

**Stephan Thiberge**

108 North Stanworth Drive  
Princeton, New Jersey 08540, USA  
Telephone: 609 252 1669  
[thiberge@princeton.edu](mailto:thiberge@princeton.edu)

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**OBJECTIVE**

Developing my own research and teach in a university

**PROFESSIONAL EXPERIENCE**

**Research Associate in Molecular Biology** Princeton University, USA      March 2003 - present  
Engineering and construction of reliable *in-vivo* synthetic protein networks.

**Post doctoral fellow in biophysics** Weizmann Institute of Science, Israel      1999 – 2003

- Development of a nanometer resolution imaging method for cell biology applications.  
The method enables assays that are based on single molecule detection in the cellular context.
- Also, collaboration with a team developing advanced scanning optical microscopy methods for cell biology.

**Consultant** QuantomiX Ltd, Israel      2001 – 2003

Trained staff in theory and execution of the imaging method I developed.

**Teaching Assistant** University of Nice, France      1997 - 1999

Taught graduate and undergraduate students: Instrumentation in Nuclear Physics, Physics, Electricity, and Electronics

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**EDUCATION**

**Ph.D. in Physics with honors** Institut Non-Lineaire de Nice, France 1995 – 1999

**Previous degrees:**

French equivalent of B.Sc. and M.Sc. in Physics Universities of Paris VI and VII 1989 - 1995  
(This period includes one year military service)

Title of diplomas:

DEA "Champs, Particule, Matiere",

Magistere de Physique de Paris VII,

License and Maitrise de Physique, Deug A

**Additional professional training**

Institut Non\_Lineaire de Nice September 1995

Dynamics of cholesteric liquid crystals

Institut de Physique Nucleaire, Orsay Winter 1994

Characterization of a semi-conductor detector for particle localization

Institut d'Astrophysique Spatiale, Paris Summer 1992

UV spectroscopy of pre-biotic compounds found in Titan's atmosphere

Laboratoire de Biophysique, Museum National d'Histoire Naturelle Summer 1990 and 1991

Spectroscopy of organic compounds

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**OTHER INFORMATION**

**ADDITIONAL SKILLS**

- Hands-on experience with biological cells
- Hands-on experience in microscopy methods: Fluorescence, Phase, DIC, Scanning and Near-Field microscopy, and Electron Microscopy.
- Hands-on experience with fluorescent probes and nano-particles cell labeling
- Multiple experimental set-ups designed
- Experienced with conception of data acquisition systems
- Computer Programming: LabView, Matlab and C

**LANGUAGES**

French (mother tongue), English (fluent), Spanish (basic), Hebrew (basic)

**REFERENCES AND LIST OF PUBLICATIONS** will be furnished upon request.

**LIST OF PUBLICATIONS**

**JOURNAL ARTICLES**

Manuscript under review

**A synthetic genetic circuit exhibiting a pulse transient response**

S. Basu, R.Mehreja, S.Thiberge, Y.Gerchman, R. Weiss (submitted to PNAS)

**Scanning Electron Microscopy of Cells and Tissues under Fully Hydrated Conditions**

S. Thiberge, A. Nechushtan, D. Sprinzak, O. Gileadi, V. Behar, O. Zik, S. Michaeli, Y. Chowers, J. Schlessinger, E. Moses (submitted to Proceedings of the National Academy of Science of United States of America - PNAS)

**An Apparatus for Imaging Liquids, Cells and Other Wet Samples in the Scanning Electron Microscopy**

S. Thiberge, O. Zik, E. Moses (to be published in Review of Scientific Instruments)

Recent publications

**New methods in femtosecond multiphoton microscopy (Invited Paper)** Y. Silberberg, D.

Yelin, D. Oron, N. Dudovich, S. Thiberge, Proceedings of SPIE Vol. #4963, 2003

Publications related to my Ph.D.

**Is the electromechanical coupling the driving force of the perpendicular drift of first class cholesteric finger?**

L. Gil and S. Thiberge,  
J. Phys. II France, 7 (1997) 1499.

**Inversion walls in homeotropic nematic and cholesteric layers,**

J.M. Gilli, S. Thiberge, A.. Vierheilg and F. Fried,  
Liq. Cryst., 23 (1997) 619.

**Critical radius of loop defects in homeotropic liquid crystal,**

S. Thiberge, C. Chevallard, J.M. Gilli and A. Buka,  
Liq. Cryst., 26 (1999) 1225.

**CONFERENCES**

Oral presentations

**Biophysical Society 47th Annual Meeting**, March 1-5 2003, San Antonio, TX.

**Electron Microscopy of cells in fully hydrated conditions,**

S. Thiberge, A. Nechushtan, D. Sprinzak, O. Zik, E. Moses

**The Curie-Weizmann Meeting**, Institut Curie, Paris, June 2002,  
**Wet Scanning Electron Microscopy: a novel imaging technique**,  
S. Thiberge, A. Nechushtan, D. Sprinzak, O. Zik, E. Moses

