
Curriculum Vitae

Personal information

Name: Maksymilian Chruszcz
Highest degree: Ph.D. in Chemistry
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Department of Chemistry and Biochemistry
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Education

1992–1997 M.Sc., Jagiellonian University, Department of Chemistry, Kraków, Poland
1997–2002 Ph.D., Jagiellonian University, Department of Chemistry, Kraków, Poland
2013 Visiting Professor at Medical University of Białystok, Poland
2014 Visiting Professor at Institute of Catalysis and Surface Chemistry Polish Academy of Sciences, Krakow, 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 – present Associate 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
2016 Breakthrough Stars Award – University of South Carolina

Professional organizations

American Crystallographic Association - member since 2005

American Society for Biochemistry and Molecular Biology – member since 2015

Editorial positions

Journal of Contemporary Immunology

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

Medical Research Council, UK

National Science Centre, Poland

National Science Foundation

-Journals

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

Antonie van Leeuwenhoek Journal of Microbiology

Biochemistry

Biochimica et Biophysica Acta (General Subjects)

Biophysical Journal

BMC Immunology

Canadian Journal of Infectious Diseases and Medicinal Microbiology

Clinical and Experimental Allergy

Computational Biology and Chemistry

Epigenomics

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
Modern Chemistry & Applications
Molecular Informatics
Molecules
PLOS One
Protein Expression and Purification
Protein Science
Scientific Research and Essays
Structure

Graduate students & Postdoctoral fellows

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

Lesa Offermann (Postdoctoral fellow) –Assistant Professor at Davidson College, NC
Nicholas Mank (graduate student) - currently postdoctoral fellow at the University of Georgia
William Booth (graduate student) – currently postdoctoral fellow at Wake Forest University
Nikita Ussin (graduate student –M.Sc. track)
Caleb Schlachter (graduate student)
Swanandi Pote (4th year graduate student)
A. Brenda Kapingidza (2nd year graduate student)
Leily Daneshian (1st year graduate student)

Invited lectures (after moving to the University of South Carolina)

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.

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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
 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

Peer-reviewed publications (listed in reverse chronological order)

1. 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.

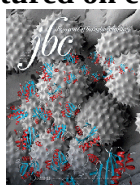
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2. Handing K.B., Shabalin I.G., Kassar O., Khazaipoul S., Blindauer C.A., Stewart A.J., **Chruszcz M.**, Minor W. (2016) "Circulatory zinc transport is controlled by distinct interdomain sites on mammalian albumins." *Chemical Science* 7, 6635-6648.

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3. 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.

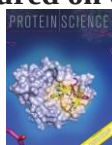
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4. Hou J., Zheng H., **Chruszcz M.**, Zimmerman M.D., Shumilin I.A., Osinski T., Demas M., Grimshaw S., Minor W. (2016) "Dissecting the Structural Elements for the Activation of β -Ketoacyl-(Acyl Carrier Protein) Reductase from *Vibrio cholerae*." *Journal of Bacteriology* 198, 463-476.
5. 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.
6. 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.
7. 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.
8. Mank N., Arnette A., Klapper V., Offermann L., **Chruszcz M.** (2015) "Structure of dihydrodipicolinate synthase from the commensal bacterium *Bacteroides thetaiotaomicron* at 2.1Å resolution." *Acta Crystallographica F* 71, 449-454.
9. Pomés A., **Chruszcz M.**, Gustchina A., Wlodawer A. (2015) "Interfaces Between Allergen Structure and Diagnosis: Know Your Epitopes." *Current Allergy Asthma Reports* 15, 8.

