

Chloe A. LeGendre

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- EDUCATION**
- University of Southern California**, Los Angeles, CA **August 2015 -**
Ph.D., Computer Science (in progress)
- Stevens Institute of Technology**, Hoboken, NJ **September 2012 - May 2015**
M.S., Computer Science
GPA: 4.00
- University of Pennsylvania**, Philadelphia, PA **September 2005 - May 2009**
B.S. in Engineering, Chemical and Biomolecular Engineering
GPA: 3.69
- RESEARCH INTERESTS** Computational Photography, Appearance Capture, Color Imaging & Measurement, Computer Vision, 3D Reconstruction
- RESEARCH EXPERIENCE**
- Graduate Research Assistant** **August 2015 - present**
Vision and Graphics Lab, USC Institute for Creative Technologies, Playa Vista, CA
- Advisor: Professor Paul Debevec
 - Multispectral imaging, lighting reproduction, computational photography, appearance capture, spectroscopy.
- Graduate Research Assistant** **January 2014 - July 2015**
Department of Computer Science, Stevens Institute of Technology, Hoboken, NJ
- Advisor: Associate Professor Philippos Mordohai
 - 3D reconstruction, binocular and multiview stereo vision from video and high resolution images.
- PUBLICATIONS**
- LeGendre, C.**, Yu, X., Liu, D., Busch, J., Jones, A., Pattanaik, S., and Debevec, P. 2016. Practical Multispectral Lighting Reproduction. *ACM Transactions on Graphics (TOG)*, 35, 4 (July): 32 (SIGGRAPH 2016).
- LeGendre C.**, Yu, X., and Debevec, P. 2016. Efficient Multispectral Reflectance Function Capture for Image-Based Relighting. In *Proc. of IS&T Color Imaging Conference 24*, 2016.
- LeGendre C.**, Yu, X., and Debevec, P. 2016. Optimal LED Selection for Multispectral Lighting Reproduction. In *ACM SIGGRAPH 2016 Posters*, ACM, SIGGRAPH 2016.
- Holm, J., Maier, T., Debevec, P., **LeGendre, C.**, Pines, J., Erland, J., Joblove, G., Dyer, S., Sloan, B., di Gennaro, J., and Sherlock, D. 2016. A Cinematic Spectral Similarity Index. In *Proc. of Annual Technical Conference & Exhibition, Society of Motion Picture and Television Engineers (SMPTE) 2016*.
- LeGendre C.**, Yu, X., and Debevec, P. 2017. Optimal LED Selection for Multispectral Lighting Reproduction. In *Proc. of IS&T Electronic Imaging 2017 Material Appearance Conference*. [*Best Student Paper Award*]

LeGendre C., Hyunh, L., Wang, S., and Debevec, P. 2017. Modeling Vellus Facial Hair from Asperity Scattering Silhouettes. SIGGRAPH 2017 Talks.

LeGendre C., Bastos, K., and Mordohai, P. 2017. High-Resolution Stereo Matching based on Sampled Photoconsistency Computation. British Machine Vision Conference 2017.

LeGendre C., Krissman, D., and Debevec, P. 2017. Improved Chromakey of Hair Strands via Orientation Filter Convolution. SIGGRAPH 2017 Posters. [Winner, Graduate Category, ACM SIGGRAPH 2017 Student Research Competition]

PROFESSIONAL
EXPERIENCE

Google Daydream (VR/AR), Los Angeles, CA
Software Engineering Intern **June 2017 - August 2017**

- Mobile augmented reality core technology development.
- Programming in Unity (C#), OpenGL/GLSL, and C++.

L'Oréal USA Research & Innovation, Clark, NJ
Senior Scientist I/II, Emerging Technologies **May 2013 - June 2015**

- *Makeup Genius* augmented reality smartphone application that uses facial feature tracking to virtually apply cosmetic products in real time (9M downloads globally).
- *Skintone Pro* low-cost spectrophotometer device with embedded learning algorithms for cosmetic product recommendations.

Scientist, Instrumentation and Imaging Laboratory **September 2011 - April 2013**

- Clinical instrumentation and multimodal image capture and analysis methods to assess changes in skin conditions over time.

Johnson & Johnson Consumer Products Company, Skillman, NJ
Scientist I/II, R&D Leadership Program **June 2009 - August 2011**

- Clinical instrumentation and imaging methods for skin health assessment.
- FIRST Robotics strategy mentor to FIRST team 75 (Hillsborough, NJ).

PATENT
APPLICATIONS

G. Balooch, R. Jung, W. Jung, **C. LeGendre**, A. Loudermilk, P. Patel, W. Sloan. Systems and methods for measuring spectra of skin and other objects and materials and making predictions based thereon. Application No. US 20150085279 A1. Filed 18 September 2014.

G. Balooch, **C. LeGendre**, A. Loudermilk, C. Luongo, P. Patel, W. Sloan. Systems and methods for measuring and categorizing colors and spectra of surfaces. Application No. WO 2015040110 A1. Filed 18 September 2014.

SERVICE

Academy of Motion Picture Arts and Sciences - Science & Technology Council Committee on Solid State Lighting (member).
Imaging Science & Technology - Color Imaging Conference 2017 (reviewer).
SIGGRAPH 2017 (reviewer).

TEACHING

CSCI 420 - Computer Graphics (TA, Fall 2017, USC)
CBE 150 - Fundamentals of Biotechnology (TA, Fall 2006, UPenn)

HONORS AND
AWARDS

Annenberg Ph.D. Fellowship, University of Southern California (2015 - 2019).
Winner, Graduate Category, ACM SIGGRAPH Student Research Competition (2017).
Best Student Paper, IS&T Electronic Imaging Conference (2017).

USC Stevens Center for Innovation Commercialization Award (2017).
Computing Research Association CRA-W Grad Cohort - Travel Stipend (2017).
Dean's List, University of Pennsylvania (2007 - 2009).
Stuart W. Churchill Individual Research Prize for Undergraduate Research in Chemical Engineering, University of Pennsylvania (2009).

INVITED TALKS "Multispectral Lighting and Relighting." Imperial College, London, UK, Realistic Graphics and Imaging Group. September 2017.

"Practical Multispectral Lighting Reproduction." Digital Domain, Los Angeles, CA. July 2016.

PROGRAMMING C++, OpenCV, CUDA, MATLAB, Python.

SOFTWARE NUKE, Maya (MEL and Python scripting), Arnold Renderer, Adobe Creative (Photoshop, Illustrator, Premier).

LANGUAGE English (native), French (proficient).

MEMBERSHIP ACM (2013 - present).
USC Chapter of the National Academy of Inventors (2017 - present).