

# Jérémie Dumas

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United States

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## Current Occupation

2020– **Research Engineer**, Adobe Research, Seattle, USA

## Work and Education

2018–2020 **Software Engineer**, nTopology, New York, USA  
2017–2018 **Postdoctoral Researcher**, Courant Institute of Mathematical Sciences, New York, USA (*advisors: Daniele Panozzo and Denis Zorin*)  
2013–2017 **PhD Thesis in Computer Science**, Inria, Nancy, France  
Defended on February 3, 2017 (*advisor: Sylvain Lefebvre*)  
**Visiting Scholar**, Hong Kong University, Hong Kong (*April 2014, April 2016*)  
2010–2012 **Master d'Informatique (M.Sc. in Computer Science)**  
École Normale Supérieure de Lyon, France, *mention Bien*  
**Exchange Student Program (Winter 2011)**  
DIRO, Université de Montréal, Canada.  
2009–2010 **Licence d'Informatique (B.Sc. in Computer Science)**  
École Normale Supérieure de Lyon, France, *mention Bien*.  
2007–2009 **Classe préparatoire aux grandes écoles in Science (Undergraduate studies for the competitive entrance exams to the French "grandes écoles", national institutes of higher education)** Lycée Thiers, Marseille, France.

## Research Internships

2013, Mar–Aug **Building Textured Surface Mesh Models Using Kinect** (*advisors: Janne Heikkilä and Juho Kannala*) Center for Machine Vision, Oulu, Finland  
2012, Sep–Feb **Sparse Reconstruction and Structure from Motion** (*advisor: Tomáš Pajdla*)  
Center for Machine Perception, Prague, Czech Republic  
2012, Feb–Jul **Path Graphs Decompositions and Representations** (*advisor: Christophe Crespelle*) Laboratoire d'Informatique et du Parallélisme, Lyon, France  
2011, Apr–Jul **Solid Texture Generation and Wood Growth Simulation** (*advisor: Pierre Poulin*)  
Laboratoire d'Informatique Graphique de l'Université de Montréal, Québec  
2010, Jun–Jul **Diffusion in Dynamic Networks** (*advisor: Christophe Crespelle and Éric Fleury*)  
Laboratoire d'Informatique de Paris 6, France

## Awards

2017 **PhD Thesis Award** from Université de Lorraine.  
2018 **Eurographics Annual Award for Best PhD Thesis** from the Eurographics association.  
2018 **IG-RV PhD Thesis Award** from CNRS's GdR IG-RV.

## Selected Publications

- **A Low-Parametric Rhombic Microstructure Family for Irregular Lattices** Davi Colli Tozoni, Jérémie Dumas, Zhongshi Jiang, Julian Panetta, Daniele Panozzo, Denis Zorin. ACM Transactions on Graphics (TOG) — SIGGRAPH 2020 Conference Proceedings. Volume 39 Issue 4, July 2020.

- **Half-Space Power Diagrams and Discrete Surface Offsets** *Zhen Chen, Daniele Panozzo, Jérémie Dumas*. IEEE Transactions on Visualization and Computer Graphics (TVCG). 2019.
- **Poly-Spline Finite Element Method** *Teseo Schneider, Jérémie Dumas, Xifeng Gao, Mario Botsch, Daniele Panozzo, Denis Zorin*. ACM Transactions on Graphics (TOG). Volume 38 Issue 3, March 2019.
- **Decoupling Simulation Accuracy from Mesh Quality**. *Teseo Schneider, Yixin Hu, Jérémie Dumas, Xifeng Gao, Daniele Panozzo, Denis Zorin*. ACM Transactions on Graphics (TOG) — SIGGRAPH Asia 2018 Conference Proceedings. Volume 37 Issue 6, November 2018.
- **Orthotropic k-nearest Foams for Additive Manufacturing**. *Jonàs Martínez, Haichuan Song, Jérémie Dumas, Sylvain Lefebvre*. ACM Transactions on Graphics (TOG) — SIGGRAPH 2017 Conference Proceedings. Volume 36 Issue 4, July 2017.
- **Procedural Voronoi Foams for Additive Manufacturing**. *Jonàs Martínez, Jérémie Dumas, Sylvain Lefebvre*. ACM Transactions on Graphics (TOG) — SIGGRAPH 2016 Conference Proceedings. Volume 35 Issue 4, July 2016.
- **Structure and Appearance Optimization for Controllable Shape Design**. *Jonàs Martínez, Jérémie Dumas, Sylvain Lefebvre, Li-Yi Wei*. ACM Transactions on Graphics (TOG) — SIGGRAPH Asia 2015 Conference Proceedings. Volume 34 Issue 6, November 2015.
- **By-Example Synthesis of Structurally Sound Patterns**. *Jérémie Dumas, An Lu, Sylvain Lefebvre, Jun Wu, Christian Dick*. ACM Transactions on Graphics (TOG) — SIGGRAPH 2015 Conference Proceedings. Volume 34 Issue 4, July 2015.
- **Bridging the Gap: Automated Steady Scaffoldings for 3D Printing** *Jérémie Dumas, Jean Hergel and Sylvain Lefebvre*. ACM Transactions on Graphics (TOG) — SIGGRAPH 2014 Conference Proceedings. Volume 33 Issue 4, July 2014.

