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# Curriculum Vitae

## Personal information

Name: Maksymilian Chruszcz  
Highest degree: Ph.D. in Chemistry  
Phone: (803)777-7399  
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E-mail: chruszcz@mailbox.sc.edu  
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Department of Chemistry and Biochemistry  
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USA  
Group website: <https://chruszczlab.com>

## Education

1992–1997 M.Sc., Jagiellonian University, Department of Chemistry, Kraków, Poland  
1997–2002 Ph.D., Jagiellonian University, Department of Chemistry, Kraków, Poland

## Work history

2003 – 2005 Postdoctoral Research Associate in Department of Molecular Physiology and Biological Physics, University of Virginia  
2005 – 2011 Instructor of Research in Molecular Physiology and Biological Physics, University of Virginia  
2011 – 2012 Assistant Professor of Research, University of Virginia  
2012 – Associate Professor, Department of Chemistry and Biochemistry, University of South Carolina  
2016 Tenure (8/16/2016)  
2022 - Professor, Department of Chemistry and Biochemistry, University of South Carolina

## Honors and awards

1991-1992 Laureate of Chemistry Olympiad, Poland  
1991–1992 Fellowship of Polish Children Fund  
1992 Laureate of International Chemistry Olympiad (silver medal), Pittsburgh, PA, USA  
1993–1996 Student Fellowship, Jagiellonian University  
1996–1997 Fellowship from Polish Ministry of the Education  
2013 Visiting Professor at Medical University of Bialystok, Poland

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2014	Visiting Professor at Institute of Catalysis and Surface Chemistry Polish Academy of Sciences, Krakow, Poland
2016	Breakthrough Stars Award – University of South Carolina
2018	Distinguished Research Service Award – University of South Carolina
2018	Distinguish Undergraduate Research Mentor Award – University of South Carolina
2019-present	Member of the World Health Organization and International Union of Immunological Societies (WHO/IUIS) Allergen Nomenclature Subcommittee

### Professional organizations

American Crystallographic Association - member since 2005  
 American Society for Biochemistry and Molecular Biology – member since 2015

### Editorial positions

Molecules – Macromolecular Chemistry Section  
 Frontiers in Allergy

### Inventions

I am a co-author of three inventions reported to the Virginia Patent Foundation. The inventions are related to small-molecule and macromolecular extensions of the HKL-2000 package (HKL-3000 and HKL-3000SM; registration numbers: TXu 1-314-824 and Txu 1-338-583). Moreover, I am co-author of Xtaldb, an expert system for monitoring and designing macromolecular crystallization experiments.

### Reviewer

#### **Funding agencies**

Austrian Science Fund (FWF)  
 Barth Syndrome Foundation  
 INBRE  
 Medical Research Council, UK  
 National Science Centre, Poland  
 National Science Foundation

#### **Journals**

Acta Biochimica Polonica  
 Acta Crystallographica Section C  
 Acta Crystallographica Section D  
 Acta Crystallographica Section F  
 African Journal of Pharmacy and Pharmacology  
 African Journal of Biotechnology  
 Allergologia et Immunopathologia

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Allergy  
Antonie van Leeuwenhoek Journal of Microbiology  
Aquaculture  
Biochemistry  
Biochimica et Biophysica Acta (General Subjects)  
Biophysical Journal  
BMC Biology  
BMC Immunology  
Canadian Journal of Infectious Diseases and Medicinal Microbiology  
Cells  
Clinical and Experimental Allergy  
Crystals  
Computational Biology and Chemistry  
Epigenomics  
Environments  
FEBS Journal  
Food & Function  
Genome Biology and Evolution  
Gene Reports  
International Archives of Allergy and Immunology  
International Journal of Biological Macromolecules  
International Journal of Environmental Research and Public Health  
International Journal of Molecular Sciences  
Journal of Agricultural and Food Chemistry  
Journal of Asthma and Allergy  
Journal of Biological Chemistry  
Journal of Contemporary Immunology  
Journal of Inorganic Biochemistry  
Journal of Investigational Allergology and Clinical Immunology  
Journal of Molecular Biology  
Journal of Structural Biology  
Journal of Structural and Functional Genomics  
Marine Drugs  
Medicina  
Metabolites  
Modern Chemistry & Applications  
Molecular Immunology  
Molecular Informatics  
Molecules  
Nutrients  
Planta  
PLOS One  
PNAS  
Protein Expression and Purification  
Protein Science  
Scientific Reports

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Scientific Research and Essays  
Structure  
Systematic and Applied Acarology  
Veterinary Immunology and Immunopathology

### Graduate students & Postdoctoral fellows

#### **Former group members:**

Information on the first employment after leaving my laboratory is listed next to the person's name.

