and P. Vernier, *The dopamine-synthesizing cells in the swimming larva of the tunicate Ciona intestinalis are located only in the hypothalamus-related domain of the sensory vesicle*. **Eur J Neurosci**, 2005. **21**(11): p. 3043-55.
3. Christiaen, L., F. Bourrat, and J.S. Joly, *A modular cis-regulatory system controls isoform-specific pitx expression in ascidian stomodaeum*. **Dev Biol**, 2005. **277**(2): p. 557-66.
2. Hendrickson, C., L. Christiaen, K. Deschet, D. Jiang, J.S. Joly, L. Legendre, Y. Nakatani, J. Tresser, and W.C. Smith, *Culture of adult ascidians and ascidian genetics*. **Methods Cell Biol**, 2004. **74**: p. 143-70.
1. Christiaen, L., P. Burighel, W.C. Smith, P. Vernier, F. Bourrat, and J.S. Joly, *Pitx genes in Tunicates provide new molecular insight into the evolutionary origin of pituitary*. **Gene**, 2002. **287**(1-2): p. 107-13.

#### **Invited Seminars at Universities/Institutes**

- 1) 2022 José Luis Gomez Skarmeta Zoominar Series (invited speaker)
- 2) 2021 CRBM, CNRS, Montpellier, France (invited seminar speaker)
- 3) 2021 Observatoire Océanologique de Banyuls, France (invited seminar speaker)
- 4) 2021 BBB seminar series, Faculty of Biomedicine, University of Bergen, Norway (invited seminar speaker)
- 5) 2020 University of Colorado, Denver (invited seminar speaker) - *postponed*
- 6) 2020 California Institute of Technology (invited seminar speaker)
- 7) 2019 Stazione Zoologica Anton Dhorn, Naples (Italy) (invited seminar speaker)
- 8) 2019 Sars International Center for Molecular Marine Biology, Bergen (Norway) (Invited seminar speaker)
- 9) 2019 Hospital for Sick Children, Toronto, Developmental and Stem Cell Biology talks (invited speaker)
- 10) 2019 Johns Hopkins University, Cell Biology department, Seminar series (invited speaker)
- 11) 2019 Icahn School of Medicine, Mount Sinai, Seminar Series (invited speaker)
- 12) 2019 Michigan State University, Seminar series (invited speaker)
- 13) 2018 Stowers Institute, Kansas City, Seminar series (invited speaker)
- 14) 2018 Max Delbrück Center for Molecular Medicine (MDC), Berlin Institute for Medical Systems Biology (BIMSB), Berlin (invited seminar speaker)
- 15) 2018 Université Nice Sophia Antipolis, Valrose Institute of Biology (invited speaker)
- 16) 2018 University of Zürich (Switzerland), Institute of Molecular Life Sciences (invited speaker)
- 17) 2018 University of Geneva (Switzerland), Department of Genetics & Evolution (invited speaker)
- 18) 2018 University of California Santa Barbara, Department of Molecular Cellular and Developmental Biology (invited speaker)
- 19) 2017 MBL course - Gene Regulatory Networks in Development, Woods Hole, MA (invited instructor)
- 20) 2017 CUNY, Stony Brook, NY (invited speaker)

- 21) 2017 Center for Integrative Biology, Toulouse (France), Seminar Series (invited speaker)
- 22) 2017 NYU Center for Systems Genomics, NYU Langone Medical Center (invited speaker)
- 23) 2017 Skirball Institute for Biomolecular Medicine, NYU Langone Medical Center, Seminar series (invited speaker)
- 24) 2016 Biocenter, Vienna, Seminar series (invited speaker)
- 25) 2015 Queens College, Seminar Series (invited speaker)
- 26) 2015 St John's University, Queens Campus (New York, NY), Seminar Series (invited speaker)
- 27) 2014 Karolinska Institute, Stockholm, Sweden (invited speaker)
- 28) 2012 Columbia University Medical Center, Department of Genetics and Developmental, Seminar Series (invited speaker)
- 29) 2011 University of California Santa Barbara, Department of Molecular Cellular and Developmental Biology, (invited speaker)
- 30) 2011 Duke University, Biology Department (invited speaker)
- 31) 2010 Oceanographic Observatory, Villefranche-sur-Mer, France (invited speaker)
- 32) 2009 Curie Institute, Paris, France (job talk)
- 33) 2009 Pasteur Institute, Paris, France (job talk)
- 34) 2009 NYU Biology, New York, NY (job talk)
- 35) 2008 Institute for Functional Genomics, Montpellier, France (job talk)
- 36) 2008 European Molecular Biology Laboratory, Heidelberg, Germany (job talk)
- 37) 2008 Institute for Developmental Biology of the Mediterranean, Marseille, France (job talk)
- 38) 2006 Institute of Neurobiology Alfred Fessard, CNRS, Gif-sur-Yvette, France (invited speaker)
- 39) 2005 Oceanographic Observatory, Villefranche-sur-Mer, France (invited speaker)
- 40) 2005 European Molecular Biology Laboratory, Heidelberg, Germany (invited speaker)

