

# Michael Robert Jimenez

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American citizen

Polish citizen

D.o.B.: 2. June 1990

Address:

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## EDUCATION

**Universität für angewandte Kunst Wien**, Vienna, Austria

October 2020 –

M.A. in [Transdisciplinary Art](#)

**Technische Universität Wien**, Vienna, Austria

October 2016 –

Ph.D. in [Mathematics](#)

Third-party projects (October 2019 – December 2020)

ESR within [ARCADES Network](#), Marie Skłodowska-Curie grant N° 675789

(October 2016 – September 2019)

**Supervisor:** [Prof. H. Pottmann](#) (October 2016 – July 2020)

**Coursework Overview:** Geometric Data Processing, Introduction to Optimization

**Arts Coursework Overview:** Material-Based Art Project, 3-Dimensional Design, Figure Drawing

**Universität Bonn**, Bonn, Germany

October 2012 – September 2015

M.Sc. in [Mathematics](#)

Weighted GPA: 2.1 (81%)

**Coursework Overview:** Complex Geometry, Symplectic Geometry, Global Analysis of Riemann Surfaces, Ricci Flow, Differential Topology, Hyperbolic Groups, Algebraic Topology, Characteristic Classes, Homological Algebra

**Thesis** with [Prof. C. F. Bödigheimer](#): *From Green's Functions to Chord Spaces, for the Punctured 2-Disk*

**Princeton University**, Princeton, NJ, U.S.A.

September 2008 – June 2012

A.B. in [Mathematics](#)

Dept. GPA: 3.35 of 4 (B+)

**Coursework Overview:** Differential Geometry, Riemannian Geometry, Modern Classical Dynamics, Advanced Classical Mechanics, Algebra with Galois Theory, Mathematical Methods in Physics

**Arts Coursework Overview:** Advanced Studios in Sculpture, Painting, and Drawing

**Thesis** with [Asst. Prof. G. Holzegel](#): *(In)completeness in Riemannian, and Lorentzian, Geometries via the Calculus of Variations*

## PUBLICATIONS & PREPRINTS

Jimenez, M.R., *Note on Surfaces of Revolution with an Affine-Linear Relation between their Curvature Radii*, [arXiv preprint](#).

Jimenez, M.R., Müller, C. & Pottmann, H., *Discretizations of Surfaces with Constant Ratio of Principal Curvatures*, *Discrete Comput. Geom.* (2019). doi:[10.1007/s00454-019-00098-7](https://doi.org/10.1007/s00454-019-00098-7)

## WORK EXPERIENCE

**SAP Service & Support Centre**, *Computer Analyst (Support Engineer)*, Dublin, Ireland

14 March – 13 September 2016

Worked on insurance software development

## CONFERENCES

**XXI. Generative Art Conference**, Verona, Italy

18 – 20 December 2018

**Talk** with María Lara Miró: *From Lines to Circles: Rethinking Design Coordinates*

**Solid and Physical Modeling 2018**, Bilbao, Spain

11 – 13 June 2018

**Poster:** *Interactive Geometric Design: Constraints Imposed by Function and Fabrication*

**Geometry Workshop in Obergurgl 2017**, Obergurgl, Austria

21 – 26 September 2017

**Talk:** *Discrete Weingarten Surfaces from Strips: Expressed in At-Most-Quadratic Constraints*

## ACADEMIC EXPERIENCE

**ARCADES Events**, with information at <http://arcades-network.eu/>

<b>Learning Week III</b> , INRIA, Sophia Antipolis, France	27 – 29 March 2019
<b>Second Software &amp; Industrial Workshop</b> , Cambridge, UK	28 – 31 January 2019
<b>Doctoral School II &amp; ESR Days</b> , Barcelona, Spain	3 – 7 September 2018
<b>Learning Week II</b> , INRIA, Sophia Antipolis, France	19 – 23 March 2018
<b>First Software &amp; Industrial Workshop</b> , Athens, Greece	27 November – 1 December 2017
<b>Learning Week I</b> , INRIA, Sophia Antipolis, France	3 – 7 April 2017
<b>Doctoral School I</b> , Oslo, Norway	28 November – 2 December 2016

**BMS/SFB Summer School: Discrete Differential Geometry**, TU Berlin, Berlin, Germany 9 – 20 September 2013  
Lectures by: Prof. V. Bazhanov, D. Cremers, V. Fock, G. Kutyniok, F. Luo, U. Pinkall, W. K. Schief, Y. Suris, S. Tabachnikov, and M. Wardetzky  
with lectures, and information, at <https://www.discretization.de/events/16/>

