

CURRICULUM VITAE

GABRIEL WAKSMAN, PhD, FMedSci, FRS

Work: Birkbeck College, Department of Biological Sciences, Malet Street, London WC1E 7HX
Email: g.waksmann@mail.cryst.bbk.ac.uk

UCL, Research Department of Structural and Molecular Biology, Gower Street, London WC1E 6BT
Email: g.waksmann@ucl.ac.uk

EDUCATION

- 1977-1982 Graduate Student at the École Normale Supérieure (highest graded student).
- 1978-79 Bachelor of Science in Genetics (Mention Assez Bien), University of Paris.
Bachelor of Science in Physical Chemistry (Mention Assez Bien), University of Paris.
- 1980 Diplome d'Etudes Approfondies in Fundamental Biochemistry under the direction of Prof. F. Chappeville (Mention Tres Bien, highest graded student), University of Paris.
- 1981-82 Doctorat de Troisième Cycle (PhD) in Fundamental Biochemistry under the direction of Dr. G. Thomas (Mention Tres Bien), University of Paris.

PROFESSIONAL EXPERIENCE

- 2009 – present **Courtauld Professor of Biochemistry, Director of the Institute of Structural and Molecular Biology, UCL/Birkbeck. Assistant Dean and Head of Department of Biological Sciences, Birkbeck College, Head of Research Department of Structural and Molecular Biology, University College London (UK).**
- 2007 – present **Courtauld Professor of Biochemistry, Director of the Institute of Structural and Molecular Biology, UCL/Birkbeck. Head of School of Crystallography, Birkbeck College, Head of Department of Biochemistry and Molecular Biology, University College London (UK).**
- 2006 – present **Head of Institute of Structural and Molecular Biology, UCL/Birkbeck. Head of School of Crystallography, Birkbeck College, Head of Department of Biochemistry and Molecular Biology, University College London (UK).**

| | |
|-------------------|---|
| 2003 – present | Head of the Institute of Structural and Molecular Biology. Birkbeck College, University College. University of London (UK). |
| 2002 – present | Director of the Joint Research School of Biomolecular Sciences. Birkbeck College, University College. University of London (UK). |
| 2002 – present | Joint Chair in Structural Molecular Biology. Birkbeck College and University College. University of London (UK). |
| 2002 – 2003 | P. Roy and Diana Vagelos Professor of Biological Chemistry. Laboratory of Molecular Biophysics and Biological Chemistry, Washington University School of Medicine, Saint Louis (USA). |
| Feb 2000-2002 | Alumni Endowed Professor. Laboratory of Molecular Biophysics, Washington University School of Medicine, Saint Louis (USA) <i>and Head of the Protein Structure and Macromolecular Graphics core</i> , Washington University Cancer Center, Washington University School of Medicine, Saint Louis (USA) |
| Jan 2000-Feb 2000 | Professor. Laboratory of Molecular Biophysics, Washington University School of Medicine, Saint Louis (USA) <i>and Head of the Protein Structure and Macromolecular Graphics core</i> , Washington University Cancer Center, Washington University School of Medicine, Saint Louis (USA) |
| 1998-2000 | Associate Professor / Head of Laboratory. Laboratory of Molecular Biophysics, Washington University School of Medicine, Saint Louis (USA) <i>and Head of the Protein Structure and Macromolecular Graphics core</i> , Washington University Cancer Center, Washington University School of Medicine, Saint Louis (USA) |
| 1996-1998 | Assistant Professor / Head of Laboratory. Laboratory of Molecular Biophysics, Washington University School of Medicine, Saint Louis (USA) <i>and Head of the Protein Structure and Macromolecular Graphics core</i> , Washington University Cancer Center, Washington University School of Medicine, Saint Louis (USA) |
| 1994-1996 | Assistant Professor / Head of Laboratory. Laboratory of Molecular Biophysics, Washington University School of Medicine, Saint Louis (USA) |
| 1993-1994 | Visiting Assistant Professor. Laboratory of Molecular Biophysics, Washington University School of Medicine, Saint Louis (USA) |
| 1991-1993 | Research Associate/Crystallographer. Laboratory of Molecular Biophysics, The Rockefeller University, New York (USA). PI: John Kuriyan. |
| 1987-1991 | Research Associate/Biochemist. Fungal Molecular Genetics Group, Department of Microbiology, University of Bristol, Bristol (UK), and University of Sheffield, Sheffield (UK). PI. Geoffrey Turner. |

- 1985-1987 **Staff Scientist/Molecular Biologist.** Plant Molecular Biology Group, Rhone-Poulenc Agrochemical Company, Lyon (France).
- 1982-1984 **Teacher in Biochemistry.** Ecole Normale Supérieure, Abidjan (Ivory Coast, West Africa), during the period of compulsory military service.

PROFESSIONAL SOCIETIES AND ORGANIZATIONS

Royal Society – Wolfson Merit Award - 2003.
EMBO member – 2007
Fellow of the Academy of Medical Sciences – 2008
Fellow of the Royal Society – 2012
Wellcome Trust Senior Investigator – 2013
Pasteur Institute Scientific Council – 2007-15
Faculty of 1000 – 2011-present
Leopoldina German Academy of Sciences – 2013
Academia Europaea - 2014

PEER REVIEW

- 1- Proteins: Structure, Function, and Genetics
- 2- Nature Structural Biology
- 3- Journal of Molecular Biology
- 4- Biochemistry
- 5- Structure
- 6- Biophysical Chemistry
- 7- RNA
- 8- EMBO Journal
- 9- Science
- 10-Protein Engineering
- 11- Cell
- 12- Molecular Cell
- 13-Molecular Microbiology
- 14-Journal of Bacteriology
- 15-Nature

PATENTS

1. G. Waksman and A. Shaw (1998). "Modified SH2 domains". Patent 5,786,454.
2. Y. Li, V. Mitaxov, and G. Waksman (1999). "Novel *Taq* DNA polymerases with improved properties of dideoxynucleotide incorporation". Provisional Patent Application 60/134,691.
3. F.G. Sauer, J. Pinkner, K. Futterer, G. Waksman, S. Hultgren (2001). "Donor strand complemented pilin and adhesin broad-based vaccines". Patent 184442 P.
4. A. Tabor and G. Waksman (2011). "HP0525 ATPase inhibitors". Patent GB 1109763.1
5. H. Remaut, G. Waksman, D. Selwood, P. Gane, A. Lo (2013). "Design of novel inhibitors of pilus biogenesis. Patent GB 1307233.5

RESEARCH SUPPORT

A- Funding agencies

Past

- Principal Investigator. US-NIH.-DRTC Pilot Project.
"Determination of the 3-D structure of the SH2 domain of protein involved in insulin-mediated signal transduction".
12/1/1994-11/30/1996, \$25,000 Annual Direct Costs /annum.
- Principal Investigator. American Cancer Society
"Biophysical studies of Fibroblast Growth Factor"
7/1/1997-7/1/2000, \$80,000 Annual Direct Costs /annum.
- Principal Investigator. U.S.-NIH. RO1.
"Structural studies of DNA replication and repair".
5/1/1996-9/31/2003, \$175,000 Annual Direct Costs /annum.
- Principal Investigator. U.S.-NIH. RO1.
"Biophysical studies of Src Homology 2 domains"
1/1/2000-9/31/2003, \$135,000 Annual Direct Costs /annum.
- Principal Investigator. U.S.-NIH. RO1.
"Structure of proteins involved in bacterial pathogenesis"
6/1/2001-9/31/2003, \$250,000 Annual Direct Costs /annum
- Co-Principal Investigator. U.S.-NIH. RO1.
"Protein myristoylation from S. cerevisiae and C. Neoformans"
6/1/2000-9/31/2003, \$45,000 Annual Direct Costs/annum (Co-PI portion)
- Co-Principal Investigator. U.S.- NIH. RFA
"Midwest Center for Structural Genomics"
9/1/2000-9/31/2003, \$319,722 Annual Direct Costs/annum (Co-PI portion)
- Principal Investigator. Wellcome Trust. Project grant.
"Biophysical Studies of DNA Polymerases".
5/1/2003-4/30/2006 £178,000
- Principal Investigator. Wellcome Trust. Project grant.
"Structural Studies of Haemophilus influenzae Hia autotransported adhesin"
6/1/2003-5/31/2006 £198,000
- Principal Investigator. Wellcome Trust. Programme grant.
"Structure of proteins involved in type IV secretion".
7/1/2002-7/1/2007 £1,217,000
- Principal Investigator. MRC. Programme grant.
"Structure of proteins involved in pilus biogenesis".
1/1/2003-30/06/2008 £1,107,000
- Principal Investigator. MRC. Project grant

“Structural Biology of KSHV Interaction with its Host”
6/1/2005-5/31/2008 £427,856

Co-Principal Investigator. CRUK.
“Inhibitors for the p22-cFLIP/vFLIP IKK interaction as potential treatments of common cancers and for Kaposi's sarcoma”
1/4/2008-31/3/2010 £142,111 per annum

CIF award. Principal Investigators
“Towards setting up a biophysical MS facility”
1/11/2009 £232,798

Principal Investigator. Wellcome Trust. Project grant.
“Structural Studies of the *Haemophilus influenzae* Hia Autotransported Adhesin and of its membrane insertion partner, D15, an Omp85 homolog”
1/1/2007-31/1/2010 £243,225

Principal Investigator. BBSRC. Project grant
“Unraveling the molecular basis of subunit specificity in bacterial pilus assembly mechanisms”
1/7/2008-30/6/2011 £399,728

Principal Investigator and Director. BBSRC. 4-year PhD programme.
“Interdisciplinary programme in Structural, Computational, and Chemical Biology at the ISMB”. 14 studentships over 3 years.
1/10/2009-30/9/2012 ~£1,100,000

Principal Investigator. Wellcome Trust. Programme grant.
“Structure of proteins involved in type IV secretion”.
1/4/2008-31/3/2013 £1,655,000

Principal Investigator. MRC. Programme grant.
“Structure of proteins involved in pilus biogenesis”.
1/09/2008-31/08/2013 £1,197,485

Principal Investigator. BBSRC project grant
“The P-Usher: A mix and match secretion machine for the assembly of bacterial cell surface appendages”.
3/10/2011-2/10/2014 £367,437

Principal Investigator and Director. Wellcome Trust. 4-year PhD programme.
“Interdisciplinary programme in Structural, Computational, and Chemical Biology at UCL/Birkbeck/NIMR. 30 studentships over 7 years.
1/10/2008-30/9/2015 ~£4,200,000

Principal Investigator and Director. MRC. 4-year PhD programme.
“Macromolecular machines of biomedical importance”. 9 Studentships over 3 years.
1/10/2012-30/9/2015 ~£861,000

Principal Investigator.
Multi-user Equipment Award. Wellcome Trust

“Using structural mass spectrometry for the study of large macromolecular nanomachines”
1/10/2015 £205,468

Subtotal raised: ~£14 millions

Present:

Wellcome Trust Senior Investigator. “An integrated study of a bacterial secretion nanomachine”.
1/4/2013 – 31/3/2020 £3,012,705

Principal Investigator. MRC. Programme grant.
“Structural and molecular investigations of membrane-embedded pilus assembly nanomachines in Gram-negative bacterial pathogens”.
1/09/2013-31/08/2018 £1,741,725

Principal Investigator. ERC. Advanced
“Structural biology of Legionella effectors and secretion system”
1/05/2013-30/04/2018 € 2,476,177

Co-Principal Investigator. MRC. Project grant. PI: Elena Orlova
“Structure-function analysis of Type IV secretion systems by cryo-electron microscopy”.
1/06/2013-31/05/2016 £664,252

Principal Investigator. BBSRC DTG
30 studentships per year for 5 years
1/10/2015 – 1/10/2020 ~£16,000,000

Principal Investigator and Director. Wellcome Trust. 4-year PhD programme.
“Molecular Machines: interdisciplinary training ground for structural, computational, and chemical biology”. 15 studentships over 3 years.
1/10/2016-30/9/2018 ~£2,200,000

Subtotal raised: ~£25 millions

Total raised: £39 millions

B- Non-governmental and companies

Past:

Principal Investigator. G.D. Searle & Co.
"ZAP-70 postdoctoral support"
6/1/1994-5/31/1996, \$41,667 Annual Direct Costs /annum.