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10. 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.
 11. 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.
 12. 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.
 13. 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.
 14. 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.
 15. 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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16. Offermann L.R., Chan S.L., Osinski T., Tan Y.W., Chew F.T., Sivaraman J., Mok Y.K., Minor W., **Chruszcz M.** (2014) "*The major cockroach allergen Bla g 4 binds tyramine and octopamine.*" *Molecular Immunology* 60, 86-94.
 17. Bajor J., Tkaczuk K.L., **Chruszcz M.**, Chapman H., Kagan O., Savchenko A., Minor W. (2014) "*The crystal structure of pyrimidine/thiamin biosynthesis precursor-like domain-containing protein CAE31940 from proteobacterium Bordetella bronchiseptica RB50, and evolutionary insight into the NMT1/THI5 family.*" *Journal of Structural and Functional Genomics* 15, 73-81.
 18. Zimmerman M.D., Grabowski M., Domagalski M.J., Maclean E.M., **Chruszcz M.**, Minor W. (2014) "*Data management in the modern structural biology and biomedical research environment.*" *Methods in Molecular Biology* 1140, 1-25. *Structural Genomics and Drug Discovery: Methods and Protocols*. Wayne F. Anderson (ed.). Springer Science+Business Media, New York.
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19. Offermann L.R., He J.Z., Mank N.J., Booth W.T., **Chruszcz M.** (2014) "*Carboxylic Acids in Crystallization of Macromolecules – Learning from Successful Crystallization Experiments.*" *Journal of Structural and Functional Genomics* 15, 13-24.
 20. Lindås A.-C., **Chruszcz M.**, Bernander R., K. Vålegård (2014) "*Structure of crenactin, an archaeal actin homologue active at 90°C.*" *Acta Crystallographica Section D* 70, 492-500.
 21. Rashin A.A, Domagalski M.J., Zimmermann M.T., Minor W., **Chruszcz M.**, Jernigan R.L. (2014) "*Factors correlating with significant differences between X-ray structures of myoglobin.*" *Acta Crystallographica Section D* 70, 481-491.
 22. Zheng H., Chordia M.D., Cooper D.R., **Chruszcz M.**, Müller P., Sheldrick G.M., Minor W. (2014) "*Validation of metal-binding sites in macromolecular structures with the CheckMyMetal web server.*" *Nature Protocols* 9, 156-170.
 23. Hurlburt B.K., Offermann L.R., McBride J.K., Majorek K.A., Maleki S.J., **Chruszcz M.** (2013) "*Structure and Function of the Peanut Panallergen Ara h 8.*" *Journal of Biological Chemistry* 288, 36890-36901.
 24. Majorek K.A., Kuhn M.L., **Chruszcz M.**, Anderson W.F., Minor W. (2013) "*Structural, Functional, and Inhibition Studies of a Gcn5-related N-Acetyltransferase (GNAT) Superfamily Protein PA4794: a New C-terminal Lysine Protein Acetyltransferase from Pseudomonas Aeruginosa.*" *Journal of Biological Chemistry* 288, 30223-30235.
 25. **Chruszcz M.**, Mikolajczak K., Mank N., Majorek K.A., Porebski P.J., Minor W. (2013) "*Serum albumins-unusual allergens.*" *Biochimica et Biophysica Acta* 1830, 5375-5381.
 26. **Chruszcz M.**, Ciardiello M.A., Osinski T., Majorek K.A., Giangrieco I., Font J., Breiteneder H., Thalassinou K., Minor W. (2013) "*Structural and bioinformatic analysis of the kiwifruit allergen Act d 11, a member of the family of ripening-related proteins.*" *Molecular Immunology* 56,794-803.
 27. Domagalski M.J., Tkaczuk K.L., **Chruszcz M.**, Skarina T., Onopriyenko O., Cymborowski M., Grabowski M.Savchenko A., Minor W. (2013) "*Structure of isochorismate synthase Dhbc from Bacillus anthracis.*" *Acta Crystallographica Section F* 69, 956-961.
 28. Luo H.B., Knapik A.A., Petkowski J.J., Demas M., Shumilin I.A., Zheng H., **Chruszcz M.**, Minor W. (2013) "*Biophysical analysis of the putative acetyltransferase SACOL2570 from methicillin-resistant Staphylococcus aureus.*" *Journal of Structural and Functional Genomics* 14, 97-108.
 29. Tkaczuk K. L., Shumilin I. A., **Chruszcz M.**, Evdokimova E., Savchenko A., Minor W. (2013) "*Structural and functional insight into the universal stress protein family.*" *Evolutionary Applications* 6, 434-449.