#### **Invited or Selected Speaker at Meetings**

- 1) 2022 3rd Nordic Meeting on Development, Stem Cells and Regeneration, Copenhagen (Denmark) (invited speaker)
- 2) 2022 EMBL partnership conference, Heidelberg (Germany) (invited speaker)
- 3) 2022 11<sup>th</sup> International Tunicate Meeting, Kobe (Japan) (selected speaker)
- 4) 2022 EuroEvoDevo meeting, Naples (Italy) (invited speaker).
- 5) 2020 Hindsight 2020 meeting, Allen Institute on cell lineage and developmental recording, Seattle (invited speaker). *Postponed*
- 6) 2020 NYU Abu Dhabi, Genomics Symposium, Abu Dhabi, UAE (invited speaker).
- 7) 2020 Emerging Model Systems workshop, McGill's Bellairs Research Station, Barbados (invited speaker)
- 8) 2018 9<sup>th</sup> Aquatic Models of Human Disease Conference, MBL, Woods Hole, MA (invited speaker)
- 9) 2017 7th NHLBI Symposium on Cardiovascular Regenerative Medicine, NIH, Bethesda (invited speaker).
- 10) 2017 Gordon Research Conference - Developmental Biology (invited speaker)
- 11) 2017 Sea urchin meeting, MBL, Woods Hole, MA (invited speaker, declined)
- 12) 2017 North East Society for Developmental Biology Meeting, Marine Biological Laboratory, Woods Hole, MA (invited speaker)
- 13) 2017 Keystone Symposium "heart development" (invited speaker)
- 14) 2016 "GRNs in Development" workshop, Caltech (invited participant)
- 15) 2015 8<sup>th</sup> International Tunicate Meeting, Japan (scientific committee member)

- 16) 2015 Society for Developmental Biology, Snowbird Resort, Utah (invited speaker)
- 17) 2015 Max Delbrück Center, Berlin Institute for Molecular Systems Biology, Berlin, Germany (invited speaker)
- 18) 2015 Weinstein conference in cardiovascular development, Boston, MA (selected speaker)
- 19) 2015 American Association of Anatomists Annual Meeting, Boston, MA (invited speaker)
- 20) 2014 Developmental Biology meeting, UC Santa Cruz (selected speaker)
- 21) 2014 First Heart-Head Muscle Evo-Devo meeting, Howard University, Washington, DC (invited speaker)
- 22) 2014 American Association of anatomists, Annual Meeting, San Diego, CA (Young Investigator Award Lecture)
- 23) 2014 North East Society for Developmental Biology Meeting, Marine Biological Laboratory, Woods Hole, MA (invited speaker)
- 24) 2013 7<sup>th</sup> International Tunicate Meeting, Naples, Italy (invited speaker)
- 25) 2013 Gordon Research Conference - Myogenesis, Lucca, Italy (selected speaker)
- 26) 2012 Sea Urchin Meeting, Woods Hole, MA (invited speaker)
- 27) 2012 European Evo-Devo Meeting, Lisbon, Portugal (invited speaker).
- 28) 2011 Developmental Dynamics workshop, Kavli Institute for Theoretical Physics, UC Santa Barbara, CA (invited speaker).
- 29) 2011 6<sup>th</sup> International Tunicate Meeting, Montréal, Canada (selected speaker)
- 30) 2010 Evo-Devo Workshop, Howard Hughes Medical Institute, Chevy Chase, MD (invited speaker)
- 31) 2010 Gene Regulatory Network Course, Marine Biological Laboratory, Woods Hole, MA (invited instructor)
- 32) 2010 North East Society for Developmental Biology Meeting, Marine Biological Laboratory, Woods Hole, MA (invited speaker)
- 33) 2009 5<sup>th</sup> International Tunicate Meeting, Okinawa, Japan (selected speaker)
- 34) 2007 Evo-devo workshop, UC Berkeley Center for Integrative Genomics, Moorea, Tahiti (invited speaker)
- 35) 2007 4<sup>th</sup> International Tunicate Meeting, St Jean Cap Ferrat, France (selected speaker)
- 36) 2005 3<sup>th</sup> International Tunicate Meeting, Santa Barbara, CA, USA (selected speaker)