*Dr. A. Brenda Kapingidza* (graduate student) – Duke University - postdoctoral fellow

*Dr. Leily Daneshian* (graduate student) – Stanford University - postdoctoral fellow

*Dr. Nicholas Mank* (graduate student) - University of Georgia - postdoctoral fellow

*Dr. William Booth* (graduate student) – Wake Forest University - postdoctoral fellow

*Nikita Ussin* (graduate student –M.Sc. track)

*Dr. Caleb Schlachter* (graduate student) – IMCStips - research scientist

*Dr. Swanandi Pote* (graduate student) –Nephron Pharmaceutical Corporation - research scientists

*Dr. Lesa Offermann* (Postdoctoral fellow) –Assistant Professor at Davidson College, NC

*Dr. Safaa Kader* (Postdoctoral fellow) – Al-Nahrain University, College of Medicine, Baghdad, Iraq

#### **Current group members**

*Kriti Khatri* (3<sup>rd</sup> year graduate student)

*Andrea O'Malley* (3<sup>rd</sup> year graduate student)

*Ricardo Hernandez Arriaza* (2<sup>nd</sup> year graduate student)

### Selected invited lectures/seminars (over 30 after moving to UofSC)

1. "Data Reduction with HKL Suite" - RapiData 2013 (Data Collection and Structure Solving at the NSLS: a Practical Course in Macromolecular X-ray Diffraction Measurement), Brookhaven National Laboratory, Upton, NY, April 2013 - invited speaker and instructor.
2. "Macromolecular Crystallography - Understanding Allergen Structure and Function" - Medical University of Bialystok, Bialystok, Poland. May 22, 2013
3. "Structural Biology in Drug Discovery" - Medical University of Bialystok, Bialystok, Poland. May 24, 2013.
4. "Epitope analysis facilitated / predicted by crystallography", International Symposium on Molecular Allergology, 5-7 December 2013, Vienna, Austria.
5. "Data Reduction with HKL Suite" - RapiData 2014 (Data Collection and Structure Solving at the NSLS: a Practical Course in Macromolecular X-ray Diffraction Measurement), Brookhaven National Laboratory, Upton, NY, April 27 - May 2 2014- invited speaker and instructor
6. "Allergens - a Structural Biology Perspective." Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Krakow, Poland. May 28, 2014

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7. "Validation of Macromolecular Structures." Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Krakow, Poland. May 28, 2014
  8. "Protein - Small Molecular Interactions ... Made Crystal Clear?" Department of Chemistry and Biochemistry, University of South Carolina, October 10, 2014
  9. "Protein crystallization" International Workshop, Protein Expression and Purification Strategies, Chulalongkorn University, Bangkok, Thailand, November 10-14, 2014. - invited speaker and instructor
  10. "Data Reduction with HKL Suite" - RapiData 2015 (Data Collection and Structure Solving at the NSLS: a Practical Course in Macromolecular X-ray Diffraction Measurement), SLAC National Accelerator Laboratory, Stanford University, CA, May 3-8 2015 – invited speaker and instructor.
  11. "Allergens – structure and function." Multi-Pole Approach to Structural Science, May 10-13 2015, Warsaw, Poland.
  12. "HKL-3000: From X-ray diffraction images to structure determination in minutes." HKL-3000 Workshop at the International Conference on Structural Genomics, June 7 2015, Weizmann Institute of Science, Rehovot, Israel – invited speaker and instructor.
  13. "Structural, Functional and Immunological Features of Allergens" Department of Chemistry and Biochemistry, University of South Carolina, August 21, 2015
  14. "Data Reduction with HKL Suite" - RapiData 2016 (Data Collection and Structure Solving at the NSLS: a Practical Course in Macromolecular X-ray Diffraction Measurement), SLAC National Accelerator Laboratory, Stanford University, CA, April 24-29 2016 – invited speaker and instructor.
  15. "Dihydrodipicolinate reductase as a target for development of antimicrobial compounds." 66th Annual Meeting of American Crystallographic Association, Denver, CO, July 22-26, 2016
  16. "Structural and functional studies of *T. urticae* proteins at the University of South Carolina.", 8th Spider Mite Genome Meeting, Logrono (Spain), October 17-19, 2016
  17. "Structural, Functional and Immunological Features of Allergens." University of Florida, UF-COM Center of Structural Biology, Gainesville, FL, February 20, 2017.
  18. "Mitey Problems, Mighty Solutions." Department of Biology, University of Western Ontario, London, Canada, March 20, 2017.
  19. "Getting phases from non-optimal data." 67th Annual Meeting of American Crystallographic Association. New Orleans, LA, May 29, 2017
  20. "Allergens: A Structural Biology Perspective.", University of South Carolina, College of Pharmacy, Columbia, SC, November 28, 2017 – invited seminar
  21. "The Influence of Environmental Factors on Allergens and Antibody Recognition.", AAAAI/WAO Joint Congress, Orlando, FL, March 2-5, 2018 – invited talk
  22. "Mites affecting humans – from a source of allergens to agricultural pests.", NIEHS, Durham, NC, March 13, 2018 – invited seminar
  23. "Structural and functional studies of *T. urticae* proteins at the University of South Carolina.", 10th Spider Mite Genome Meeting, Logroño, La Rioja, Spain, November 5-8, 2018 – invited talk
  24. "Molecular Features of (Food) Allergens." - guest lecture at Davidson College (NC), November 25, 2018