**Lab Assistant**, Civil Engineering Department, Princeton University June – August 2012  
For **Prof. Michael Littman**, regarding his course “Engineering in the Modern World”  
— Designed a couple of interactive demonstrations of magnetism and telegraphy for first-year students  
— Systematized the restoration of a vintage PDP 8/L computer, including both replacing hardware on its flip-chip modules, and debugging memory reading/writing

**NSF/RTG Summer Program in Analysis and Geometry**, Princeton University 6 – 22 July 2011  
Lectures by: Asst. Prof. G. Holzegel, Prof. E. Stein, L. Pierce, and A. Ionescu  
with (resp.) lectures: “The Geometry of General Relativity”, “A quick introduction to harmonic analysis in  $\mathbf{R}^d$ ”, “Discrete Analogues in Harmonic Analysis”, “Harmonic Analysis and Nonlinear Dispersive Equations”

**Research Assistant**, Physics Department, Princeton University June – August 2011  
For **Prof. Suzanne Staggs**  
— Calculated, with Python, estimate Mueller matrices for an ABS half-wave plate  
— Learned about linear optics, Jones matrices, and Mueller matrices

**Lab Assistant**, Civil Engineering Department, Princeton University June – August 2010  
For **Prof. Michael Littman**, regarding his course “Engineering in the Modern World”  
— Developed six hands-on laboratory demonstrations for his course meant for first-year students  
— Wrote accompanying intuitive descriptions of the Physics-related processes exemplified by the demonstrations  
— Constructed guidelines for use in these laboratory exercises as to show how these processes are involved in radio transmission and reception

**Research Assistant**, Astrophysics Department, Princeton University June – August 2009  
For **Prof. Anatoly Spitkovsky**, Lorenzo Sironi (GS)  
Abstract Title: *Accelerating Particle Acceleration in Shocks*  
— Worked with FORTRAN code to run particle-in-cell simulations of particle acceleration in plasma  
— Coded in IDL in order to analysis and interpret the output data

## UNIVERSITY ACTIVITIES

**Universität Bonn Fachbibliothek Mathematik Studentische Hilfskraft (Student Assistant)**, April 2013 – September 2015  
Bonn, Germany  
— Managed, weekly, the front desk of the Mathematics library

**Max Planck Institute for Mathematics Wissenschaftliche Hilfskraft (Scientific Assistant)**, March 2013 – June 2015  
Bonn, Germany  
—  $\LaTeX$ -ed several chapters for the fourth edition of Prof. Dale Husemöller’s textbook *Fibre Bundles*, under supervision of Dr. Alexander Weisse  
—  $\LaTeX$ -ed a few other smaller papers/files for Prof. Husemöller and Dr. Weisse

**Princeton Learning Cooperative Tutor**, Princeton, NJ, U.S.A. October 2011 – January 2012  
— Tutored a local high school student in abstract Algebra, once a week for several months

**Princeton UNIX Users’ Group (PUG) President** (2009 – 2011), **Treasurer** (2011 – 2012), May 2009 – May 2012  
Princeton University  
— Promoted student use of \*nix on campus  
— Managed group’s listserv

**Freshmen Scholars Institute Tutor**, Princeton University July – August 2011  
— Engaged selected incoming freshmen with elementary Number Theory and Probability  
— Aided tutees with homework sets, three nights a week for six weeks

## UNIVERSITY ACCOMPLISHMENTS

- Princeton Class of 2012** *Class Jacket Designer*, Princeton University 12 December 2011  
Winner of my class's design competition for its traditional senior-class jacket  
Mentioned in the Princeton Alumni Weekly, page 4 (PDF page 6),  
[https://www.princeton.edu/paw/ROXEN/av\\_files/PAWReunionsGuide2012.pdf](https://www.princeton.edu/paw/ROXEN/av_files/PAWReunionsGuide2012.pdf)
- Nassau Literature Review** *Contributor to Winter 2010 issue*, Princeton University 4 December 2010  
Selected to have one of my sculptures featured in the student literary magazine [Nassau Literature Review](#)  
Electronic copy, see page 70 (PDF page 71), <https://michael-r-j.github.io/files/NassLit-2010-winter.pdf>
- Princeton Class of 2012** *Pre-Rade 2009 Shirt Designer*, Princeton University 27 July 2009  
Winner of my class's design competition for its t-shirt at the Princeton Pre-Rade, 13 September 2009

## SKILLS

**Computer:** Proficient in using  $\text{\LaTeX}$ , Linux, GIMP, Inkscape, most office-suite programs.  
**Languages:** English (native), German (ca. level B2).