30. Trillo-Muyo S., Jasilionis A., Domagalski M. J., **Chruszcz M.**, Minor W., Kuisiene N., Arolas J. L., Solà M., Gomis-Rüth F. X. (2013) "*Ultratight crystal packing of a 10 kDa protein.*" Acta Crystallographica D69, 464-470.

31. Shi A., Murai M.J., He S., Lund G., Hartley T., Purohit T., Reddy G., **Chruszcz M.**, Grembecka J., Cierpicki T. (2012) "*Structural insights into inhibition of the bivalent menin-MLL interaction by small molecules in leukemia.*" Blood 120, 4461-4469.

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32. Knapik A.A., Petkowski J.J., Otwinowski Z., Cymborowski M.T., Cooper D.R., **Chruszcz M.**, Krajewska W.M., Minor W. (2012) "*Structure of Escherichia coli RutC, a member of the YjgF family and putative aminoacrylate peracid reductase of the rut operon.*" Acta Crystallographica F68, 1294-1299.

33. Shabalin I.G., Porebski P.J., Cooper D.R., Grabowski M., Onopriyenko O., Grimshaw S., Savchenko A., **Chruszcz M.**, Minor W. (2012) "*Structure of anabolic ornithine carbamoyltransferase from Campylobacter jejuni at 2.7 Å resolution.*" Acta Cryst. F68, 1018-1024

34. Knapik A.A., Petkowski J.J., Otwinowski Z., Cymborowski M.T., Cooper D.R., Majorek K.A., **Chruszcz M.**, Krajewska W.M., Minor W. (2012) "*A multi-faceted analysis of RutD reveals a novel family of α/β hydrolases.*" Proteins: Structure, Function, and Bioinformatics 80, 2359-2368.

35. **Chruszcz M.**, Chapman M.D., Osinski T., Solberg R., Demas M., Porebski P.J., Majorek K.A., Pomés A., Minor W. (2012) "*Alternaria alternata allergen Alt a 1: A unique β -barrel protein dimer found exclusively in fungi.*" Journal of Allergy and Clinical Immunology 130, 241-247.e9.

36. Majorek K.A., Porebski P.J., Dayal A., Zimmerman M.D., Jablonska K., Stewart A.J., **Chruszcz M.**, Minor W. (2012) "*Structural and immunologic characterization of bovine, horse, and rabbit serum albumins.*" Molecular Immunology 52, 174-182.

37. Hou J., Wojciechowska K., Zheng, H., **Chruszcz M.**, Cooper D.R., Cymborowski M., Skarina T., Gordon E., Luo H., Savchenko A., Minor W. (2012) "*Structure of a short-chain dehydrogenase/reductase from Bacillus anthracis.*" Acta Crystallographica F68, 632-637

38. Barber-Rotenberg J.S., Selvanathan S.P., Kong Y., Erkizan H.V., Snyder T.M., Hong P.S., Kobs C.L., South N.L., Summer S., Monroe P.J., **Chruszcz M.**, Dobrev V., Tosso P.N., Scher L.J., Minor W., Brown M.L., Metallo S.J., Uren A., Toretzky J.A. (2012) "*Single*

Enantiomer of YK-4-279 Demonstrates Specificity in Targeting the Oncogene EWS-FLI1.” Oncotarget 3, 172-182.