Principal Investigator. Pfizer, Inc.
"Structural studies of molecular recognition of tandem repeats of phosphorylation sites by the double SH2 domains of Syk and the p85 subunit of PI3 kinase"
8/15/1994-8/14/1997, \$56,938 Annual Direct Costs /annum.

Principal Investigator. HHMI.
"Structure-function relationship studies of DNA helicases"
1/1/1998-12/31/1999 \$45,000 Annual Direct Costs /annum.

Principal Investigator. SIGA.
"Structure of chaperone-pilin complex"
9/1/1998-9/1/1999 \$20,000 Annual Direct Costs /annum.

Principal Investigator. CytoMed.
"Development of soluble inhibitors of complement activation"
7/1/1997-7/1/2000 \$61,590 Annual Direct Costs /annum.

Principal Investigator. Bayer.
"High resolution structure of N-myristoyltransferase"
8/1/1999-8/1/2000 \$13,000 Annual Direct Costs /annum.

Principal Investigator. Danforth Endowment
"Upgrading the computing facility of the crystallography group of Washington University School of Medicine"
1/1/2001-12/31/2002 \$136,000 Annual Direct Costs/annum

Present: None

TEACHING RESPONSIBILITIES

1. Lecturer. Protein crystallography module of Macromolecular Structure course. Washington University, St Louis (USA).
2. Coursemaster and Lecturer. Advanced Protein Crystallography. Washington University, St Louis (USA).
3. Lecturer. Protein modules and their role in signal transduction. Washington University, St Louis (USA).
4. Lecturer. Methods of structure determination. UCL, London (UK).
5. Lecture. Introduction to x-ray crystallography. Birkbeck College, London (UK).
6. Tutors for various courses at UCL, London (UK).

POSTDOCTORAL ASSOCIATES IN THE LABORATORY

Past

- 1- Sergey Korolev
- 2- Srinivasan Raghunathan
- 3- Klaus Futterer
- 4- Cynthia Ricard
- 5- Savvas Savvides
- 6- Julie Bouckaert
- 7- Eric Bonner
- 8- Jeremiah Ory
- 9- Ming Li
- 10- Hye-Jeong Yeo
- 11- Srinivasan Kumaran
- 12- Karen Dodson
- 13- Laurent Terradot
- 14- Guido Kaulmann
- 15- Richard Bayliss
- 16- Clasien Oomen

- 17- Paul Rothwell
- 18- Claire Bagneris
- 19- Paula Salgado
- 20- Tina Daviter
- 21- Han Remaut
- 22- Eric Durand
- 23- Guoyu Meng
- 24- Remi Fronzes
- 25- Denis Verger
- 26- Vidya Chandran
- 27- William Allen
- 28- Harry Low
- 29- Karin Wallden
- 30- Gilles Phan
- 31- Angel Rivera
- 32- Sebastian Geibel
- 33- David Steadman
- 34- Kiri Stevens
- 35- Natalie Braun
- 36- James Lillington
- 37- Catarina Rodrigues
- 38- Adam Cryar
- 39- Martina Trockter
- 40- Andreas Busch
- 41- German Sgro
- 42- Tiago Costa
- 43- Marie Prevost
- 44- Carl Leung

Present

- 45- Adam Redzej
- 46- Nikos Pinotsis
- 47- Amit Meirbenef
- 48- Manuela Hospenthal
- 49- Aravindan Ilangovan
- 50- Oishi Barnerji
- 51- Abhinav KV
- 52- Kevin Mace
- 53- Yogesh Vegunta
- 54- Sunanda Williams

PhD STUDENTS

Past

- 1 - Andrew Herr
- 2 - J. Michael Bradshaw
- 3 - Richard Grucza
- 4 - Ying Li
- 5- Olga Lubman
- 6- Fred Sauer
- 7- Steve Hare
- 8- Sebastien Geroult
- 9- Satal Virdee

- 10- Osman Salih
- 11- William Allen
- 12- Floris Buelens
- 13- Ana Toste-Rego
- 14- Robert Williams
- 15- Danaia Papaianou
- 16- Sarah Connery
- 17- Michal Koenner
- 18- Pei Lian
- 19- Fang Lu

Received Special Recognition for Excellence in Mentoring as part of the Second Annual Outstanding Faculty Mentor Awards of Washington University (St Louis – USA).

PRIZES, AWARDS, Memberships, Markers of esteem

Royal Society – Wolfson Merit Award - 2003.
 EMBO member – 2007
 Fellow of the Academy of Medical Sciences – 2008
 Fellow of the Royal Society – 2012
 Wellcome Trust Senior Investigator – 2013
 Pasteur Institute Scientific Council – 2007-15
 Faculty of 1000 – 2011-present
 Leopoldina German National Academy of Sciences – 2013
 Academia Europaea - 2014

INVITED SPEAKER (CONFERENCES/SYMPOSIA ONLY)

2018

- GRAL biennial retreat, March 26-27, 2018 in Autrans, France.
- *CSB Open Day 2018, May 31st 2018, Imperial College, UK*
- ESCMID Study Group for Legionella Infections (ESGLI), Lyon, France – 28-30 August 2018
- FEMS-sponsored conference on “Bacterial protein secretion”, Leuven, Sept 29-Oct 2 2018.
- Workshop, Bacterial Type 3-4-6 injection systems in human diseases, Baeza, Spain, 5-7 November 2018.

2017

- Microbiology conference. Edinburgh (UK). April 5-6th, 2017.
- EMBO practical course on image processing for cryo-electron microscopy. London (UK), Sept 4-15, 2017.
- Gordon conference on Microbial Adhesion and Signal Transduction. Salve Regina University, Newport (USA), 23-28th July 2017.
- FEMS conference. Valencia (Spain), 9-13th July 2017.
- Dartmouth Life Sciences Symposium. Dartmouth (USA). 11th October 2017.
- Symposium “Cellular microcompartments: From physiology to their analytics” of the Collaborative Research Center CRC 944. Osnabrück (Germany), September 27th to 29th 2017.
- Conference “Frontiers in Cryo-Electron Microscopy”, Leicester (UK), October 3-4th 2017.
- CSSB Inaugural Symposium. Hamburg (Germany). 21st November 2017.

2016

- Gordon Research Conference on Protein Transport Across Cell Membranes. Galveston (USA). March 6-11, 2016.
- Royal Society Discussion Meeting in 2016 on biological membrane pores. London. 27-28 June 2016.
- Conference on Protein Secretion in Bacteria. Tampa (USA). 9-12 November 2016. EMBO Keynote lecture.
- Conference on Type IV secretion in Gram-negative and Gram-positive bacteria. Castle Hirschberg (Germany). 08-11 December 2016.
- 8th annual meeting of the Austrian Life Science Society. Graz (Austria). 12-14 September 2016.
- Lyon BioSciences. Lyon (France). 6th June 2016.
- 12th International Conference on Biology and Synchrotron Radiation. SLAC National Accelerator Laboratory, Menlo Park (USA). August 21-24 2016.
- Biochemical Society meeting on “Structural Aspects of Infectious Disease”. Cambridge (UK). 8-10 August 2016.
- CCP-EM annual spring symposium. Diamond RAL campus. Swindon (UK). 9-10 May 2016.
- Jorge Galan symposium. Yale University. Hartford (USA). October 14th, 2016.

2015

- Mini symposium on Membrane Protein Structure Determination for Industry. Diamond synchrotron. January 21, 2015.
- ASM Annual Meeting 2015. New Orleans (USA). May 30th-June 2d, 2015.
- 6th FEMS congress. Maastricht (Holland). June 7-11, 2015.
- ETOX17, 17th European Workshop on Bacterial Protein Toxins. Braga (Portugal). June 20-24, 2015.
- 40th FEBS Congress 2015. Berlin (Germany). July 4-9, 2015.
- IUBMB 2015 Congress. Iguacu (Brazil). August 24-28th, 2015.
- EMBO practical course on image processing for cryo-electron microscopy. London (UK), Sept 1-11, 2015.
- 2nd international SFB796 meeting on “Mechanisms of microbial host cell manipulation: from plants to humans”, 4th to 6th of October 2015, Erlangen (Germany).
- Biophysical Society Thematic Meeting on “Biophysics in the Understanding, Diagnosis and Treatment of Infectious Diseases”. 16-20 November 2015. Stellenbosch (South Africa).

2014

- BCA spring meeting. University of Loughborough. Loughborough (UK). 7-10 April 2014.
- Cell adhesion century: culture breakthrough. Royal Society. London (UK). 28-29 April 2014.
- Molecular Microbiology conference. Wurzburg (Germany). 7-9 May 2014.
- German Academy of Sciences Leopoldina. Halle (Germany). 21-22 May 2014.
- British biophysical society conference. University of Warwick. Warwick (UK). 9-11 July 2014.
- IUCr 2014. Montreal (Canada). 7-9 August 2014.
- School on non-covalent interactions in supramolecular assemblies. Gif sur Yvette (France). 8-12 September 2014.
- Journal of Molecular Biology conference. San Francisco (USA). 15 September 2014.
- Plasmid Biology 2014 conference. Palm Cove (Australia). 27 October – 1 November 2014.

2013

- Annual Dutch Conference for Research in Biological Chemistry. Veldhoven (Holland). 9-10 December 2013.
- EMBO practical course on image processing for cryo-electron microscopy. London (UK), Sept 3-13, 2013.
- Autumn 2013 conference of the Society for General Microbiology. Brighton (UK). 2-4 September 2013.
- 15th Rodney Porter Memorial Lecture 2013. Oxford University. 9th May 2013.

- Structural Biology of Membrane Proteins meeting. Janelia Farm Research Campus (USA), May 19-22, 2013.
- EMBO conference From structure to function of translocation machines. Dubrovnic (Croatia). April 13-17, 2013.
- European Society of Clinical Microbiology and Infectious Diseases. Berlin (Germany), April 27-30, 2013.
- ESF-EMBO 4th International Conference on Molecular Perspectives on Protein-Protein Interactions. Warsaw (Poland). May 25-30, 2013.
- (1). 5th Congress of European Microbiologists. “Protein folding and secretion in prokaryotes” session. Leipzig (Germany). July 21-25, 2013.
- (2). 5th Congress of European Microbiologists. “Structural biology of bacterial adhesins and molecular machines” session. Leipzig (Germany). July 21-25, 2013.
- Gordon Conference on Microbial Adhesion & Signal Transduction. Newport (USA). July 21 - 26, 2013.

2012

- 10th anniversary Diamond science symposium. London (UK), November 27, 2012.
- Workshop on Type IV Secretion. Bilbao (Spain), September 17-23, 2012.
- 64th Annual Meeting of the German Society for Hygiene and Microbiology (DGHM). Hamburg (Germany), September 30th - October 3rd, 2012.
- Gordon conference on bacterial cell surface. West Dover (USA), June 24-29, 2012.
- Gordon conference on ligand recognition and molecular gating. Ventura (USA), January 15-19, 2012.
- Graduate symposium. Graz (Austria), February 6, 2012.
- Mitwochs Kolloquium, Max Plank Institute for Developmental Biology and Friedrich Miescher Laboratory. Tuebingen (Germany). March 7, 2012.
- Spring school on noncovalent interactions and supramolecular assemblies. Le Croisic (France), May 21-25, 2012.

2011

- Biozentrum 40 year jubilee symposium. Basel (Switzerland), September 14-15, 2011.
- ASM annual meeting. New Orleans (USA), May 21-24, 2011.
- FEMS 2011 meeting. Geneva (Switzerland), June 26-20, 2011.
- Lorne annual conference on protein structure and function. Lorne (Australia), February 6-10, 2011.
- Rockefeller University, Memorial Sloan-Kettering Cancer Center and Weill Medical College of Cornell University seminar series. New York (USA). May 17, 2011.
- EMBO workshop. Vienna (Austria), September 10-13, 2011.
- EMBO practical course on image processing for cryo-electron microscopy. London (UK), Sept 5-15, 2011.

2010

- 24th symposium of the Protein Society. San Diego (USA), August 1-5, 2010.
- International symposium on bacterial chaperones and PPases in stress response, secretion, posttranslational modification and membrane assembly. German Academy of Sciences Leopoldina. Bayreuth (Germany), Oct. 4 -7, 2010.
- Keystone symposium on frontiers in Structural Biology. Breckenridge (USA), Jan 8-13, 2010.
- International conference on DNA polymerases “Evolving of DNA polymerases: chemistry meets biology”. Ascona (Switzerland), May 9-14, 2010
- Rockefeller University 2010 Microbial Pathogenesis symposium. New York (USA). May 5, 2010.

