



Andrew Beel

Instructor, Structural Biology

Bio

BIO

Andrew Beel received an M.D. and a Ph.D. in Biophysics from Stanford, where he studied the structure and condensation of the eukaryotic chromosome under the supervision of Roger Kornberg. He started his independent research program in late 2022 after receiving an Early Independence Award from the Office of the Director of the National Institutes of Health. His group is broadly interested in mesoscale biological organization and the physical underpinnings thereof, with a current emphasis on the axial core of the metaphase chromosome. The Beel lab is actively recruiting new members at all stages of training; interested parties are encouraged to apply (please direct inquiries to beelaj@stanford.edu).

ACADEMIC APPOINTMENTS

- Instructor, Structural Biology
- Member, Stanford Cancer Institute

Publications

PUBLICATIONS

- **Production of Homogeneous, Functional Zinc-Finger Arrays in High Yield With Two Chromatographic Steps.** *Bio-protocol*
Liang, J., Azubel, M., Wang, G., Nie, Y., Kornberg, R. D., Beel, A. J., Mattei, P. J.
2025; 15 (16): e5420
- **A universal method for the purification of C2H2 zinc finger arrays.** *PloS one*
Liang, J., Azubel, M., Wang, G., Nie, Y., Kornberg, R. D., Beel, A. J., Mattei, P. J.
2025; 20 (2): e0318295
- **Structure of mitotic chromosomes.** *Molecular cell*
Beel, A. J., Azubel, M., Mattei, P., Kornberg, R. D.
2021
- **3D genomics across the tree of life reveals condensin II as a determinant of architecture type.** *Science (New York, N.Y.)*
Hoencamp, C., Dudchenko, O., Elbatsh, A. M., Brahmachari, S., Raaijmakers, J. A., van Schaik, T., Sedeño Cacciatore, Á., Contessoto, V. G., van Heesbeen, R. G., van den Broek, B., Mhaskar, A. N., Teunissen, H., St Hilaire, et al
2021; 372 (6545): 984-989
- **Ground-glass opacity heralding invasive lung adenocarcinoma with prodromal dermatomyositis: a case report** *JOURNAL OF CARDIOTHORACIC SURGERY*
Beel, A. J., Demos, D. S., Chung, A., Liao, C., Lui, N. S.
2018; 13: 20
- **The Amyloid Precursor Protein Has a Flexible Transmembrane Domain and Binds Cholesterol** *SCIENCE*
Barrett, P. J., Song, Y., Van Horn, W. D., Hustedt, E. J., Schafer, J. M., Hadziselimovic, A., Beel, A. J., Sanders, C. R.

2012; 336 (6085): 1168-1171

- **Direct binding of cholesterol to the amyloid precursor protein: An important interaction in lipid-Alzheimer's disease relationships?** *BIOCHIMICA ET BIOPHYSICA ACTA-MOLECULAR AND CELL BIOLOGY OF LIPIDS*
Beel, A. J., Sakakura, M., Barrett, P. J., Sanders, C. R.
2010; 1801 (8): 975-982
- **The impact of window functions on NMR-based paramagnetic relaxation enhancement measurements in membrane proteins** *BIOCHIMICA ET BIOPHYSICA ACTA-BIOMEMBRANES*
Van Horn, W. D., Beel, A. J., Kang, C., Sanders, C. R.
2010; 1798 (2): 140-149
- **Nonspecificity of Binding of gamma-Secretase Modulators to the Amyloid Precursor Protein** *BIOCHEMISTRY*
Beel, A. J., Barrett, P., Schnier, P. D., Hitchcock, S. A., Bagal, D., Sanders, C. R., Jordan, J. B.
2009; 48 (50): 11837-11839
- **Structural studies of the transmembrane C-terminal domain of the amyloid precursor protein (APP): Does APP function as a cholesterol sensor?** *BIOCHEMISTRY*
Beel, A. J., Mobley, C. K., Kim, H. J., Tian, F., Hadziselimovic, A., Jap, B., Prestegard, J. H., Sanders, C. R.
2008; 47 (36): 9428-9446
- **Substrate specificity of gamma-secretase and other intramembrane proteases** *CELLULAR AND MOLECULAR LIFE SCIENCES*
Beel, A. J., Sanders, C. R.
2008; 65 (9): 1311-1334