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25. "Crystallographic Fundamentals – Part I." Workshop on Data Collection and Structure Solving in Macromolecular X-ray Diffraction. Krakow, Poland, July 12-16, 2019 – invited talk
  26. "Crystallographic Fundamentals – Part II." Workshop on Data Collection and Structure Solving in Macromolecular X-ray Diffraction. Krakow, Poland, July 12-16, 2019 – invited talk
  27. "Isomorphous replacement and anomalous signal in solving the phase problem." Workshop on Data Collection and Structure Solving in Macromolecular X-ray Diffraction. Krakow, Poland, July 12-16, 2019 – invited talk
  28. "MR and SAD phasing and model building with HKL3000." Chruszcz M., Minor W., Workshop on Data Collection and Structure Solving in Macromolecular X-ray Diffraction. Krakow, Poland, July 12-16, 2019 – workshop
  29. "Interpretation of structural data. Workshop on Data Collection and Structure Solving in Macromolecular X-ray Diffraction." Krakow, Poland, July 12-16, 2019 – invited talk
  30. "Mites affecting humans – from a source of allergens to agricultural pests." 11th Spider Mite Genome Meeting, Logroño, La Rioja, Spain, November 4-6, 2019 – invited talk
  31. "Structural studies of asthma-associated allergens for improvement of allergy diagnostics and design of immunotherapy." CTT COBRE Symposium, Columbia, SC, December 5-6, 2019 – invited talk
  32. "Data Reduction with HKL Suite" - RapiData 2021 (Data Collection and Structure Solving at the NSLS: a Practical Course in Macromolecular X-ray Diffraction Measurement), SLAC National Accelerator Laboratory, Stanford University, CA, – May 5-15 - invited speaker and instructor.

Total number of publications: **140** (59 when at UofSC)

Number of citations (Web of Science): **+5000** (without self-citations; all databases)

H-index: **31**

**Publications** (listed in reverse chronological order; \* - corresponding author):

1. Daneshian L., Renggli I., Hanaway R., Offermann L.R., Schlachter C.R., Hernandez Arriaza R., Henry S., Prakash R., Wybouw N., Dermauw W., Shimizu L.S., Van Leeuwen T., Makris T.M., Grbic V., Grbic M., Chruszcz M. (2022) "Structural and functional characterization of  $\beta$ -cyanoalanine synthase from *Tetranychus urticae*." *Insect Biochemistry and Molecular Biology* 142, 103722.
2. Minor W., Cymborowski M., Borek D., Cooper D.R., **Chruszcz M.**, Otwinowski Z. (2022) "*Optimal structure determination from sub-optimal diffraction data.*" *Protein Science* 31, 259-268.

