

## **Curriculum vitae**

Youngchang Kim,	Structural Biologist
Seoul National University, Seoul, South Korea	B.S. 1982, Chemical Ed.
Seoul National University, Seoul, South Korea	M.S. 1984, Chemistry
University of Pittsburgh	Ph.D. 1990, Crystallography

### **Positions and Honors:**

7/90-7/91	Research Associate, Department of Biological Sciences, University of Pittsburgh
8/91-9/94	Postdoctoral Associate/Fellow, Department of Molecular Biophysics and Biochemistry, Yale University, New Haven, Connecticut
10/94-7/01	Assistant Professor, Department of Biochemistry, Vanderbilt University, Nashville, Tennessee
10/94-7/01	Advisory Member & Member, The Molecular Biophysics, Vanderbilt University, Nashville, Tennessee
7/01-present	Biophysicist, (Protein Crystallographer), Biosciences/Structural Biology Center, Argonne National Laboratory, Argonne, Illinois
12/10-present	Adjunct Professor, Division of Molecular and Life Sciences, Pohang University of Science and Technology, Pohang, Korea

### **Awards:**

3/92 - 3/94	Postdoctoral Fellowship, The National Institutes of Health, Yale University
6/95- 6/96	University Research Council, Vanderbilt University
4/97-3/98	Center in Molecular Toxicology Pilot Project
5/99-4/00	Vanderbilt Cancer Center Pilot Project
7/99-6/02	American Cancer Society Research Project Grant

### **Selected Peer-reviewed Publications:**

1. Jain D, **Kim Y**, Maxwell KL, Beasley S, Zhang R, Gussin GN, Edwards AM, Darst SA, (2005), "Crystal structure of bacteriophage lambda cII and its DNA complex", Mol Cell.;19(2):259-69 PMID: 16039594
2. Yeo HJ, Yokoyama T, Walkiewicz K, **Kim Y**, Grass S, Geme JW 3rd., "The structure of the Haemophilus influenzae HMW1 pro-piece reveals a structural domain essential for bacterial two-partner secretion", (2007), J. Biol Chem. 282(42):31076-84. PMID: 17699157
3. Pflieger BF, **Kim Y**, Nusca TD, Lee JY, Rath CM, Scaglione JL, Janes B, Bergman N, Hanna P, Joachimiak A, and Sherman DH, (2008), "Structural and Functional Analysis of AsbF: Origin of the Stealth 3,4-Dihydroxybenzoic Acid Subunit for Petrobactin Biosynthesis", Proc Natl Acad Sci USA, 105(44) 17133-17138. PMID: 18955706
4. Nettles KW, Bruning JB, Gil G, Nowak J, Sharma SK, Hahm JB, Kulp K, Hochberg RB, Zhou H, Katzenellenbogen JA, Katzenellenbogen BS, **Kim Y**, Joachmiak A, Greene GL. (2008), "NFkappaB selectivity of estrogen receptor ligands revealed by comparative crystallographic analyses.", Nat Chem Biol. 4(4):241-247. (PMID: 18344977)

5. **Kim Y.**, et al., "Large-scale evaluation of protein reductive methylation for improving protein crystallization", *Nat Methods*. 2008; 5(10), 853-854. (PMID: 18825126)
6. Zawadzka A.M, **Kim Y.**, Maltseva N, Nichiporuk R, Fan Y, Joachimiak A, Raymond K.N. Characterization of a *Bacillus subtilis* transporter for petrobactin, an anthrax stealth siderophore (2009) *Proc. Nat. Acad. Sci USA*, 106(51) 21854-21859. (PMID: 19955416)
7. **Kim Y**, Zhou M, Moy S, Morales J, Cunningham MA, Joachimiak A. (2010) High-Resolution Structure of the Nitrile Reductase QueF Combined with Molecular Simulations Provide Insight into Enzyme Mechanism., *J Mol Biol.*, 404(1):127-37 (PMID: 20875425)
8. **Kim Y**, Joachimiak G, Ye Z, Binkowski TA, Zhang R, Gornicki P, Callahan SM, Hess WR, Haselkorn R, Joachimiak A. (2011) Structure of transcription factor HetR required for heterocyst differentiation in cyanobacteria. *Proc Natl Acad Sci U S A*. 108(25):10109-14 (PMID: 21628585).
9. Makowska-Grzyska M, **Kim Y**, Wu R, Wilton R, Gollapalli DR, Wang XK, Zhang R, Jedrzejczak R, Mack JC, Maltseva N, Mulligan R, Binkowski TA, Gornicki P, Kuhn ML, Anderson WF, Hedstrom L, **Joachimiak A.**, *Bacillus anthracis* Inosine 5'-Monophosphate Dehydrogenase in Action: The First Bacterial Series of Structures of Phosphate Ion-, Substrate-, and Product-Bound Complexes., *Biochemistry*. 2012, 51 (31), 6148-6163 PMID: 22788966
10. T.D. Nusca, **Y. Kim**, N. Maltseva, W. Eschenfeldt, L. Stols, M.M. Schofield, J.B. Scaglione, S.D. Dixon, D. Oves-Costales, G.L. Challis, P.C. Hanna, B.F. Pflieger A. Joachimiak, and D.H. Sherman. (2012), Functional and Structural Analysis of Siderophore Synthetase AsbB through Reconstitution of Petrobactin Biosynthetic Pathway from *Bacillus anthracis.*, *J Biol Chem*. 287 (19), 16058-16072, PMID: 22408253, PMC3346087
11. **Kim Y**, Cunningham MA, Mire J, Tesar C, Sacchettini J, Joachimiak A, (2013), NDM-1, the ultimate promiscuous enzyme: substrate recognition and catalytic mechanism., *FASEB J*. 2013, 27(5):1971-1927. PMID: 23363572
12. **Kim Y**, Ye Z, Joachimiak G, Videau P, Young, J, Hurd K, Callahan SM, Gornicki P, Zhao J, Haselkorn R, Joachimiak A, (2013), Structure of complexes comprised of Fischerella transcription factor HetR with Anabaena DNA targets, *Proc Natl Acad Sci U S A.*, 110(19):E1716-1723, PMID: 23610410
13. Chandra V, Huang P, Potluri N, Wu D, **Kim Y**, Rastinejad F., (2013) Multidomain integration in the structure of the HNF-4 $\alpha$  nuclear receptor complex., *Nature*. 2013, 495(744):394-398. doi: 10.1038/nature11966, PMID: 23485969
14. Makowska-Grzyska M, **Kim Y**, Maltseva N, Li H, Zhou M, Joachimiak G, Babnigg G, Joachimiak A, Protein production for structural genomics using *E. coli* expression. *Methods Mol Biol*. 2014;1140:89-105. PubMed PMID: 24590711
15. Gwon GH, Jo A, Baek K, Jin KS, Fu Y, Lee JB, **Kim Y**, Cho Y., Crystal structures of the structure-selective nuclease Mus81-Eme1 bound to flap DNA substrates. *EMBO J*. 2014, 33(9):1061-72. PMID: 24733841