39. Davis G.C., Kong Y., Paige M., Li Z., Merrick E.C., Hansen T., Suy S., Wang K., Dakshanamurthy S., Cordova A., McManus O.B., Williams B.S., **Chruszcz M.**, Minor W., Patel M.K., Brown M.L. (2012) “*Asymmetric synthesis and evaluation of a hydroxyphenylamide voltage-gated sodium channel blocker in human prostate cancer xenografts.*” Bioorganic & Medicinal Chemistry 20, 2180-2188.
40. Goral A.M., Tkaczuk K.L., **Chruszcz M.**, Kagan O., Savchenko A., Minor W. (2012) “*Crystal structure of a putative isochorismatase hydrolase from Oleispira antarctica.*” Journal of Structural and Functional Genomics 13, 27-36.
41. Zheng H., Filippova E.V., Tkaczuk K.L., Dworzynski P., **Chruszcz M.**, Porebski P.J., Wawrzak Z., Onopriyenko O., Kudritska M., Grimshaw S., Savchenko A., Anderson W.F., Minor W. (2012) “*Crystal structures of putative phosphoglycerate kinases from B. anthracis and C. jejuni.*” Journal of Structural and Functional Genomics 13, 15-26.
42. Porebski P.J., Klimecka M., **Chruszcz M.**, Nicholls R.A., Murzyn K., Cuff M.E., Xu X., Cymborowski M., Murshudov G.N., Savchenko A., Edwards A., Minor W. (2012) “*Structural characterization of Helicobacter pylori dethiobiotin synthetase reveals differences between family members.*” FEBS Journal 279, 1093-1105.
43. **Chruszcz M.**, Pomés A., Glesner J., Vailes L.D., Osinski T., Porebski P.J., Majorek K.A., Heymann P.W., Platts-Mills T.A., Minor W., Chapman M.D. (2012) “*Molecular determinants for antibody binding on group 1 house dust mite allergens.*” Journal of Biological Chemistry 287, 7388-7398.
44. **Chruszcz M.**, Maleki S.J., Majorek K.A., Demas M., Bublin M., Solberg R., Hurlburt B.K., Ruan S., Mattison C.P., Breiteneder H., Minor W. (2011) “*Structural and immunologic characterization of Ara h 1 – a major peanut allergen.*” Journal of Biological Chemistry 286, 39318-39327.
45. Filippova E.V., **Chruszcz M.**, Cymborowski M., Gu J., Savchenko A., Edwards A., Minor W. (2011) “*Crystal structure of a putative transcriptional regulator SCO0520 from Streptomyces coelicolor A3(2) reveals an unusual dimer among TetR family proteins.*” Journal of Structural and Functional Genomics 12(3), 149-157,
46. Murai M.J., **Chruszcz M.**, Reddy G., Grembecka J., Cierpicki T. (2011) “*Crystal Structure of Menin Reveals Binding Site for Mixed Lineage Leukemia (MLL) Protein.*” Journal of Biological Chemistry 286, 31742-31748.
47. Cooper D.R., Porebski P.J., **Chruszcz M.**, Minor W. (2011) “*X-ray crystallography: Assessment and validation of protein-small molecule complexes for drug discovery.*” Expert Opinion on Drug Discovery 6, 771-782.