2009

- Institute of Biomembranes symposium. University of Utrecht. Utrecht (Holland), Oct 29-30, 2009.
- Société française de Cristallographie symposium. 8-11 December. Paris (France), Dec 8-11, 2009.
- BCA winter meeting. London (UK), Dec 18, 2009.
- EMBO practical course on image processing for cryo-electron microscopy. London (UK), Sept 7-17, 2009.
- EMBN workshop "Current Membrane Protein Research". Groningen (Holland), July 12-18, 2009.
- Microsymposium on 'Structural basis of pathogenesis'. European Crystallographic Meeting. Istanbul (Turkey), August 18, 2009.
- Workshop on antimicrobials. Singapore, March 15-16, 2009.
- Biophysical Society annual meeting. Boston (USA), Feb 28-March 4, 2009.
- 1st Harrison Lecture. University of Sheffield. Sheffield (UK), May 13, 2009.
- University of Tuebingen symposium. The Bacterial Cell Envelope: Structure, Function and Infection Interface. Tuebingen (Germany), Sept 30-Oct 3, 2009.
- Gordon conference on Microbial Adhesion and Signal Transduction. Newport (USA), July 26-31, 2009.

2008

- EMBO symposium "Control, Co-ordination and Regulation of Protein Targeting and Translocation". Saint-Maxime (France), Oct 25-28, 2008.
- Royal Society symposium on bacterial resistance. London (UK), March 7, 2008.
- Society for General Microbiology (1). Hot topic symposium. Edinburgh (UK), April 2-3, 2008.
- Society for General Microbiology (2). Plenary symposium. Edinburgh (UK), March 31-April 1, 2008.
- Plasmid Biology 2008 Conference. Gdansk (Poland) Aug 30-Sept 5, 2008.
- 2008 EMBO Members Workshop – Frontiers of Molecular Biology. Tampere (Finland), Sept 5-8, 2008.
- ESRF workshop on host-pathogen interactions. Grenoble (France), Feb 5-7, 2008.
- UNIA T4SS workshop. Baeza (Spain), Oct 14-16, 2008.

2007

- Eleventh annual Eisai Symposium. London (UK), May 9, 2007.
- Murnau Conference 2007. Murnau (Germany), Sept 5-8, 2007.

2006

- ICR symposium. London (UK), Nov 15, 2006.
- BCA symposium. Birmingham (UK), Dec 18, 2006.
- The Quebec "Association pour le savoir" annual meeting. Montreal (Canada), May 15-19, 2006.
- Japanese Society of Bacteriology. Kanazawa (Japan), March 29-31, 2006.
- ESF-EMBO Meeting "Protein Targeting and Transport 2006". Gdansk (Poland), Sept 30-Oct 5, 2006.
- Second BIFI International Congress "From Physics to Biology: The Interface between Experiment and Computation". Zaragoza (Spain), Feb 8-11, 2006.

2005

- 29th Katzir Conference on Molecular Perspectives on Protein-Protein Interactions. Eilat (Israel), Nov 6-10, 2005.
- XXth congress of the international union of crystallography. Florence (Italy), Aug 23-30, 2005.

2004

- EMBO Practical course on "Structural Characterization of Macromolecular Complexes: Modern Techniques and Strategies". Grenoble (France), May 3-8, 2004.

2003

- British Crystallography Association. London (UK), Dec 12-13, 2003.
- Current Trends in Microcalorimetry Conference. Boston (USA), July 24-27, 2003.
- The Danforth Symposium. 2003. Saint Louis (USA), Sept 25, 2003.
- Euresco conference on "Biology of Type IV secretion processes". Giens (France), Sept 12-17, 2003.

2002

- IBC's annual proteomics 2002. Philadelphia (USA), May 6-9, 2002.
- Gordon conference on "Bacterial Cell Surface". Colby-Sawyer College (USA), June 23-28, 2002.

2001

- Euresco conference on "Biology of Type IV secretion processes". Castelvecchio Pascoli (Italy). Sept 7-12, 2001.
- FASEB summer research conference on Helicases: Structure, Function, and Roles in Human Diseases. Saxtons River Vermont (USA), July 7-12, 2001.

2000

- Midwest crystallography workshop. Columbia (USA). Aug 11, 2000.
- CHI Conference on "Nucleic acid-based technologies: DNA/RNA/PNA diagnostics". Washington (USA), June 7-9, 2000.
- Workshop on "Conjugation systems viewed as protein secretion pathways". Tegernsee (Germany), May 21-23, 2000.

1999

- Workshop on "high-throughput methods for structural genomics". Argonne National Laboratory (USA), Nov 14-17, 1999.
- Juan March Foundation workshop on "helicases as molecular motors in nucleic acid strand separation". Madrid (Spain), Nov 19-22, 1999.
- Keystone Symposium on Molecular and Cellular Biology. Taos (USA), Feb 16-22, 1999.
- Third Winter Conference on Medicinal and Bioorganic Chemistry. Steamboat Spring (USA), Jan 23-29, 1999.

1998

- 12th Gibbs Conference on Biothermodynamics. Carbondale (USA), Oct 3-6, 1998.
- Gordon Conference. Newport (USA), June 14-18, 1998.
- American Biophysical Society annual meeting. Kansas City (USA), Feb 22-26, 1998.

1997

- Cold Spring Harbor Laboratory meeting. Cold Spring Harbor (USA), Sept 3-7, 1997.
- American Crystallography Association annual meeting. Saint Louis (USA), July 19-25, 1997.

1993

- INSERM European Symposium of Mont Sainte Odile. Mont Sainte Odile (France), Sept 24-27, 1993.
- Keystone Symposium on Molecular and Cellular Biology. Keystone, Colorado (USA), Jan 17-23, 1993.

1992

- Keystone meeting of the American Society for Biochemistry and Molecular Biology. Keystone, Colorado (USA), Oct 23-26, 1992.

1989

- EMBO-Alko symposium on Molecular Biology of Filamentous Fungi. Helsinki (Finland), July 3-7, 1989.

PUBLICATIONS (* indicates corresponding authorship)

Google scholar (as of 22 December 2017): h index = 71, i10 index = 173, citations = 18,759

Principal publications

1. A. Ilangovan, C. Kay, S. Roier, H. Mkami, E. Salvadori, E. Zechner, G. Zanetti*, and **G. Waksman*** (2017). Cryo-EM structure of a relaxase reveals the molecular basis of DNA unwinding during bacterial conjugation. **Cell.** 169, 708–721.
2. T. Costa, A. Ilangovan, M. Ukleja, A. Redzej, J. Santini, T. Smith, E. Egelman* and **G. Waksman*** (2016). Structure of the bacterial sex F pilus reveals an assembly of a stoichiometric protein-phospholipid complex. **Cell.** 166, 1436–1444.
3. M. Hospenthal, A. Redzej, K. Dodson, M. Ukleja, B. Frenz, C. Rodrigues, S. Hultgren, F. DiMaio, E. Egelman* and **G. Waksman*** (2016). Structure of a Chaperone-Usher pilus reveals the molecular basis of rod uncoiling. **Cell.** 164:269-278.
4. H.H. Low, F. Gubellini, A. Rivera-Calzada, N. Braun, S. Connery, A. Dugeancourt, F. Lu, A. Redzej, R. Fronzes*, E.V. Orlova*, and **G. Waksman*** (2014). Structure of a Type IV Secretion System. **Nature.** 508:550-553.
5. S. Geibel, E. Procko, S.J. Hultgren, D. Baker*, and **G. Waksman*** (2013). Structure and energetic basis of folded protein transport by the FimD usher. **Nature.** 496:243-246.
6. G. Phan, H. Remaut, T. Wang, W. Allen, K. Pirker, A. Lebedev, N. Henderson, S. Geibel, E. Volkan, J. Yan, M. Kunze, J. Pinkner, B. Ford, C. Kay, H. Li, S. Hultgren, D. Thanassi*, and G. Waksman* (2011). Crystal structure of the FimD usher bound to its cognate FimC:FimH substrate. **Nature.** 474:49-53.
7. Chandran, R. Fronzes, S. Duquerroy, N. Cronin, J. Navaza, and **G. Waksman*** (2009). Crystal structure of the outer membrane complex of a type IV secretion system. **Nature.** 462:1011-1015.
8. R. Fronzes, E. Schaefer, H. Saibil, E. Orlova and **G. Waksman*** (2009). Structure of type IV secretion core complex. **Science.** 323:266-268.
9. H. Remaut, C. Tang, N.S. Henderson, J.S. Pinkner, T. Wang, S.J. Hultgren*, D.G. Thanassi*, **G. Waksman***, H. Li* (2008). Fiber Formation Across the Bacterial Outer Membrane by the Chaperone/Usher Pathway. **Cell.** 133:640-652.

First author (H. Remaut) member of the Waksman lab

10. F. G. Sauer, J. Pinkner, **G. Waksman***, and S.J.Hultgren (2002) Chaperone Priming of Pilus Subunit Facilitates a Topological Transition that Drives Fiber Formation. **Cell.** 111:543-51.
Waksman sole corresponding author
11. K.W. Dodson, J.S. Pinkner, T. Rose, G. Magnusson, S.J. Hultgren*, and **G. Waksman*** (2001). Structural Basis of Tropism of Pyelonephritic *E. coli* for the Human Kidney. **Cell.** 105:733–743.
12. F.G. Sauer, K. Fütterer, J.S. Pinkner, K.W. Dodson, S.J. Hultgren*, and **G. Waksman*** (1999). Structural basis of chaperone function and pilus biogenesis. **Science.** 285:1058-1061.

13. S. Korolev, J. Hsieh, G. Gauss, T.M. Lohman, and **G. Waksman*** (1997). Major domain swivelling revealed by the crystal structure of binary and ternary complexes of *E.coli* Rep helicase bound to single-stranded DNA and ADP. **Cell.** 90:635-647.
14. D. Ornitz*, A. Herr, M. Nillson, J. Westman, C-M. Svahn, and **G. Waksman*** (1995). FGF binding and FGF receptor activation by synthetic heparan-derived di- and trisaccharides. **Science.** 268:432-436.
15. **G. Waksman**, S. Shoelson, N. Pant, D. Cowburn, and J. Kuriyan*. (1993). Binding of a high affinity phosphotyrosyl peptide to the src SH2 domain: crystal structures of the complexed and peptide-free forms. **Cell.** 72:779-790.
16. **G. Waksman**, D. Kominos, S. Robertson, N. Pant, D. Baltimore, R. Birge, D. Cowburn, H. Hanafusa, B. Mayer, M. Overduin, M. Resh, C. Rios, L. Silverman and J. Kuriyan* (1992). Crystal structure of the phosphotyrosine recognition domain SH2 of v-src complexed with tyrosine-phosphorylated peptides. **Nature.** 358:646-653.

Principal reviews

1. J. Galan* and **G. Waksman*** (2018). Protein Injection Machines in Bacteria. **Cell.** 172: 1306-1318.
2. **G. Waksman** (2017). Structural and molecular biology of a protein-polymerising nanomachine for pilus biogenesis. **J. Mol. Biol.** 429:2654-2666. John Kendrew's 100th Anniversary Special Edition.
3. M. Hospenthal, T. Costa, and **G. Waksman*** (2017). A comprehensive guide to pilus biogenesis in Gram-negative bacteria. **Nature Reviews Microbiology.** 15:365-379.
4. T. Costa, C. Felisberto-Rodrigues, A. Meir, M.S. Prevost, A. Redzej, M. Trokter, **G. Waksman*** (2015). Secretion systems in Gram-negative bacteria: structural and mechanistic insights. **Nature Reviews Microbiology.** 13(6):343-359.
5. A. Ilangovan, S. Connery, and **G. Waksman*** (2015). Structural biology of the Gram-negative bacterial conjugation systems. **Trends in Microbiology.** 23(5):301-310.
6. V. Chandran and **G. Waksman*** (2015). Structural Biology of bacterial Type IV Secretion Systems. **Annual Review of Biochemistry.** 84:603-29.
7. M. Trokter, C. Felisberto-Rodrigues, P. Christie, and **G. Waksman*** (2014). Recent advances in the structural and molecular biology of Type IV secretion systems. **Current Opinion in Structural Biology.** 27:16-23.
8. W. Allen, G. Phan, and **G. Waksman*** (2012). Pilus biogenesis at the outer membrane of Gram-negative bacteria. **Current Opinion in Structural Biology.** 22:500-506.
9. **G. Waksman*** and R. Fronzes* (2010). Molecular architecture of type 4 secretion systems. **TIBS.** 35:691-698.
10. W. Allen, G. Phan, and **G. Waksman*** (2009). Structural biology of periplasmic chaperones. **Advances in Protein Chemistry and Structural Biology.** 78:51-98.