### **Organizer of Conferences and Symposia**

- |         |  |
|---------|--|
| 2022    | Sars Symposium 2022. <i>Biological Transitions: From molecules to evolution</i> . Bergen, Norway. (co-organized with Tim Lynagh and Marios Chatzigeorgiou) |
| 2017    | 9 <sup>th</sup> international Tunicate meeting, New York (co-organizer with Anna Di Gregorio)  |
| 2015    | 8 <sup>th</sup> international Tunicate meeting, Japan (scientific committee member)  |
| 2013    | 7 <sup>th</sup> international Tunicate meeting, Naples, Italy (scientific committee member)  |
| 2011-16 | Annual NYU Center for Developmental Genetics Symposium, New York University, NY (conference organizer)   |
| 2011-12 | Seminar series at NYU Biology (co-organizer with Sevinc Ercan)   |

### **NYU seminars**

- |         |  |
|---------|--|
| 2019    | Department of Biology, Seminar Series (Promotion Talk)           |
| 2014    | Department of Biology, Seminar Series (Tenure Talk)              |
| 2012    | College of Arts and Sciences, Scholars Lecture Series Seminar    |
| 2011    | Physics/Biology Faculty Exchange Seminar                         |
| 2010-13 | Department of Biology, Faculty Exchange                          |
| 2010    | Developmental Genetics Symposium, Sackler program, NYU, New York |

2010 Cell Migration Club, Skirball Institute for Biomolecular Medicine, NYU, New York  
2010 Genomics Workshop, NYU Abu Dhabi, United Arab Emirates (invited speaker)  
2009 4<sup>th</sup> Annual NYU Center for Developmental Genetics Symposium, New York University, NY (invited speaker)

### **Professional Services**

Reviewer for: *Nature, Science, PLOS Biology, eLife, Developmental Cell, Development, Bio Open, Developmental Biology, International Journal of Developmental Biology, Developmental Dynamics, Molecular Biology and Evolution, Differentiation, Genetics, PLOS Genetics, Nature Communications.*

Guest Editor for: *Seminars in Cell and Developmental Biology, Genesis*

Ad hoc Grant Reviewer for: *CNRS/INSERM (France), Research Promotion Foundation (Cyprus), National Institute of Health, National Science Foundation, Israel Science Foundation, AFM-Telethon (France)*

09/2020 – present: Standing member on NIH/CSR Development-1 (DEV1) study section

2014-2016 American Association of Anatomist, Young investigator Awards, committee member

### **Society Memberships**

French Society for Developmental Biology

Society for Developmental Biology

American Association of Anatomists

### **List of Collaborators**

#### Active collaborations

Leducq Trans-atlantic network of excellence: Bernice Morrow (Einstein, NY), Antonio Baldini, Peter Scambler, Cédric Blanpain, Robert Kelly, Elizabeth Illingworth. *Tbx1 regulation and function in cardiopharyngeal progenitors*

Alex Mogilner, NYU, NY. *Modelling cardiopharyngeal cell shapes and behaviors*

Christian Mosimann, U of Colorado, Denver. *Enhancers of cardiopharyngeal gene expression*

Robert Zinzen, MDC-BIMSB, Berlin (Germany). *Evolution of CTCF and 3D genome architecture*

Dario Lupiañez, MDC-BIMSB, Berlin (Germany). *Evolution of CTCF and 3D genome architecture*

Ian C Scott, U of Toronto (Canada). *Cardiopharyngeal gene regulation in chordates*

Markus Landthaler, MDC-BIMSB, Berlin (Germany). *Nascent transcription in tunicates*

Patrick Lemaire, CNRS, Montpellier, France. *Mapping scRNA-seq data onto digital embryo models*

#### Past collaborations

Filomena Ristoratore, Stazione Zoologica Anton Dohrn, Naples, Italy

Billie J. Swalla, University of Washington, WA

C. Titus Brown, Michigan State University, East Lansing, MI

William C. Smith, UC Santa Barbara, CA

Jean-Philippe Chambon, Université Pierre et Marie Curie, Paris, France

Kimara Targoff, Columbia University, New York, NY

Kenneth Birnbaum, Center for Genomics and Systems Biology, NYU, New York, NY

François Spitz, European Molecular Biology Laboratories, Heidelberg, Germany

Rémi Dumollard, CNRS, Villefranche-sur-Mer, France.

