

# Curriculum Vitae

---

## Personal Details

<b>Surname</b>	Glazer
<b>Christian Names</b>	Anthony Michael
<b>Address</b>	Talmont House, Barford Road, Bloxham, OX15 4EZ, UK
<b>Date of birth</b>	May 1 1943
<b>E-mail address</b>	<a href="mailto:Glazer@physics.ox.ac.uk">Glazer@physics.ox.ac.uk</a>
<b>Daytime Telephone/fax</b>	01865 272290
<b>Evening Telephone</b>	01295 722913
<b>Languages</b>	In decreasing order of ability: Italian, French, Polish, German, Russian
<b>Hobbies</b>	Flying (Private Pilot's License with Instrument Rating and Night Rating).

---

## Education

<b>School</b>	Christ's College Finchley
<b>Dates</b>	1954-1964
<b>Lower Qualifications</b>	General Certificate of Education(Ordinary Level, London) <ul style="list-style-type: none"><li>• Physics 1959</li><li>• Chemistry 1959</li><li>• Pure Mathematics 1959</li><li>• English Language 1959</li><li>• German 1959</li><li>• French 1959</li></ul>

	<ul style="list-style-type: none"> <li>• Biology 1959</li> </ul>
<b>Higher Qualifications</b>	<p>(1) General Certificate of Education(Advanced Level, London)</p> <ul style="list-style-type: none"> <li>• Physics 1962</li> <li>• Chemistry 1962</li> <li>• Pure Mathematics 1962</li> </ul> <p>(2) Scottish Universities Entrance Board</p> <ul style="list-style-type: none"> <li>• Physics 1962</li> <li>• Chemistry 1962</li> <li>• Pure Mathematics 1962</li> </ul>
<b>First Degree</b>	Queen's College (University of St.Andrews), Dundee, Scotland
<b>Dates</b>	1962 – 1965
	<ul style="list-style-type: none"> <li>• Physics, Chemistry, Mathematics 1962</li> <li>• Chemistry 1963</li> <li>• Chemistry 1964</li> </ul>
<b>Degree obtained</b>	B.Sc. (Hons) 2(1)
<b>Second Degree</b>	University College London
<b>Dates</b>	1965 – 1968
<b>Supervisor</b>	Professor Dame Kathleen Lonsdale
<b>Thesis</b>	Structures of Mixed Crystals of Organic Compounds
<b>Degree obtained</b>	Ph. D. Crystallography
<b>Other Degrees</b>	M.A. (Cambridge) 1974
	M.A. (Oxford) 1976
<b>Other Titles</b>	M.Inst.P. 1970-2013
	F.C.S. (Fellow of the Chemical Society) 1970
	Emeritus Professor of Physics (Oxford) 2010
	Emeritus Fellow of Jesus College Oxford 2010

# Employment

## Industrial

- |  |      |
|--|------|
| (1) Elliott Automation, Borehamwood                | 1962 |
| Quality control in the Airborne Computing Division |      |
| (2) Aziende Chimiche Riunite, Rome, Italy          | 1964 |
| Organic Synthesis                                  |      |
| (3) Kodak, Harrow                                  | 1965 |
| New materials for colour processing                |      |

## Postdoctoral

- |   |             |
|---|-------------|
| (1) Chemistry Dept., Harvard University, USA  |             |
| Research Fellow   | 1968 -1969  |
| Study of solid-state topotactic reactions:<br>with Professor J.Z.Gougoutas  |             |
| (2) Cavendish Laboratory, Cambridge   |             |
| SRC Research Fellow   | 1969 - 1970 |
| SRC Research Assistant  | 1970 - 1972 |
| Study of high-temperature phase transitions in ferroelectric<br>and antiferroelectric pseudosymmetric crystals:<br>with Dr. H.D.Megaw |             |
| (3) Cavendish Laboratory, Cambridge   |             |
| Senior Assistant In Research  | 1973-1976   |
| Head of Crystallography Laboratory &<br>Director of Wolfson Unit For Study of Dielectric<br>Materials                                 | 1973-1976   |

In 1976 I transferred my entire research group/equipment and group records from Cambridge to Oxford.

## Present Employment

- |   |            |
|---|------------|
| Emeritus Professor of Physics, Clarendon laboratory, Oxford     | 2010-      |
| Emeritus fellow of Jesus College Oxford                         | 2010-      |
| Visiting Professor at Warwick University                        | 2010-      |
| Lecturer in Physics, Clarendon Laboratory, University of Oxford | 1976 -2010 |
| Official Fellow and Tutor, Jesus College, Oxford                | 1976 -2010 |
| Appointed to title of Professor                                 | 1996 -     |

# University and College

---

## University Lectures and Classes Given

### Undergraduate Lectures

(Cambridge)

Group Theory (3rd year Crystalline State)

(Oxford)

Gases at Low Pressures(2nd year)

Thermodynamics (2nd year)

Revision lectures on Thermodynamics (3rd year)

Introduction to the solid state (3rd year)

Condensed Matter Option (4th year)

### Undergraduate Demonstrating

(Oxford)

General physics (1st year)

Computing (1st year)

General physics (2nd year)

(Cambridge)

General physics (2nd year)

Crystalline state (1st year)

### Graduate Lectures

(Cambridge)

Group theory

Introduction to the Renormalization Group, with N. Srinivasan and M. Green.

Oxford

Group theory of the solid state

---

## Graduate Supervision

The following is a list of all Ph.D. students that I have supervised at Cambridge and at Oxford.

- Whatmore, R.W.** Structural phase transitions in modified lead zirconate. *University of Cambridge*. (1976)
- Jan, N.** Approximate methods in the study of critical phenomena. *University of Cambridge*. (1978)
- Mabud, S.A.** Phase transitions in ferroelectric perovskites. *University of Cambridge*. (1978)
- Guimaraes, D.M.C.** Ferroelastic properties and phase transitions in lead orthophosphate. *University of Cambridge*. (1979)
- David, W.I.F.** Structural phase transitions in ferroic  $ABO_4$  crystals. *University of Oxford*. (1981)
- Allen, S.** Phase transitions in proustite. *University of Oxford*. (1983)
- Singh, S.** Phase transitions in dicalcium lead propionate. *University of Oxford* (1983)
- Brown, R.H.** The growth of ferroelectric  $LiNbO_3/LiTaO_3$  for surface-acoustic wave devices. *University of Oxford*. (1983)
- Mariathasan, J.W.E.** Ferroelastic phase transitions in scheelite crystals. *University of Oxford*. (1983)
- Groves, P.** Order/disorder phase transitions in complex perovskite compounds. *University of Oxford*. (1984)
- Thomas, P.A.** Optical activity in crystals. *University of Oxford*. (1987)
- El-Mallah, H.** The structures and physical properties of certain perovskite crystals. *University of Oxford*. (1988)
- Nealon, T.A.** The properties of ferroelectric relaxors. *University of Oxford*. (1989)
- Moxon, J.R.L.** A high accuracy universal polarimeter for crystal optics research. *University of Oxford*. (1990)
- Renshaw, A.R.** An investigation of the optical properties of crystals by polarimetry. *University of Oxford*. (1990)
- Gomes, E.** Relationship between optical activity and crystal structures. *University of Oxford*. (1990)
- Tebbutt, I.J.** Optical activity and crystal structure. *University of Oxford*. (1991)
- Williams, C.** Structure/property relationships in a polymorphic nonlinear optical crystal. *University of Oxford*. (1992)
- Roberts, A.L.U.** Structural investigations of high temperature superconductivity in cuprates. *University of Oxford*. (1993)

<b>Mayo, S.C.</b>	The structure and properties of nonlinear optical crystals. <i>University of Oxford.</i> (1993)
<b>Lingard, R.J.</b>	Optical activity in the presence of linear birefringence. <i>University of Oxford.</i> (1994)
<b>Corker, D.L.</b>	Structure-property relationships in new non-linear optical borates. <i>University of Oxford.</i> (1995)
<b>Arzt, S.</b>	Measurements of optical activity and absolute optical chirality in birefringent crystals. <i>University of Oxford.</i> (1995)
<b>Lewis, J.</b>	A new optical imaging system for microscopy. <i>University of Oxford.</i> (1998)
<b>Reeve, W.</b>	New crystals in the double phosphate series. <i>University of Oxford.</i> (1999)
<b>Geday, M.</b>	Birefringence imaging microscopy. <i>University of Oxford.</i> (2001)
<b>Zekria, D.</b>	Structures and phase transition in PMN-PT <i>University of Oxford</i> (2004)
<b>Pajdzik, L.</b>	Three-dimensional birefringence imaging <i>University of Oxford</i> (2007)
<b>Zhang, N.</b>	Lead free piezoelectrics based on sodium potassium niobate <i>University of Oxford</i> (2009)
<b>Duncan-Jones, G.</b>	New algorithms in powder diffraction <i>University of Oxford</i> (2011)

---

## University Examining

Finals Examiner	1981-1983
Finals Examiner	1992
Finals Examiner	2001-2003

---

## University Administration

Graduate Admissions for whole of Physics	1985-1991
Director of Graduates for Condensed Matter Physics	1991-1994, 2003-2009
Director of Undergraduate Project Scheme	1981-1985

---

## Undergraduate Teaching for College

Tutorials in Physics (mainly thermodynamics, statistical mechanics and solid state physics)	1976-
---	-------

## College Administration

Member of Governing Body	1976-2010
College committees (Academic, Domestic)	1976 -2010
Entrance examinations in Physics	1976 -
Tutor for Graduates	1989 – 1995
Tutor for Graduates	2002 – 2003
Acting Vice-Principal	Trinity Term 2008

## Advanced Study and Research

---

### Summary of Research

#### Interests

Crystallography and phase transitions of materials of industrial interest, powder diffraction, disorder, x-ray diffraction techniques, optical properties of crystals, symmetry, instrumentation.

## Brief summary of past work

I have been interested in crystals since the age of seven, when I found my first natural mineral. This early interest remained with me and eventually took me into the field of crystallography.