11. G. Waksman* and S.J. Hultgren* (2009). Structure and assembly mechanism of chaperone-usher pili. **Nature Reviews Microbiology**. 7:765-774.
12. H. Remaut and G. Waksman* (2006). Protein-protein interaction through beta-strand addition. **TIBS**. 34:436-444.
13. P.J. Rothwell and G. Waksman* (2005). Structure and mechanism of DNA polymerases. **Advances in Protein Chemistry**. 71:401-440.
14. J.M. Brashaw and G. Waksman* (2002). Molecular recognition by SH2 domains. In: **Advances in protein chemistry**. Protein modules and protein-protein interactions. 61:161-210.

Complete list of publications

1. J. Galan* and G. Waksman* (2018). Protein Injection Machines in Bacteria. **Cell**. 172: 1306-1318.
2. M. Trokter and G. Waksman* (2018). Translocation through the conjugative Type 4 secretion system requires unfolding of its protein substrate. **Journal of Bacteriology**. Volume 200 Issue 6 e00615-17.
3. A. Meir, D. Chetrit, L. Liu, C. Roy, and G. Waksman* (2018). Legionella DotM structure reveals a role in effector recruitment to the type IV secretion system. **Nature communications**. 507. Doi: 10.1038/s41467-017-02578-x.
4. L. Terradot*, C. Berge, G. Waksman (2018). Structural and molecular biology of type IV secretion systems. In “**Current Topics in Microbiology and Immunology**”. 413:31-60.
5. E. Grohman*, P.J. Christie, G. Waksman, and S. Backert* (2018). Type IV secretion in Gram-negative and Gram-positive bacteria. **Mol Micro**. 107(4):455-471.
6. M. Hospenthal, D. Zyla, T. Costa, A. Redzej, C. Giese, J. Lillington, R. Glockshuber, and G. Waksman* (2017). Cryo-electron microscopy structure of the type 1 chaperone-usher pilus rod. **Structure**. 25(12):1829-1838.
7. N. Pinotsis and G. Waksman* (2017). Crystal structure of the *Legionella pneumophila* Lpg2936 in complex with the cofactor Sadenosyl-L-methionine reveals novel insights into the mechanism of RsmE family methyltransferases. **Protein Science**. 26(12):2381-2391.
8. A. Redzej, M. Ukleja, S. Connery, M. Trokter, C. Felisberto-Rodrigues, A. Cryar, K. Thalassinos, R. Hayward, E. Orlova* and G. Waksman* (2017). Structure of a VirD4 coupling protein bound to a VirB type IV secretion machinery. **EMBO Journal**. 36(20):3080-3095.

9. M. Prevost, N. Pinotsis*, M. Dumoux, R. Hayward*, and **G. Waksman*** (2017). The *Legionella* effector WipB is a translocated Ser/Thr phosphatase that targets the host lysosomal nutrient sensing machinery. *Scientific Reports.* 7(1):9450. doi: 10.1038/s41598-017-10249-6.
10. **G. Waksman*** (2017). Structural and molecular biology of a protein-polymerising nanomachine for pilus biogenesis. *J. Mol. Biol.* 429:2654-2666. John Kendrew's 100th Anniversary Special Edition.
11. A. Ilangovan, C. Kay, S. Roier, H. Mkami, E. Salvadori, E. Zechner, G. Zanetti*, and **G. Waksman*** (2017). Cryo-EM structure of a relaxase reveals the molecular basis of DNA unwinding during bacterial conjugation. *Cell.* 169, 708–721.
12. V. Goosens, A. Busch, M. Georgiadou, M. Castagnini, K. Forest, **G. Waksman**, and V. Pelicic* (2017). Engineering of the synthetic minimal machinery capable of building type IV pili unveils the macromolecular protein complex involved in filament assembly. *Proc. Natl. Acad. Sci. USA.* 114: 4978-4986.
13. M. Hospenthal, T. Costa, and **G. Waksman*** (2017). A comprehensive guide to pilus biogenesis in Gram-negative bacteria. *Nature Reviews Microbiology.* 15:365-379.
14. N. Pinotsis and **G. Waksman** (2017). The structure of WipA reveals a novel tyrosine protein phosphatase effector from *Legionella pneumophila*. *J. Biol. Chem.* 292:9240-9251.
15. J. Gordon, T. Costa, R. Patel, C. Gonzalez-Rivera, M. Sarkar, E. Orlova, **G. Waksman**, and P. Christie* (2017). Use of Chimeric Type IV Secretion Systems to Define Contributions of Outer Membrane Subassemblies for Contact-Dependent Translocation. *Mol. Micro.* 105:273-293.
16. T. Costa, A., Ilangovan, M. Ukleja, A. Redzej, J. Santini, T. Smith, E. Egelman* and **G. Waksman*** (2016). Structure of the bacterial sex F pilus reveals an assembly of a stoichiometric protein-phospholipid complex. *Cell.* 166, 1436–1444.
17. C Stubenrauch, MJ Belousoff, ID Hay, HH Shen, J Lillington, KL Tuck, KM Peters, MD Phan, AW Lo, MA Schembri, RA Strugnell, **G. Waksman** and T. Lithgow* (2016). Effective assembly of fimbriae in *Escherichia coli* depends on the translocation assembly module nanomachine. *Nature Microbiology.* 16;1(7):16064
18. D. Papaioannou, S. Geibel, M. Kunze, C. Kay and **G. Waksman*** (2016). Structural and biophysical investigation of the interaction of a mutant Grb2 SH2 domain (W121G) with its cognate phosphopeptide. *Protein Science.* 25(3):627-37
19. M. Hospenthal, A. Redzej, K. Dodson, M. Ukleja, B. Frenz, C. Rodrigues, S. Hultgren, F. DiMaio, E. Egelman* and **G. Waksman*** (2016). Structure of a Chaperone-Usher pilus reveals the molecular basis of rod uncoiling. *Cell.* 164:269-278.
20. T. Costa, C. Felisberto-Rodrigues, A. Meir, M.S. Prevost, A. Redzej, M. Trokter, **G. Waksman*** (2015). Secretion systems in Gram-negative bacteria: structural and mechanistic insights. *Nature Reviews Microbiology.* 13(6):343-359.
21. A. Ilangovan, S. Connery, and **G. Waksman*** (2015). Structural biology of the Gram-

- negative bacterial conjugation systems. **Trends in Microbiology**. 23(5):301-310.
22. M. Kaplan, A. Cukkemane, G.C.P. van Zundert, S. Narasimhan, **G. Waksman**, A.M.J.J. Bonvin, R. Fronzes, G.E. Folkers and M. Baldus (2015). Probing a cell-embedded Megadalton protein complex by DNP-supported solid-state NMR. **Nature Methods**. 12:649-652.
23. A. Busch, S. Geibel, and **G. Waksman** (2015). Pilus biogenesis by the Chaperone-Usher pathway. **Trans Royal Soc B**. In Press
24. J.A. Garnett, D. Muhl, C.H. Douse, K. Hui, A. Busch, A. Omisore, Y. Yang, P. Simpson, J. Marchant, **G. Waksman**, S. Matthews*, and A. Filloux* (2015). Structure-function analysis reveals that the *Pseudomonas aeruginosa* Tps4 two-partner secretion system is involved in CupB5 translocation. **Protein Science**. 24(5):670-87.
25. V. Chandran and **G. Waksman*** (2015). Structural Biology of bacterial Type IV Secretion Systems. **Annual Review of Biochemistry**. 84:603-29.
26. S. Ruer, N. Pinotsis, D. Steadman, **G. Waksman**, and H. Remaut* (2014). Virulence-targetted antibacterials: concept, promise, and susceptibility to resistance mechanisms. **Chem. Biol. Drug Design**. 86(4):379-99.
27. I. Farabella, T. Pham, N.S. Henderson, S. Geibel, G. Phan, D.G. Thanassi, A. Delcour, **G. Waksman** and M. Topf* (2014). Allosteric Signalling in the Outer-Membrane Translocation Domain of PapC Usher. **eLife**. 10.7554/eLife.03532.
28. T. Gonen and **G. Waksman** (2014). Recent methods in the study of membrane protein structure. **Current Opinion in Structural Biology**. In Press.
29. J. Sayer, K. Walldén, T. Pesnot, F. Campbell, P. Gane, M. Simone, H. Koss, F. Buelens, T. Boyle, D. Selwood, G. Waksman, A. Tabor* (2014). 2- And 3-Substituted Imidazo[1,2-a]pyrazines as Inhibitors of Bacterial Type IV Secretion. **Bioorg. Medic. Chemistry**. 22(22):6459-70.
30. D. Steadman, A. Lo, **G. Waksman*** and H. Remaut* (2014). Bacterial surface appendages as targets for antibacterial therapeutics. **Future Microbiology**. 9(7):887-900.
31. J. Lillington, S. Geibel, and **G. Waksman*** (2014). Biogenesis and adhesion of type 1 and P pili. **Biochem. Biophys. Acta**. 1840(9):2783-93.
32. M. Trokter, C. Felisberto-Rodrigues, P. Christie, and **G. Waksman*** (2014). Recent advances in the structural and molecular biology of Type IV secretion systems. **Current Opinion in Structural Biology**. 27:16-23.
33. H.H. Low, F. Gubellini, A. Rivera-Calzada, N. Braun, S. Connery, A. Dugeancourt, F. Lu, A. Redzej, R. Fronzes*, E.V. Orlova*, and **G. Waksman*** (2014). Structure of a Type IV Secretion System. **Nature**. 508:550-553.
34. **G. Waksman*** and E. Orlova* (2013). Structural organisation of the Type IV secretion system. **Current Opinion in Microbiology**. 17:24-31.

35. E. Volkan, V. Kalas, J.S. Pinkner, K. Dodson, A. Delcour, N.S. Henderson, T. Pham, **G. Waksman**, A.H. Delcour, S. Hultgren* (2013). Molecular Basis of Usher Pore Gating in *E. coli* Pilus Biogenesis. **Proc. Natl. Acad. Sci (USA)**. 110(51):20741-20746.
36. A. Lo, K. Van De Water, P. Gane, E. Chan, D. Steadman, K. Stevens, D. Selwood, **G. Waksman***, H. Remaut* (2013). Suppression of type 1 pilus assembly in uropathogenic Escherichia coli by chemical inhibition of subunit polymerization. **J. Antimicrobial Chemotherapy**. 69(4):1017-26.
37. S. Geibel and **G. Waksman*** (2013). The Molecular Dissection of the Chaperone-Usher Pathway. **Biochem Biophys Acta**. S0167-4889(13)00345-5.
38. J. Lillington and **G. Waksman*** (2013). Ordered and Ushered; the Assembly and Translocation of the Adhesive Type I and P Pili. **Biology**. 2: 841-860.
39. A. Redzej, A. Ilangoan, S Lang, C.J. Gruber, M. Topf, K. Zanger, E.L. Zechner and **G. Waksman*** (2013). Structure of a Translocation Signal Domain Mediating Conjugative Transfer by Type IV Secretion Systems. **Mol. Micro**. 89(2):324-33.
40. T. Lithgow and **G. Waksman** (2013). Seaside transportation: from structure to function of translocation machines. **EMBO reports**. 14(7):585-7.
41. P. J. Rothwell, W. J. Allen, E. Sisamakis, S. Kalinin, S. Felekyan, J. Widengren, **G. Waksman*** and C. A. M. Seidel* (2013). dNTP-dependent conformational transitions in the fingers subdomain of Klentaq1: insights into the role of the “nucleotide binding” state. **J. Biol. Chem.** 288:13575-13591.
42. A. Rivera-Calzada, R. Fronzes, C.G. Savva, V. Chandran, P.W. Lian, T. Laeremans, E. Pardon, J Steyaert, H. Remaut, **G. Waksman*** and E.V. Orlova* (2013). Structure of a bacterial type IV secretion core complex at subnanometer resolution. **EMBO Journal**. 32:1195-204.
43. G. Phan and **G. Waksman***. Pilus biogenesis by the chaperone-usher pathway (2013). **Adv. Cell Mol Microbiol**. In Press.
44. S. Geibel, E. Procko, S.J. Hultgren, D. Baker*, and **G. Waksman*** (2013). Structure and energetic basis of folded protein transport by the FimD usher. **Nature**. 496:243-246.
45. W. Allen, G. Phan, S. Hultgren, and **G. Waksman*** (2013). Dissection of pilus tip assembly by the FimD usher monomer. **J. Mol. Biol.** 425:958-967.
46. A. Toste-Rego, S. Geibel, S. Clegg, and **G. Waksman*** (2012). Crystal Structure of the MrkD1P Receptor Binding Domain of Klebsiella pneumoniae and Identification of the Human Collagen V Binding Interface. **Mol Micro**. 86(4):882-93.
47. B. Ford, D. Verger, K. Dodson, J. Elam, J. Pinkner, **G. Waksman***, and S. Hultgren* (2012). The structure of the PapD-PapGII pilin complex reveals an open and flexible P5 pocket. **J. Bacteriology**. 194:6390-7.
48. T. Gonen* and **G. Waksman*** (2012). Recent progress in membrane protein structures and investigation methods. **Current Opinion in Structural Biology**. 22:467-8.

