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Education:

Bachelor: Chungnam National University, 2010

Master: Osaka University, 2012

PhD: Osaka University, 2015

Field of Research:

Photocatalysis, Photochemistry, Artificial Photosynthesis, Electron-Transfer Chemistry, etc.

Appointments:

Professor for Special Appointment, Department of Chemistry and Nano Science, Ewha Womans University (Prof. W. Nam and Prof. S. Fukuzumi's Lab), 2015-2017 Assistant Professor, Graduate School of Science, Nagoya University (Prof. S. Saito's Lab), 2017-present

Publications:

Photocatalytic oxygenation reactions with a cobalt porphyrin complex using water as an oxygen source and dioxygen as an oxidant

Young Hyun Hong, Ji Won Han, Jieun Jung, Tatsuo Nakagawa, Yong-Min Lee, Wonwoo Nam*, and Shunichi Fukuzumi*

J. Am. Chem. Soc. 141, 9155–9159 (2019). (DOI: 10.1021/jacs.9b02864)

Photodriven oxidation of water by plastoquinone analogs with a nonheme iron catalyst.

Young Hyun Hong, Jieun Jung, Tatsuo Nakagawa, Namita Sharma, Yong-Min Lee, Wonwoo Nam*, and Shunichi Fukuzumi*

J. Am. Chem. Soc. 141, 6748–6754 (2019). (DOI: 10.1021/jacs.9b02517)

Long-lived photoexcited state of a Mn(IV)-oxo complex binding scandium ions that is capable of hydroxylating benzene.

Namita Sharma, Jieun Jung, Kei Ohkubo, Yong-Min Lee, Mohamed E. El-Khouly, Wonwoo Nam*, and Shunichi Fukuzumi*

J. Am. Chem. Soc. 140, 8405–8409 (2018). (DOI: 10.1021/jacs.8b04904)

Thermal and photocatalytic oxidation of organic substrates by dioxygen with water as an electron source.

Shunichi Fukuzumi*, Yong-Min Lee*, Jieun Jung, and Wonwoo Nam*

Green Chem. 20, 948–963 (2018). (DOI: 10.1039/c7gc03387g)

Photocatalytic oxidation of benzene to phenol using dioxygen as an oxygen source and water as an electron source in the presence of a cobalt catalyst.

Jieun Jung, Ji Won Han, Yong-Min Lee, Wonwoo Nam*, and Shunichi Fukuzumi*

Chem. Sci. 8, 7119–7125 (2017). (DOI: 10.1039/c7sc02495a)

Bicyclic Baird-type aromaticity.

Won-Young Cha, Taeyeon Kim, Arindam Ghosh, Zhan Zhang, Xian-Sheng Ke, Rashid Ali, Vincent M. Lynch, Jieun Jung, Woojae Kim, Sangsu Lee, Shunichi Fukuzumi*, Jung Su Park*, Jonathan L. Sessler*, Tavarekere K. Chandrashekar*, and Dongho Kim*

Nature Chem. 9, 1243-1248 (2017). (DOI: 10.1038/NCHEM.2834)

Multi-electron oxidation of anthracene derivatives by nonheme manganese(IV)–oxo complexes.

Namita Sharma, Jieun Jung, Yong-Min Lee, Mi Sook Seo, Wonwoo Nam*, and Shunichi Fukuzumi*

Chem. Eur. J. 23, 7125–7131 (2017). (DOI : 10.1002/chem.201700666)

Effects of Lewis acids on photoredox catalysis.

Shunichi Fukuzumi*, Jieun Jung, Yong-Min Lee, and Wonwoo Nam*

Asian J. Org. Chem. 6, 397–409 (2017). (DOI: 10.1002/ajoc.201600576)

A chromium(III)–superoxo complex as a three-electron oxidant with a large tunneling effect in multi-electron oxidation of NADH analogues.

Tarali Devi, Yong-Min Lee, Jieun Jung, Muniyandi Sankaralingam, Wonwoo Nam*, and Shunichi Fukuzumi*

Angew. Chem. Int. Ed. 56, 3510–3515 (2017). (DOI: 10.1002/anie.201611709)

Switchover of the mechanism between electron transfer and hydrogen-atom transfer for a protonated manganese(IV)–oxo complex by changing only the reaction temperature.

