TALON CHANDLER
CURRICULUM VITÆ

Biographical Information

Born:	June 24, 1993 in Calgary, Alberta
Citizenship:	Canada
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Education

[2] **(In Progress) Ph.D. Medical Physics** 2015–2020
Thesis: "Spatio-angular fluorescence microscopy"
Advisor: Dr. Patrick La Rivière
University of Chicago

[1] **B.A.Sc. Engineering Physics** 2010–2015
with Electrical Engineering Minor, with Distinction
GPA: 3.93/4.00
University of British Columbia

Publications

[3] **Chandler, T.**, Mehta, S., Shroff, H., Oldenbourg, R., La Rivière, P. J., "Single-fluorophore orientation determination with multiview polarized illumination: Modeling and microscope design," *Optics Express*, vol. 25, no. 25, 2017. DOI: 10.1364/OE.25.031309. PDF

[2] Day, K. J., La Rivière, P. J., **Chandler, T.**, Bindokas, V. P., Ferrier, N. J., Glick, B. S., "Improved deconvolution of very weak confocal signals," *F1000Research*, vol. 6, no. 787, 2017. DOI: 10.12688/f1000research.11773.1. PDF

[1] Shechter, S. M., **Chandler, T.**, Skandari, M., Zalunardo, N., "Cost-effectiveness analysis of vascular access referral policies in CKD," *American Journal of Kidney Diseases*, vol. 70, no. 3, pp. 368–376, 2017. DOI: 10.1053/j.ajkd.2017.04.020. PDF

In Review

[2] **Chandler, T.**, Shroff, H., Oldenbourg, R., La Rivière, P. J., *Spatio-angular fluorescence microscopy II. Paraxial 4f imaging*, Journal of the Optical Society of America A. PDF

[1] **Chandler, T.**, Shroff, H., Oldenbourg, R., La Rivière, P. J., *Spatio-angular fluorescence microscopy I. Basic theory*, Journal of the Optical Society of America A. PDF

Abstracts/Presentations

[8] **Chandler, T.**, La Rivière, P.J.,"Multipole spatio-angular fluorescence microscopy," 06/2019
Optics Society of America, Mathematics in Imaging, Munich, DE. 12 minute talk.

[7] **Chandler, T.**, Guo, M., Kumar, A., Mehta, S., Shroff, H., Oldenbourg, R., 05/2019
La Rivière, P.J.,"Spatio-angular fluorescence imaging with a polarized
illumination light-sheet dual-view microscope," Frontiers in Imaging Science,
Janelia Research Campus, VA.

[6] **Chandler, T.**, Guo, M., Kumar, A., Mehta, S., Shroff, H., Oldenbourg, R., 04/2019
La Rivière, P.J., "Spatio-angular fluorescence imaging with a polarized
illumination light-sheet dual-view microscope," Focus on Microscopy, London, UK.
20 minute talk.

[5] **Chandler, T.**, Guo, M., Kumar, A., Mehta, S., Shroff, H., Oldenbourg, R., 02/2019
La Rivière, P.J., "Spatio-angular imaging with a polarized light sheet dual-view
fluorescence microscope," Advanced Imaging Methods, Berkeley, CA. Poster.

[4] **Chandler, T.**, Guo, M., Kumar, A., Mehta, S., Shroff, H., Oldenbourg, R., 11/2018
La Rivière, P.J., "Spatio-angular imaging with a polarized light sheet dual-view
fluorescence microscope," NSF Workshop on Enabling Biological Discovery
through Innovations in Imaging and Computation, Woods Hole, MA. Poster.

[3] **Chandler, T.**, Guo, M., Kumar, A., Mehta, S., Shroff, H., Oldenbourg, R., 06/2018
La Rivière, P.J., "Spatio-angular restoration of fluorescence microscopy data,"
Optics Society of America, Mathematics in Imaging, Orlando, FL. 12 minute talk.

[2] **Chandler, T.**, Guo, M., Kumar, A., Mehta, S., Shroff, H., Oldenbourg, R., 06/2018
La Rivière, P.J., "Spatio-angular restoration of fluorescence microscopy data,"
Gordon Image Science Conference, Easton, MA. 15 minute talk and poster.

[1] **Chandler, T.**, Guo, M., Kumar, A., Mehta, S., Shroff, H., Oldenbourg, R., 04/2018
La Rivière, P.J., "Single-fluorophore orientation determination with multiview
polarized illumination microscope," IEEE International Symposium on Biomedical
Imaging (ISBI), Washington, DC. Poster.

Miscellaneous Presentations

[8] "Spatio-angular fluorescence microscopy," 04/2019
Graduate Program on Medical Physics Colloquium, Chicago, IL. 1 hour talk.