49. K. Wallden, R. Williams, J. Yan, P.W. Lian, L. Wang, K. Thalassinos, E.V. Orlova*, and **G. Waksman*** (2012). Structure of the VirB4 ATPase, alone and bound to the core complex of a type IV secretion system. **Proc. Natl. Acad. Sci. USA.** 109:11348-53.
50. E. Volkan, B.A. Ford, J.S. Pinkner, K. Dodson, N.S. Henderson, D.G. Thanassi, **G. Waksman**, and S.J. Hultgren (2012). Doman activities of PapC usher reveal the mechanism of an *E. coli* molecular machine. **Proc. Natl. Acad. Sci. USA.** 109:9563-8.
51. B. Morrissey, A.C. Leney, A. Toste Rego, G. Phan, W. Allen, D. Verger, **G. Waksman**, S.E. Radford and A.E. Ashcroft* (2012). The role of chaperone-subunit usher domain interactions in the mechanism of bacterial pilus biogenesis revealed by ESI-MS. **Mol Cell Proteomics.** doi: 10.1074/mcp.M111.015289. Epub 2012 Feb 27..
52. W. Allen, G. Phan, and **G. Waksman*** (2012). Pilus biogenesis at the outer membrane of Gram-negative bacteria. **Current Opinion in Structural Biology.** 22:500-506.
53. **G. Waksman** (2012). Bacterial protein secretion comes of age. **Philosophical Transaction B of the Royal Society.** 367:1014-5.
54. A. Busch and **G. Waksman*** (2012). Diversity of assembly of chaperone-usher pili. **Philosophical Transaction B of the Royal Society.** 367:1112-22.
55. G. Meng*, N. Spahich, R. Kenjale, **G. Waksman** and J.W.St. Geme, III* (2011). Crystal structure of the *Haemophilus influenzae* Hap adhesin. **EMBO Journal.** 30:3864-74.
56. G. Phan, H. Remaut, T. Wang, W. Allen, K. Pirker, A. Lebedev, N. Henderson, S. Geibel, E. Volkan, J. Yan, M. Kunze, J. Pinkner, B. Ford, C. Kay, H. Li, S. Hultgren, D. Thanassi*, and G. Waksman* (2011). Crystal structure of the FimD usher bound to its cognate FimC:FimH substrate. **Nature.** Article. 474:49-53.
57. V. Chudasama, M.E.B. Smith, F.F. Schumacher, D. Papaioannou, **G. Waksman**, J.R. Baker* and S. Caddick* (2011). Bromopyridazinedione-mediated protein and peptide bioconjugation. **ChemComm.** 47:8781-8783.
58. H. Jia, S. Korolev, A. Niedziela-Majka, N.K. Maluf, G.H. Gauss, S. Myong, T. Ha, **G. Waksman** and T.M. Lohman* (2011). Rotations of the 2B Sub-Domain of *E. coli* UvrD Helicase/Translocase Coupled to Nucleotide and DNA Binding. **J. Mol. Biol.** 411:633-48.
59. A.C. Leney, G. Phan, W. Allen, D. Verger, **G. Waksman**, S.E. Radford, and A.E. Ashcroft* (2011). Second order rate constants of donor-strand exchange reveal individual amino acid residues important in determining the subunit specificity of pilus biogenesis. **J. Am. Soc. Mass Spectrometry.** 22:1214-1223.
60. C. Ryan, M. Smith, F. Schumacher, D. Grohmann, D. Papaioannou, **G. Waksman**, F. Werner, J. Baker*, S. Caddick* (2011). Tunable Reagents for Multi-functional Bioconjugation: Reversible or Permanent Chemical Modification of Proteins and Peptides by Control of Maleimide Hydrolysis. **Chemical Communications.** 47(19):5452-4.

61. L.M. Banta*, J.E. Kerr, E. Cascales, M.E. Giuliano, M.E. Bailey, C. McKay, **G. Waksman**, P.J. Christie* (2011). An *Agrobacterium* VirB10 Mutation Conferring a Type IV Secretion Gating Defect. **J. Bacteriology**. 193(10):2566-74.
62. N. Van Gerven, **G. Waksman**, and H. Remaut* (2011). Pili and flagella: Biology, structure and biotechnological applications. **Prog. Mol. Biol. Transl. Sci.** 103:21-72.
63. E. Durand, **G. Waksman***, and V. Receveur-Brechet* (2011). Structural insights into the membrane-extracted dimeric form of the ATPase TraB from the *Escherichia coli* pKM101 conjugation system. **BMC Structural Biology**. 11:4. p10-13.
64. L. Terradot* and **G. Waksman*** (2011). Architecture of the *Helicobacter pylori* Cag- Type IV secretion system. **FEBS Journal**. 278(8):1213-22.
65. X. Cai, R. Wang, A. Filloux, **G. Waksman**, G. Meng* (2011). Structural and functional characterization of *Pseudomonas aeruginosa* CupB chaperones. **PLoS One**. 6(1):e16583.
66. S. Geibel and **G. Waksman*** (2011). Crystallography and EM of chaperone/usher pilus systems. **Adv Exp Med Biol.** 715:159-74.
67. K. Wallden, A. Rivera-Calzeda, and **G. Waksman*** (2010). Type IV secretion systems: diversity and versatility in function. **Cell Microbiol.** 12:1203-1212.
68. **G. Waksman*** and R. Fronzes* (2010). Molecular architecture of type 4 secretion systems. **TIBS**. 35:691-698.
69. E. Chorell, J. Pinkner, G. Phan, S. Edvinsson, F. Buelens, H. Remaut, **G. Waksman**, S. Hultgren*, and F. Almqvist* (2010). Design and synthesis of C-2 substituted thiazolo and dihydrothiazolo ring-fused 2-pyridones generate pilicides with increased antivirulence activity. **J. Med. Chem.** 53:5690-5695.
70. E. Durand, C. Oomen and **G. Waksman*** (2010). Biochemical dissection of the ATPase TraB, the VirB4 homologue of the *E. coli* pKM101 conjugation machinery. **J. Bacteriology**. 192:2315-23.
71. S. Virdee, D. MacMillan, and **G. Waksman*** (2010). Semisynthetic Src SH2 Domains Demonstrate Altered Phosphopeptide Specificity Induced by Incorporation of Unnatural Lysine Derivatives. **Chemistry and Biology**. 17:274-284.
72. M. Smith, F. Schumacher, C. Ryan, L. Tedaldi, D. Papaioannou, **G. Waksman**, S. Caddick, and J. Baker (2010). Protein modification, bioconjugation, and disulfide bridging using bromomaleimides. **JACS**. 132:1960-1965.
73. B. Ford, A. Toste Rego, T. Ragan, J. Pinkner, K. Dodson, P. Driscoll*, S. Hultgren* and **G. Waksman*** (2010). Structural homology between the C-terminal domain of the PapC usher and its plug. **J. Bacteriology**. 192:1824-1831.
74. A. Toste Rego, R. Fronzes, and **G. Waksman*** (2010). Bacterial appendages II. **Cell**. Snapshot. 140:294
75. A. Toste Rego, R. Fronzes, and **G. Waksman*** (2010). Bacterial appendages I. **Cell**. Snapshot. 140:162.

76. A. Toste Rego, V. Chandran, and **G. Waksman*** (2010). Two-step and one-step secretion mechanisms in Gram-negative bacteria: contrasting the type IV secretion system and the chaperone-usher pathway of pilus biogenesis. **Biochem J.** 425:475-488.
77. V. Chandran, R. Fronzes, S. Duquerroy, N. Cronin, J. Navaza, and **G. Waksman*** (2009). Crystal structure of the outer membrane complex of a type IV secretion system. **Nature**. Article. 462:1011-1015.
78. W. Allen, G. Phan, and **G. Waksman*** (2009). Structural biology of periplasmic chaperones. **Advances in Protein Chemistry and Structural Biology**. 78:51-98.
79. R. Kenjale, G. Meng, D. Fink, T. Juehne, T. Ohashi, H. Erickson, **G. Waksman**, and J. St Geme 3rd* (2009). Structural determinants of autoproteolysis of the *Haemophilus influenzae* Hap autotransporter. **Infect Immun.** 77:4704-4713.
80. **G. Waksman*** and S.J. Hultgren* (2009). Structure and assembly mechanism of chaperone-usher pili. **Nature Reviews Microbiology**. 7:765-774.
81. R. Fronzes, P. Christie*, and **G. Waksman*** (2009). Structural insights into type IV secretion machineries. **Nature Reviews Microbiology**. 7:703-714.
82. E. Durand, D. Verger, A. Toste-Rego, V. Chandran, G. Meng, R. Fronzes, G. Waksman (2009). Structural biology of bacterial secretion systems in Gram-negative pathogens – Potential for new drug targets. **Infectious disorders – drug targets**. 9:518-547.
83. J. Radin, S. Grass, G. Meng, S. Cotter, **G. Waksman**, and J. St Geme 3rd* (2009). Structural basis for the differential binding affinities of the HsfBD1 and HsfBD2 domains in the *Haemophilus influenzae* Hsf adhesin. **J. Bacteriology**. 191:5068-5075.
84. **G. Waksman*** (2009). Going round in circles: the structural biology of type III secretion systems. **Nature Structural and Molecular Biology**. 16: 459-460.
85. R. Fronzes, E. Schaefer, L. Wang, H. Saibil, E. Orlova and **G. Waksman*** (2009). Structure of type IV secretion core complex. **Science**. 323:266-268.
86. G. Meng, R. Fronzes, V. Chandran, H. Remaut, and **G. Waksman*** (2009). Protein oligomerization in the bacterial outer membrane. **Molecular Membrane Biology**. 26:136-145.
87. S.J. Jakubowski, J. Kerr, I. Garza, V. Krishnamoorthy, R. Bayliss, **G. Waksman**, and P.J. Christie* (2009). Agrobacterium VirB10 domain requirements for type IV secretion and T pilus biogenesis. **Mol. Micro**. 71:779-794.
88. G. Meng, J. StGemes and **G. Waksman*** (2008). Repetitive architecture of the *Haemophilus influenzae* Hia trimeric autotransporter. **J. Mol. Biol.** 384:824-836.
89. R. Fronzes, H. Remaut, and **G. Waksman*** (2008). Architectures and biogenesis of non-flagellar protein appendages in Gram-negative bacteria. New EMBO member review. **EMBO Journal**. 27:2271-2280.
90. D. Verger, R. Rose, E. Paci, G. Costakes, T. Daviter, S. Hultgren, H. Remaut, A. Ashcroft, S. Radford*, and **G. Waksman*** (2008). Structural and functional insights into the adaptor subunit function of PapF in pilus biogenesis. **Structure**. 16:1724-1731.