The broad philosophy of the major part of my research activity has been the study of the relationship between physical properties of crystals and their crystal structures. In other words, I have been interested in what precisely in the crystal structure leads to a particular property. This subject is important both academically and technologically, since many of the properties are of use in industry. In the main, these properties are what can be termed ferroic properties: particularly, ferroelectric and ferroelastic. The materials I have studied have their importance for their electrical and optical behaviour. As a result, I have been able to have a fruitful collaboration with industry. Much of my work has been in the field of phase transitions, because it is at the phase transition that the properties change most dramatically, as does the crystal structure. By studying both together one can then obtain an idea of the relationship between the two. My group is one of the very few crystallography groups in the world that combines both crystal structure studies with physical property measurements at the same time.

I have also been interested in new techniques. Thus in the early days of synchrotron radiation work, I was one of perhaps half a dozen scientists establishing the key fundamental experiments by which synchrotron radiation could be used in crystallography. Similarly, I have built several novel types of instrument, both in x-ray diffraction (e.g. continuous-recording camera for the study of phase transitions, low and high-temperature apparatus) and in physical property measurements (e.g. automatic birefringence measurements, universal polarimeter, and very recently a new form of imaging system for a microscope, which we have patented). Some of these inventions have commercial significance, and as mentioned elsewhere, led to the establishment of Oxford Cryosystems.

---

## Major External Grants

1972-1977	Wolfson Foundation	Wolfson Unit for the Study of Phase Transitions in Dielectric Materials (transferred with me from Cambridge in 1976)
1979	SRC	X-ray studies of phase transitions in ferroic materials at different temperatures
1979-1982	SRC	Simultaneous high-pressure/high-temperature studies of ferroic crystals
1980-1981	SRC	An x-ray diffractometer for high-pressure/temperature studies of phase transitions in ferroic crystals
1981-1985	SERC	Powder diffraction with synchrotron radiation



1983-1986	SERC	Relationship between crystal structure and optical properties
1985	SERC	Automatic powder diffractometer for materials research
1985-1988	SERC	Crystal structure analysis from powder diffraction
1985-1988	Joint Research Scheme ICI	Crystal structure analysis from powder diffraction
1985-1988	SERC	Powder diffraction using synchrotron radiation and the spallation neutron source
1986	JOERS	Materials for low cost optical isolators
1987	SERC	Visiting Fellowship for J. Kobayashi
1987-1988	SERC	Powder diffraction from zeolites
1987-1990	SERC	Optical rotation in inorganic crystals
1988	ALCAN	Growth of potassium titanyl phosphate crystals
1988-1991	MOD	Structures of high-temperature superconductors
1989-1990	SERC	X-ray scattering studies of structures, structural phase transitions, surfaces and low dimensional structures (shared with R A Cowley)
1989-1991	SERC	Study of new electrooptic crystals for linear and non-linear applications
1990-1992	BT Research	Investigation of KTP derivatives
1990-1993	ORC Collaborative Research program	New optoelectronic materials
1994-1996	SERC	Role of crystal structure in periodic domain inversion (shared with Dr. P. A. Thomas, Warwick)
1995-1997	EPSRC	Structures and physical properties of perovskite PZT-based materials (shared with Prof. R. W. Whatmore, Cranfield)
1997-1998	EPSRC	Novel experiments on optical crystals
1998-2001	EPSRC	A-site substituted perovskites (shared with Dr. P.A. Thomas, Warwick)
2002-2005	EPSRC	Structures and properties of relaxor-related perovskites
2003-2006	EPSRC	Three-dimensional birefringence imaging
2006-2007	EPSRC	Three-dimensional birefringence imaging (cont.)
2008-2011	EPSRC	Crystallography and properties of lithium niobate-tantalate solid solutions: towards novel optically isotropic, electrically polar materials
2008-2012	EPSRC-NSF	Materials World Network: Nanoscale Structure-Property Relationships in Lead Free Morphotropic Phase Boundary Piezoelectrics

---

## Important scientific research publications from the Glazer Group

(Numbers refer to those marked on attached publication list at end)

- (1) The first time the so-called M3 soft mode had been identified at a phase transition and the final solution of the high-temperature structures of sodium niobate.
- (2) The derivation of all the ways in which tilts of oxygen octahedra can occur in perovskites. This led to the discovery of hitherto unknown perovskite structures. The notation developed in this paper is now accepted internationally as a means of classifying these important structures. About 100 requests for reprints were received.
- (3) The first dynamic experiment on x-ray topography using synchrotron radiation.
- (4) The first use of x-ray energy-dispersive techniques with synchrotron radiation. This paper was the subject of an article in The Times and was invited for presentation at a Conversazione of the Royal Society.
- (5) The discovery of a tricritical point in the industrially important material lead zirconate-titanate.
- (6) The first time that it was demonstrated that solid-state detectors could give meaningful intensity data with powder diffraction, in this case using synchrotron radiation.
- (7) The first time that the use of a scanning crystal was used to produce very high-resolution energy-dispersive diffraction patterns
- (8) The first time that structures could be refined from energy-dispersive powder diffraction patterns, in this case using synchrotron radiation.
- (9) The only published case of a phase transition studied by birefringence measurements as a function of temperature and hydrostatic pressure.
- (10) The development of a very sensitive automatic instrument for studying optical changes in crystals at phase transitions.
- (11) The discovery of a crystal which consisted of microregions of opposite chiralities.
- (12) The first demonstration of structure refinement from x-ray powder diffraction patterns taken with a Debye-Scherrer camera.
- (13) A demonstration that Laue photographs taken with synchrotron radiation could be used to refine crystal structures.
- (14) I was the subject of a New Scientist interview.

- (15) The development of a very stable device for cooling small single crystals in an x-ray beam. This has led to the low-temperature device currently marketed by Oxford Cryosystems.
- (16) The derivation of a computer program that enables optical activity to be calculated from the crystal structure.
- (17) In this paper we finally solved a long-standing problem in the physics of crystal optics, namely the structural origin of optical activity (the effect was discovered in 1811 and its structural origin had remained unclear until this paper). We received 174 requests for reprints of this paper. My work on optical activity was the subject of a New Scientist interview (14) published in October 1984 before this work had been completed.
- (18) One of the first papers on ab initio structure determination from powders, in this case using synchrotron radiation. For this work, Dr McCusker was the recipient of the Barrer Award of the British Zeolite Association as well as the Physical Crystallography Award of the Institute of Physics.
- (19) The first complete analysis of the so-called HAUP technique for measuring optical rotation in the presence of linear birefringence.
- (20) The prediction of the high-temperature phase symmetry of the important non-linear optic crystal KTP, later confirmed by others.
- (21) The first demonstration that circular and linear dichroism can be extracted from the HAUP technique.
- (22) & (23) The first explanation of twinning in KTP and the first determination of absolute chirality in a non-uniaxial crystal.
- (24) The first complete structure determination of lead zirconate. This is also the first case of a perovskite crystal with a disordered oxygen framework. Lead zirconate is a member of one of the most important solid-solution series, PZT, used in piezoelectric and pyroelectric transducers.
- (25) A new method of measuring optical rotation in the presence of birefringence using a tilting stage. This method is much less expensive than the HAUP technique and some 100 times faster.
- (26) A new imaging technique for separating birefringence from orientation. This effectively turns the earlier rotating-analyser method into an imaging microscope.
- (27) A neutron study of the important PZT material with the first model published of local short-range order at the Pb site. This important finding has subsequently been used to explain structures at the morphotropic phase boundary.
- (28) The imaging system is used to perform the first separation of magnitude and orientation in a conoscopic image, thus showing Airy's spiral for an optically active crystal.

(29) (30) A modern use of the traditional universal microscope stage which enables us to obtain precise three-dimensional birefringence information.

(31) Won prize for best poster on Mineralogical Crystallography by the European Mineralogical Union.

(32) The final solution (?) to a long-standing problem about the structure of PZT. Editor's recommendation.

(33) The observation for the first time of curious temperature dependent stripes in lithium tantalate and mixed lithium tantalate-niobate crystals.

(34) The first neutron study of PZT single crystals.

(35) The discovery of a new phase boundary in the important piezoelectric material PZT and an explanation of its high piezoactivity. This paper has been given the Spriggs Award 2015 by the American Ceramic Society.

(36) This paper probably finds the final explanation of piezoelectricity in PZT ceramics.

# Other Relevant Information

---

## Awards

National Medal of Polish Education for services to the OCHSPS	Warsaw	1992
E-MRS Professor Jan Czocharlski Award and Medal plus Plenary Lecture	Warsaw	2012
Spriggs Award of the American Ceramic Society	Columbus, Ohio	2015

---

## Public Engagement

Oral history for IEEE interviewed by R. Whatmore <a href="https://ethw.org/Oral-History:Mike_Glazer">https://ethw.org/Oral-History:Mike_Glazer</a>		2018
Interviews for Indian TV <a href="https://www.youtube.com/watch?v=rSETTUSbLFU">https://www.youtube.com/watch?v=rSETTUSbLFU</a> and <a href="http://tinyurl.com/ycpb6njf">http://tinyurl.com/ycpb6njf</a>	IUCr Congress Hyderabad, India	2017
Video of Bragg Lecture & Friday Evening Discourse at Royal Institution “The Wondrous World of Perovskites” <a href="https://www.youtube.com/watch?v=v9bMEUr2II4">https://www.youtube.com/watch?v=v9bMEUr2II4</a>		2017
Cheltenham Science Festival		2015
“The Two Braggs” University College London		2015
“Kathleen Lonsdale & Helen Megaw”. International Women’s Day at Warwick University		2015
The Big Bang Fair, Birmingham		2015
“The Crystal World” lecture to IOP Kent		2014
Public lecture “Crystal World” to Oxford Alumni		2014
Film on the Braggs’ Legacy for Diamond Light Source at <a href="http://www.diamond.ac.uk/Home/News/LatestNews/02-09-14.html">http://www.diamond.ac.uk/Home/News/LatestNews/02-09-14.html</a>		2014
Cheltenham Science Festival		2014
The Big Bang Fair, Birmingham		2014
“The Crystal World” lecture to Magdalen School Oxford		2014
Catalogue of Two Braggs Exhibition 2013 ( <a href="http://www.tandfonline.com/doi/suppl/10.1080/0889311X.2013.861634/suppl_file/gcry_a_861634_sm5538.pdf">http://www.tandfonline.com/doi/suppl/10.1080/0889311X.2013.861634/suppl_file/gcry_a_861634_sm5538.pdf</a> ) also <a href="http://www.amg122.com/twobraggs">http://www.amg122.com/twobraggs</a>		2014

