Curriculum Vitae

Personal information

Name:	Maksymilian Chruszcz
Highest degree:	Ph.D. in Chemistry
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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 Bialystok, 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
2018	Distinguished Research Service Award – University of South Carolina

2018 Distinguish Undergraduate Research Mentor 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
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
Modern Chemistry & Applications
Molecular Informatics
Molecules
Nutrients
Planta
PLOS One
PNAS
Protein Expression and Purification
Protein Science
Scientific Research and Essays
Structure
Systematic and Applied Acarology
Veterinary Immunology and Immunopathology

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) - postdoctoral fellow at the University of Georgia
William Booth (graduate student) –postdoctoral fellow at Wake Forest University
Nikita Ussin (graduate student –M.Sc. track)
Caleb Schlachter (graduate student) –research scientist IMCStips
Swanandi Pote (4th year graduate student)
A. Brenda Kapingidza (2nd year graduate student)
Leily Daneshian (2nd 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.
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
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

Peer-reviewed publications (listed in reverse chronological order):

1. 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.

2. 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.

3. Mank N. J., Pote S., Majorek K.A., Arnette A. K., Klapper V. G., Hurlburt B. K., **Chruszcz M.** (2018) *“Structure of aspartate β-semialdehyde dehydrogenase from Francisella tularensis.”* Acta Crystallographica F74, 14–22.

4. 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 quinolinate-salvage pathway-structural and functional studies of quinolinate phosphoribosyl transferase and NH_3 -dependent NAD^+ synthetase."* FEBS Journal 284, 2425-2441.

5. 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.

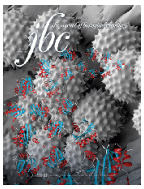
6. Glesner J., Vailes L.D., Schlachter C., Mank N., Minor W., Osinski T., **Chruszcz M.**, Chapman M.D., Pomés A. (2017) *"Antigenic Determinants of Der p 1: Specificity and Cross-Reactivity Associated with IgE Antibody Recognition."* Journal of Immunology 198, 1334-1344.

7. Handing K.B., Shabalin I.G., Kassaar 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.

(Featured on cover)

8. 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.

(Featured on cover)



9. 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.

10. 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.

11. 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.

12. 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.

13. 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 F71, 449-454.

14. Pomés A., **Chruszcz M.**, Gustchina A., Wlodawer A. (2015) *"Interfaces Between Allergen Structure and Diagnosis: Know Your Epitopes."* Current Allergy Asthma Reports 15, 8.

15. 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.

16. 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.

17. 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.

18. 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.

19. 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.

20. 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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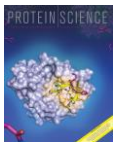

21. Offermann L.R., Chan S.L., Osinski T., Tan Y.W., Chew F.T., Sivaraman J., Mok Y.K., Minor W., **Chruszcz M.** (2014) *"The major cockroach allergen Bla g 4 binds tyramine and octopamine."* Molecular Immunology 60, 86-94.

22. 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.

23. 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.

24. 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.

25. Lindås A.-C., **Chruszcz M.**, Bernander R., K. Valegård (2014) *"Structure of crenactin, an archaeal actin homologue active at 90°C."* Acta Crystallographica D70, 492-500.

26. 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 D70, 481-491.

27. 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.

28. 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.

29. 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.

30. **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.

31. **Chruszcz M.**, Ciardiello M.A., Osinski T., Majorek K.A., Giangrieco I., Font J., Breiteneder H., Thalassinos 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.

32. 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 F69, 956-961.

33. 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.

34. Tkaczuk K. L., Shumilin I. A., **Chruszcz M.**, Evdokinova E., Savchenko A., Minor W. (2013) *"Structural and functional insight into the universal stress protein family."* Evolutionary Applications 6, 434-449.

35. 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.

36. 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.
(**Featured on cover and as a Plenary Paper**)

37. 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.

38. 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

39. 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.

40. **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.

41. 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.

42. 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

43. 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., Toretsky J.A. (2012) *"Single Enantiomer of YK-4-279 Demonstrates Specificity in Targeting the Oncogene EWS-FLI1."* Oncotarget 3, 172-182.

44. 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.

45. 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.

46. 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.

47. 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.

48. **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.

49. **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.

50. 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,

51. 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.

52. 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.

53. 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.

54. Mendez D.L., Kim D., **Chruszcz M.**, Stephens G.E., Minor W., Khorasanizadeh S., Elgin S.C. (2011) *"The HP1a Disordered C Terminus and Chromo Shadow Domain Cooperate to Select Target Peptide Partners."* ChemBioChem 12(7), 1084-1096.

55. **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.

56. 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.

57. Sledz P., Kaminski R., **Chruszcz M.**, Zimmerman M.D., Minor W., Wozniak K. (2010) *"An experimental charge density of HEPES."* Acta Crystallographica B66, 482-492.

58. 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.

59. 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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60. LuoH-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.

61. Cabello R., **Chruszcz M.**, Minor W. (2010) *"2,4-Dichlorobenzaldehyde."* Acta Crystallographica E66, o243.

62. **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.

63. Sledz P., Minor T., **Chruszcz M.** (2009) *"Redetermination of 2-[4-(2-hydroxyethyl)piperazin-1-ium-1-yl]ethanesulfonate at 100K."* Acta Crystallographica E65, o3027-o3028.

64. 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 α+β fold." Protein Science 18, 2410-2419.

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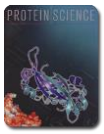

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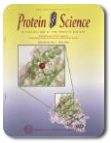

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Protein Data Bank depositions

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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), “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-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-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