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3. Schlachter C.R., O'Malley A., Grimes L.L., Tomashek J.J., **Chruszcz M.\***, Lee L.A. (2022) "Purification, Characterization, and Structural Studies of a Sulfatase from *Pedobacter yulinensis*." *Molecules* 27, 87.
  4. Tuppo L., Alessandri C., Giangrieco I., Tamburrini M., Hernandez R., **Chruszcz M.**, Mari A., Ciardiello M.A. (2021) "When the Frequencies of Sensitization and Elicitation of Allergic Reaction Do Not Correlate—The Case of Apple Gibberellin-Regulated Protein Tested in an Italian Population." *Frontiers in Allergy* 2, 745825.
  5. **Chruszcz M.**, Chew F.T., Hoffmann-Sommergruber K., Hurlburt B.K., Mueller G.A., Pomés A., Rouvinen J., Villalba M., Wöhrl B.M., Breiteneder H. (2021) "Allergens and their associated small molecule ligands-their dual role in sensitization." *Allergy* 76, 2367-2382.
  6. Daneshian L., Schlachter C., Timmers L.F.S.M., Radford T., Kapingidza A.B., Dias T., Liese J., Sperotto R.A., Grbic V., Grbic M., **Chruszcz M.\*** (2021) "Delta class glutathione S-transferase (*TuGSTd01*) from the two-spotted spider mite *Tetranychus urticae* is inhibited by abamectin." *Pesticide Biochemistry and Physiology* 176, 104873.
  7. O'Malley A., Kapingidza A.B., Hyduke N., Dolamore C., Kowal K., **Chruszcz M.\*** (2021) "Crystal structure of timothy grass allergen *Phl p 12.0101* reveals an unusual profilin dimer." *Acta Biochimica Polonica* 68, 15-22.
  8. Jaskolski M., Wlodawer A., Dauter Z., Shabalín I., **Chruszcz M.** (2021) "Celebrating the 75th birthday of Professor Wladek Minor, one of the most accomplished Polish-American structural biologists." *Acta Biochimica Polonica* 68, 1-4
  9. O'Malley A., Pote S., Giangrieco I., Tuppo L., Gawlicka-Chruszcz A., Kowal K., Ciardiello M.A., **Chruszcz M.\*** (2021) "Structural Characterization of *Act c 10.0101* and *Pun g 1.0101*—Allergens from the Non-Specific Lipid Transfer Protein Family." *Molecules* 26, 256.
  10. Pote S., Kachhap S., Mank N.J., Daneshian L., Klapper V., Pye S., Arnette A.K., Shimizu L.S., Borowski T., **Chruszcz M.\*** (2021) "Comparative structural and mechanistic studies of 4-hydroxy-tetrahydrodipicolinate reductases from *Mycobacterium tuberculosis* and *Vibrio vulnificus*." *Biochimica et Biophysica Acta* 1865, 129750.
  11. Cooper D.R., Grabowski M., Zimmerman M.D., Porebski P.J., Shabalín I.G., Wońska M., Domagalski M.J., Zheng H., Sroka P., Cymborowski M., Czub M.P., Niedzialkowska E., Venkataramany B.S., Osinski T., Fratczak Z., Bajor J., Gonera J., MacLean E., Wojciechowska K., Konina K., Wajerowicz W., **Chruszcz M.**, Minor W. (2021) "State-of-the-Art Data Management: Improving the

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*Reproducibility, Consistency, and Traceability of Structural Biology and in Vitro Biochemical Experiment.*" Methods in Molecular Biology 2199, 209-236.

12. Shabalin I.G., Czub M.P., Majorek K.A., Brzezinski D., Grabowski M., Cooper D.R., Panasiuk M., **Chruszcz M.**, Minor W. (2020) "Molecular determinants of vascular transport of dexamethasone in COVID-19 therapy." IUCr Journal 7, 1048-1058.

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13. Pomés A., Mueller G.A., **Chruszcz M.** (2020) "Structural Aspects of the Allergen-Antibody Interaction." Frontiers in Immunology 11, 2067.
14. Kowal K., Pampuch A., Siergiejko G., Siergiejko Z., Swiebocka E., Schlachter C.R., **Chruszcz M.**, Jacquet A. (2020) "Sensitization to major Dermatophagoides pteronyssinus allergens in house dust mite allergic patients from North Eastern Poland developing rhinitis or asthma." Advances in Medical Sciences 65, 304-309.
15. Kowal K., Pampuch A., Sacharzewska E., Swiebocka E., Siergiejko Z., Siergiejko G., **Chruszcz M.**, DuBuske L. (2020) "Serum immunoglobulin E reactivity to cross-reacting panallergen components in north-eastern Poland patients pollen sensitized." Allergy and Asthma Proceedings 41, 183-191.
16. Kapingidza A.B., Kowal K., **Chruszcz M.\*** (2020) "Antigen–Antibody Complexes." In: Hoeger U., Harris J. (eds) Vertebrate and Invertebrate Respiratory Proteins, Lipoproteins and other Body Fluid Proteins. Subcellular Biochemistry, vol 94. Springer, Cham, pp 465-497.
17. Dolgoplova E.A., Berseneva A.A., Faillace M.S., Ejegbavwo O.A., Leith G.A., Choi S.W., Gregory H.N., Rice A.M., Smith M.D., **Chruszcz M.**, Garashchuk S., Mythreye K., Shustova N.B. (2020) "Confinement-Driven Photophysics in Cages, Covalent-Organic Frameworks, Metal-Organic Frameworks, and DNA." Journal of American Chemical Society 142, 4769-4783.
18. Benti S., Tiwari P.B., Goodlett D.W., Daneshian L., Kern G.B., Smith M.D., Uren A., **Chruszcz M.**, Shimizu L.S., Upadhyay G. (2020) "Small Molecule Binds with Lymphocyte Antigen 6K to Induce Cancer Cell Death." Cancers 12, 509.
19. Cudowska B., Kapingidza A.B., Pawłowicz M., Pampuch A., Hyde N., Pote S., Schlachter C.R., Lebensztejn D.M., **Chruszcz M.\***, Kowal K. (2020) "Production and Use of Recombinant Profilins Amb a 8, Art v 4, Bet v 2, and Phl p 12 for Allergic Sensitization Studies." Molecules 25, 369.



