

## Curriculum Vitae

**NAME: Virgile VIASNOFF**

### APPOINTMENTS/AFFILIATIONS:

Year	Description (Designation and Institution)
2012 - Present	Associate Professor, MBI, Dept. of Biological Sciences, NUS Adjunct IMCB (Astar) professor CNRS Director (DR2) CNRS/NUS Joint unit BMC2
2010 - 2012	PI, Mechanobiology Institute, NUS Associate professor CNRS (Paris)
2006-2012	Assistant Prof CNRS (paris)



### EDUCATION/TRAINING (*begin with baccalaureate or other initial professional education*):

Year	Degree	Institution/Country
1995 - 1999	Master	Ecole Normale Supérieure Paris
2000 - 2003	PhD	Université Paris VI/ ESPCI France
2003 - 2004		Postdoctorate Fellow Institut Curie (Paris)
2004 - 2006		Postdoctorate Fellow Harvard

#### A. Research Keywords (10 keywords):

Biomimetic Interface, Microenvironment Control, Cell-Cell Interaction, Adherens Junction, Lumenogenesis, Hepatocytes, Apico-Basal Polarity, Biophysics, Super Resolution Imaging, Minimal Organ

#### B. Strength:

Having a very multidisciplinary team and research interests that span from fundamental questions on the development of apico-basal polarity to automated production line of cell culture consumables, development of polymeric material, 3D organoid culture and diagnostics tool.

The Strategy of the lab: To pick a fundamental biological question: The role of mechanics in the development apico-basal polarity, Develop a set of technical tools to address the question in a totally original ways, Extend the technology to diagnostic tool.

#### C. Main achievements (Last 5 years)

- Published 15 articles (6 in journals IF>10) 2 Nature cell biology, 1 nature methods, 1 Journal of hepatology, 1 PNAS
- Published 4 review articles and 1 book chapter
- Established a new technology to control the environment around cells in 3D and to image them.
- 5 patents (4 are licensed).
- Created 2 companies: Pickcell (Singapore), soSPIM (France).
- Obtained over 6M SGD of research grant as PI.
- Organized the micro-fabrication facility at MBI
- Found and directed a joint lab between CNRS and NUS (BMC2)
- Elected Cell Scientist to watch 2016 by Journal of Cell Science.

### 3.2.1 List of Collaborators

#### PhD advisor:

Francois Lequeux (CNRS)

#### Postdoc advisor:

Amit Meller (Harvard, currently at Technion)

#### List of current collaborators:

##### Within MBI

Name	Institution	Grant	Project
Michael Sheetz	MBI	Tier 3	Non canonical RTK
Marius Suddol	MBI	Tier 2	Role of YAP
Timothy Saunders	MBI	Tier 3	FCS in embryo
Jay Groves	MBI/Berkley	CRP	Eph clusters
Sasha Bershadsky	MBI	Seed funding	Physics of stress fibers
Henry Yu	MBI	Seed funding	Mechanics of Canaliculi

##### In Singapore

Name	Institution	Grant	Project
Eileen Fong	NTU	CRP	Biomimetic matrix
Hong Yee low	SUTD	CRP	Roll to roll
Thorsten Wohland	DBS	Tier 3	Imaging gaps in embryos
Thomas Dawson	IMB	Seed funding	Artificial hair follicle
Ram dasGupta	GIS	Seed funding	Behavioral chromato
Ruby Wang	CSI	Seed funding	Behavioral chromato
Philipp Caldis	IMCB	Seed funding	Mechanics of Canaliculi

##### International

Name	Institution	Grant	Project
Vincent Studer	CNRS	ANR UMI	soSPIM
J-B Sibarita	CNRS	ANR UMI	soSPIM
Remi Galland	CNRS	ANR UMI	soSPIM
Jacques Prost	CNRS	Seed funding	Mechanics of Canaliculi
Alpha Yap	Uni Brisbane	Seed funding	Mechanics of cellcell conts
Valerie Weaver	UCSB	Seed funding	Cancers in microniches
Ivo Lieberam	Kings College	NMRC/NUS	Microniches for neurones
Kat Gaus	UNSW	MTA	soSPIM

##### Companies

Name	Institution	Grant	Project
Romuald Vally	ALVEOLE	RCA	3D printing
Anne Lehman	Pickcell	RCA	Membwell
Luc Talini	soSPIM	In progress	soSPIM

### 3.3 Contribution to education

#### 3.3.1 Teaching philosophy:

My teaching this past 7 years was focus to PhD students (level 5).