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48. Klimecka M.M., **Chruszcz M.**, Font J., Skarina T., Shumilin I., Onopryienko O., Porebski P.J., Cymborowski M., Zimmerman M.D., Hasseman J., Glomski I.J., Lebioda L., Savchenko A., Edwards A., Minor A. (2011) "*Structural Analysis of a Putative Aminoglycoside N-Acetyltransferase from Bacillus anthracis.*" *Journal of Molecular Biology* 410, 411-423.
49. Mendez D.L., Kim D., **Chruszcz M.**, Stephens G.E., Minor W., Khorasanizadeh S., Elgin S.C. (2011) "*The HPIa Disordered C Terminus and Chromo Shadow Domain Cooperate to Select Target Peptide Partners.*" *ChemBioChem* 12(7), 1084-1096.
50. **Chruszcz M.**, Domagalski M., Osinski T., Wlodawer A., Minor W. (2010) "*Unmet challenges of structural genomics.*" *Current Opinion in Structural Biology* 20(5), 587-597.
51. Cymborowski M., Klimecka M., **Chruszcz M.**, Zimmerman M.D., Shumilin I.A., Borek D., Lazarski K., Joachimiak A., Otwinowski Z., Anderson W., Minor W. (2010) "*Automate or not automate: this is the question.*" *Journal of Structural and Functional Genomics* 11, 211-221.
52. Sledz P., Kaminski R., **Chruszcz M.**, Zimmerman M.D., Minor W., Wozniak K. (2010) "*An experimental charge density of HEPES.*" *Acta Crystallographica B* 66, 482-492.
53. Sledz P., Zheng H., Murzyn K., **Chruszcz M.**, Zimmerman M.D., Chordia M.D., Joachimiak A., Minor W. (2010) "*New surface contacts formed upon reductive lysine methylation: Improving the probability of protein crystallization.*" *Protein Science* 19, 1395-1404.
54. Koclega K.D., **Chruszcz M.**, Zimmerman M.D., Bujacz G., Minor W. (2010) "*Hot Macromolecular Crystals.*" *Crystal Growth and Design* 10, 580-586.
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55. Luo H.-B., Zheng H., Zimmerman M.D., **Chruszcz M.**, Skarina T., Egorova O., Savchenko A., Edwards A.M., Minor W. (2010) "*Crystal structure and molecular modeling study of N-carbamoylsarcosine amidase Ta0454 from Thermoplasma acidophilum.*" *Journal of Structural Biology* 169, 304-311.
56. Cabello R., **Chruszcz M.**, Minor W. (2010) "*2,4-Dichlorobenzaldehyde.*" *Acta Crystallographica E* 66, o243.
57. **Chruszcz M.**, Borek D., Domagalski M., Otwinowski Z., Minor W. (2009) "*X-ray Diffraction Experiment – The Last Experiment in the Structure Elucidation Process.*" *Advances in Protein Chemistry and Structural Biology* 77, 23-40.
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58. Sledz P., Minor T., **Chruszcz M.** (2009) "Redetermination of 2-[4-(2-hydroxyethyl)piperazin-1-ium-1-yl]ethanesulfonate at 100K." *Acta Crystallographica E* 65, o3027-o3028.
59. Wang S., Kirillova O., **Chruszcz M.**, Gront D., Zimmerman M.D., Cymborowski M.T., Shumilin I.A., Skarina T., Gorodichtchenskaia E., Savchenko A., Edwards A.M., Minor W. (2009) "The crystal structure of the AF2331 protein from *Archaeoglobus fulgidus* DSM 4304 forms an unusual interdigitated dimer with a new type of $\alpha+\beta$ fold." *Protein Science* 18, 2410-2419.

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60. Xu Q., Traag B.A., Willemse J., McMullan D., Miller M.D., Elsliger M-A., Abdubek P., Astakhova T., Axelrod H.L., Bakolitsa C., Carlton D., Chen C., Chiu H-J., **Chruszcz M.**, et al., (2009) "Structural and functional characterizations of SSGB, a conserved activator of developmental cell division in morphologically complex actinomycetes." *Journal of Biological Chemistry* 284, 25268-25279.

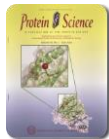
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61. Grabowski M., **Chruszcz M.**, Zimmerman M.D., Kirillova O., Minor W. (2009) "Benefits of Structural Genomics for Drug Discovery Research." *Infectious Disorders Drug Targets* 9, 459-474.
62. **Chruszcz M.**, Chapman M.D., Vailes L.D., Stura E.A., Saint-Remy J-M., Minor W., Pomés A. (2009) "Crystal Structures of Mite Allergens Der f 1 and Der p 1 Reveal Differences in Surface-Exposed Residues that May Influence Antibody Binding." *Journal of Molecular Biology* 386, 520-530.
63. Sasaki T., Maier B., Koclega K.D., **Chruszcz M.**, Gluba W., Stukenberg P.T., Minor W., Scrable H. (2008) "Phosphorylation Regulates SIRT1 Function." *PLoS ONE* 3(12), e4020.
64. Artz J.D., Dunford J.E., Arrowood M.J., Dong A., **Chruszcz M.**, Kavanagh K.L., Minor W., Russell R.G.G., Ebetino F.H., Oppermann U., Hui R. (2008) "Targeting a Uniquely Nonspecific Prenyl Synthase with Bisphosphonates to Combat Cryptosporidiosis." *Chemistry & Biology* 15(12), 1296-1306.
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Protein Data Bank depositions