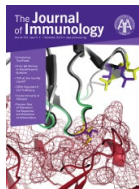
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20. Schlachter C.R., Klapper V, Radford T., **Chruszcz M.\*** (2019) "Comparative studies of *Aspergillus fumigatus* 2-methylcitrate synthase and human citrate synthase." *Biological Chemistry*, 400, 1567–1581.

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21. Glesner J., Kapingidza A.B., Godzwon M., Offermann L.R., Mueller G.A., DeRose E.F., Wright P., Richardson C.M., Woodfolk J.A., Vailes L.D., Wünschmann S., London R.E., Chapman M.D., Ohlin M., **Chruszcz M.**, Pomés A. (2019) "A Human IgE Antibody Binding Site on Der p 2 for the Design of a Recombinant Allergen for Immunotherapy." *Journal of Immunology* 203, 2545-2556.

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22. Kapingidza A.B., Pye S.E., Hyduke N., Dolamore C., Pote S., Schlachter C.R., Commins S.P., Kowal K., **Chruszcz M.\*** (2019) "Comparative structural and thermal stability studies of *Cuc m* 2.0101, *Art v* 4.0101 and other allergenic profilins." *Molecular Immunology* 114, 19-29.
23. Schlachter C.R., Daneshian L., Amaya J., Klapper V., Wybouw N., Borowski T., Van Leeuwen T., Grbic V., Grbic M., Makris T.M., **Chruszcz M.\*** (2019) "Structural and functional characterization of an intradiol ring-cleavage dioxygenase from the polyphagous spider mite herbivore *Tetranychus urticae* Koch." *Insect Biochemistry and Molecular Biology* 107, 19-30.
24. **Chruszcz M.\***, Kapingidza A.B., Dolamore C., Kowal K. (2018) "A robust method for the estimation and visualization of IgE cross-reactivity likelihood between allergens belonging to the same protein family." *PLoS ONE* 13(11), e0208276.
25. Ussin N.K., Bagnell A.M., Offermann L.R., Abdulsalam R., Perdue M.L., Magee P., **Chruszcz M.\*** (2018) "Structural characterization of 1-deoxy-D-xylulose 5-phosphate Reductoisomerase from *Vibrio vulnificus*." *BBA - Proteins and Proteomics* 1866, 1209-1215.
26. Pote S., Pye S.E., Sheahan T.E., Gawlicka-Chruszcz A., Majorek K.A., **Chruszcz M.\*** (2018) "4-Hydroxy-tetrahydrodipicolinate reductase from *Neisseria*

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*gonorrhoeae - structure and interactions with coenzymes and substrate analog."*  
Biochemical and Biophysical Research Communications 503, 1993-1999.