My teaching is clearly biased towards application for research.

I believe that at this level the important aspect are the following:

- to develop a practical/theoretical knowledge that ill help them in their specialized PhD work
- to develop their ability to articulate the questions they try to solve and to what the approach they use solves their problems.

Consequently all modules I teach have strong practical aspects (microscopy and fabrication). They involve hands on project that PhD.

Another extremely important aspect of my teaching is that I need to teach biology student technology or optics. They are usually not familiar with these notions. I try to synthetize as much as possible the theoretical notions and focus only on those that have a direct practical aspect. My longstanding research expertise in the interdisciplinary team allows me to speak both the “languages of biology” as well as the one of Engineers. I encourage the students to learn from each other and try to understand how the same question can be answered at several levels.

#### 3.3.2 Teaching History:

I Designed and taught 2 modules: MB5105, BL5235

Participated in teaching in 2 other modules: BL 5232 and MB102

Module	# of semesters	Active/inactive	Designed
MB5105	2	active	V.Viasnoff
BL 5235	4	active	V.Viasnoff
BL5232	3	active	T.Wholand
MB5102	1	inactive	R.Zaidelbar

#### Supervised 9 PhD students

Name	program	Achieved/current
Qiushi Li	MBI PhD	Achieved
Weng Zhe	MBI PhD	Achieved
Gao Xumei	MBI PhD	Achieved
Salma Jalal	MBI PhD	Achieved
Celine Stoecklin	MBI PhD	current
Perrine Pluchon	DBS/Kings Coll Phd	current
Yue Zhang	MBI PhD	current
Shidong Shi	MBI PhD	current
Fu Chaoyu	MBI PhD	current

## **Supervised 4 Master Students (6 months)**

<b>Name</b>	<b>program</b>	<b>Achieved/current</b>
Perrine Pluchon	NUS/ESPCI exchange	Achieved
Frances Edwards	NUS/ENS exchange	Achieved
Guillaume Julien	NUS/SupOtic Exchange	Achieved
Ajay Aravind	MBI master stud	Achieved

## **9 Thesis, 4 TAC committees**

I have been part of 8 thesis committee at MBI and 1 thesis committee at DBS

I have been part of of 4 TAC committees

## **Student evaluation:**

5 times part of the evaluation committee for FYP

Once part of Evaluation of high school students.