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, 3D6S, 3DCA, 3DCL, 3DLO, 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, 3RVV, 3RVW, 3RVX, 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, 4PP2, 4PP1, 4POZ, 4QGN, 4O9I, 4X9U, 4WOJ, 4XUW, 5EM1, 5EM0, 5EVE, 5EV0, 5HUP, 5HUO, 5HUL, 5HUJ, 5HUH

Grant support

Current

NIH (RO1), "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, \$2,411,469 (total) (\$476,125 for MC)

NIH (RO1), "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; \$1,446,400 (total, \$154,000 in direct costs for MC)

University of South Carolina (ASPIRE-III), "Access to the 3rd generation synchrotron X-ray source through SER-CAT at the Advanced Photon Source - Renewal" PI – Maksymilian Chruszcz, Co-PI – Thomas Makris. 07/01/2016-09/30/2017, \$27,000.

University of South Carolina (ASPIRE III), "Acquisition of nanoliter dispensing robot for protein crystallography" PI Sajish Methew, Co-PI Maksymilian Chruszcz. 07/01/2017-09/30/2018, \$100,000.

Completed

University of South Carolina (ASPIRE-II), "Structural genomics of agricultural pest *Tetranychus urticae*." PI – Maksymilian Chruszcz, Co-PI John Dowson, Co-PI Michael Matthews, Co-PI Lukasz Lebioda, 05/16/2014-12/30/2015, \$100,000 (\$70,000 for MC).

University of South Carolina (Magellan Scholar Program), "Structural Analysis and Characterization of Ragweed Pollen Allergens Amb a 9 and Amb a 10." Scholarship for Taylor Karlin (Supervisor – M. Chruszcz), 05/15/2015-05/15/2016, \$3,000

University of South Carolina (ASPIRE-III), “Access to the 3rd generation synchrotron X-ray source through SER-CAT at the Advanced Photon Source.” PI – Maksymilian Chruszcz, Co-PI – Lukasz Lebioda, Co-PI – Thomas Makris. 05/16/2014-12/31/2015, \$27,000.

University of South Carolina (Magellan Scholar Program), “Enzymatic Characterization of Dxr from *Francisella tularensis*.” Scholarship for Rawan Abdulsalam (supervisor M. Chruszcz); 12/10/2014-12/30/2015; \$3,000

University of South Carolina (Magellan Scholar Program), “Determining the Structure of SagG: Part of the Group A Streptococcus Streptolysin Associated Gene Operon.”, Scholarship for David Mysona (supervisor – M. Chruszcz). 05/01/2013-, \$2,500.

University of South Carolina (Magellan Scholar Program), “Structural Analysis of Dihydrodipicolinate Reductase from *Vibrio vulnificus*.”, Scholarship for Amy Arnette (supervisor M. Chruszcz), 01/01/2014-05/31/2015, \$2,500.

University of South Carolina (Magellan Scholar Program), “Structure Based Drug Design of Novel Antimicrobial Agents Against 1-deoxy-D-xylulose-5-phosphate reductoisomerase from *Vibrio vulnificus*.” Scholarship for Makenzie Perdue (supervisor M. Chruszcz), 01/01/2014-05/31/2015, \$2,500.

NIH (RO1), "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)/\$46,989 (direct for MC) – part of an RO1 grant transferred from the University of Virginia