Richard Bonneau, NYU, NY. *Modelling cardiopharyngeal gene regulatory network*

Rahul Satija, NYU, New York Genome Center, NY. *Single cell genomics for cardiopharyngeal development*

Christine Vogel, NYU, NY. *Proteomics and post-transcriptional regulation in cardiopharyngeal development*

### **Graduate and Postdoctoral Advisors**

Jean-Stéphane Joly, INRA/CNRS (Ph.D. advisor)

Michael Levine, UC Berkeley (postdoctoral advisor)

### **Research Advisor to students (total 29)**

#### Current

Selena Gupta (NYU Biology, Ph.D. student, co-advised with Alex Mogilner)

#### Past PhD students

Burcu Vitrinel (Ph.D. Biology student, co-advised with Christine Vogel, expect. graduation 2020). Recipient of predoctoral fellowship from the American Heart Association.

Nicole Kaplan (Ph.D. Biology student, graduated 12/2017). Current: postdoctoral fellow, Christiaen lab (NYU)

Theadora Tolkin (Ph.D. Biology student, graduated 05/2016). Current: postdoctoral fellow, Hubbard lab (NYULMC)

Karen Lam (Ph.D. Biology student, co-advised with Richard Bonneau, graduated Dec. 2016)

#### Past M.S. students

Yusuff Abdu (M.S. Biology student, graduated 2011. Ph.D. from NYU Medical School, Sackler program, Nance lab. Current: Postdoctoral fellow, Shaham lab, Rockefeller U.)

Alexandra Budny-Ketcham (M.S. Biology student, graduated 2011. current: Ph.D. candidate Columbia University, Tavazoie lab)

Yasmin Tayag (M.S. Biology student, graduated 2011)

Justin Le Lorier (M.S. student, Univ. Paris VII, France, summer internship 2010)

Marion Guérout-Bellone (M.S. student, Univ. Montpellier, France, summer internship 2011)

Marine Joly (Université Paris VII, Master student)

Shashank Gandhi (M.S. Biology student, graduated 2015. Now Ph.D. candidate at Caltech)

Aakarsha Pandey (M.S. Biology student, graduated 2016. Now PhD candidate at Cornell U)

Ria Deshpande (M.S. Biology student, graduated May 2018. Now PhD candidate at UC Irvine)

Jam Mia Marcy Yu (M.S. Biology student).

#### Undergraduate students (total 17)

##### Current

##### Past

Renee Marie Bogdanovic (undergraduate student, Dean's Undergraduate Research Fund recipient, graduated May 2011)

Eric Siu (undergraduate student, Dean's Undergraduate Research Fund recipient, graduated December 2011)

Katherine Kaiser (undergraduate student, expected graduation 2013)

Kenneth K. Ng (undergraduate student, expected graduation 2013)

Jonathan Lee (undergraduate student, Dean's Undergraduate Research Fund recipient, graduated 2013)

Yoon Seon Lee (undergraduate student, Dean's Undergraduate Research Fund recipient, graduated 2013)

Dylan Iannitelli (undergraduate student, Dean's Undergraduate Research Fund recipient, graduated 2014)

Maneesha Thaker (Barnard College undergraduate student)

Charles Surette (NYU undergraduate student)

Sonali Narang (NYU undergraduate student)

Anthony Filipovic (NYU undergraduate student)

Tanim Jain (NYU undergraduate student Dean's Undergraduate Research Fund recipient)

Saahil Brahmhatt (NYU undergraduate student)

Emily Huang (NYU undergraduate student)

Davis Looney (NYU undergraduate student)

James Ng (NYU undergraduate student). Current: Christiaen lab, junior research assistant

### **Postdoctoral fellows (total 13)**

Dr. Yelena Bernadskaya (July 2012 - present). NIH F32 recipient.