91. H. Remaut and **G. Waksman*** (2008). Structure, function and biogenesis of pili formed by the chaperone/usher pathway. In: "Fimbriae and Flagella: Current Research and Future Trends". Ed. Ken F. Jarrell. 4:59-73.
92. R. Rose, D. Verger, T. Daviter, H. Remaut, **G. Waksman***, A. Ashcroft*, and S. Radford* (2008). Unravelling the molecular basis of subunit specificity in P pilus assembly by mass spectrometry. **Proc. Natl. Acad. Sci. USA.** 105:12873-12878.
93. R.J. S. Backert*, R. Fronzes, and **G. Waksman** (2008). VirB2/VirB5 proteins: specialized adhesins in bacterial type-IV secretion systems? **Trends in Microbiology.** 16:409-413.
94. Rose, T.S. Welsh, **G. Waksman**, A.E. Ashcroft, S.E. Radford, and E. Paci* (2008). Donor-strand exchange in chaperone-assisted pilus assembly revealed in atomic detail by molecular dynamics. **Journal of Molecular Biology.** 375:908-919.
95. G. De Fabritiis*, S. Geroult, P. Coveney*, and **G. Waksman*** (2008). Insights from the energetics of water binding at the domain-ligand interface of the Src SH2 domain. **Proteins: structure, function, and bioinformatics.** 72:1290-1297.
96. C. Bagneris, A. Ageichik, N. Cronin, B. Wallace, M. Collins, C. Boshoff, **G. Waksman***, T. Barrett* (2008). Crystal structure of a vFlip-IKK γ complex: Insights into viral activation of the IKK signalosome. **Molecular Cell.** 30:620-631.
97. H. Remaut, C. Tang, N.S. Henderson, J.S. Pinkner, T. Wang, S.J. Hultgren*, D.G. Thanassi*, **G. Waksman***, H. Li* (2008). Fiber Formation Across the Bacterial Outer Membrane by the Chaperone/Usher Pathway. **Cell.** 133:640-652.
98. O. Salih, H. Remaut, **G. Waksman** and E. Orlova* (2008). Structural Analysis of the Saf Pilus by Electron Microscopy and Image Processing. **Journal of Molecular Biology.** 379:174-187.
99. W. Allen, P. Rothwell and **G. Waksman*** (2008). An intramolecular FRET system monitors fingers subdomain opening in Klentaq1. **Protein Science.** 17:401-408.
100. S. Hare, W. Fischer, R. Williams, L. Terradot, R. Bayliss, R. Haas, and **G. Waksman*** (2007). Identification, structure and mode of action of a new regulator of the *Helicobacter pylori* HP0525 ATPase. **EMBO Journal.** 26(23):4926-34.
101. S. Geroult, M. Hooda, S. Virdee and **G. Waksman*** (2007). Prediction of solvation sites at the interface of Src SH2 domain complexes using molecular dynamics simulations. **Chemical Biology and Drug Design.** 70:87-99.
102. P. Rothwell and **G. Waksman*** (2007). A pre-equilibrium before nucleotide binding limits fingers subdomain closure by Klentaq1. **J. Biol. Chem.** 282, 28884-28892.
103. D. Verger, E. Bullitt*, S. Hultgren* and **G. Waksman*** (2007). Crystal structure of the P pilus rod subunit. **PLoS Pathogens.** 3(5): 674-682.
104. P.W. Fowler, S. Geroult, S. Jha, **G. Waksman**, and PV. Coveney* (2007) Rapid, Accurate, and Precise Calculation of Relative Binding Affinities for the SH2 Domain Using a Computational Grid. **J. Chem. Theory Comput.** 3:1193-1202.

105. R. Bayliss, R. Harris, L. Coutte, A. Monier, R. Fronzes, P.J. Christie, P. Driscoll, and **G. Waksman*** (2007). NMR Structure of the VirB9/VirB7 interaction domains of pKM101: insight into type IV secretion assembly at the outer-membrane. **Proc. Natl. Acad. Sci. USA.** 104(5):1673-1678.
106. JS. Pinkner, H. Remaut, F. Buelens, E. Miller, V. Akberg, N. Pemberton, M. Hedenstrom, A. Larsson, P. Seed, **G. Waksman***, SJ. Hultgren* & F. Almqvist* (2006). New Class of Rationally Designed Small Compounds Inhibit Pilus Biogenesis in Uropathogenic Bacteria. **Proc. Natl. Acad. Sci. USA.** 103(47):17897-902.
107. D. Verger, E. Miller, H. Remaut, **G. Waksman*** and S. Hultgren* (2006). Molecular mechanism of P pilus termination in uropathogenic *E. coli*. **EMBO reports.** 7:1228-32.
108. H. Remaut and **G. Waksman*** (2006). Protein-protein interaction through beta-strand addition. **TIBS.** 34:436-444.
109. H. Remaut, R.J. Rose, T.J. Hannan, S.J. Hultgren, S.E. Radford, A.E. Ashcroft, and **G. Waksman*** (2006). Donor-strand exchange in chaperone-assisted pilus assembly proceeds through a concerted β -strand displacement mechanism. **Molecular Cell.** 22: 831-842.
110. S. Hare, R. Bayliss, C. Baron, and **G. Waksman*** (2006). A large domain swap in the VirB11 ATPase of *Brucella suis* leaves the hexameric assembly intact. **Journal of Molecular Biology.** 360:56-66.
111. G. Meng, N.K. Surana, J. StGemes, and **G. Waksman*** (2006). Structure of the outer membrane translocator domain of the *Haemophilus influenzae* Hia trimeric autotransporter. **EMBO Journal.** 25:2297-304
112. A. Paschos, G. Patey, D. Sivanesan, C. Gao, R. Bayliss, **G. Waksman**, D. O'Callaghan, C. Baron* (2006). Dimerization and interactions of *Brucella suis* VirB8 with VirB4 and VirB10 are required for its biological activity. **Proceedings of the National Academy of Sciences (USA).** 103(19):7252-7.
113. S. Geroult, S. Virdee, and **G. Waksman*** (2006). The role of water in computational and experimental derivation of binding thermodynamics of SH2 domains. **Chemical Biology & Drug Design.** 67:38-45.
114. R. Harris, R. Bayliss, **G. Waksman***, and P.C. Driscoll* (2006). Resonance assignments of the complex between TraN and the C-terminal domain of TraO from the conjugative plasmid pKM101. **J. Biol. NMR.** 36 Suppl 5:31.
115. P.J. Rothwell, V. Mitaksov, and **G. Waksman*** (2005). Motions of the fingers subdomain of the Klenetq1 DNA polymerase I enzyme are fast and not rate-limiting: implications for the molecular basis of fidelity in DNA polymerases. **Molecular Cell.** 19:345-355.
116. M. Duckely, C. Oomen, F. Axthelm, P. Van Gelder, **G. Waksman**, and A. Engel* (2005). The VirE1VirE2 complex of *Agrobacterium tumefaciens* interacts with ssDNA and forms channels. **Mol. Microbiol.** 58:1130-1142.

117. P.J. Rothwell and **G. Waksman*** (2005). Structure and mechanism of DNA polymerases. **Advances in Protein Chemistry**. 71:401-440.
118. O.Y. Lubman, R. Kopan, **G. Waksman**, and S. Korolev* (2005). The crystal structure of a partial mouse Notch-1 ankyrin domain: repeats 4 through 7 preserve an ankyrin fold. **Protein Science**. 14:1274-1281.
119. L. Terradot, R. Bayliss, C. Oomen, G. Leonard, and **G. Waksman*** (2005). Structures of two core subunits of the type IV secretion system, VirB8 from *Brucella suis* and ComB10 from *Helicobacter pylori*. **Proceedings of the National Academy of Sciences (USA)**. 102:4596-4601.
120. **G. Waksman** (2005). Proteomics and Protein-Protein Interactions: Biology, Chemistry, Bioinformatics, And Drug Design. In: *Proteomics and Protein-Protein Interactions: Biology, Chemistry, Bioinformatics, And Drug Design*. Kluwer Press. G. Waksman (Ed). Protein Reviews. Volume 3.
121. F.G. Sauer, S.J. Hultgren, and **G. Waksman*** (2005). The chaperone-usher pathway of pilus fiber biogenesis. In: *Structural Biology of Bacterial Pathogensis*. ASM Press, G.Waksman, M. Caparon and S. Hultgren (Eds). pp 69-80.
122. N.K. Surana, S.E. Cotter, H-J. Yeo, **G. Waksman**, J. StGemes* (2005). Structural determinants of *Haemophilus influenzae* adherence to host epithelium: Variations on type V secretion. In: *Structural Biology of Bacterial Pathogensis*. ASM Press, G.Waksman, M. Caparon and S. Hultgren (Eds). pp129-148.
123. C.L. Smith, K. Dodson, **G. Waksman**, and S.J. Hultgren* (2005). Sugar recognition and bacterial attachment. In: *Structural Biology of Bacterial Pathogensis*. ASM Press, G.Waksman, M. Caparon and S. Hultgren (Eds). pp37-48.
124. G. Schroder, S.N. Savvides, **G. Waksman**, and E. Lanka* (2005). The type IV secretion machinery. In: *Structural Biology of Bacterial Pathogensis*. ASM Press, G.Waksman, M. Caparon and S. Hultgren (Eds). pp179-222.
125. **G. Waksman*** (2005). Structural biology of protein complexes. *Encyclopedia of Genetics, Genomics, Proteomics and Bioinformatics*. Wiley Ed.
126. A.O. Pineda, Zhi-Wei Chen, Sonia Caccia, Savvas N. Savvides, **G. Waksman**, F. Scott Mathews, and Enrico Di Cera* (2004). The anticoagulant thrombin mutant W215A/E217A has a collapsed primary specificity pocket. **J. Biol. Chem.** 279(38):39824-8.
127. L. Terradot, Nathan Durnell Ming Li, Daming Li, Jeremiah Ory, Agnes Labigne, Pierre Legrain, Frederic Colland, **G. Waksman*** (2004). Biochemical characterization of protein complexes from the *Helicobacter pylori* protein interaction map: strategies for complex formation and evidence for novel interactions within type IV secretion systems. **Molec Cell Proteomics**. 3:809-819.
128. S.N. Savvides, S. Raghunathan, K. Fütterer, A.G. Kozlov, T.M. Lohman, and **G. Waksman*** (2004). The C-terminal domain of full length *E. coli* SSB is disordered even when bound to DNA. **Protein Science**. 13(7):1942-7.

129. H-J Yeo, S.E. Cotter, S. Laarmann, T. Juehne, J.W. St. Geme, III*, and **G. Waksman*** (2004). Structural basis for host recognition by the *Haemophilus influenzae* Hia autotransporter. **EMBO Journal**. 23(6):1245-56.
130. **G. Waksman** and J. Kuriyan* (2004). Structure and specificity of the SH2 domain. **Cell**. 116:S45-48.
131. F.G. Sauer, H. Remaut, S.J. Hultgren*, and **G. Waksman*** (2004). Fiber assembly by the chaperone-usher pathway. **Biochem. Biophys. Acta**. 1694: 259-267.
132. H-J. Yeo, and **G. Waksman*** (2004). Unveiling molecular scaffolds of the type IV secretion system. **Journal of Bacteriology**. 186(7):1919-1926.
133. H. Remaut and **G. Waksman*** (2004). Structural Biology of Bacterial pathogenesis. **Current Opinion Structural Biology**. 14:161-170.
134. T.M. Lohman*, J. Hsieh, N.K. Maluf, W. Cheng, A.L. Lucius, C.J. Fisher, K.M. Brendza, S. Korolev, and G. Waksman (2004). DNA helicases, motors that move along nucleic acids: lessons from the SF1 helicase superfamily. **The Enzymes** Vol 23. 304-371.
135. **G. Waksman***, S. Kumaran, and O. Lubman (2004). Thermodynamics of SH2 domain binding. In: **Molecular Interpretation of Binding Thermodynamics**. Editor: John Ladbury. John Wiley and Sons, Ltd. Chapter 8; 151-173.
136. **G. Waksman***, S. Kumaran, and O. Lubman (2004). SH2 domains: Role, Structure, and Implications for Molecular Medicine. **Exp. Rev. Mol. Med.** 6:1-18.
137. S. Kumaran, R.A. Grucza, and **G. Waksman*** (2003). The tandem SH2 domain of the Syk kinase: A Molecular Device that Adapts to Inter-phosphotyrosine Distances. **Proceedings of the National Academy of Sciences (USA)**.100:14828-14833.
138. H-J Yeo, Q. Yuan, M.R. Beck, C. Baron, and **G. Waksman*** (2003). Structural and functional characterization of the VirB5 protein from the type IV secretion system encoded by the conjugative plasmid pKM101. **Proceedings of the National Academy of Sciences (USA)**. 100:15947-15952.
139. S.N. Savvides, H-J. Yeo, M.R. Beck, F. Blaesing, R. Lurz, E. Lanka, R. Buhrdorf, W. Fischer, R. Haas and **G. Waksman*** (2003). VirB11 ATPases are dynamic hexameric assemblies: New insights into bacterial type IV secretion. **EMBO Journal**. 22:1969-1980.
140. O.Y. Lubman and **G. Waksman*** (2003). Structural and Thermodynamic Basis for the Interaction of the Src SH2 Domain with the Activated Form of the PDGF β -Receptor. **Journal of Molecular Biology**. 328:655-668.
141. **G. Waksman*** (2002). Hijacking the host cell proteasome. **Developmental Cell**. 3: 763-764.