**The 47th Meeting of the Israel Physical Society**, Tel Aviv, Dec 2001,  
**Electron Microscopy of wet samples**,  
S. Thiberge, O.Zik, E. Moses

**2eme Rencontres du Non-Lineaire**, I.H.C., Paris, April 99,  
**Dynamique des structures cholesteriques**,  
S. Thiberge, L. Gil and J.M. Gilli

**Groupe de recherche Cristaux Liquides**, Garchy, December 98,  
**Dynamique des structures cholesteriques**,  
S. Thiberge, L. Gil and J.M. Gilli

**8th Colloque d'Expression Francaise sur les Cristaux Liquides**, Amiens, Sept 97  
**Rayon critique d'un défaut boucle dans un cristal liquide nematique**  
S. Thiberge, C. Chevallard, J.M. Gilli and A. Buka

**17th Rencontres de Physique Statistique**, ESPCI, Paris, January 97.  
**Mesure de l'energie d'un défaut topologique de rang 1/2 dans les cristaux liquides nematiques**,  
S. Thiberge, C. Chevallard, J.M. Gilli and A. Buka

Posters presentations

**American Physical Society Meeting**, March 3-7 2003, Austin, TX

**Scanning Electron Microscopy of Fully Hydrated Cells** S. Thiberge, A. Nechushtan, D. Sprinzak, O. Gileadi, V. Behar, O. Zik, E. Moses

**Biophysical Society 46th Annual Meeting**, February 23-27 2002, San Francisco, CA.  
**Electron Microscopy of wet samples**,  
S. Thiberge, O. Zik and E. Moses

**Research Workshop of the Israel Science Foundation : Complex Matter : equilibrium, dynamics and interfacial properties**, Rehovot/Kfar Blum, Israel, April 2000.  
**Localized structures in cholesteric liquid crystals: grow, disappearance and dynamic**  
S. Thiberge, L. Gil and J.M. Gilli

**4th Let's Face Chaos through Nonlinear Dynamics School/Conference**, Maribor, Slovenia  
July 99.

**Circular localized structures in cholesteric liquid crystals**

S. Thiberge and J.M. Gilli

**Pinning to unpinning transition in cholesteric liquid crystals**

S. Thiberge

**17th International Liquid Crystal Conference**, Strasbourg, France, July 98.

**Permanent flow induced by periodic constraints in nematic droplets**

S. Thiberge, M. Nobili and J.M. Gilli

**Elastic distortion and defects switching in a nematic drop under external field**

M. Nobili, S. Thiberge and J.M. Gilli

**Conference on Patterns, Non-linear dynamics and Stochastic behavior in spatially**

**extended complex systems (PNS'97)**, Budapest, Hungary, October 97  
**Critical radius of loop defects in homeotropic nematic liquid crystals**  
S. Thiberge, C. Chevillard, J.M. Gilli and A. Buka

**16th International Liquid Crystal Conference**, Kent State University, USA, June 96  
**Measurement of electromechanical coupling coefficient of a cholesteric sample under homeotropic anchoring**  
S. Thiberge, L. Gil and J.M. Gilli  
**Metastable Neel walls parallel to glass plates in nematic liquid crystals**  
J.M. Gilli, S. Thiberge, C. Chevillard, A. Buka and L. Kramer

#### **PATENTS**

**(WO 02/45125) Device and method for the examination of samples in a non-vacuum environment using a scanning electron microscope**  
E. Moses, O. Zyk, S. Thiberge

**(Process of publication) Low-pressure chamber for scanning electron microscopy in wet environment**  
S. Thiberge, E. Moses

**Stephan Thiberge, Ph.D.**  
Electrical Engineering Department,  
Princeton University  
Princeton,  
NJ, 08544  
E-mail: [thiberge@princeton.edu](mailto:thiberge@princeton.edu)  
Tel: 609 258 51 51

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## LIST OF REFERENCE

**Professor Ron Weiss,**  
Electrical Engineering Department,  
Princeton University  
Princeton,  
NJ, 08544

E-mail: [rweiss@princeton.edu](mailto:rweiss@princeton.edu)  
Tel: 609 258 11 74  
Fax: 609 258 29 31

I am currently working with Professor Ron Weiss.

**Professor Elisha Moses,**  
Weizmann Institute of Sciences,  
PO Box 26, Rehovot,  
Israel, 76100

E-mail: [fnmoses@wicc.weizmann.ac.il](mailto:fnmoses@wicc.weizmann.ac.il)  
Tel: 972 8 934 41 05  
Fax: 972 8 934 41 05

I worked for 3 years with Professor Elisha Moses.

**Professor Pierre Coulet,**  
Institut Non-Lineaire de Nice,  
1361 Route des Lucioles, Valbonne,  
France, 06560

E-mail: [pierre.coulet@inln.cnrs.fr](mailto:pierre.coulet@inln.cnrs.fr)  
Tel: +33 4 92 96 73 48  
Fax: +33 4 92 96 73 33

Professor Pierre Coulet was the director in the laboratory I did my Ph.D.