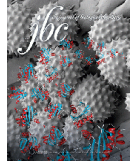
27. Hou J., Zheng H., Tzou W.S., Cooper D.R., **Chruszcz M.**, Chordia M.D., Kwon K., Grabowski M., Minor W. (2018) "*Differences in substrate specificity of V. cholerae FabH enzymes suggest new approaches for the development of novel antibiotics and biofuels.*" FEBS Journal 285, 2900-2921.
28. Miłaczewska A., Kot E., Amaya J.A., Makris T.M., Zając M., Korecki J., Chumakov A., Trzewik B., Kędracka-Krok S., Minor W., **Chruszcz M.**, Borowski T. (2018) "*On the Structure and Reaction Mechanism of Human Acireductone Dioxygenase.*" Chemistry: A European Journal 24, 5225-5237.
29. Booth W.T., Schlachter C.R., Pote S., Ussin N., Mank N.J., Klapper V., Offermann L.R., Tang C., Hurlburt B.K., **Chruszcz M.\*** (2018) "*Impact of an N-terminal polyhistidine tag on protein thermal stability.*" ACS Omega 3, 760-768.
30. Mank N. J., Pote S., Majorek K.A., Arnette A. K., Klapper V. G., Hurlburt B. K., **Chruszcz M.\*** (2018) "*Structure of aspartate  $\beta$ -semialdehyde dehydrogenase from Francisella tularensis.*" Acta Crystallographica F74, 14–22.
31. Booth W.T., Morris T.L., Mysona D.P., Shah M.J., Taylor L.K., Karlin T.W., Clary K., Majorek K.A., Offermann L.R., **Chruszcz M.\*** (2017) "*Streptococcus pyogenes quinolate-salvage pathway-structural and functional studies of quinolate phosphoribosyl transferase and  $\text{NH}_3$ -dependent  $\text{NAD}^+$  synthetase.*" FEBS Journal 284, 2425-2441.
32. Schlachter C.R., Klapper V., Wybouw N., Radford T., Van Leeuwen T., Grbic M., **Chruszcz M.\*** (2017) "*Structural characterization of a eukaryotic cyanase from Tetranychus urticae.*" Journal of Agricultural and Food Chemistry 65, 5453-5462.
33. Glesner J., Vailes L.D., Schlachter C., Mank N., Minor W., Osinski T., **Chruszcz M.**, Chapman M.D., Pomés A. (2017) "*Antigenic Determinants of Der p 1: Specificity and Cross-Reactivity Associated with IgE Antibody Recognition.*" Journal of Immunology 198, 1334-1344.
34. Handing K.B., Shabalín I.G., Kassar O., Khazaipoul S., Blindauer C.A., Stewart A.J., **Chruszcz M.**, Minor W. (2016) "*Circulatory zinc transport is controlled by distinct interdomain sites on mammalian albumins.*" Chemical Science 7, 6635-6648.

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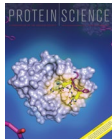
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35. Offermann L.R., Schlachter C.R., Perdue M.L., Majorek K.A., He J.Z., Booth W.T., Garrett J., Kowal K., **Chruszcz M.\*** (2016) "Structural, Functional, and Immunological Characterization of Profilin Panallergens Amb a 8, Art v 4, and Bet v 2." *Journal of Biological Chemistry* 291, 15447-15459.

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36. Hou J., Zheng H., **Chruszcz M.**, Zimmerman M.D., Shumilin I.A., Osinski T., Demas M., Grimshaw S., Minor W. (2016) "Dissecting the Structural Elements for the Activation of  $\beta$ -Ketoacyl-(Acyl Carrier Protein) Reductase from *Vibrio cholerae*." *Journal of Bacteriology* 198, 463-476.
37. Offermann L.R., Bublin M., Perdue M.L., Pfeifer S., Dubiela P., Borowski T., **Chruszcz M.\***, Hoffmann-Sommergruber K. (2015) "Structural and Functional Characterization of the Hazelnut Allergen Cor a 8." *Journal of Agricultural and Food Chemistry* 63, 9150-9158.
38. Offermann L.R., Giangrieco I., Perdue M.L., Zuzzi S., Santoro M., Tamburrini M., Cosgrove D.J., Mari A., Ciardiello M.A., **Chruszcz M.\*** (2015) "Elusive Structural, Functional, and Immunological Features of Act d 5, the Green Kiwifruit Kiwellin." *Journal of Agricultural and Food Chemistry* 63, 6567-6576.
39. Pomés A., **Chruszcz M.**, Gustchina A., Minor W., Mueller G.A., Pedersen L.C., Wlodawer A., Chapman M.D. (2015) "100 Years later: Celebrating the contributions of x-ray crystallography to allergy and clinical immunology." *Journal of Allergy and Clinical Immunology* 136, 29-37.
40. Mank N., Arnette A., Klapper V., Offermann L., **Chruszcz M.\*** (2015) "Structure of dihydrodipicolinate synthase from the commensal bacterium *Bacteroides thetaiotaomicron* at 2.1 Å resolution." *Acta Crystallographica* F71, 449-454.
41. Pomés A., **Chruszcz M.**, Gustchina A., Wlodawer A. (2015) "Interfaces Between Allergen Structure and Diagnosis: Know Your Epitopes." *Current Allergy Asthma Reports* 15, 8.
42. Offermann L.R., Perdue M.L., He J.Z., Hurlburt B.K., Maleki S.J., **Chruszcz M.\*** (2015) "Structural Biology of Peanut Allergens." *Journal of Contemporary Immunology* 2, 1-26.
43. Osinski T., Pomés A., Majorek K.A., Glesner J., Offermann L.R., Vailes L.D., Chapman M.D., Minor W., **Chruszcz M.\*** (2015) "Structural analysis of Der p 1-antibody complexes and comparison with complexes of proteins or peptides with monoclonal antibodies." *Journal of Immunology* 195, 307-316.