## List of Publications:

### Peer reviewed articles

- Jalal, S., Shi, S., Acharya, V., Huang, R. Y. -J., Viasnoff, V., Bershadsky, A. D., & Tee, Y. H. (2019). Actin cytoskeleton self-organization in single epithelial cells and fibroblasts under isotropic confinement.. *J Cell Sci*, 132(5). doi:[10.1242/jcs.220780](https://doi.org/10.1242/jcs.220780)
- Wong, H. C., Greci, G., Wu, J., Viasnoff, V., & Low, H. Y. (2018). Roll-to-Roll Fabrication of Residual-Layer-Free Micro/Nanoscale Membranes with Precise Pore Architectures and Tunable Surface Textures. *INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH*, 57(41), 13759-13768. doi:[10.1021/acs.iecr.8b03867](https://doi.org/10.1021/acs.iecr.8b03867)
- Dasgupta, S., Gupta, K., Zhang, Y., Viasnoff, V., & Prost, J. (2018). Physics of lumen growth. *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*, 115(21), E4751-E4757. doi:[10.1073/pnas.1722154115](https://doi.org/10.1073/pnas.1722154115)
- Dasgupta, S., Gupta, K., Zhang, Y., Viasnoff, V., & Prost, J. (2018). Physics of lumen growth. doi:[10.1101/294264](https://doi.org/10.1101/294264)
- Anh, T. N., Mattiassi, S., Loeblein, M., Chin, E., Ma, D., Coquet, P., . . . Yim, E. K. F. (2018). Human Rett-derived neuronal progenitor cells in 3D graphene scaffold as an in vitro platform to study the effect of electrical stimulation on neuronal differentiation. *BIOMEDICAL MATERIALS*, 13(3), 16 pages. doi:[10.1088/1748-605X/aaaf2b](https://doi.org/10.1088/1748-605X/aaaf2b)
- Gao, X., Stoecklin, C., Zhang, Y., Weng, Z., De Mets, R., Greci, G., & Viasnoff, V. (2018). Artificial microniche array with spatially structured biochemical cues. *Unknown Journal*, 1771, 55-66. doi:[10.1007/978-1-4939-7792-5\\_5](https://doi.org/10.1007/978-1-4939-7792-5_5)
- Yap, A. S., Duszyc, K., & Viasnoff, V. (2018). Mechanosensing and Mechanotransduction at Cell-Cell Junctions. *COLD SPRING HARBOR PERSPECTIVES IN BIOLOGY*, 10(8), 16 pages. doi:[10.1101/cshperspect.a028761](https://doi.org/10.1101/cshperspect.a028761)
- Pontes, B., Monzo, P., Gole, L., Le Roux, A. -L., Kosmalska, A. J., Tam, Z. Y., . . . Gauthier, N. C. (2017). Membrane tension controls adhesion positioning at the leading edge of cells. *JOURNAL OF CELL BIOLOGY*, 216(9), 2959-2977. doi:[10.1083/jcb.201611117](https://doi.org/10.1083/jcb.201611117)
- Gupta, K., Li, Q., Fan, J. J., Fong, E. L. S., Song, Z., Mo, S., . . . Yu, H. (2017). Actomyosin contractility drives bile regurgitation as an early response during obstructive cholestasis. *JOURNAL OF HEPATOLOGY*, 66(6), 1231-1240. doi:[10.1016/j.jhep.2017.01.026](https://doi.org/10.1016/j.jhep.2017.01.026)
- Wong, H. C., Zhang, Y., Viasnoff, V., & Low, H. Y. (2017). Predictive Design, Etch-Free Fabrication of Through-Hole Membrane with Ordered Pores and Hierarchical Layer Structure. *ADVANCED MATERIALS TECHNOLOGIES*, 2(2), 9 pages. doi:[10.1002/admt.201600169](https://doi.org/10.1002/admt.201600169)
- Singh, A. P., Galland, R., Finch-Edmondson, M. L., Greci, G., Sibarita, J. -B., Studer, V., . . . Saunders, T. E. (2017). 3D Protein Dynamics in the Cell Nucleus. *BIOPHYSICAL JOURNAL*, 112(1), 133-142. doi:[10.1016/j.bpj.2016.11.3196](https://doi.org/10.1016/j.bpj.2016.11.3196)
- Ruprecht, V., Monzo, P., Ravasio, A., Yue, Z., Makhija, E., Strale, P. O., . . . Viasnoff, V. (2017). How cells respond to environmental cues - insights from bio-functionalized substrates. *JOURNAL OF CELL SCIENCE*, 130(1), 51-61. doi:[10.1242/jcs.196162](https://doi.org/10.1242/jcs.196162)