Dr. Naoyuki Ohta (April 2017- present).

Dr. Keaton Schuster (September 2018 - present)

Dr. Andreas Tjärnberg (September 2018 - present)

Dr. Ariel Kuan (February 2021 - present)

Dr. Maria Bikou (June 2021 - present)

### **Past**

Dr. Wei Wang (September 2010 - January 2021). Group Leader, Sars-Fang Centre, Ocean University of China.

Dr. Nicole Kaplan (January 2018 - January 2021).

Dr. Basile Gravez (May 2016 – December 2019). AFM fellowship awardee.

Dr. Claudia Racioppi (September 2014 – October 2019). EMBO long-term fellowship recipient. Research scientist at Regeneron.

Dr. Alberto Stolfi (April 2012 - July 2017). K99/R00 recipient. Tenure-track Faculty at Georgia Tech., since August 2017

Dr. Florian Razy-Krajka (June 2010 - September 2016). Current: research scientist at Georgia Tech. (Stolfi lab).

Dr. Stephanie Gline (January 2012 - January 2016), NIH F32 recipient; current: computational scientist.

### **Other Mentoring**

Ph.D. thesis committee member (total 24):

#### **current**

Logan Schachtner (NYU Biology), Porfirio J Fernandez (NYU Biology), Peter Whitney (NYU Biology), Naoya Yamaguchi (Skirball/DG), Félix Simon (NYU Biology), Aaron Schwartz (Skirball/DG), Yen-Chung Chen (NYU Biology), Lenny Negron-Pineiro (NYU Dental/DG)

#### **past**

Antonio Herrera (NYU Biology), Afroditi Petsakou (NYU Biology), Yujia Sun (NYU Biology), Melody Foo (NYU Biology), Michelle Leblanc (Skirball/DG), Diana Klompstra (Skirball/DG), Danielle Nagelberg (Skirball/DG), Giacomo Mancini (NYU Biology), Christopher Hackley (NYU Biology), Yusuf Abdu (Skirball/DG), John Wang (Skirball/DG), Darach Miller (NYU Biology), Nicholas DelRose (NYU Biology), Tugba Colak (Skirball/DG), Chelsea Maniscalco (Skirball/DG), Natasha Morse (NYU Biology).

**Teaching**undergraduate level courses

2011-Present team-taught, introductory course

*BIOL-UA.22 Molecular and Cell Biology II*, 14 lectures

2011-Present team-taught, advanced course

*BIOL-UA.26 Developmental Biology*, 13 lectures

2009-2011 team-taught, introductory course

*SCHOL-UA.20 Presidential Scholars, Sophomore, Paris group*

2011 Spring team-taught, Honors track course

*BIOL-V23.0970 Signalling in Biological Systems*, 1 lecture

2000-2003 Teaching Assistant, Biology, University Paris XI (France)

1999-2000 Private teaching to 1<sup>st</sup> year medical students, Paris (France)graduate level courses

2017-present team-taught introductory course

*BIOL-GA.2131 Developmental and Stem Cell Biology Systems II*, lecturer in evodevo module, 1

2016-present team-taught introductory course

*BIOL-GA.2130 Developmental and Stem Cell Biology Systems I*, co-director of the transcription module: 1 lecture, 1 paper discussion, 1 lab session

2012-2015 team-taught introductory course

*BIOL-GA.2130 Developmental Systems I*, 2 lectures on heart morphogenesis

2010-2011 team-taught introductory course

*BIOL-GA.2130 Developmental Genetics I*, 2 lectures on Heart development

2012 Spring team-taught introductory course

*BIOL-GA.1002 Biocore II*, 3 lectures*BIOL-GA.2004 Biocore IV*, 1 lecture

2009 Fall team-taught introductory course

*BIOL-GA.1001 Biocore I*, 1 lecture*BIOL-GA.2003 Biocore III*, 1 lecture**Department Committees**

2009–Present Faculty recruitment, Ph.D. and M.S. admissions and awards.

2013-2015 NYU Abu Dhabi Faculty recruitment committee.

2014-2015 chair of the Ph.D. admission committee.

2011-2012 co-chair of the Ph.D. admission committee.

**University Committees**

2010–2012, 2015 Dean's Undergraduate Research Fund (DURF) Committee, New York University

2010, 2012 Undergraduate Research conference Judge