142. A.G. Pineda, S. Savvides, **G. Waksman**, and E. Di Cera* (2002). Crystal structure of the anticoagulant slow form of thrombin. **Journal of Biological Chemistry**. 277:40177-80.
143. W. Cheng, K.M. Brendza, G.H. Gauss, S. Korolev, **G. Waksman**, and T.M. Lohman* (2002). The 2B domain of *E. coli* Rep helicase is not required for duplex DNA unwinding activity. **Proceedings of the National Academy of Sciences (USA)**. 99:16006-11.
144. F. G. Sauer, J. Pinkner, **G. Waksman***, and S.J. Hultgren (2002) [note: GW sole corresponding author]. Chaperone Priming of Pilus Subunit Facilitates a Topological Transition that Drives Fiber Formation. **Cell**. 111:543-51.
145. J.M. Brashaw and **G. Waksman*** (2002). Molecular recognition by SH2 domains. In: **Advances in protein chemistry**. Protein modules and protein-protein interactions. 61:161-210.
146. G. Schroder, S. Krause, E.L. Zechner, B. Traxler, H.-J. Yeo, R. Lurz, **G. Waksman**, and E. Lanka* (2002). TraG-like proteins of DNA transfer systems and of the *Helicobacter pylori* type IV secretion system: inner membrane gate for exported substrates? **J Bacteriol**. 184(10):2767-79.
147. C-S Hung, J. Bouckaert, D. Hung, R. Strouse, J. Pinkner, Charlotte Widberg, Anthony DeFusco, C. Gale Auguste, Robert Strouse, S. Langermann, **G. Waksman***, and S.J. Hultgren* (2002). Structural Basis of Tropism of *Escherichia coli* to the Bladder during Urinary Tract Infection. **Molecular Microbiology**. 44:903-915.
148. O.Y. Lubman and **G. Waksman*** (2002). Dissection of the Energetic Coupling across the Src SH2 Domain- Tyrosyl Phosphopeptide Interface. **Journal of Molecular Biology**. 316:291-304.
149. H.-J. Yeo, G. Ziegelin S. Korolev, R. Calendar, E. Lanka, and **G. Waksman*** (2002). Phage P4 Origin-Binding Domain Structure Reveals a Mechanism for Regulation of DNA-Binding Activity by Homo- and Hetero-dimerization of Winged Helix Proteins. **Molecular Microbiology**. 43:857-870.
150. P. Davidson, O.Y Lubman, T. Rose, **G. Waksman***, and S.F. Martin* (2002). Calorimetric and Structural Studies of 1,2,3-Trisubstituted Cyclopropanes as Conformationally Constrained Peptide Inhibitors of Src SH2 Domain Binding. **JACS**. 124:205-215.
151. C. S. Ricard, J. M. Jakubowski, J. W. Verbsky, M. A. Barbieri, W. M. Lewis, G. E. Fernandez, M. Vogel, C. Tsou, V. Prasad, P. D. Stahl, **G. Waksman**, and C. M. Cheney* (2001). *Drosophila* rab GDI mutants disrupt development but have normal rab membrane extraction. **Genesis**. 31:17-29.
152. T.A. Farazi, **G. Waksman**, J.I. Gordon* (2001). The biology and enzymology of protein N-myristoylation. **Journal of Biological Chemistry**. 276:39501-4.
153. T.A. Farazi, J.K. Manchester, **G. Waksman**, and J.I. Gordon* (2001). Pre-steady state kinetic studies of *Saccharomyces cerevisiae* myristoylCoA:protein N-myristoyltransferase mutants identify residues involved in catalysis. **Biochemistry**. 40:9177-9186.

154. K.W. Dodson, J.S. Pinkner, T. Rose, G. Magnusson, S.J. Hultgren*, and **G. Waksman*** (2001). Structural Basis of Tropism of Pyelonephritic *E. coli* for the Human Kidney. **Cell.** 105:733–743.
155. J.M. Bradshaw and **G. Waksman*** (2001). SH2 domains. **Encyclopedia of Molecular Medicine.** T.E. Creighton (Ed). pp 2900-2903.
156. T.A. Farazi, **G. Waksman**, and J.I. Gordon* (2001). The structures of *S. cerevisiae* myristoylCoA: protein N-myristoyltransferase with bound myristoylCoA and peptide substrates provide insights about substrate recognition and catalysis. **Biochemistry.** 40:6335-6343.
157. Y. Li and **G. Waksman*** (2001). Crystal Structures of a ddATP-, ddTTP-, ddCTP-, and ddGTP-Trapped Ternary Complex of Klentaq1: Insights into Nucleotide Incorporation and Selectivity. **Protein Science.** 6:1225-1233.
158. Y. Li and **G. Waksman*** (2001). Structural studies of the Klentaq1 DNA polymerase. **Current Organic Chemistry.** Review. 5:871-884.
159. Ho, S.R. Schwarze, S.J. Mermelstein, **G. Waksman**, and S.F. Dowdy* (2001). Synthetic Protein Transduction Domains: Enhanced Transduction Potential in Vitro and in Vivo. **Cancer Res.** 61: 474-477.
160. K. Fütterer, C.L. Murray, R.S. Bhatnagar, G.W. Gokel, J.I. Gordon, and **G. Waksman*** (2001). Crystallographic Phasing of Myristoyl-CoA:Protein N-Myristoyltransferase Using an Iodinated Analog of MyristoylCoA. **Acta Cryst.D.** 57: 393-400.
161. H.-J. Yeo, S.N. Savvides, A.B. Herr, E. Lanka, and **G. Waksman*** (2000). Crystal structure of the hexameric traffic ATPase of the *Helicobacter pylori* Type IV secretion system. **Molecular Cell.** 6:1461-1472.
162. K. Yu, A.B. Herr, **G. Waksman**, and D.M. Ornitz* (2000). Loss of fibroblast growth factor receptor 2 ligand-binding specificity in Apert syndrome. **Proceedings of National Academy of Sciences (USA).** 97:14536-14541.
163. F.G. Sauer, M. Barnhart, D. Choudhury, S.D. Knight, **G. Waksman**, S.J. Hultgren* (2000). Chaperone-assisted pilus assembly and bacterial attachment. **Curr Opin Struct Biol.** 10:548-56.
164. R.A. Gruczka, J.M. Bradshaw, V. Mitaxov, and **G. Waksman*** (2000). The role of electrostatic interactions in SH2 domain recognition: salt-dependence of tyrosyl-phosphorylated peptide binding to the tandem SH2 domain of the Syk kinase and the single SH2 domain of the Src kinase. **Biochemistry.** 39:10072-10081.
165. Y. Li, and **G. Waksman*** (2000). Bacterial DNA polymerase I. In: **Encyclopedia of Life Sciences.**
166. S. Raghunathan, A.G. Kozlov, T.M. Lohman, and **G. Waksman*** (2000). Crystal structure of the homo-tetrameric DNA binding domain of *E.coli* SSB protein bound to single stranded DNA. **Nature Structural Biology.** 7:648-652.

167. R.S. Bhatnagar, K. Ashrafi, K. Fütterer, **G. Waksman**, and J.I. Gordon* (2000). The biology and enzymology of protein N-myristoylation. **The Enzymes**. Protein lipidation, 3rd edition, F. Tamanoi and D.S. Sigman, Eds, pp241-172.
168. J.M. Bradshaw, R.A. Grucza, and **G. Waksman*** (2001). Binding thermodynamics of protein modules involved in tyrosine kinase signaling pathways. In: The thermodynamics of the drug-receptor interaction. R.B. Raffa Ed. pp451-470.
169. M.M. Barnhart, J.S. Pinkner, G.E. Soto, F.R. Sauer, S. Langermann, **G. Waksman**, C. Frieden, and S.J. Hultgren* (2000). PapD-like chaperone provide missing information for folding of pilin proteins. **Proceedings of National Academy of Sciences (USA)**. 97:7709-7714.
170. J.M. Bradshaw, V. Mitaxov, and **G. Waksman*** (2000). Mutational investigation of the specificity determining region of the Src SH2 domain. **Journal of Molecular Biology**. 299:521-535.
171. **G. Waksman***, E. Lanka, and G-M. Carazo (2000). Helicases, enzymatic motors in nucleic acid unwinding. **Nature Structural Biology**. 7:20-22.
172. F.G. Sauer, S.D. Knight, **G. Waksman**, and S.J. Hultgren* (2000). PapD-like chaperones and pilus biogenesis. **Seminars in Cell and Developmental Biology**. 11:27-34.
173. J.M. Bradshaw, V. Mitaxov, and **G. Waksman*** (1999). Investigation of phosphotyrosine recognition by the SH2 domain of the Src kinase. **Journal of Molecular Biology**. 293:971-985.
174. D. Lu, K. Fütterer, S. Korolev, X. Zheng, K. Tan, and **G. Waksman**, and J.E. Sadler* (1999). Crystal structure of enteropeptidase light chain complexed with an analog of the trypsinogen activation peptide. **Journal of Molecular Biology**. 292:361-373.
175. R.S. Bhatnagar, K. Fütterer, **G. Waksman**, and J.I. Gordon* (1999). Structure of MyristoylCoA: Protein N-myristoyltransferase. **Biophysica and Biochemica Acta**. 23;1441(2-3):162-172.
176. F.G. Sauer, K. Fütterer, J.S. Pinkner, K.W. Dodson, S.J. Hultgren*, and **G. Waksman*** (1999). Structural basis of chaperone function and pilus biogenesis. **Science**. 285:1058-1061.
177. Y. Li, V. Mitaxov, and **G. Waksman*** (1999). Structure-based design of novel *Taq* DNA polymerases with improved properties of dideoxynucleotide incorporation. **Proceedings of the National Academy of Sciences (USA)**. 96:9491-9496.
178. R.A. Grucza, J.M. Bradshaw, K. Fütterer, and **G. Waksman*** (1999). SH2 domains: from structure to energetics, a dual approach to the study of structure-function relationship. **Medicinal Research Reviews**. 19:273-293.
179. R.A. Grucza, K. Fütterer, A.C. Chan, and **G. Waksman*** (1999). Thermodynamic study of the binding of the tandem-SH2 domain of the Syk kinase to a dually phosphorylated ITAM peptide: evidence for two conformers. **Biochemistry**. 38:5024-5033.