- Li, Q., Zhang, Y., Pluchon, P., Robens, J., Herr, K., Mercade, M., . . . Viasnoff, V. (2016). Extracellular matrix scaffolding guides lumen elongation by inducing anisotropic intercellular mechanical tension. *NATURE CELL BIOLOGY*, *18*(3), 311-+. doi: [10.1038/ncb3310](https://doi.org/10.1038/ncb3310)
- Viasnoff, V. (2016). Cell scientist to watch - Virgile Viasnoff. *JOURNAL OF CELL SCIENCE*, *129*(3), 459-460. doi:[10.1242/jcs.184705](https://doi.org/10.1242/jcs.184705)
- Payet, L., Martinho, M., Merstorf, C., Pastoriza-Gallego, M., Pelta, J., Viasnoff, V., . . . Mathe, J. (2015). Temperature Effect on Ionic Current and ssDNA Transport through Nanopores. *BIOPHYSICAL JOURNAL*, *109*(8), 1600-1607. doi: [10.1016/j.bpj.2015.08.043](https://doi.org/10.1016/j.bpj.2015.08.043)
- Galland, R., Greci, G., Aravind, A., Viasnoff, V., Studer, V., & Sibarita, J. -B. (2015). 3D high- and super-resolution imaging using single-objective SPIM (vol 12, pg 641, 2015). *NATURE METHODS*, *12*(7), 1 page. Retrieved from [http://gateway.webofknowledge.com/gateway/Gateway.cgi?GWVersion=2&SrcApp=PARTNER\\_](http://gateway.webofknowledge.com/gateway/Gateway.cgi?GWVersion=2&SrcApp=PARTNER_)
- Ravasio, A., Vaishnavi, S., Ladoux, B., & Viasnoff, V. (2015). High-resolution imaging of cellular processes across textured surfaces using an indexed-matched elastomer. *ACTA BIOMATERIALIA*, *14*, 53-60. doi:[10.1016/j.actbio.2014.11.006](https://doi.org/10.1016/j.actbio.2014.11.006)
- Galland, R., Greci, G., Aravind, A., Viasnoff, V., Studer, V., & Sibarita, J. -B. (2015). 3D high- and super-resolution imaging using single-objective SPIM. *NATURE METHODS*, *12*(7), 641-+. doi:[10.1038/NMETH.3402](https://doi.org/10.1038/NMETH.3402)
- Herr, K. J., Tsang, Y. -H. N., Ong, J. W. E., Li, Q., Yap, L. L., Yu, W., . . . Thiery, J. P. (2014). Loss of alpha-catenin elicits a cholestatic response and impairs liver regeneration. *SCIENTIFIC REPORTS*, *4*, 11 pages. doi:[10.1038/srep06835](https://doi.org/10.1038/srep06835)
- Auger, T., Mathe, J., Viasnoff, V., Charron, G., Di Meglio, J. -M., Auvray, L., & Montel, F. (2014). Zero-Mode Waveguide Detection of Flow-Driven DNA Translocation through Nanopores. *PHYSICAL REVIEW LETTERS*, *113*(2), 5 pages. doi: [10.1103/PhysRevLett.113.028302](https://doi.org/10.1103/PhysRevLett.113.028302)
- Engl, W., Arasi, B., Yap, L. L., Thiery, J. P., & Viasnoff, V. (2014). Actin dynamics modulate mechanosensitive immobilization of E-cadherin at adherens junctions. *NATURE CELL BIOLOGY*, *16*(6), 584-+. doi:[10.1038/ncb2973](https://doi.org/10.1038/ncb2973)
- Chiaruttini, N., Letellier, L., & Viasnoff, V. (2013). A Novel Method to Couple Electrophysiological Measurements and Fluorescence Imaging of Suspended Lipid Membranes: The Example of T5 Bacteriophage DNA Ejection. *PLOS ONE*, *8*(12), 11 pages. doi:[10.1371/journal.pone.0084376](https://doi.org/10.1371/journal.pone.0084376)
- Masters, T. A., Pontes, B., Viasnoff, V., Li, Y., & Gauthier, N. C. (2013). Plasma membrane tension orchestrates membrane trafficking, cytoskeletal remodeling, and biochemical signaling during phagocytosis. *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*, *110*(29), 11875-11880. doi: [10.1073/pnas.1301766110](https://doi.org/10.1073/pnas.1301766110)
- Thiery, J. P., Engl, W., Viasnoff, V., & Dufour, S. (2012). Biochemical and biophysical origins of cadherin selectivity and adhesion strength. *CURRENT OPINION IN CELL BIOLOGY*, *24*(5), 614-619. doi:[10.1016/j.ceb.2012.06.007](https://doi.org/10.1016/j.ceb.2012.06.007)