Podcast for Royal Society of Chemistry ( <a href="http://www.rsc.org/chemistryworld/2014/01/podcast-january-2014">http://www.rsc.org/chemistryworld/2014/01/podcast-january-2014</a> )	2014
Filmed interview for Wellcome Trust <a href="http://www.ndm.ox.ac.uk/part-2-the-history-of-structural-biology">http://www.ndm.ox.ac.uk/part-2-the-history-of-structural-biology</a>	2014
Press Release for IUCr International Year ( <a href="http://www.iucr2014.org/about/media-kit">http://www.iucr2014.org/about/media-kit</a> )	12 Dec 2013
Inside Science BBC Radio 4 ( <a href="http://www.bbc.co.uk/programmes/b03kv273">http://www.bbc.co.uk/programmes/b03kv273</a> )	12 Dec 2013
Assisted with “Crystals” Exhibition at Oxford Museum of History of Science	Dec 2013 – March 2014
“The Two Braggs” public lecture at Oxford Museum of History of Science	2013
“Oxford Cryosystems” with Kat Orman, BBC Radio Oxford	2013
Organized “The Two Braggs Exhibition” at Warwick University	2013
“Bragg on the Braggs” with Melvyn Bragg BBC Radio 4 ( <a href="http://www.bbc.co.uk/programmes/b0383vb0">http://www.bbc.co.uk/programmes/b0383vb0</a> )	13 Aug 2013
“The Two Braggs”, Agilent Ltd Users Group	2013
Big Bang Fair, London	2013
“Crystal World”, Teacher’s conference for IOP Oxford	2012
Crystallography: “In Our Time”, BBC Radio 4 ( <a href="http://www.bbc.co.uk/programmes/b01p0s9s">http://www.bbc.co.uk/programmes/b01p0s9s</a> )	29 Nov 2012
“Crystal World” open lecture for Oxford Science week	2012
Schools Lecture, Oxford: “The Crystal World”	2001
Essay on "Public and Media Attitudes to Science", Today Program, BBC	1995

---

## Some Major Invited Lectures & Occasions

UK	Bragg Lecture at BCA Lancaster “The Wondrous World of Perovskites”	2017
	Bragg Lecture & Friday Evening Discourse at Royal Institution “The Wondrous World of Perovskites”	2017
	RSC History Group at Royal Institution “Influence of the Braggs on X-ray Crystallography”	2015
	St. Annes College oxford, neutron School “Legacy of the Braggs”	2015
	Lipson Centennial Liverpool “Henry Lipson: His Role in Crystallography”	2015
	BCA York “Into Deep Space”	2105
	Rank Prize Fund Grasmere: “Seeing is Believing: Birefringence Microscopy”	2009
	Wellcome Trust: Invited to open exhibition “From Atoms to Patterns”	2008

BCA Lancaster: Lonsdale Lecture "Crystals Under the Microscope" 2006

BCA Industrial Group "Crystallographic Patents & Seeding" 2005

BCA2005 Loughborough "Tutorial Session on Phase Transitions" 2005

Scottish Microscopical Society "Birefringence Imaging Microscopy" 2004

BCA2004 Manchester: "Advanced Aspects of Symmetry" 2004

EMF2003, Cambridge: "The Morphotropic Phase Boundary: My Part in its Downfall" 2003

Ferroelectrics UK 2003, Belfast: "The Morphotropic Phase Boundary: My Part in its Downfall" 2003

Chemical Crystallography Group (BCA), Bristol: "Incommensurate Diffraction as an End Member of Disorder" 1997

CMMP97<sup>1</sup>, Exeter: "Optical Properties and Crystal Structures" 1997

BCA Industrial Group: "The Future of X-ray Diffraction" 1997

Bragg Lecture: "Crystals Make Light Work" at BCA<sup>2</sup> Newcastle 1994

RSC<sup>3</sup>, Durham: "X-ray Diffraction. Can you Swear by your Results?" 1993

IOP<sup>4</sup>, Lancaster: "X-ray Diffraction. Can you Swear by your Results?" 1993

IOP, Manchester: "X-ray Diffraction. Can you Swear by your Results?" 1993

BCA, Liverpool: "X-ray Diffraction. Can you Swear by your Results?" 1992

IOP, Warwick: "X-ray Diffraction. Can you Swear by your Results?" 1992

BCA, Exeter: "Schools Lecture on Symmetry" 1990

Physical Properties and Thermodynamic Behaviour in Minerals Conference, Cambridge: "Linear and Circular Birefringence and Crystal Structure" 1988

---

<sup>1</sup> Condensed Matter Physics Meeting  
<sup>2</sup> British Crystallography Association  
<sup>3</sup> Royal Society of Chemistry  
<sup>4</sup> Institute of Physics

BCA, Nottingham: "The Powder Diffraction Facility at the  
Daresbury Laboratory" 1984  
4<sup>th</sup> EPS<sup>5</sup> General Conference, York: "X-ray Crystallography using  
White Radiation from Synchrotrons" 1978

---

<sup>5</sup> European Physical Society



## International

- ICTP, Trieste: “Then, now and ...?”  
[https://www.youtube.com/watch?v=vawmc\\_AFeYQ](https://www.youtube.com/watch?v=vawmc_AFeYQ)  
2019
- Mathcryst School, Bogotá, Colombia 2018
- Argentinian Crystallographic Association School on Phase Transitions. 3 Lectures 2018
- Argentinian Crystallographic Association “Structural Studies of  $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$ : From Average to Local Order” 2018
- AIC School Rimini, Italy “Polymorphism, stability and phase transitions in crystals” Three lectures 2016
- E-MRS Fall Meeting Warsaw “Diffuse scattering in lead zirconate and PZT” 2015
- 9<sup>th</sup> Asian Meeting on Ferroelectrics, Shanghai, China “The Missing Boundary in PZT Found at Last” 2014
- E-MRS Fall Meeting Warsaw “The Missing Boundary in PZT Found at Last” 2014
- IMF13 International Meeting on Ferroelectricity “Who was Jan Czocharalski?” Krakow, Poland 2013
- Symposium: Grants for Excellent Graduate Schools. “The Two Braggs” Waseda University, Tokyo, Japan 2013
- Swiss Physical Society. “The Two Braggs” Zurich 2012
- 6EWPM Workshop on Piezoelectric Materials “The crystal structures of PZT” Montpellier 2012
- EMF2011 European Meeting on Ferroelectricity. Bordeaux, France: “So where are we with the crystal structures of PZT?” 2011
- IWLLFM-2010 Meeting on Lead-free Piezoelectrics held in my honour in Shanghai, China 2010
- E-MRS Fall Meeting Warsaw, Poland: Symposium held in my honour. 2010
- Aspen Center for Physics: Advances in the Fundamental Physics of Ferroelectrics and Related Materials. 2010
- Pittsburgh MS & T Conference: “The structures of rhombohedral PZT” 2009
- Virginia Tech: “The structures of rhombohedral PZT. The final solution?” 2009

Chairman of Plenary session at IUCr. Osaka 2008

Vilnius: "The structural controversy in PZT" 2008

Darmstadt: Workshop on the Morphotropic Phase Boundary 2008

ECM Leeuven: Birefringence Imaging and Proteins 2006

U. di Milano: Six lecture course "Crystal Optics" 2006

ECM Durban: "The scientific life of Helen D. Megaw" 2003

University of Katowice, Poland: "The Morphotropic Phase Boundary: My Part in its Downfall" 2003

1<sup>st</sup> School on Raman Scattering, Les Houches: "Optical birefringence studies" 2002

IMF10 Madrid: "The Braggs" 2001

University of Kyushu, Japan: "Birefringence imaging at phase transitions" 2000

University of Fukuoka, Japan: "Birefringence imaging at phase transitions" 2000

ECM Nancy: "Teaching crystallography to reluctant physicists" 2000

IUCr Glasgow: "Birefringence imaging at phase transitions" 1999

German Crystallographic Association, Hamburg: "New crystal optical techniques" 1997

Gregori Aminoff Symposium, Stockholm: "Incommensurate as an End Member of Disorder", in presence of His Majesty King of Sweden 1998

IMF9<sup>6</sup>, Seoul: "Tutorial in modern crystal optics and ferroic phase  
EMF<sup>7</sup>: Nijmegen: "Optical Rotation in Crystals" 1995

Gordon Conference on Phase Transitions in Non-metallic Solids, Volterra: "Optical Activity and Crystal Structures" 1994