[7] "Spatio-angular inverse problems in fluorescence microscopy," 03/2019
Inverse Problems in Imaging Seminar, Chicago, IL. 1 hour talk.

[6] "DNA microscopy," 03/2019
Graduate Program on Medical Physics Journal Club. 1 hour talk.

[5] "Are lenses necessary?" 03/2018
Graduate Program on Medical Physics Journal Club. 1 hour talk.
Carl J. Vyborny Award for Outstanding Journal Club Presentation

[4] "Mapping molecular order in living organisms using polarized light microscopy," 10/2017
with Rudolf Oldenbourg, University of California, Berkeley. 1 hour talk.

[3] "Mapping molecular order in living organisms using polarized light microscopy," 10/2017
with Rudolf Oldenbourg, SCIEN Colloquium, Stanford University. 1 hour talk.

[2] "Evaluating gambles using dynamics," 04/2017
Graduate Program on Medical Physics Journal Club. 30 minute talk.
Carl J. Vyborny Award for Outstanding Journal Club Presentation

[1] "Digital holography for radiation dosimetry," 04/2016
Graduate Program on Medical Physics Journal Club. 30 minute talk.

Research History

[5] **La Rivière Lab**, University of Chicago 05/2016–
Advisors: Dr. Patrick La Rivière & Dr. Rudolf Oldenbourg
Topics: Polarized light microscopy, 3D reconstruction

[4] **Kao Lab**, University of Chicago 01/2016–04/2016
Advisor: Dr. Chien-Min Kao
Topics: PET detectors, statistical signal processing

[3] **MRI Research Centre**, University of British Columbia 04/2014–09/2015
Advisors: Dr. Alex MacKay & Dr. Carl Michal
Topics: NMR, MRI, inhomogeneous magnetization transfer

[2] **Haas Lab**, University of British Columbia 01/2014–04/2014
Advisor: Dr. Kelly Sakaki
Topics: Single cell electroporation, two-photon microscopy

[1] **Centre For Operations Excellence**, University of British Columbia 04/2013–09/2015
Advisor: Dr. Steven Shechter
Topics: Health care optimization, Monte Carlo simulation

Employment History

[2] **Kardium Inc.**, Burnaby, BC 09/2013–12/2013
Junior Engineer
Topics: Cardiac ablation, tissue conductivity, image analysis

[1] **SRK Consulting Inc.**, Vancouver, BC 01/2012–04/2012
Junior Engineer
Topics: Waste water management, Monte Carlo simulation

Teaching

[3] **Introduction to Medical Physics**, University of Chicago 2019
Teaching Assistant
Topics: Medical imaging and radiation therapy
Rating: In progress

[2] **Medical Imaging 1**, University of Chicago 2017
Teaching Assistant
Topics: X-ray imaging, MRI, image restoration
Rating: 5.0/5.0 from 5 students

[1] **Mathematics For Medical Physics**, University of Chicago 2016
Teaching Assistant
Topics: Linear systems theory, stochastic processes, image reconstruction
Rating: 4.8/5.0 from 5 students

Awards

[9]	University of Chicago Biological Sciences Division Travel Award	$500	2019
[8]	University of Chicago Biological Sciences Division Graduate Fellowship	$30k	2016
[7]	Eastern Irrigation District Graduate Scholarship	$2k	2014
[6]	NSERC Undergraduate Research Award	$4k	2014
[5]	NSERC Industrial Undergraduate Research Award	$4k	2013
[4]	Interpipeline Discovery Scholarship	$2k	2011
[3]	UBC President's Entrance Scholarship	$1.5k	2010
[2]	Alexander Rutherford Scholarship	$2.5k	2010
[1]	Junior Citizen of the Year, City of Brooks	-	2010

Professional Membership

[4]	The Optical Society of America (OSA)	2017–
[3]	The International Society for Optics and Photonics (SPIE)	2016–
[2]	The American Association of Physicists in Medicine (AAPM)	2015–
[1]	Engineers & Geoscientists of British Columbia (EGBC)	2010–

Reviewing

[5]	Optics Letters	2019
[4]	Nature Communications	2018–2019
[3]	Optica	2018
[2]	Optics Express	2018
[1]	Journal of the Optical Society of America A	2017

Computing

Top Language:	Python
Competent Languages:	C, C++, Bash, MATLAB
Familiar Languages:	R, Mathematica, HTML/CSS
Tools:	GNU Emacs, LaTeX, git, OpenGL, ImageJ

Other Activities

Ultramarathon running	12 races $\geq$ 26.2 miles
SCUBA diving	15 open water dives, $\sim$600 minutes underwater
Apiculture	