- Masters, T., Engl, W., Weng, Z. L., Arasi, B., Gauthier, N., & Viasnoff, V. (2012). Easy Fabrication of Thin Membranes with Through Holes. Application to Protein Patterning. *PLOS ONE*, 7(8), 7 pages. doi:[10.1371/journal.pone.0044261](https://doi.org/10.1371/journal.pone.0044261)
- Pontani, L. -L., Jorjadze, I., Viasnoff, V., & Brujic, J. (2012). Biomimetic emulsions reveal the effect of mechanical forces on cell-cell adhesion. *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*, 109(25), 9839-9844. doi:[10.1073/pnas.1201499109](https://doi.org/10.1073/pnas.1201499109)
- Bhattacharya, S., Muzard, J., Payet, L., Mathe, J., Bockelmann, U., Aksimentiev, A., & Viasnoff, V. (2011). Rectification of the Current in alpha-Hemolysin Pore Depends on the Cation Type: The Alkali Series Probed by Molecular Dynamics Simulations and Experiments. *JOURNAL OF PHYSICAL CHEMISTRY C*, 115(10), 4255-4264. doi:[10.1021/jp111441p](https://doi.org/10.1021/jp111441p)
- Viasnoff, V. (2011). Towards mapping mechanical tensions inside cells?. *MS-MEDECINE SCIENCES*, 27(1), 14-16. doi:[10.1051/medsci/201127114](https://doi.org/10.1051/medsci/201127114)
- Viasnoff, V., Chiaruttini, N., Muzard, J., & Bockelmann, U. (2010). Force fluctuations assist nanopore unzipping of DNA. *JOURNAL OF PHYSICS-CONDENSED MATTER*, 22(45), 11 pages. doi:[10.1088/0953-8984/22/45/454122](https://doi.org/10.1088/0953-8984/22/45/454122)
- Chiaruttini, N., de Frutos, M., Augarde, E., Boulanger, P., Letellier, L., & Viasnoff, V. (2010). Is the In Vitro Ejection of Bacteriophage DNA Quasistatic? A Bulk to Single Virus Study. *BIOPHYSICAL JOURNAL*, 99(2), 447-455. doi:[10.1016/j.bpj.2010.04.048](https://doi.org/10.1016/j.bpj.2010.04.048)
- Muzard, J., Martinho, M., Mathé, J., Bockelmann, U., & Viasnoff, V. (2010). DNA translocation and unzipping through a nanopore: Some geometrical effects. *Biophysical Journal*, 98(10), 2170-2178. doi:[10.1016/j.bpj.2010.01.041](https://doi.org/10.1016/j.bpj.2010.01.041)
- Muzard, J., Martinho, M., Mathe, J., Bockelmann, U., & Viasnoff, V. (2010). DNA Translocation and Unzipping through a Nanopore: Some Geometrical Effects. *BIOPHYSICAL JOURNAL*, 98(10), 2170-2178. doi:[10.1016/j.bpj.2010.01.041](https://doi.org/10.1016/j.bpj.2010.01.041)
- Viasnoff, V., Bockelmann, U., Meller, A., Isambert, H., Laufer, L., & Tsori, Y. (2010). Localized Joule heating produced by ion current focusing through micron-size holes. *APPLIED PHYSICS LETTERS*, 96(16), 3 pages. doi:[10.1063/1.3399315](https://doi.org/10.1063/1.3399315)
- Viasnoff, V., Chiaruttini, N., & Bockelmann, U. (2009). Probing DNA base pairing energy profiles using a nanopore. *EUROPEAN BIOPHYSICS JOURNAL WITH BIOPHYSICS LETTERS*, 38(2), 263-269. doi:[10.1007/s00249-008-0372-2](https://doi.org/10.1007/s00249-008-0372-2)
- Bockelmann, U., & Viasnoff, V. (2008). Theoretical study of sequence-dependent nanopore unzipping of DNA. *BIOPHYSICAL JOURNAL*, 94(7), 2716-2724. doi:[10.1529/biophysj.107.111732](https://doi.org/10.1529/biophysj.107.111732)
- Xayaphoummine, A., Viasnoff, V., Harlepp, S., & Isambert, H. (2007). Encoding folding paths of RNA switches. *NUCLEIC ACIDS RESEARCH*, 35(2), 614-622. doi:[10.1093/nar/gkl1036](https://doi.org/10.1093/nar/gkl1036)
- Montes, H., Viasnoff, V., Jurine, S., & Lequeux, F. (2006). Ageing in glassy polymers under various thermal histories. *JOURNAL OF STATISTICAL MECHANICS-THEORY AND EXPERIMENT*, 16 pages. doi:[10.1088/1742-5468/2006/03/P03003](https://doi.org/10.1088/1742-5468/2006/03/P03003)
- Viasnoff, V., Meller, A., & Isambert, H. (2006). DNA nanomechanical switches under folding kinetics control. *NANO LETTERS*, 6(1), 101-104. doi:[10.1021/nl052161c](https://doi.org/10.1021/nl052161c)