Norwegian Physical Society, Rondabblik: "Crystal Optics and Structures" 1994

IUCr<sup>8</sup>, Beijing: "The Journal of Applied Crystallography" 1993

DYSPROSO, Lunteren: "Optical Activity and Crystal Structures" 1993

ECM<sup>9</sup>-14, Enschede: "Throwing Light on Crystals" 1992

---

<sup>6</sup> International Meeting on Ferroelectricity

<sup>7</sup> European Meeting on Ferroelectricity

<sup>8</sup> International Union of Crystallography

<sup>9</sup> European Meeting of Crystallography

- IUCr, Bordeaux: 1990  
 (a) "The Teaching of Crystal Properties to Physics Undergraduates"  
 (b) "Chiral-polar Properties and Chiral-polar Crystal Structures"
- ECM-11, Vienna: 1988  
 (a) "Phase Transitions"  
 (b) "The Use of Polarisabilities in Determining Optical Activity"
- ECM-10, Wroclaw: "The Role of Crystal Optics in the Study of Phase Transitions" 1986
- ECM-9, Torino: "Is the Left Always Right?" 1985
- IUCr, Hamburg: "Anomalous Behaviour of Physical Properties at Phase Transitions" 1984
- X'th Conference on Applied Crystallography, Kozubnik, Poland: "High and Low-temperature X-ray Continuous-recording Experiments at Phase Transitions" 1980
- ECM-5, Copenhagen: "Birefringence Experiments on Phase Transitions in Ferroic Crystals" 1979
- IUCr, Warsaw: "Energy-dispersive Methods with Synchrotron Radiation" 1978
- Wiggler Meeting, Frascati: "X-ray Diffraction with Synchrotron Radiation" 1978
- IUCr, Kyoto: "High-temperature Phase Transitions in Sodium Niobate and the Use of Tilting Schemes in the Solution of Perovskite Structures" 1972

---

## Invited International Research Fellowships/Professorships

University/ Dept	Host	Period	Year
Waseda University, Tokyo, Japan: Physics	Prof. J. Kobayashi	1 month	1985
Uppsala University, Sweden: Chemistry	Prof. J.O. Thomas	3 months	1986
ANU, Canberra, Australia: Chemistry	Dr. T.R. Welberry	3 months	1992-1993
Waseda University, Tokyo, Japan: Physics	Prof. Y. Uesu	2 weeks	2007
Warwick University	Visiting Professorship	2011	2016
Polytechnic of St. Petersburg	Prof. S. Vakhrushev	2 weeks	2016

---

## Major Conferences Organized

International Union of Crystallography Congress Glasgow (member of organizing committee)	1999
BCA, Oxford	1989
ECM, Oxford (member of organizing committee)	1977
Helped W.H. Taylor plan 80 <sup>th</sup> birthday celebrations for W.L. Bragg	1970

---

## Invited International Examinations

Ph. D.	Department of Physics, Ecole Centrale Paris	2004
	Department of Physics in Bilbao, Spain	1994
	Department of Physics in Nijmegen, Netherlands	1995

<b>Professorship</b>	Department of Applied Chemistry, Geneva, Switzerland	1995
	Department of Chemistry, Stockholm, Sweden	2001
	Department of Physics, Oulu, Finland	2005

---

## Societies

<b>Physics</b>	Institute of Physics	1970 -2013
	American Institute of Physics	1969 -
<b>Crystallography</b>	American Crystallographic Association	1969 -
	British Crystallographic Association	1982 -
<b>Chemistry</b>	Chemical Society	1969 -
<b>General</b>	Royal Institution of Great Britain	1980 -
<b>Minerals</b>	Mineralogical Society	1999-

---

## Major External Committees

### Crystallography

Editor-in-chief of IUCr Newsletter	2018-
IUCr representative to the Executive Committee of the International Council for Scientific and Technical Information (ICSTI)	2015-
Elected Vice-President of the International Union of Crystallography (IUCr)	2014-2017
Consultant to the Commission on Crystallographic Nomenclature of the IUCr	2011-
Member of International Scientific Advisory Committee of the Electronics Division of the American Ceramics Society	2009-
Member of CCLRC Materials and Engineering Facility Access Panel	2004 -2006
President of British Crystallographic Association	1996 –2000
Past President of British Crystallographic association, Officer of Council	2000-2001
Member of Finance Committee of the International Union of Crystallography	1996 –2002
Chairman of Promotions Committee of the International Union of Crystallography	1996 –2002
Physical Crystallography Group (Inst. of Physics)	1980-1990
Chairman	1987-1990

Chairman of Chemical Crystallography Selection Committee at ISIS, Rutherford Laboratory 1985-1987

Chemistry Selection Committee at ILL, Grenoble 1990 –1995  
 appointed Chairman 1995 – 1997

Journals Commission of the International Union of Crystallography (IUCr) 1985 –2000

Committee on Nomenclature of the IUCr. 1990 –1997

Royal Society member of the British National Committee for Crystallography 1982-1987

UK delegate to the IUCr 1987-1990, 1996

Synchrotron Radiation Facility Committee of SERC 1979-1981

In 1982 Prof. Z. Pelczynski, Dr. K. Wilkes and I established the Oxford Colleges Hospitality Scheme for Polish Scholars (OCHSPS). Since then I have also been a member of the Soros Committee and a governor and treasurer of the Stefan Batory Trust.

Member of Physics College of EPSRC 1996-2002

Honorary Member of British Crystallographic Association 2005-

**General Academic**

---

**Publishing Activities**

**Editorship of International Journals**

Editor-in-Chief of PHASE TRANSITIONS 1979-2004

Co-Editor of JOURNAL OF APPLIED CRYSTALLOGRAPHY 1985 – 1990

Editor-in-Chief 1990- 2000

Board Member of Ukrainian Journal of Physical Optics 2000 -

**Other**

Member of Book Series Committee of IUCr with Clarendon Press

Member of Board of Reports in Progress in Physics

Co-editor of Condensed Matter News

Science adviser to Gordon and Breach Science Publishers

---

## **Industrial Activities**

### **Oxford Cryosystems**

In 1986 I set up with J. Cosier a partnership to market low-temperature apparatus for crystallographers. This product has secured the market lead and our firm, Oxford Cryosystems, is now the world's leading manufacturer of such equipment. We have 21 employees and most of the products are exported. In addition, we have been writing powder diffraction search-match software, which is used in Panalytical diffractometers. Oxford Cryosystems also supported a student in my group to design and build a new microscope imaging system. Oxford Cryosystems was acquired by Ferraris PLC on August 1st 2000 and then by Bionostics Inc. (USA). In 2010, we bought the company back and have resold it to Judges Ltd.

### **Consultancy**

For several years I was a consultant for the Allen Clark Research Centre (Plessey Ltd)

### **Expert Witness**

I have acted as expert witness and consultant a number of patent cases, mainly dealing with pharmaceuticals

---

---

# Publications

## Introduction

The following is a complete list of all publications of myself and others working with me in my research group. They are given in year order.

Papers marked with a number in parentheses are those of special mention.

---

## Listing

- 1968** Glazer, A.M. and S. Pramatus. (1968). Refractive indices of mixed crystals of phenazine and n-oxyphenazine. *Nature*, **217**, 58.
- Glazer, A.M. and S. Pramatus. (1968). Habit changes in mixed crystals of phenazine and n-oxyphenazine. *Nature*, **218**, 1246.
- 1969** Gougoutas, J.A., J.C. Clardy, A.M. Glazer, L. Lessinger and S. Singh. (1969). Single crystal reactions and transformations of 2-iodobenzoyl peroxides. *Acta Cryst.*, **A25**, S232.
- 1970** Glazer, A.M. (1970). IV. Mixed crystals of phenazine and n-oxyphenazine: Refinement of crystal structures. *Phil. Trans. Roy. Soc.*, **266A**, 593.
- Glazer, A.M. (1970). V. Variation of physical properties with composition of phenazine-n-oxyphenazine mixed crystals. *Phil. Trans. Roy. Soc.*, **266A**, 623.
- Glazer, A.M. (1970). VI. Short-range order in n-oxyphenazine and in mixed crystals of phenazine-n-oxyphenazine. *Phil. Trans. Roy. Soc.*, **266A**, 635.
- 1972** **(1)** Ahtee, M., A.M. Glazer and H.D. Megaw. (1972). The structures of sodium niobate between 490 and 575 C, and their relevance to soft-phonon modes. *Phil. Mag.*, **26**, 995.
- Bett, N. and A.M. Glazer. (1972). A high-temperature apparatus for accurate single crystal and powder X-ray studies. *J. Phys.*, **E5**, 1178.
- (2)** Glazer, A.M. (1972). The classification of tilted octahedra in perovskites. *Acta Cryst.*, **B28**, 3384.
- Glazer, A.M. (1972). A technique for the automatic recording of phase transitions. *J. Appl. Cryst.*, **5**, 420.
- Glazer, A.M., M. Ahtee and H.D. Megaw. (1972). High-temperature phase transitions in sodium niobate and the use of tilting schemes in the solutions of perovskite structures. *Acta Cryst.*, **28**, S179.
- 1973** Glazer, A.M. and H.D. Megaw. (1973). Studies of the lattice parameters and domains in the phase transitions of  $\text{NaNbO}_3$ . *Acta Cryst.*, **A29**, 489.
- Glazer, A.M. and H.D. Megaw. (1973). The structure of sodium niobate at 600 C, and the cubic-tetragonal transition in relation to soft-phonon modes. *Phil. Mag.*, **25**, 1119.
- 1974** Ahtee, M. and A.M. Glazer. (1974). Phase transitions in sodium niobate-potassium niobate solid



solutions. *Ferroelectrics*, **7**, 93.

Clarke, R. and A.M. Glazer. (1974). The observation of critical behavior in the thermal expansion of  $\text{PbZr}_{0.9}\text{Ti}_{0.1}\text{O}_3$ . *J. Phys.*, **C7**, 2147.

Glazer, A.M. and K. Ishida. (1974). Cation displacements and octahedral tilts in  $\text{NaNbO}_3$ : Pt I Determination from X-ray difference reflections. *Ferroelectrics*, **6**, 219.

Ishida, K. and A.M. Glazer. (1974). Cation displacements and octahedral tilts in  $\text{NaNbO}_3$ :Pt II Relationship between birefringence and structure. *Ferroelectrics*, **6**, 293.

**1975** **(3)** Bordas, J., A.M. Glazer and H. Hauser. (1975). X-ray topography of phase transitions using synchrotron radiation. *Phil. Mag.*, **32**, 471.

Clarke, R. and A.M. Glazer. (1975). Critical phenomena in ferroelectric crystals of lead zirconate-titanate. *Acta Cryst.*, **A31**, S194.