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44. Erkizan H.V., Schneider J.A., Sajwan K., Graham G.T., Griffin B., Chasovskikh S., Youbi S.E., Kallarakal A., **Chruszcz M.**, Padmanabhan R., Casey J.L., Uren A., Toretsky J. (2015) "*RNA Helicase A Activity is Inhibited by Oncogenic Transcription Factor EWS-FLI1.*" *Nucleic Acids Research* 43, 1069-1080.
45. Filippova E.V., Tkaczuk K.L., **Chruszcz M.**, Xu X., Savchenko A., Edwards A., Minor W. (2014) "*Structural characterization of the putative ABC-type 2 transporter from *Thermotoga maritima* MSB8.*" *Journal of Structural and Functional Genomics* - accepted for publication.
46. Lubula M.Y., Eckenroth B.E., Carlson S., Poplawski A., **Chruszcz M.**, Glass K.C. (2014) "*Structural insights into recognition of acetylated histone ligands by the BRPF1 bromodomain.*" *FEBS Letters* 588, 3844-3854.
47. Majorek K.A., Kuhn M.L., **Chruszcz M.**, Anderson W.F., Minor W. (2014) "*Double trouble-Buffer selection and His-tag presence may be responsible for nonreproducibility of biomedical experiments.*" *Protein Science* 23, 1359-1368.
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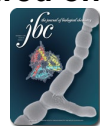
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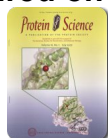
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### Protein Data Bank depositions (303)

1N2K, 1N2L, 1UXO, 1WQ6, 1Y4K, 1Y89, 1Z77, 2AV9, 2B2T, 2B2U, 2B2V, 2B2W, 2B2Y, 2DG2, 2F96, 2FDO, 2FEF, 2FEX, 2FFS, 2FGC, 2G3A, 2G3B, 2G7U, 2GOI, 2HR3, 2I8E, 2I9C, 2IA2, 2IAI, 2ID3, 2ID6, 2IEK, 2IS3, 2NP3, 2NP5, 2O0Y, 2O1O, 2O5U, 2O6B, 2O6T, 2O6U, 2O8N, 2O9X, 2OFY, 2OUF, 2PAQ, 2PC6, 2PD0, 2PFS, 2PZ9, 2Q24, 2Q58, 2QMO, 2QNU, 2RD7, 3CM1, 3CNI, 3DCA, 3DCL, 3DM8, 3E4F, 3EEF, 3ELK, 3F5V, 3FTT, 3FZV, 3GHD, 3GQS, 3H3M, 3HFR, 3HHL, 3I4P, 3IB3, 3IBZ, 3ICC, 3IH2, 3IH3, 3IH4, 3III, 3IJW, 3IRC, 3IST, 3ISV, 3IWH, 3K3S, 3KKD, 3KKW, 3KXR, 3KZL, 3KZP, 3LNL, 3LQY, 3MAB, 3MLE, 3MZZ, 3N0M, 3N0S, 3N73, 3N99, 3NI7, 3O4F, 3OP4, 3OS6, 3OT1, 3OWC, 3P7J, 3P7M, 3PGP, 3PZW, 3Q3V, 3QSL, 3QTB, 3QTD, 3QXC, 3QXH, 3QXJ, 3QXS, 3QXX, 3QY0, 3RAO, 3RE2, 3RRO, 3RSH, 3RVT, 3RVU, 3S7E, 3S7I, 3SKS, 3SLB, 3SLF, 3SZ3, 3T5P, 3T7B, 3TL2, 3TNJ, 3TPF, 3TYK, 3TYR, 3TYS, 3TZC, 3TZH, 3TZK, 3U09, 3UDO, 3UDU, 3UEC, 3UWD, 3V03, 3V08, 3V09, 3V0R, 3V48, 3V4D, 3V4E, 4BQL, 4DGT, 4DQ6, 4EUY, 4GPQ, 4GQ3, 4GQ4, 4GQ6, 4HE5, 4HE6, 4I08, 4I6Z, 4I76, 4IGV, 4IGW, 4IGX, 4IGY, 4IH0, 4IH2, 4IHR, 4JRH, 4JRM, 4KJM, 4KLV, 4KLW, 4KOR, 4KOS, 4KOT, 4KOU, 4KOV, 4KOW, 4KOX, 4KOY, 4KUA, 4KUB, 4L89, 4L8A, 4M3S, 4M9B, 4M9W, 4MA6, 4MAP, 4N7C, 4N7D, 4ND9, 4NE4, 4OAD, 4OAE, 4QGL, 4QGM, 4U12, 4QYD, 4QYL, 4U12, 4WJZ, 4WK6, 4WZU, 4X0O, 4X9K, 4X9O, 4XKY, 4POZ, 4QGN, 4O9I, 4X9U, 4WOJ, 4XUW, 5EM1, 5EM0, 5EVE, 5EV0, 5HUP, 5HUO, 5HUL, 5HUJ, 5HUH, 5VCO, 5VCN, 5VPL, 5VPK, 5VPH, 5VPG, 5UK3, 5KS1, 5KRY, 5KRV, 5KRR, 5KQO, 5TJY, 5TEN, 5TEM, 5TEK, 5TEJ, 5TJZ, 5UGV, 5UQU, 5UQS, 5UQQ, 5UQO, 5US6, 5UZR, 5UZQ, 5UZP, 5UQR, 5VG2, 5VPG, 5VPH, 5VPK, 5VPL, 6AWR, 6AWS, 6AWT, 6AWU, 6AWV, 6AWW, 6AWX, 6AWY, 6AWZ, 6AX0, 6B1D, 6B6J, 6BDJ, 6BDX, 6BOL, 6BOM, 6BON, 6BOO, 6BOP, 6HCD, 6MBX, 6OY4, 6PMU, 6PNT, 6V8S, 6V8H, 6V8J, 6V8M, 6V8L, 6XO2, 7KSB, 7KSC, 7KYW, 7MLH, 7LVY, 7MFJ, 7MCO, 7S2H, 7S2N, 7S2P, 7STT, 7STU, 7STV