- Bursac, P., Lenormand, G., Fabry, B., Oliver, M., Weitz, D. A., Viasnoff, V., . . . Fredberg, J. J. (2005). Cytoskeletal remodelling and slow dynamics in the living cell. *NATURE MATERIALS*, 4(7), 557-561. doi:[10.1038/nmat1404](https://doi.org/10.1038/nmat1404)
- Mathe, J., Visram, H., Viasnoff, V., Rabin, Y., & Meller, A. (2004). Nanopore unzipping of individual DNA hairpin molecules. *BIOPHYSICAL JOURNAL*, 87(5), 3205-3212. doi:[10.1529/biophysj.104.047274](https://doi.org/10.1529/biophysj.104.047274)
- Viasnoff, V., & Lequeux, F. (2002). Rejuvenation and overaging in a colloidal glass under shear. *PHYSICAL REVIEW LETTERS*, 89(6), 4 pages. doi:[10.1103/PhysRevLett.89.065701](https://doi.org/10.1103/PhysRevLett.89.065701)
- Viasnoff, V., Lequeux, F., & Pine, D. J. (2002). Multispeckle diffusing-wave spectroscopy: A tool to study slow relaxation and time-dependent dynamics. *REVIEW OF SCIENTIFIC INSTRUMENTS*, 73(6), 2336-2344. doi:[10.1063/1.1476699](https://doi.org/10.1063/1.1476699)
- Bockelmann, U., Thomen, P., Essevez-Roulet, B., Viasnoff, V., & Heslot, F. (2002). Unzipping DNA with optical tweezers: high sequence sensitivity and force flips. *BIOPHYSICAL JOURNAL*, 82(3), 1537-1553. doi:[10.1016/S0006-3495\(02\)75506-9](https://doi.org/10.1016/S0006-3495(02)75506-9)
- Harden, J. L., & Viasnoff, V. (2001). Recent advances in DWS-based microrheology. *CURRENT OPINION IN COLLOID & INTERFACE SCIENCE*, 6(5-6), 438-445. doi:[10.1016/S1359-0294\(01\)00115-7](https://doi.org/10.1016/S1359-0294(01)00115-7)
- Knaebel, A., Bellour, M., Munch, J. P., Viasnoff, V., Lequeux, F., & Harden, J. L. (2000). Aging behavior of Laponite clay particle suspensions. *EUROPHYSICS LETTERS*, 52(1), 73-79. doi:[10.1209/epl/i2000-00406-6](https://doi.org/10.1209/epl/i2000-00406-6)
- Xu, J. Y., Viasnoff, V., & Wirtz, D. (1998). Compliance of actin filament networks measured by particle-tracking microrheology and diffusing wave spectroscopy. *RHEOLOGICA ACTA*, 37(4), 387-398. doi:[10.1007/s003970050125](https://doi.org/10.1007/s003970050125)
- Berthier, L., Viasnoff, V., White, O., Orlyanchik, V., & Krzakala, F. (n.d.). Hiking through glassy phases: physics beyond aging. in *"Slow relaxations and nonequilibrium dynamics in condensed matter"*; Eds: J.-L. Barrat, J. Dalibard, M. Feigelman, J. Kurchan (Springer, Berlin, 2003). Retrieved from <http://arxiv.org/abs/cond-mat/0211106v2>
- Viasnoff, V., & Lequeux, F. (n.d.). Aging and effective delays in colloidal glasses under shear. Retrieved from <http://arxiv.org/abs/cond-mat/0305389v1>

### **Published review work**

- Yap, A. Duszyc, K. **Viasnoff, V.** Mechanosensing and mechanotransduction at cell-cell junctions, Cold Spring harbor, Perspective on cell-cell junctions (2017), in press.