Glazer, A.M. (1975). Recent applications of ferroelectrics, *The Encyclopaedic Dictionary of Physics*, (Pergamon)

Glazer, A.M. (1975). Simple ways of determining perovskite structures. *Acta Cryst.*, **A31**, 756.

Whatmore, R.W. and A.M. Glazer. (1975). First-order phase transitions in modified lead zirconate. *Acta Cryst.*, **A31**, S194.

**1976** Ahtee, A., M. Ahtee, A.M. Glazer and A.W. Hewat. (1976). The structure of orthorhombic  $\text{SrZrO}_3$  by neutron powder diffraction. *Acta Cryst.*, **B32**, 3243.

Ahtee, M. and A.M. Glazer. (1976). Lattice parameters and tilted octahedra in sodium-potassium niobate solid solutions. *Acta Cryst.*, **A32**, 434.

Ahtee, M. and A.M. Glazer. (1976). High-temperature phases of sodium niobate-potassium niobate solid solutions. *Ferroelectrics*, **12**, 205.

**(4)** Bordas, J., I.H. Munro and A.M. Glazer. (1976). Small-angle scattering experiments on biological materials using synchrotron radiation. *Nature*, **262**, 541.

Clarke, R. (1976). Phase transition studies of pure and flux-grown barium titanate. *J. Appl. Cryst.*, **9**, 335.

Clarke, R. and A.M. Glazer. (1976). The ferroelectric-ferroelectric transition in rhombohedral lead zirconate-titanate. *Ferroelectrics*, **12**, 207.

**(5)** Clarke, R. and A.M. Glazer. (1976). Critical phenomena in ferroelectric crystals of lead zirconate-titanate. *Ferroelectrics*, **14**, 695.

Clarke, R., A.M. Glazer, F.W. Ainger, D. Appleby, N.J. Poole and S.G. Porter. (1976). Phase transitions in lead zirconate-titanate and their applications in thermal detectors. *Ferroelectrics*, **11**, 359.

Clarke, R. and R.E. Morley. (1976). An automatic system for X-ray studies of phase transitions at low temperatures. *J. Appl. Cryst.*, **9**, 481.

Clarke, R. and R.W. Whatmore. (1976). The growth and characterisation of  $\text{PbZr}_x\text{Ti}_{1-x}\text{O}_3$  single crystals. *J. Crystal Growth*, **33**, 29.

Clarke, R., R.W. Whatmore and A.M. Glazer. (1976). The growth and characterization of  $\text{PbZr}_x\text{Ti}_{1-x}\text{O}_3$  single crystals. *Ferroelectrics*, **13**, 497.

- Jan, N. and A.M. Glazer. (1976). The effects of cell size on the first-order cumulant expansion in the renormalisation group transformation. *Phys. Lett.*, **59A**, 3.
- Kamimura, H., A.M. Glazer, A.J. Grant, Y. Natsume, M. Schreiber and A.D. Yoffe. (1976). The band structure and optical properties of sulphur nitride polymer: I. Band structure. *J. Phys.*, **C9**, 291.
- 1977** (6) Bordas, J., A.M. Glazer, C.J. Howard and A.J. Bourdillon. (1977). Energy-dispersive diffraction from polycrystalline materials using synchrotron radiation. *Phil. Mag.*, **35**, 311.
- 1978** Ahtee, M., A.M. Glazer and A.W. Hewat. (1978). High-temperature phases of SrZrO<sub>3</sub>. *Acta Cryst.*, **B34**, 752.
- (7) Bourdillon, A.J., A.M. Glazer, M. Hidaka and J. Bordas. (1978). High-resolution energy-dispersive diffraction using synchrotron radiation. *J. Appl. Cryst.*, **11**, 684.
- Burns, G. and A.M. Glazer. (1978). *Space Groups for Solid State Scientists*. (Academic Press, New York).
- David, W.I.F. and A.M. Glazer. (1978). Structural studies of ferroelastic BiVO<sub>4</sub>. *Acta Cryst.*, **A34**, S306.
- Glazer, A.M. (1978). X-ray diffraction with synchrotron radiation, *Proceedings of the Wiggler Meeting (Frascati)*, page 139
- Glazer, A.M. and M. Hidaka. (1978). Energy-dispersive methods with synchrotron radiation. *Acta Cryst.*, **A34**, S331.
- (8) Glazer, A.M., M. Hidaka and J. Bordas. (1978). Energy-dispersive powder profile refinement using synchrotron radiation. *J. Appl. Cryst.*, **11**, 165.
- Glazer, A.M., S.A. Mabud and R. Clarke. (1978) Powder profile refinement of lead zirconate-titanate at several temperatures I. PbZr<sub>x</sub>Ti<sub>1-x</sub>O<sub>3</sub>. *Acta Cryst.*, **B34**, 1060.
- Glazer, A.M. and S.A. Mabud. (1978).. Powder profile refinement of lead zirconate-titanate at several temperatures II. PbTiO<sub>3</sub>. *Acta Cryst.*, **B34**, 1065.
- Hidaka, M. and N. Niimura. (1978). X-ray diffractometry using synchrotron radiation at NINA and DESY (in Japanese). *J. Cryst. Soc. Japan*, **20**, 210.
- Jan, N. and A.M. Glazer. (1978). Kadanoff's approximate renormalisation group transformation applied to the triangular Ising lattice. *Physica*, **91A**, 461.
- Whatmore, R.W., R. Clarke and A.M. Glazer. (1978). Tricritical behaviour in PbZr<sub>x</sub>Ti<sub>1-x</sub>O<sub>3</sub> solid solutions. *J. Phys.*, **C11**, 3089.
- 1979** Buras, B., L. Gerward, A.M. Glazer, M. Hidaka and J. Staun Olsen. (1979). Quantitative structural studies by means of the energy-dispersive method with X-rays from a storage ring. *J. Appl. Cryst.*, **12**, 531.
- David, W.I.F., A.M. Glazer and A.W. Hewat. (1979). The structure and phase transition in ferroelastic BiVO<sub>4</sub>. *Phase Trans.*, **1**, 155.
- Glazer, A.M. (1979). X-ray crystallography using white radiation from synchrotrons. *4th E.P.S. Gen. Conf., J. Phys.*, 515.
- Guimaraes, D.M.C. (1979). Ferroelastic transformations in lead orthophosphate and its structure as a function of temperature. *Acta Cryst.*, **A35**, 108.

- Guimaraes, D.M.C. (1979). Temperature dependence of lattice parameters and spontaneous strain in  $\text{Pb}_3(\text{PO}_4)_2$ . *Phase Trans.*, **1**, 143.
- Hidaka, M., B.J. Garrard and B.M. Wanklyn. (1979). Structural phase transitions in  $\text{KMF}_4$  (M=Fe, Ti, V). *J. Phys.*, **C12**, 2737.
- Hidaka, M. and P.J. Walker. (1979). A comment on the structure of  $\text{K}_2\text{CuF}_4$ . *Sol. St. Comm.*, **31**, 383.
- Hidaka, M., I.G. Wood and B.J. Garrard. (1979). Structural phase transitions in  $\text{CsVF}_4$  above room temperature. *Phys. Stat. Sol.*, **56a**, 349.
- Hidaka, M., I. Wood, B.M. Wanklyn and B.J. Garrard. (1979). Two-dimensional structural phase transitions of  $\text{RbFeF}_4$  AND  $\text{CsFeF}_4$ . *J. Phys.*, **C12**, 1799.
- Hidaka, M., I.G. Wood and F.R. Wondre. (1979). Structural phase transitions in  $\text{CsFeF}_4$  below room temperature. *J. Phys.*, **C12**, 4179.
- Jan, N. (1979). Kadanoff's variational approximation applied to the two- and three-dimensional antiferromagnetic Ising lattices. *J. Phys.*, **C12**, 3771.
- Mabud, S.A. and A.M. Glazer. (1979). Lattice parameters and birefringence in  $\text{PbTiO}_3$  single crystals. *J. Appl. Cryst.*, **12**, 49.
- Robertson, D.S., I.M. Young, F.W. Ainger, C. O'hara and A.M. Glazer. (1979). The effect of impurities on the piezoelectric properties of lithium germanate. *J. Phys.*, **D12**, 611.
- Sakata, M., M. Hidaka and J.S. Storey. (1979). A comment on the phase transition in  $\text{RbCaF}_3$ . *Sol. St. Comm.*, **32**, 813.
- Whatmore, R.W. and A.M. Glazer. (1979). Structural phase transitions in lead zirconate. *J. Phys.*, **C12**, 1505.
- Wood, I.G., A.M. Glazer and W.I.F. David. (1979). Birefringence experiments on phase transitions in ferroic crystals, *Abstracts of European Crystallography Meeting, Copenhagen*,
- 1980** Cosier, J., A.M. Glazer, T.J. Hastings, D.T. Smith and I.G. Wood. (1980). Microprocessor control of high-temperature X-ray diffraction experiments. *J. Phys.*, **E14**, 170.
- Glazer, A.M. and M. Hart. (1980). A new era in X-ray crystallography. *Physics Bull.*, **31**, 278.
- Mabud, S.A. (1980). The morphotropic phase boundary in PZT solid solutions. *J. Appl. Cryst.*, **13**, 211.
- Stadnicka, K. and A.M. Glazer. (1980). Structure and disorder in dicalcium barium propionate (DBP). *Acta Cryst.*, **B36**, 2977.
- Stadnicka, K., A.M. Glazer and S. Singh. (1980). Structure and disorder in ferroelectric dicalcium metal propionates. *Proc. Xth Conference on Appl. Cryst.; Kozubnik; Poland*.
- (9)** Wood, I.G., W.I.F. David, A.M. Glazer and B. Welber. (1980). Birefringence at simultaneous high pressure and temperature: ferroelastic phase transition in  $\text{BiVO}_4$ . *J. Appl. Cryst.*, **13**, 224.
- (10)** Wood, I.G. and A.M. Glazer. (1980). Birefringence measurements using the rotating-analyser method: ferroelastic phase transitions in  $\text{BiVO}_4$  (I). *J. Appl. Cryst.*, **13**, 217.
- Wood, I.G., V.K. Wadhawan and A.M. Glazer. (1980). Temperature dependence of spontaneous birefringence in ferroelastic lead orthophosphate. *J. Phys.*, **C13**, 5155.

