Prof. Kevin SIVULA

Tenure-Track Assistant Professor

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EDUCATION

Ph.D. in Chemical Engineering (University of California, Berkeley) **May 2007**
with High Honors. Dissertation title: Controlling the morphology of solution-processed bulk heterojunction photovoltaics. Directed by Prof. Jean M.J. Fréchet

B.Ch.E. (Bachelor's of Chemical Engineering, University of Minnesota, Twin Cities) **June 2002**
with High Distinction and emphasis in polymer science. Minor degrees in mathematics and chemistry

PROFESSIONAL EXPERIENCE

École Polytechnique Fédérale de Lausanne (EPFL), Institute of Chemical Sciences and Engineering
Tenure-Track Assistant Professor of Chemical Engineering **2011 –**
Director of the Laboratory for Molecular Engineering of Optoelectronic Nanomaterials (LIMNO)

École Polytechnique Fédérale de Lausanne (EPFL), Laboratory of Photonics and Interfaces
Research Group Leader **2008 – 2011**
Scientific management of PEChouse, a research center for sustainable hydrogen production.

Post-Doctoral Research Scientist **2007 – 2008**
Developed oxide-based materials for photoelectrochemical water splitting.

University of California, Berkeley, Prof. Jean M.J. Fréchet Laboratories
Graduate Research Assistant **2002 – 2007**
Designed, synthesized, and characterized materials for bulk heterojunction photovoltaics.

University of Minnesota, Twin Cities, Prof. Timothy Walseth Laboratories
Undergraduate Research Assistant **1998 – 2002**
Synthesis of isotopically labeled cyclic nucleotides for *in vivo* calcium transfer studies.

TEACHING EXPERIENCE

École Polytechnique Fédérale de Lausanne (EPFL), Faculty of Basic Sciences
Professor in the Section of Chemical Science and Engineering **2011 –**
Courses taught: Transport Phenomena (I and II), Chemical engineering laboratory practical (I and II), Solar photovoltaics and energy systems.

University of California, Berkeley, College of Chemistry
Graduate Student Instructor, with Prof. Nitash Balsara and Dr. Steven F. Pedersen **Spring 2005**
For courses "Dynamics and Control of Chemical Processes," and "Organic Chemisty I" **and Fall 2003**

AWARDS AND HONORS

European Research Council (ERC) Starting Grant Award **August 2013**
ERC Starting Grants aim to support up-and-coming research leaders with funding up to 1.5 M€ for 5 years to support the creation of excellent new research teams.

Prix Zeno Karl Schindler **October 2011**
Awarded on behalf of the Zeno Karl Schindler Foundation to distinguish postdoctoral work of particular excellence in the field of environmental sciences and/or sustainability.

"Advances in Advance" Article Award **April 2010**
Awarded to selected papers published in the journal "Advanced Functional Materials" which have been judged to be very important and urgent by the referees and the peer review editor.

Materials Research Society Graduate Student Gold Award **April 2007**
Awarded to a graduate student for outstanding performance in the conduct of their research project and promise for future substantial achievement in materials research.

Presidential Scholarship Award **1998 – 2002**
*Endowed to a Minnesota resident exhibiting exceptional academic performance, scholastic aptitude, outstanding leadership, creativity, community involvement, and contribution to diversity***.**

Institute of Technology Dean's List (8 terms) **1998 – 2002**
Presented to students who earn a GPA of more than 3.67 based on a 4.0 scale with 12 units.

Institute of Technology Honors Program Member, University of Minnesota **1998 – 2000**
Admission to the honors program is selective. The admissions decision is based on the applicant's school records, standardized test scores, the application essay, and letter of recommendation.

SELECTED RECENT PUBLICATIONS FROM INDEPENDENT RESEARCH

1. Prevot, M. S.; Li, Y.; Guijarro, N.; **Sivula, K**.* Improving charge collection with delafossite photocathodes: a host-guest $CuAlO_2$/$CuFeO_2$ approach. *J. Mater. Chem. A* **2016**, *4*, 3018-3026.
2. Guijarro, N.; Prévot, M. S.; Yu, X.; Jeanbourquin, X. A.; Bornoz, P.; Bourée, W.; Johnson, M.; Le Formal, F.; **Sivula, K**.* A Bottom-Up Approach toward All-Solution-Processed High-Efficiency $Cu(In,Ga)_{S2}$ Photocathodes for Solar Water Splitting. *Adv. Energy Mater.* **2016**, *6*, 1501949.
3. **Sivula, K**.*; van de Krol, R. Semiconducting materials for photoelectrochemical energy conversion. *Nat. Rev. Mater.* **2016**, *1*, 16010. (*Invited review article*)
4. Yu, X.; Prevot, M. S.; Guijarro, N.; **Sivula, K**.* Self-assembled 2D WSe_2 thin films for photoelectrochemical hydrogen production. *Nat. Commun***. 2015**, *6*, 7596.
5. Gasperini, A.; Jeanbourquin, X.; Rahmanudin, A.; Yu, X.; **Sivula, K**.* Enhancing thermal stability of solution-processed small molecule semiconductor thin films using a flexible linker approach. *Adv. Mater.* **2015**, 27, 5541-5546.
6. Guijarro, N.; Prévot, M. S.; Jeanbourquin, X. A.; Yu, X.; **Sivula, K**.* Autodecomposition Approach for the Low-Temperature Mesostructuring of Nanocrystal Semiconductor Electrodes. *Chem. Mater.* **2015**, *27*, 6337-6344.
7. Bornoz, P.; Prévot, M. S.; Yu, X.; Guijarro, N.; **Sivula, K**.* Direct Light-Driven Water Oxidation by a Ladder-Type Conjugated Polymer Photoanode. *J. Am. Chem. Soc.* **2015**, *137*, 15338-15341.

RESEARCH ACHIEVEMENTS SUMMARY

- Co-author of over 60 peer-reviewed publications, which have garnered more than 8000 literature citations and an *h*-index of 36 (Google Scholar 05/2016).
- Co-supervision of 4 completed PhD theses and independent supervision of 7 concurrent PhD theses.
- External research funding from Swiss National Science Foundation (SNSF), Marie Curie Actions (FP7), European Research Council (ERC), Swiss Commission for Technology and Innovation (CTI), EOS Holdings SA. Total external research funding of more than 1.2 MCHF/year (M$1.3 /year) for 2013-2016.
- Active organization of conference symposiums for the Materials Research Society (MRS, Fall 2013, and Spring 2016), and International Electrochemical Society (ISE, Fall 2014).

LANGUAGES

English – Native language
French – Advanced oral and written competence

REFERENCES

Available upon request