- Ruprecht, V., Monzo, P., Ravasio, A., Yue, Z., Makhija, E., Strale, P. O., Gauthier, N., Shivashankar, G. V., Studer, V., Albiges-Rizo, C. and **Viasnoff, V.** (2017). How cells respond to environmental cues – insights from bio-functionalized substrates. *Journal of Cell Science* 130, 51-61.
- Engl, W., **Viasnoff, V.** and Thiery, J. P. (2015). Epithelial Mesenchymal Transition Influence on CTL Activity. In *Resistance of Cancer Cells to CTL-Mediated Immunotherapy*, (eds B. Bonavida and S. Chouaib), pp. 267-284. Cham: Springer International Publishing.
- **Viasnoff, V.** (2011). Towards mapping mechanical tension inside cells (news and views). *Medical Science (Paris)* 27.
- Thiery JP, Engl W, **Viasnoff V** and Dufour S. (2012). Biochemical and biophysical origins of cadherin selectivity and adhesion strength. *Current Opinion in Cell Biology* 24:614-19.

### **Patents since 2014:**

Highlighted names are the main inventors (max share of patent)

**Viasnoff, V.**, Li Q.(2014). Cell culture. C. National university of Singapore. WO 2014021778 A1. Licensed

**Viasnoff, V.**, Studer, V., Greci, G., Galland, R. and Sibarita, J. B.(2015). Micro-textured surface with integrated micro-mirrors for 3d multi-scale microscopy. C. National university of Singapore. WO 2015030678 A1.Licensed

**Viasnoff, V. A.**(2017). Cell Biology Plate. C. National university of Singapore. WT/TSF/maz/O.20170260 (3945/SG). Licensed

**Viasnoff,V**, Leveque, X., Sibarita J.B, Studer, V. and Galland, R.(2015). System and method of edge-illumination microscopy. CNRS.US 2016/0202462 A1. Licensed

Wong H.C, Viasnoff. V, **Low H.Y.**(2017). Integrable membrane filtration system. Singapore University of Technology and Design, National university of Singapore.TD/EPD/2016/037.

### **Most significant contributions:**

For all publications below, I have main authorship even if not placed in last author position. In each case the critical importance of the technical aspects and biophysical concepts developed for the work, and in support of the articles, is recognized. This is acknowledged in the manuscripts (see attached files)

**Li, Q., Zhang, Y., Pluchon, P., Robens, J., Herr, K., Mercade, M., Thiery, J. P., Yu, H. and Viasnoff, V.** (2016). Extracellular matrix scaffolding guides lumen elongation by inducing anisotropic intercellular mechanical tension. *Nat Cell Biol* 18, 311-8. (News and views NCB + cover) IF:20

**Galland, R., Greci, G., Aravind, A., Viasnoff, V \*, Studer, V. and Sibarita, J. B.** (2015). 3D high- and super-resolution imaging using single-objective SPIM. *Nat Methods* 12, 641-4. IF:34

**Engl, W., Arasi, B., Yap, L. L., Thiery, J. P. and Viasnoff, V.** (2014). Actin dynamics modulate mechanosensitive immobilization of E-cadherin at adherens junctions. *Nat Cell Biol* 16, 587-94. (Selected F1000, news and views NCB) IF:20

**Gupta, K., Li, Q., Fan, J. J., Fong, E. L. S., Song, Z., Mo, S., Tang, H., Ng, I. C., Ng, C. W., Pawijit, P., Zhuo, S., Dong, C.-Y., Low, B. C., Wee, A., Dan, Y. Y., Kanchanawong, P., So, P., Viasnoff, V\* . and Yu, H.** (2017) Actomyosin contractility drives bile regurgitation as an early response during obstructive cholestasis. *Journal of Hepatology*. (in press) IF:11.

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### **SIGNIFICANCE**

All these publications are laying the foundations to explore the role of mechanical cues in triggering and maintaining apico-basal polarity. They are composed of original methodology

papers, and papers establishing the role of actin dynamics in shaping secretory lumens and apical complexes