Jieun Jung, Surin Kim, Yong-Min Lee, Wonwoo Nam*, and Shunichi Fukuzumi*

Angew. Chem. Int. Ed. 55, 7450–7454 (2016). (DOI: 10.1002/anie.201602460)

Photocatalytic oxygenation of substrates by dioxygen with protonated manganese(III) corrolazine.

Jieun Jung, Heather M. Neu, Pannee Leeladee, Maxime A. Siegler, Kei Ohkubo, David P. Goldberg*, and Shunichi Fukuzumi*

Inorg. Chem. 55, 3218–3228 (2016). (DOI: 10.1021/acs.inorgchem.5b02019)

Homogeneous and heterogeneous photocatalytic water oxidation by persulfate.
Shunichi Fukuzumi*, Jieun Jung, Yusuke Yamada*, and Takahiko Kojima*, and
Wonwoo Nam*

Chem. Asian J. 11, 1138–1150 (2016). (DOI: 10.1002/asia.201501329)

Enhanced electron transfer reactivity of a nonheme iron(IV)–imido complex as
compared to the iron(IV)-oxo analogue.

Anil Kumar Vardhaman, Yong-Min Lee, Jieun Jung, Kei Ohkubo, Wonwoo
Nam*, and Shunichi Fukuzumi*

Angew. Chem. Int. Ed. 55, 3709–3713 (2016). (DOI: 10.1002/anie.201600287)

Light-driven, proton-controlled, catalytic aerobic C–H oxidation mediated by a
Mn(III) porphyrinoid complex.

Heather M. Neu, Jieun Jung, Regina A. Baglia, Maxime A. Siegler, Kei Ohkubo,
Shunichi Fukuzumi*, and David P. Goldberg*

J. Am. Chem. Soc. 137, 4614–4617 (2015). (DOI: 10.1021/jacs.5b00816)

Catalytic two-electron reduction of dioxygen by ferrocene derivatives with
manganese(V) corroles.

Jieun Jung, Shuo Liu, Kei Ohkubo, Mahdi M. Abu-Omar*, and Shunichi
Fukuzumi*

Inorg. Chem. 54, 4285–4291 (2015). (DOI: 10.1021/ic503012s)

Activationless electron self-exchange of high-valent oxo and imido complexes of
chromium corroles.

Shuo Liu, Jieun Jung, Kei Ohkubo, Scott D. Hicks, Curt J. Bougher, Mahdi M.
Abu-Omar*, and Shunichi Fukuzumi*

Inorg. Chem. 54, 9223–9228 (2015). (DOI: 10.1021/acs.inorgchem.5b01777)

Photocatalytic oxygenation of 10-methyl-9,10-dihydroacridine by O₂ with manganese porphyrins.

Jieun Jung, Kei Ohkubo, David P. Goldberg*, Shunichi Fukuzumi*

J. Phys. Chem. A 118, 6223–6229 (2014). (DOI: [dx.doi.org/10.1021/jp505860f](https://doi.org/10.1021/jp505860f))

Photochemical oxidation of a manganese(III) complex with oxygen and toluene derivatives to form a manganese(V)–oxo complex.

Jieun Jung, Kei Ohkubo, Katharine A. Prokop-Prigge, Heather M. Neu, David P. Goldberg*, and Shunichi Fukuzumi*

Inorg. Chem. 52, 13594–13604 (2013). (DOI: [dx.doi.org/10.1021/ic402121j](https://doi.org/10.1021/ic402121j))

Production of hydrogen peroxide as a sustainable solar fuel from water and dioxygen.

Satoshi Kato, Jieun Jung, Tomoyoshi Suenobu, and Shunichi Fukuzumi*

Energy Environ. Sci. 6, 3756–3764 (2013). (DOI: [10.1039/c3ee42815j](https://doi.org/10.1039/c3ee42815j))

Water-soluble mononuclear cobalt complexes with organic ligands acting as precatalysts for efficient photocatalytic water oxidation.

Dachao Hong, Jieun Jung, Jiyun Park, Yusuke Yamada, Tomoyoshi Suenobu, Yong-Min Lee, Wonwoo Nam*, and Shunichi Fukuzumi*

Energy Environ. Sci. 5, 7606–7616 (2012). (DOI: [10.1039/c2ee21185h](https://doi.org/10.1039/c2ee21185h))