- 1981** Allen, S., J. Cosier, T.J. Hastings, D.T. Smith, I.G. Wood and A.M. Glazer. (1981). A microprocessor-controlled continuous-flow cryostat for single-crystal X-ray diffraction studies. *Acta Cryst.*, **A37**, C317.
- Glazer, A.M., K. Stadnicka and S. Singh. (1981). The structure and optical activity of the paraelectric phase of dicalcium strontium propionate. *J. Phys.*, **C14**, 5011.
- (11)** Singh, S. and A.M. Glazer. (1981). X-ray diffuse scattering in dicalcium barium propionate. *Acta Cryst.*, **A37**, 804.
- Thompson, P. and A.M. Glazer. (1981). X-ray powder diffraction studies using synchrotron and conventional radiation sources. *Acta Cryst.*, **A37**, C306.
- Thompson, P., A.M. Glazer, A. Albinati and J. Worgan. (1981). A pilot study of the use of unfocused monochromatic radiation from a storage ring in powder diffraction. *J. Appl. Cryst.*, **14**, 315.
- Wadhawan, V.K. and A.M. Glazer. (1981). Evidence for a tricritical point in the ferroelastic solid-solution series  $\text{Pb}_3(\text{P}_{1-x}\text{V}_x\text{O}_4)_2$ . *Phase Trans.*, **2**, 75.
- Wood, I.G. and A.M. Glazer. (1981). Optical birefringence studies of ferroic crystals using modulation methods. *Acta Cryst.*, **A37**, C107.
- Wood, I.G., Yin Qing-ru and R.W. Whatmore. (1981). Temperature dependence of the lattice parameters of nickel-bromine boracite between 25 and 200 C. *Phase Trans.*, **2**, 85.
- 1982** Allen, S., J. Cosier, A.M. Glazer, T.J. Hastings, D.T. Smith and I.G. Wood. (1982). A microprocessor-controlled continuous-flow cryostat for single-crystal X-ray diffraction in the range 10-300K. *J. Appl. Cryst.*, **15**, 382.
- Hazen, R.M. and J. Mariathasan. (1982). Bismuth vanadate -- a high-pressure, high-temperature crystallographic study of the ferroelastic-paraelectric phase transition. *Science*, **216**, 991.
- Matthewman, J.C., P. Thompson and P.J. Brown. (1982). The Cambridge Crystallography Subroutine Library. *J. Appl. Cryst.*, **15**, 167.
- Stadnicka, K. and A.M. Glazer. (1982). Birefringence and lattice parameters of dicalcium barium acrylate and related compounds. *Phase Trans.*, **2**, 293.
- Stadnicka, K., A.M. Glazer, S. Singh and J. Sliwinski. (1982). The structure and spontaneous polarisation of the ferroelectric phase of dicalcium strontium propionate. *J. Phys.*, **C15**, 2577.
- 1983** David, W.I.F. (1983). Structural relationships between spontaneous strain and acoustic properties in ferroelastics. *J. Phys.*, **C16**, 2455.
- David, W.I.F. (1983). Ferroelastic phase transition in  $\text{BiVO}_4$  III. Thermodynamics. *J. Phys.*, **C16**, 5093.
- David, W.I.F. (1983). Ferroelastic phase transition in  $\text{BiVO}_4$  IV. Relationships between spontaneous strain and acoustic properties. *J. Phys.*, **C16**, 5119.
- David, W.I.F. (1983). Transition temperature, spontaneous strain and atomic displacement relationships in ferroelastics. *Mat. Res. Bull.*, **18**, 809.
- David, W.I.F. and I.G. Wood. (1983). Ferroelastic phase transition in  $\text{BiVO}_4$  V. Temperature dependence of Bi displacement and spontaneous strains. *J. Phys.*, **C16**, 5124.
- David, W.I.F. and I.G. Wood. (1983). Ferroelastic phase transition in  $\text{BiVO}_4$  VI. Some comments on the relationship between spontaneous deformation and domain walls in ferroelastics. *J. Phys.*, **C16**,

5149.

Glazer, A.M. and K. Stadnicka. (1983). Structure of and disorder in dicalcium barium cyclopropane carboxylic acid, *Abstracts of European Crystallography Meeting, Copenhagen*,

(12) Thompson, P. and I.G. Wood. (1983). X-ray Rietveld refinement using Debye-Scherrer geometry. *J. Appl. Cryst.*, **16**, 458.

Wood, I.G. and J. Cosier. (1983). A simple continuous-flow cryostat for optical microscopy in the range 4-350k. *J. Phys.*, **E16**, 687.

(13) Wood, I.G., P. Thompson and J.C. Matthewman. (1983). A crystal structure refinement from Laue photographs taken with synchrotron radiation. *Acta Cryst.*, **B39**, 543.

**1984** (14) Lamb, J. (1984). Looking through a glass lightly. *New Scientist "Microcomputers in Science Supplement"*, 16-17.

Bismayer, U., A.M. Glazer and J. Cosier. (1984). Ferroelastic phases and order parameter treatment in  $Pb_3(P_{1-x}As_xO_4)_2$ . *Acta Cryst.*, **A40**, C134.

David, W.I.F. (1984). Soft acoustic subspaces at elastic phase transitions. *J. Phys.*, **C17**, 385.

Glazer, A.M. (1984). Anomalous behaviour of physical properties at phase transitions. *Acta Cryst.*, **A40**, C118.

Glazer, A.M., P. Groves and D.T. Smith. (1984). Automatic sampling circuit for ferroelectric hysteresis loops. *J. Phys.*, **E17**, 95.

Glazer, A.M., J.R.L. Moxon, K. Stadnicka and P.A. Thomas. (1984). On the correlation between structure and optical activity of crystals. *Acta Cryst.*, **A40**, C150.

Groves, P. and A.M. Glazer. (1984). The role of B site cation disorder in diffuse transition behaviour of  $Pb(In_{0.5}Nb_{0.5})O_3$  perovskite ferroelectric. *Acta Cryst.*, **A40**, C139.

Hatton, P.D., P. Thompson and A.M. Glazer. (1984). An X-ray powder diffractometer at the Daresbury synchrotron radiation source. *Acta Cryst.*, **A40**, C395.

Singh, S. (1984). Absolute structure of dicalcium lead propionate. *J. Phys.*, **C17**, 5421.

Singh, S. and F. Wondre. (1984). The change in symmetry at the I-II phase transition in dicalcium barium propionate. *Acta Cryst.*, **A40**, C139.

Singh, S. and F.R. Wondre. (1984). The change in symmetry at the I-II phase transition in dicalcium barium propionate. *Phase Trans.*, **4**, 241.

Stadnicka, K. and A.M. Glazer. (1984). The crystal structure and disorder in dicalcium barium cyclopropanecarboxylate. *Acta Cryst.*, **B40**, 139.

Welberry, T.R. and A.M. Glazer. (1984). Measurement of disorder-diffuse X-ray scattering using a diffractometer. *Acta Cryst.*, **A40**, C341.

Wood, I.G. (1984). Spontaneous birefringence of ferroelastic  $BiVO_4$  and  $LaNbO_4$  between 10K and  $T_C$ . *J. Phys.*, **C17**, L539.

**1985** Bismayer, U., A.M. Glazer and K. Stadnicka. (1985). Optical retardation as function of temperature in the DSP-DLP mixed crystals, *Abstracts of European Crystallography Meeting, Torino*,

Glazer, A.M. (1985). Is the left always right?, *Abstracts of European Crystallography Meeting*,

Copenhagen,

Groves, P. (1985). Low-temperature studies of lead scandium tantalate. *J. Phys.*, **C18**, L1073.

Groves, P. (1985). Phase transitions and ordering studies in barium indium niobate and lead indium niobate perovskite ferroelectrics. *Phase Trans.*, **5**, 197.

Groves, P. (1985). Fabrication and characterisation of ferroelectric lead indium niobate. *Ferroelectrics*, **65**, 67.

Hazen, R.M., L.W. Finger and J. Mariathasan. (1985). High-pressure crystal chemistry of scheelite-type tungstates and molybdates. *J. Phys. Chem. Sol.*, **46**, 253.

Mariathasan, J., L.W. Finger and R.M. Hazen. (1985). High-pressure behaviour of  $\text{LaNbO}_4$ . *Acta Cryst.*, **B41**, 179.

Randall, C.A., D.J. Barber, R.W. Whatmore and P. Groves. (1985). A TEM study of ordering in the perovskite,  $\text{Pb}(\text{Sc}_{0.5}\text{Ta}_{0.5})\text{O}_3$ . *J. Mat. Sci.*, **21**, 4456.

Stadnicka, K., A.M. Glazer and J.R. Moxon. (1985). The structural chirality and optical activity of  $\text{LiIO}_3$ . *J. Appl. Cryst.*, **18**, 237.

Thomas, M.G.S.R., W.I.F. David, J.B. Goodenough and P. Groves. (1985). Synthesis and structural characterisation of the normal spinel  $\text{Li}(\text{Ni}_2)\text{O}_4$ . *Mat. Res. Bull.*, **20**, 1137.

Welberry, T.R. and A.M. Glazer. (1985). A comparison of Weissenberg and diffractometer methods for the measurement of diffuse scattering from disordered molecular crystals. *Acta Cryst.*, **A41**, 394.

**1986** Bismayer, U., E. Salje, A.M. Glazer and J. Cosier. (1986). Effect of strain-induced order-parameter coupling on the ferroelastic behaviour of lead phosphate-arsenate. *Phase Trans.*, **6**, 129.