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#### Current

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NIH/NCI (1R01CA227694-1), "Role of Ly6K in TGF-beta and immune escape pathways of triple negative breast cancer." PI – Geeta Upadhaya, Maksymilian Chruszcz **co-PI**. 08/03/**2018**-08/02/**2023**, \$290,958 total for MC.

NIFA/USDA (# 2019-04727) "Molecular Basis of Xenobiotic Metabolism and Resistance in *Tetranychus urticae*." **PI** – Maksymilian Chruszcz, co-PIs – Thomas Makris, Miodrag Grbic, Vojislava Grbic. 05/15/**2020**-05/14/**2024**, \$777,372 (\$351,996 total for MC).

NIH/NIAID (2 R01 AI077653-10A1) "Antigenic determinants of asthma-associated allergens for design of immunotherapy." **Multi-PI application**. PIs: Maksymilian Chruszcz, Martin D. Chapman and Anna Pomes, 06/15/**2020**-06/14/**2025**, \$393,335 total for MC.

### **Completed**

NIH COBRE, "Synthesis, Binding and X-ray Crystallography of Peptides from the Receptor Binding Domain of the Novel Coronavirus, SARS-CoV-2 with human ACE2.", PI – C. McInnes, co-PI M. Chruszcz, 2020-2021, \$46,927 total and \$15,000 for MC.

NIH (R01), "Antigenic determinants of asthma-associated allergens for design of immunotherapy." Multi-PI application. PIs: Maksymilian Chruszcz, Martin D. Chapman and Anna Pomes. 05/15/2015-04/30/2020, \$476,125 total for MC.

NIH (R01), "Establishing a New Paradigm of Metallopolymers to Reinstate Vitality of Antibiotics against Multidrug Resistant Bacteria." PI -Chuanbing Tang, Maksymilian Chruszcz co-Investigator. 11/01/2015-10/31/2019; \$207,382 total for MC.

NIH (R01), "Antigenic determinants of asthma-associated allergens for design of immunotherapy." Multi-PI application. PIs: Martin D. Chapman and Anna Pomes; Maksymilian Chruszcz co-PI. 2012-2014, \$68,134 (total MC) – part of an R01 grant transferred from the University of Virginia