Michael Robert Jimenez, M.Sc.

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American citizen
Polish citizen
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Education

Universität für angewandte Kunst Wien, Vienna, Austria — October 2020 –
M.A. in Transdisciplinary Art (TransArts)

Technische Universität Wien, Vienna, Austria — October 2016 – (looking for new project)
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

Work Experience

Deloitte Österreich, *FSI Auditor*, Vienna, Austria — 9 January – 30 September 2023
— Worked on developing R code to help audit bank portfolios according to IFRS9

Universität Wien, Student Service Center Mathematics, Vienna, Austria — 1 July 2022 – 30 June 2023
— Managed and helped translate the website, helped scripting tasks

SAP Service & Support Centre, *Computer Analyst (Support Engineer)*, Dublin, Ireland — 14 March – 13 September 2016
— Worked on insurance software development

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

Max Planck Institute for Mathematics, *Wissenschaftliche Hilfskraft (Scientific Assistant)*, Bonn, Germany — March 2013 – June 2015
— 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

Teaching Experience

FH Technikum Wien, Linear Algebra, Vienna, Austria — October – November 2024
— Taught a warm-up course in linear Algebra for students in the Data Science Master's program

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

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

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), Princeton University — May 2009 – May 2012
— 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://mrj.at/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 Nassau Literature Review
Electronic copy, see page 70 (PDF page 71), https://mrj.at/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: bash, GIMP, git, Inkscape, LaTeX, Linux (Debian), office programs, R, Racket, vim.
Languages: English (native), German (ca. level C1), Polish (ca. level A1).
Soft: processing complicated data and information, teaching difficult topics to others, creating from abstraction, understanding and documenting complex structures.