



M. Nazeeruddin

## Mohammad K. Nazeeruddin

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|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Date of birth:</b> | June 14, 1957                                                                                                                                                              |
| <b>Position:</b>      | Senior Scientist, École Polytechnique Fédérale de Lausanne (EPFL), and World Class University Professor, Korea University                                                  |
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| <b>Homepage:</b>      | http://people.epfl.ch/105958                                                                                                                                               |
| <b>Education:</b>     | 1980 MSc, Osmania University, Hyderabad<br>1985 PhD supervised by M. M. Taqui Khan, Osmania University, Hyderabad<br>1987 Postdoctoral position with Michael Grätzel, EPFL |
| <b>Awards:</b>        | 2006 EPFL Excellence Prize                                                                                                                                                 |
| <b>Research:</b>      | Dye-sensitized solar cells, perovskite solar cells, organic light-emitting diodes                                                                                          |
| <b>Hobbies:</b>       | Traveling, reading                                                                                                                                                         |

The author presented on this page has recently published his **10th article** in *Angewandte Chemie* in the last 10 years:

"Mixed-Organic-Cation Perovskite Photovoltaics for Enhanced Solar-Light Harvesting": N. Pellet, P. Gao, G. Gregori, T.-Y. Yang, M. K. Nazeeruddin, J. Maier, M. Grätzel, *Angew. Chem.* **2014**, 126, 3215–3221; *Angew. Chem. Int. Ed.* **2014**, 53, 3151–3157.

### If I were not a scientist, I would be ... a businessman.

I can never resist ... the taste of success.

My biggest motivation is ... to be at the forefront of my research.

I lose track of time when ... I am doing experiments.

The best advice I have ever been given is ... to work hard, and not be disappointed by failures.

The downside of my job is ... the low success rate.

When I'm frustrated, I ... try to relax.

My favorite food is ... biryani.

My favorite quote is ... "there is no substitute for hard work" (Thomas A. Edison).

The most significant scientific advance of the last 100 years has been ... the development of antibiotics.

What I look for first in a publication is ... the concepts that are reported.

The most important thing I learned from my parents is ... the value of hard work.

I chose chemistry as a career because ... of my passion for the subject.

My most exciting discovery to date has been ... the N3 sensitizer.

### My 5 top papers:

1. "Conversion of Light to Electricity by *cis*-X<sub>2</sub>Bis(2,2'-bipyridyl-4,4'-dicarboxylate)ruthenium(II) Charge-Transfer Sensitizers (X = Cl<sup>-</sup>, Br<sup>-</sup>, I<sup>-</sup>, CN<sup>-</sup>, and SCN<sup>-</sup>) on Nanocrystalline TiO<sub>2</sub> Electrodes": M. K. Nazeeruddin, K. I. Rodicio, A. I. R. Humphry-Baker, E. Müller, P. Liska, N. Vlachopoulos, M. Grätzel, *J. Am. Chem. Soc.* **1993**, 115, 6382–6390. (The molecularly engineered N3 sensitizer was a paradigm shift in dye-sensitized solar cells.)
2. "Sequential deposition as a route to high-performance perovskite-sensitized solar cells": J. Burschka, N. Pellet, S. J. Moon, R. Humphry-Baker, P. Gao, M. K. Nazeeruddin, M. Grätzel, *Nature* **2013**, 499, 316–319. (Development of a new deposition method for the production of perovskite solar cells.)
3. "Porphyrin-Sensitized Solar Cells with Cobalt(II/III)-Based Redox Electrolyte Exceed 12 Percent Efficiency": A. Yella, H.-W. Lee, H. N. Tsao, C. Yi, A. K. Chandiran, M. K. Nazeeruddin, E. W.-G. Diau, C.-Y. Yeh, S. M. Zakeeruddin, M. Grätzel, *Science* **2011**, 334, 629–634. (The molecular engineering of sensitizers was demonstrated.)
4. "Carboxyethynyl Anchoring Ligands: A Means to Improving the Efficiency of Phthalocyanine-Sensitized Solar Cells": M.-E. Ragoussi, J.-J. Cid, J.-H. Yum, G. de la Torre, D. Di Censo, M. Grätzel, M. K. Nazeeruddin, T. Torres, *Angew. Chem.* **2012**, 124, 4451–4454; *Angew. Chem. Int. Ed.* **2012**, 51, 4375–4378. (Engineering of near IR sensitizers that are transparent in the visible region.)
5. "A cobalt complex redox shuttle for dye-sensitized solar cells with high open-circuit potentials": J. H. Yum, E. Baranoff, F. Kessler, T. Moehl, S. Ahmad, T. Bessho, A. Marchioro, E. Ghadiri, J.-E. Moser, C. Yi, M. K. Nazeeruddin, M. Grätzel, *Nature Communications* **2012**, 3, 631. (Redox mediators that produce an open circuit potential of over 1.1 V.)

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The work of M. K. Nazeeruddin has been featured on the inside cover of *Angewandte Chemie*:

"Molecular Engineering of Zinc Phthalocyanines with Phosphinic Acid Anchoring Groups": I. López-Duarte, M. Wang, R. Humphry-Baker, M. Ince, M. V. Martínez-Díaz, M. K. Nazeeruddin, T. Torres, M. Grätzel, *Angew. Chem.* **2012**, 124, 1931–1934; *Angew. Chem. Int. Ed.* **2012**, 51, 1895–1898.