180. J. Bubeck Wardenburg, J. Wong, K. Fütterer, R. Pappu, C. Fu, **G. Waksman**, and A.C. Chan* (1999). Regulation of antigen receptor function by protein tyrosine kinases. **Progress in Biophysical and Molecular Biology**. 71:373-392.
181. J.M. Bradshaw and **G. Waksman*** (1999). Calorimetric examination of high affinity Src SH2 domain-tyrosyl phosphopeptide binding: dissection of the phosphopeptide sequence specificity and coupling energetics. **Biochemistry**. 38:5147-5154.
182. E.R. Guinto, S. Caccia, T. Rose, K. Fütterer, **G. Waksman**, and E. Di Cera* (1999). Unexpected crucial role of residue 225 in serine proteases. **Proceedings of the National Academy of Sciences (USA)**. 96:1852-1857.
183. Y. Li, S. Korolev, and **G. Waksman*** (1998). Crystal structures of open and closed forms of binary and ternary complexes of the large fragment of *Thermus aquaticus* DNA polymerase I: structural basis for nucleotide incorporation. **EMBO Journal**. 17:7514-7525.
184. R.S. Bhatnagar, K. Fütterer, T.A. Farazi, S. Korolev, C.L. Murray, E. Jackson-Machelski, G.W. Gokel, J.I. Gordon, and **G. Waksman*** (1998). Structure of N-myristoyltransferase with bound myristoylCoA and peptide substrate analogs. **Nature Structural Biology**. 5:1091-1097.
185. J.M. Bradshaw and **G. Waksman*** (1998). A calorimetric investigation of proton linkage by monitoring both the enthalpy and association constant of binding: application to the interaction of the Src SH2 domain with a high affinity tyrosyl phosphopeptide. **Biochemistry**. 37:15400-15407.
186. E. Chung, D. Henriques, D. Renzoni, M. Zvelebil, J.M. Bradshaw, **G. Waksman**, C.V. Robinson, and J.E. Ladbury* (1998). Mass spectrometric and thermodynamic studies reveal the role of water molecules in complexes formed between SH2 domains and tyrosyl phosphopeptides **Structure**. 6:1141-1151.
187. K. Wang, A. Gross, **G. Waksman**, and S.J. Korsmeyer* (1998). Mutagenesis of the BH3 domain of Bax identifies critical residues for dimerization and killing. **Molecular Cellular Biology**. 18:6083-6089.
188. **G. Waksman*** and A.B. Herr (1998). New insights into heparin-induced FGF oligomerization. News and Views article. **Nature Structural Biology**. 5:527-530.
189. K. Fütterer, J. Wong, R.A. Grucza, A.C. Chan, and **G. Waksman*** (1998). Structural basis for Syk tyrosine kinase ubiquity in signal transduction pathways revealed by the crystal structure of its regulatory SH2 domains bound to a dually phosphorylated ITAM peptide. **Journal of Molecular Biology**. 281:523-537.
190. J.M. Bradshaw, R.A. Grucza, J.E. Ladbury, and **G. Waksman*** (1998). Probing the "two-pronged-plug two holed-socket model for the mechanism of binding of the Src SH2 domain to phosphotyrosyl peptides: a thermodynamic study. **Biochemistry**. 37:9083-9090.
191. Y. Li, Y. Kong, S. Korolev, and **G. Waksman*** (1998). Crystal structures of the Klenow fragment of *Thermus aquaticus* DNA polymerase complexed with deoxyribonucleoside triphosphates. **Protein Science**. 7:1116-1123.

192. J.P.P. Meijerink, A.J.B.M. Mensink, K. Wang, T.W. Sedlack, A.W. Sloetjes, T. de Witte, **G. Waksman**, and S. J. Korsmeyer* (1998). Hematopoietic malignancies demonstrate loss-of-function mutations of BAX. **Blood**. 91:2991-2997.
193. S. Korolev, N. Yao, T.M. Lohman, P. Weber, and **G. Waksman*** (1998). Comparisons between the structures of HCV and Rep helicases reveal structural similarities between SF1 and SF2 superfamilies of helicases. **Protein Science**. 7:605-610.
194. P.H. Schlessinger, A. Gross, X-M Yin, K. Yamamoto, M. Saito, **G. Waksman**, and S.J. Korsmeyer* (1997). Comparison of the ion channel characteristics of pro-apoptotic Bax and anti-apoptotic Bcl-2. **Proceedings of the National Academy of Science (USA)**. 94:11357-11362.
195. J. Zha, H. Harada, K. Osipov, J. Jockel, **G. Waksman**, and S.J. Korsmeyer* (1997). BH3 domain of BAD is required for heterodimerization with BCL-X_L and pro-apoptotic activity. **Journal of Biological Chemistry**. 272:24101-24104.
196. S. Korolev, J. Hsieh, G. Gauss, T.M. Lohman, and **G. Waksman*** (1997). Major domain swivelling revealed by the crystal structure of binary and ternary complexes of *E.coli* Rep helicase bound to single-stranded DNA and ADP. **Cell**. 90:635-647.
197. S. Raghunathan, C.S. Ricard, T.M. Lohman, and **G. Waksman*** (1997). Crystal structure of the homo-tetrameric DNA binding domain of *Escherichia coli* single-stranded DNA binding protein determined by multiwavelength x-ray diffraction on the selenomethionyl protein at 2.9 Å resolution. **Proceedings of the National Academy of Science (USA)**. 94:6652-6657.
198. A.B. Herr, D.M. Ornitz, R. Sasisekharan, G. Venkataraman, and **G. Waksman*** (1997). Heparin-induced self-association of fibroblast growth factor-2. Evidence for two oligomerization processes. **Journal of Biological Chemistry**. 272:16382-16389.
199. D. Ornitz and **G. Waksman*** (1997). Fibroblast growth factor receptors. In: Growth factors and wound healing: basic science and potential clinical applications. T.R. Ziegler, G.F. Pierce, and D.N. Herndon Eds. Springer-Verlag New York. 151-174.
200. S. Rety, K. Futterer, R. Grucza, C. Munoz, W. Frazier, and **G. Waksman*** (1996). pH-dependent self-association of the src homology 2 (SH2) domain of the src homologous and collagen-like (SHC) protein. **Protein Science**. 5:405-413.
201. G. Venkataraman, V. Sasisekharan, A.B. Herr, D. Ornitz, **G. Waksman**, C.L. Cooney, R. Langer, and R. Sasisekharan* (1996). Preferential self-association of fibroblast growth factor is stabilized by heparin during dimerization and activation. **Proceedings of the National Academy of Science (USA)**. 93:845-850.
202. S. Korolev, M. Nayal, W. Barnes, E. Di Cera, and **G. Waksman*** (1995). Crystal structure of the large fragment of *Thermus aquaticus* DNA polymerase I at 2.5 Å resolution: structural basis for thermostability. **Proceedings of the National Academy of Science (USA)**. 92:9264-9268.
203. D. Ornitz, A. Herr, M. Nilsson, J. Westman, C-M. Svahn, and **G. Waksman*** (1995). FGF binding and FGF receptor activation by synthetic heparan-derived di- and trisaccharides. **Science**. 268:432-436.

204. **G. Waksman*** (1994). Structural basis for peptide-binding specificity of SH2 domains. *Bulletin de l'Institut Pasteur*. 92:19-24.
205. **G. Waksman*** (1994). Crystal structure of the phosphotyrosine recognition domain SH2 of the src oncogene product complexed with tyrosine-phosphorylated peptides. *Cellular and Molecular Biology*. 40:611-618.
206. **G. Waksman**, T.S.R. Krishna, C.H. Willaims Jr, and J. Kuriyan* (1994). Crystal structure of *E. coli* thioredoxin reductase refined at 2Å resolution, implication for a large conformational change during catalysis. *Journal of Molecular Biology*. 236:800-816.
207. **G. Waksman**, S. Shoelson, N. Pant, D. Cowburn, and J. Kuriyan*. (1993). Binding of a high affinity phosphotyrosyl peptide to the src SH2 domain: crystal structures of the complexed and peptide-free forms. *Cell*. 72:779-790.
208. J.L Martin, **G. Waksman**, J.C.A. Bardwell, L. Beckwith, and J. Kuriyan* (1993). Crystallization and preliminary X-ray characterization of a protein required for disulfide bond formation *in vivo*. *Journal of Molecular Biology*. 230:1097-1100.
209. R. O'Connell, A. Uronu, **G. Waksman**, C. Nash, J. Keon and J.A. Bailey* (1993). Infection process and polygalacturonase of a strain by *Colletotrichum truncatum* attacking *Pisum sativum*. *Plant Pathology*. 42:774-780.
210. **G. Waksman**, D. Kominos, S. Robertson, N. Pant, D. Baltimore, R.Birge, D. Cowburn, H. Hanafusa, B. Mayer, M. Overduin, M. Resh, C. Rios, L. Silverman and J. Kuriyan* (1992). Crystal structure of the phosphotyrosine recognition domain SH2 of v-src complexed with tyrosine-phosphorylated peptides. *Nature*. 358:646-653.
211. **G. Waksman**, G. Turner and A. Walmsley* (1992). Rapid kinetics of the polygalacturonase enzyme from *Colletotrichum lindemuthianum*. *The Biochemical Journal*. 285:551-556.
212. **G. Waksman*** (1991). Purification, characterization and N-terminal sequence of two endoglucanases from *Sclerotinia sclerotiorum*. *Biochemica and Biophysica Acta*. 1073:49-55.
213. **G. Waksman***, J. Keon and G. Turner (1991). Purification and characterization of two polygalacturonase isoenzymes produced *in vitro* by *Sclerotinia sclerotiorum*. *Biochemica and Biophysica Acta*. 1073:43-48.
214. P. Goodenough*, D. Clark, A. Durrant, H. Gilbert, G. Hazlewood and **G.Waksman** (1991). Structural analysis by circular dichroism of some enzymes involved in plant cell wall degradation. *FEBS Letters*. 282:355-358.
215. J. Keon and **G. Waksman*** (1990). A common amino acid domain among polygalacturonase of ascomycete fungi. *Applied and Environmental Microbiology*. 56:2522-2528.
216. J. Keon, **G. Waksman** and J. Bailey* (1990). A comparison of the biochemical and physiological properties of a polygalacturonase from two races of *Colletotrichum lindemuthianum*. *Physiological and Molecular Plant Pathology*. 37:193-197.

217. **G. Waksman*** (1989). Molecular cloning of a β -glucosidase encoding gene from *Sclerotinia sclerotiorum* by expression in *E.coli*. *Current Genetics*. 15:295-297.
218. **G. Waksman*** and J. Keon (1989). Cellulolytic and pectinolytic enzymes from plant pathogenic and non-pathogenic fungi. In: *Proceedings of the EMBO symposium* on Molecular Biology of Filamentous Fungi. Helsinki 1989. Eds: H. Nevalainen and M. Penttila. Foundation for Biotechnical and Industrial Fermentation Research. 6:197-205.
219. **G. Waksman*** (1988). Molecular cloning of genes expressed specifically during induction of cell-wall-degrading-enzymes from *Sclerotinia sclerotiorum* and preliminary identification of a fungal β -galactosidase encoding gene by expression in *E.coli*. *Current Genetics*. 14:91-93.
220. **G. Waksman*** (1988). Purification of the β -glucosidase from *Sclerotinia sclerotiorum*. *Biochimica and Biophysica Acta*. 967:82-86.
221. **G. Waksman** and G. Freyssinet* (1987). Nucleotide sequence of a cDNA encoding the ribulose 1,5-bisphosphate carboxylase/oxygenase from sunflower. *Nucleic Acid Research*. 15:1328.
222. M. Lebrun, **G. Waksman** and G. Freyssinet* (1987). Nucleotide sequence of a gene encoding corn ribulose-1,5-bisphosphate carboxylase/oxygenase small subunit. *Nucleic Acid Research*. 15:4360.
223. **G. Waksman**, M. Lebrun and G. Freyssinet* (1987). Nucleotide sequence of a gene encoding sunflower ribulose-1,5-bisphosphate carboxylase /oxygenase small subunit. *Nucleic Acid Research*. 15:7181.
224. **G. Waksman**, G. Thomas and A. Favre* (1984). The *lon* gene and photoprotection in *E.coli* K12. *Photochemistry and Photobiology*. 39:337-342.
225. **G. Waksman** (1982). Contribution à l'étude de la différenciation lymphocytaire: clonage dans *E.coli* de marqueurs spécifiques de la différenciation des lymphocytes. Thèse de Doctorat de Troisième Cycle (PhD). University of Paris.

EDITORIAL ACTIVITY

1. "Proteomics and protein-protein interaction: Biology, Chemistry, Bio-informatics, And Drug Design". Editor: Gabriel Waksman. Springer.
2. "Structural biology of bacterial pathogenesis". Editors: Gabriel Waksman, Michael Caparon, and Scott Hultgren. ASM Press.
3. Theme issue. Current Opinion in Structural Biology- Membranes. Editors: Gabriel Waksman and Tamir Gonen. August 2012.
4. Theme issue. Bacterial protein secretion comes of age. Philosophical transactions of the Royal Society B. Editor: Gabriel Waksman. 2012.
5. Theme issue. Current Opinion in Structural Biology- Membranes. Editors: Gabriel Waksman and Tamir Gonen. August 2014.
6. Senior editor. *Chemical Biology & Drug Design (CB&DD)*. Current.
7. Editorial board member. *The Protein Journal*. Current.
8. Editorial board member. *The EMBO Journal*. Current.
9. Editorial board member. *EMBO reports*. Current.
10. Editorial board member. *Journal of Structural Biology*. 2009-2014.
11. Editorial board member. *Current Opinion in Structural Biology*. Current.