**(15)** Cosier, J. and A.M. Glazer. (1986). A nitrogen-gas-stream cryostat for general X-ray diffraction studies. *J. Appl. Cryst.*, **19**, 105.

**(16)** Devarajan, V. and A.M. Glazer. (1986). Theory and computation of optical rotatory power in inorganic crystals. *Acta Cryst.*, **A42**, 560.

Glazer, A.M. (1986). International tables for crystallography: Brief teaching edition of Volume A: Space group symmetry. *Acta Cryst.*, **A41**, 394.

**(17)** Glazer, A.M. and K. Stadnicka. (1986). On the origin of optical activity in crystal structures. *J. Appl. Cryst.*, **19**, 108.

Groves, P. (1986). Structural phase transitions and long-range order in ferroelectric perovskite lead indium niobate. *J. Phys.*, **C19**, 111.

Groves, P. (1986). Structural, dielectric and optical properties of ferroelectric lead indium pyroniobate. *J. Phys.*, **C19**, 111.

Groves, P. (1986). The influence of B site cation order on the phase transition behaviour of antiferroelectric lead indium niobate. *J. Phys.*, **C19**, 5103.

Groves, P. (1986). Structural, dielectric and optical properties of ferroelectric lead indium niobate. *J. Phys.*, **C19**, 2811.

Groves, P. (1986). Antiferroelectricity in the pseudotetragonal phase of lead indium niobate. *Phase Trans.*, **6**, 113.

- Mariathasan, J.W.E., R.M. Hazen and L.W. Finger. (1986). Crystal structure of the high-pressure form of  $\text{BiVO}_4$ . *Phase Trans.*, **6**, 165.
- Stadnicka, K., M. Koralewski and A.M. Glazer. (1986). Crystal structure-optical activity relationship in  $\alpha$ -nickel sulfate hexahydrate, *Abstracts of European Crystallography Meeting, Wroclaw*,
- Waskowska, A. and A.M. Glazer. (1986). Optical birefringence of  $\text{RbHSeO}_4$ . *J. Phys.*, **C19**, 6221.
- Zhang Dao-fan. (1986). Optical study of the phase transitions in  $\text{LiKSO}_4$ . *Phase Trans.*, **7**, 41.
- 1987** El-Mallah, H., B.E. Watts and B. Wanklyn. (1987). Birefringence of  $\text{CaTiO}_3$  and  $\text{CdTiO}_3$  single crystals as a function of temperature. *Phase Trans.*, **9**, 235.
- Glazer, A.M. (1987). *The Structures of Crystals.* , (Hilger, Bristol).
- Groves, P. and J. Leal-Gonzalez. (1987). The field-enforced phase transition in 8.2/70/30 PLZT. *Phase Trans.*, **9**, 23.
- Stadnicka, K., A.M. Glazer and M. Koralewski. (1987). Crystal structure, absolute configuration and optical activity of  $\alpha$ - $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$ . *Acta Cryst.*, **B43**, 326.
- Wood, I.G. (1987). Temperature dependence of domain walls in  $\text{LaNbO}_4$  and their relation to the spontaneous strain. *Phase Trans.*, **9**, 269.
- 1988** Briscoe, N.A., D.W. Johnson, M.D. Shannon, G.T. Kokotailo and L.B. McCusker. (1988). The framework topology of zeolite EU-1. *Zeolites*, **8**, 74.
- Glazer, A.M. (1988). Linear and circular birefringence and crystal structure, *Physical Properties and Thermodynamic Behaviour of Minerals*, page 185
- Glazer, A.M. (1988). The use of polarisabilities in determining optical activity. *Zeits. Krist.*, **185**, 106.
- Kobayashi, J., T. Asahi, S. Takahashi and A.M. Glazer. (1988). Evaluation of the systematic errors of polarimetric measurements: application to measurements of the gyration tensors of  $\alpha$ -quartz by HAUP. *J. Appl. Cryst.*, **21**, 479.
- Koralewski, M., A.M. Glazer and A. Czarnecka. (1988). On the optical birefringence of TGS-type crystals. *Ferroelectrics*, **80**, 261.
- (18)** McCusker, L.B. (1988). The ab-initio structure determination of sigma-2 (a new clathrasil phase) from synchrotron powder diffraction data. *J. Appl. Cryst.*, **21**, 305.
- Moxon, J.R.L. and A.R. Renshaw. (1988). Improved techniques for the simultaneous measurement of optical activity and circular dichroism in birefringent crystal sections. *Zeits. Krist.*, **185**, 636.
- Ratuszna, A. and A.M. Glazer. (1988). X-ray and optical retardation: evidence of structural phase transitions in  $(\text{K}_x\text{Na}_{1-x})\text{MnF}_3$  perovskite-type compounds. *Phase Trans.*, **12**, 347.
- Stadnicka, K., A.M. Glazer and M. Koralewski. (1988). Crystal structure and absolute optical chirality of zinc selenate hexahydrate. *Acta Cryst.*, **B44**, 356.
- Stadnicka, K., A.M. Glazer and M. Koralewski. (1988). Optical rotation and crystal structures of  $\text{ZnSeO}_4 \cdot 6\text{H}_2\text{O}$  and  $\text{Tm}_2\text{Ge}_2\text{O}_7$ . *Zeits. Krist.*, **185**, 639.
- Tylczynski Z., M. Koralewski and A.M. Glazer (1988). Low-temperature dependence of some physical properties of  $\text{Cs}_2\text{CuCl}_4$  crystals. *Ferroelectrics*, **79**, 515.
- Swindells, D.C.N. and J. Leal Gonzalez. (1988). Crystal structure, optical activity and absolute

- configuration of  $\text{Bi}_{12}\text{TiO}_{20}$ . *Acta Cryst.*, **B44**, 12.
- Thomas, P.A. (1988). The crystal structure and absolute optical chirality of paratellurite,  $\alpha\text{-TeO}_2$ . *J. Phys. C.*, **21**, 4611.
- Thomas, P.A. and E. Gomes. (1988). Optical activity in barium nitrite monohydrate and tellurium dioxide. *Zeits. Krist.*, **185**, 642.
- 1989** Glazer, A.M. and K. Stadnicka. (1989). On the use of the term 'absolute configuration' in crystallography. *Acta Cryst.*, **B44**, 356.
- Thomas, P.A. (1989). From atomic positions to nonlinear optical properties in the  $\text{KTiOPO}_4$  family of second harmonic generators, *Proc. IOP Intern. Conf. on Nonlinear and Electrooptic Materials (Cambridge)*,
- Thomas, P.A. and E. Gomes. (1989). Absolute chirality and crystal structure of barium nitrite monohydrate. *Acta Cryst.*, **B45**, 348.
- Wadhawan, V.K. and A.M. Glazer. (1989). Prototype symmetry of the ferroelastic superconductor  $\text{Y-Ba-Cu-O}$ . *Phys. Rev.*, **39B**, 9631.
- Baba-Kishi, K.Z., R.A. Camps and P.A. Thomas. (1990). Transmission electron microscope studies of the crystal structure of  $\text{Y}_2\text{Cu}_2\text{O}_5$  and the nature of the non-planar defects in  $\text{Y}_2\text{Cu}_2\text{O}_5$ . *J. Phys.: Condensed Matter*, **2**, 5085.
- 1990** Banys, J., A.M. Glazer, F.R. Wondre and J. Grigas. (1990). Study of structural phase transitions in  $\text{TlAB}_2$  (A=Ga, In; B=S, Se). *Ferroelectrics*, **110**, 157.
- Banys, J., F.R. Wondre and G. Guseinov. (1990). Powder diffraction study of  $\text{TlGaTe}_2$ ,  $\text{TlInTe}_2$  and  $\text{TlInSe}_2$ . *Materials Letts.*, **9**, 269.
- Burns, G. and A.M. Glazer. (1990). *Space Groups for Solid State Scientists.* , (Academic Press, New York).
- Glazer, A.M. (1990). Chiral-polar properties and chiral-polar crystal structures. *Acta Cryst.*, **A46**, C359.
- Glazer, A.M. (1990). The teaching of crystal properties to physics undergraduates. *Acta Cryst.*, **A46**, C459.
- (19)** Moxon, J.R.L. and A.R. Renshaw. (1990). The simultaneous measurement of optical activity and circular dichroism in birefringent linearly dichroic crystal sections I. Introduction and description of method. *J. Phys. C.*, **2**, 6807.
- Moxon, J.R.L., A.R. Renshaw and I.J. Tebbutt. (1990). The calculation and measurement of the gyration tensors of  $\text{LiIO}_3$  AND  $\text{TeO}_2$ . *Acta Cryst.*, **A46**, C365.
- Przeslawski, J., A.M. Glazer and Z. Czaplá. (1990). Linear birefringence and negative isotropic effect in  $\text{LiRb}_4\text{H}_3(\text{SO}_4)_4$  crystals. *Sol. St. Comm.*, **74**, 1165.
- Przeslawski, J., A.M. Glazer and H. Schlemmbach. (1990). Temperature dependence of birefringence in TSCC crystal, *Kongress und Tagung Berichte, Martin-Luther-Halle-Wittenberg Universita*, page 48
- Roberts, A.L.U. (1990). X-ray powder diffraction of Bi-Sr-Ca-Cu-O superconductors in the temperature range 80 K to 950°C. *Acta Cryst.*, **A46**, C326.
- Stadnicka, K., A.M. Glazer and U. Bismayer. (1990). The phase diagram of dicalcium strontium/lead



propionate. *Phase Trans.*, **27**, 73.

Stadnicka, K., A.M. Glazer, M. Koralewski and B.M. Wanklyn. (1990). Structure and absolute optical chirality of thulium pyrogermanate. *J. Phys.:Condensed Matter*, **2**, 4795.

Thomas, P.A. (1990). Inorganic nonlinear materials, *Physics World*, **3**, page 34

Thomas, P.A., A.M. Glazer, S. Mayo and A. Fitzmaurice. (1990). An investigation of structure-property relationships in crystals of the  $\text{KTiOPO}_4$  family. *Acta Cryst.*, **A46**, C365.