## Reviewing Activities

(Sorted alphabetically)

<b>2018</b>	ACM Symposium on Computational Fabrication (SCF)
<b>2015</b>	ACM Symposium on User Interface Software and Technology (UIST)
<b>2016,2018</b>	ACM Transactions on Graphics (TOG)
<b>2018</b>	Computational Visual Media Conference (CVM)
<b>2018,2019,2020</b>	Computer-Aided Design (CAD)
<b>2017,2018,2020</b>	Computers & Graphics
<b>2020</b>	Eurographics (International Program Committee)
<b>2016,2017,2018</b>	Eurographics Short Papers
<b>2020,2021</b>	Eurographics (International Program Committee)
<b>2019</b>	Fabrication and Sculpting Event (SMI'FASE)
<b>2017,2018,2019</b>	Graphics Replicability Stamp Initiative (GRSI)
<b>2015,2019</b>	IEEE Transactions on Visualization and Computer Graphics (TVCG)
<b>2018,2019</b>	Pacific Graphics (International Program Committee in 2018)
<b>2018,2019,2020</b>	Shape Modeling International (SMI)
<b>2017–2020</b>	SIGGRAPH
<b>2019,2020</b>	SIGGRAPH Asia
<b>2019</b>	Strojniški vestnik - Journal of Mechanical Engineering (SV-JME)

## Teaching

<b>2017-2018</b>	<b>Introduction to Computer Graphics</b> , Main Instructor ( <i>B.Sc. and M.Sc. courses</i> ), New York University, New York, USA.
<b>2013–2016</b>	<b>Tutorials in Java</b> , <i>Introduction to Computer Science (B.Sc. course)</i> , ENSEM, Nancy, France.

**2014–2016**      **Tutorials in 3D Printing**, *Algorithmic aspects of toolpath generation for filament printers (M.Sc. course)*, ENSEM, Nancy, France.

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## Research Interests

Geometric Modeling, Shape Optimization, Digital Fabrication, Discrete Algorithms, Numerical Optimization, Texture Synthesis, Graph Theory, Artificial Intelligence, Computer Vision...

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## Programming Skills

**Languages**      C++, C, Python, Lua, Bash, CMake (Expert)  
OCaml, Ruby, Java (Intermediate)

**Scientific**      Maple, Mathematica, Matlab

**Other Tools**    LaTeX, Awk, ns-2, Gnuplot

**Libraries**      Qt, MPI, Tikz, OpenGL, OpenCL, OpenCV, Theano, CGAL  
Numpy, Scipy, Matplotlib, Panda, Plotly

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## Programming Contests

**2016, Feb**      **Google Hash Code**, *Online Qualifications, (101 / 1054)*

**2011, Nov**      **ACM ICPC**, *Southwestern Europe Regional Contest, (Madrid) Gold Medal (2nd place)*

**2010, Mar**      **PrologIn**, *Finalist, (41/98)*

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## Personal Interests

- *Dance*: Lindy Hop, West Coast Swing, Ballroom Dances, Balfolk ...
- *Art*: Photography, Music, Anime, Literature, Science-Fiction
- *Outdoor*: Medieval Reenactment, Hiking, Swimming, Archery, Ice Skating

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## Language

- *French*: Native
- *English*: Advanced
- *Italian, Japanese, Czech, Finnish, French Sign Language*: Basic knowledge