**(20)** Thomas, P.A., A.M. Glazer and B.E. Watts. (1990). The crystal structure and nonlinear optical properties of  $\text{KTiOPO}_4$  and its structural analogue  $\text{KSnOPO}_4$ . *Acta Cryst.*, **B46**, 333.

Thomas, P.A. and B.E. Watts. (1990). An Nb-doped analogue of  $\text{KTiOPO}_4$ ; structural and nonlinear optical properties. *Sol. St. Comm.*, **73**, 97.

Williams, C. (1990). Structural studies of the two polymorphs of 1-phenyl(3-nitroethyl)-2-pyrazoline. *Acta Cryst.*, **A46**, C365.

**1991** Gomes, E. (1991). Optical rotatory dispersion and absolute optical chirality of strontium and calcium dithionate tetrahydrate. *Acta Cryst.*, **B47**, 7.

Gomes, E. (1991). Crystal structures of strontium and lead dithionate tetrahydrate. *Acta Cryst.*, **B47**, 12.

**(21)** Moxon, J.R.L., A.R. Renshaw and I.J. Tebbutt. (1991). The simultaneous measurement of optical activity and circular dichroism in birefringent linearly dichroic crystal sections II. Description of apparatus and results for quartz, nickel sulphate hexahydrate and benzil. *J. Phys.*, **D24**, 1187.

Roberts, A.L.U., S.C. Mayo, N.C. Woolsey, A.M. Glazer and K.J.P. O'Reilly. (1991). Application of synchrotron anomalous scattering to study the modulated structure of  $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ . *Sol. State Comm.*, **78**, 381.

**(22)** Thomas, P.A. and A.M. Glazer. (1991). Potassium titanyl phosphate,  $\text{KTiOPO}_4$ . II. Structural interpretation of twinning, ion exchange and domain inversion. *J. Appl. Cryst.*, **24**, 968.

**(23)** Thomas, P.A., I.J. Tebbutt and A.M. Glazer. (1991). Potassium titanyl phosphate,  $\text{KTiOPO}_4$ . I. Experimental investigation of optical gyration, absolute optical chirality and twinning. *J. Appl. Cryst.*, **24**, 963.

**1992** Corker, D.L. (1992). The search for new electro-optic crystals in the borate family, *Abstracts of European Crystallography Meeting, Enschede*,

de Wolff, P.M., Y. Billiet, J.D.H. Donnay, W. Fischer, R.B. Galiulin, A.M. Glazer, T. Hahn, M. Senechal, D.P. Shoemaker, H. Wondratschek, A.J.C. Wilson and S.C. Abrahams. (1992). Symbols for symmetry elements and symmetry operations. *Acta Cryst.*, **A48**, 727.

Fitzmaurice, A.J. (1992). Measurement of the non-linear optical properties of small crystals, *Abstracts of European Crystallography Meeting, Enschede*,

Glazer, A.M. (1992). Throwing light on crystals, *Abstracts of European Crystallography Meeting, Enschede*,

Lingard, R.J., S. Arzt, S. Brozek, J. Przeslawski and R. Jakubas. (1992). The investigation of optical activity in birefringent crystal sections, *Abstracts of European Crystallography Meeting, Enschede*,

Mayo, S.C., P.A. Thomas and G. Loiacano. (1992). The structures of tungstate-flux grown  $(\text{K}_{0.95}\text{Tl}_{0.05})\text{TiOAsPO}_4$  AND  $\text{KTiOAsO}_4$ , *Abstracts of European Crystallography Meeting, Enschede*,

- Stadnicka, K., A. Madej, I.J. Tebbutt and A.M. Glazer. (1992). Absolute optical chirality of ammonium dihydrogen phosphate. *Acta Cryst.*, **B48**, 16.
- Thomas, P.A., R. Duhlev, S.J. Teat and A.M. Glazer. (1992). Structural and optical properties of rubidium ion-exchanges waveguides in  $\text{KTiOPO}_4$  and comparison with crystals of the  $\text{Rb}_x\text{K}_{1-x}\text{TiOPO}_4$  series, *Abstracts of European Crystallography Meeting, Enschede*,
- Thomas, P.A., S.C. Mayo and B. Watts. (1992). The structures of  $\text{RbTiOAsO}_4$ ,  $\text{KTiO}(\text{P}_{0.58}\text{As}_{0.42})\text{O}_4$ ,  $\text{RbTiOPO}_4$  and  $(\text{Rb}_{0.465}\text{K}_{0.535})\text{TiOPO}_4$  and analysis of pseudosymmetry in crystals of the  $\text{KTiOPO}_4$  family. *Acta Cryst.*, **B48**, 401.
- 1993** Duhlev, R., C.W. Pitt, P.A. Thomas, A.G. James and G.W. Grime. (1993). Studies of Rb-ion-exchanged  $\text{KTiOPO}_4$  waveguides by X-ray diffraction, SIMS, electron and proton microprobe analysis and comparison with optical refractive index profiles, *EOS/SPIE Proceedings Vol 1985. Physical Concepts and Materials for Novel Optoelectronic Device Applications II*,
- Glazer, A.M. (1993). Comment on the paper "Correlating the optical rotation of  $\alpha$ -quartz with a skew matrix of a dielectric tensor" by Szu-Lin Chen (*Acta Cryst.*, **A49**, 148-154, 1993). *Acta Cryst.*, **A49**, 789.
- Glazer, A.M. (1993). Journal of Applied Crystallography. *Acta Cryst.*, **A49**, suppl.412.
- (24)** Glazer, A.M., K. Roleder and J. Dec. (1993). The crystal structure and disorder in single-crystal lead zirconate  $\text{PbZrO}_3$ . *Acta Cryst.*, **B49**, 846.
- Hester, J.R., E.N. Maslen, A.M. Glazer and K. Stadnicka. (1993). Jahn-Teller distortion of the electron-density of  $\alpha$ -nickel sulfate hexahydrate. *Acta Cryst.*, **49**, 641.
- Stadnicka, K., A.M. Glazer and S. Arzt. (1993). The absolute optical chirality of  $\text{KLiSO}_4$ . *J. Appl. Cryst.*, **26**, 555.
- 1994** Arzt, S. and A.M. Glazer. (1994). The optical activity and absolute optical chirality of  $\text{NaNH}_4\text{SO}_4 \cdot 2\text{H}_2\text{O}$ . *Acta Cryst.*, **B50**, 425.
- Duhlev, R. (1994).  $\text{Rb}_3\text{Ti}_2(\text{TiO})(\text{PO}_4)_3\text{P}_2\text{O}_7$ : a new non-centrosymmetric titanyl phosphate. *Acta Cryst.*, **C50**, 1523.
- Duhlev, R. (1994).  $\text{RbTi}_2(\text{PO}_4)_3$ . *Acta Cryst.*, **C50**, 1525.
- Lingard, R.J. and A.R. Renshaw. (1994). Determining the sign of optical rotation in linearly birefringent crystal sections. *J. Appl. Cryst.*, **27**, 647.
- Mayo, S.C., P.A. Thomas, S.J. Teat, G.M. Loiacano and D.N. Loiacano. (1994). The structure and non-linear optical properties of  $\text{KTiOAsO}_4$ . *Acta Cryst.*, **B50**, 655.
- Przeslawski, J., B. Kosturek, Z. Czapla, P.E. Tomaszewski and F. Wondre. (1994). Anomalous behaviour of linear birefringence and strain in TAAP crystal. *Ferroelectrics*, **152**, 255.
- Przeslawski, J., B. Kosturek, R. Jakubas, R. Lingard, S. Arzt and A. Fitzmaurice. (1994). Optical properties of PMACB and PMABB crystals. *Ferroelectrics*, **152**, 367.
- Thomas, P.A., R. Duhlev and S.J. Teat. (1994). A comparative structural study of a flux-grown crystal of  $\text{K}_{0.86}\text{Rb}_{0.14}\text{TiOPO}_4$  and an ion-exchanged crystal of  $\text{K}_{0.84}\text{Rb}_{0.16}\text{TiOPO}_4$ . *Acta Cryst.*, **B50**, 538.
- Welberry, T.R. and A.M. Glazer. (1994). Diffuse x-ray scattering in potassium lithium sulfate. *J. Appl. Cryst.*, **27**, 733.

- 1995** Glazer, A.M. (1995). X marks a sore point for crystallographers. *Physics World*, **8**, 19.
- Brozek, Z., K. Stadnicka, R.J. Lingard and A.M. Glazer. (1995). Determination of the gyration tensor components of ammonium rochelle salt. *J. Appl. Cryst.*, **28**, 78.
- Corker, D.L., B.H.T. Chai, J. Nicholls and G.B. Loutts. (1995). Neodymium-doped  $\text{Sr}_5(\text{PO}_4)_3\text{F}$  AND  $\text{Sr}_5(\text{VO}_4)_3\text{F}$ . *Acta Cryst.*, **C51**, 549.
- 1996** Corker, D.L. and A.M. Glazer. (1996). The crystal structure and optical non-linearity of  $\text{PbO} \cdot 2\text{B}_2\text{O}_3$ . *Acta Cryst.*, **B52**, 260-265.
- (25)** Kaminsky, W. and A.M. Glazer. (1996). Measurement of optical rotation in crystals. *Ferroelectrics*, **183**, 133-141.
- Mucha, D., K. Stadnicka, A.M. Glazer and V. Devarajan. (1996). NOPT - a program for calculating optical activity on a PC. *J. Appl. Cryst.*, **29**, 304-305.
- Kaminsky, W. (1996). Reinvestigation of optical activity ion the course of the ferroelastic phase transition in cadmium langbeinite. *Phase Trans.*, **59**. 121-133.
- Glazer, A.M. (1996). The Journal of Applied Crystallography. *Acta Cryst.*, **A52**, C-571
- Glazer, A.M. and Kaminsky, W. (1996). The 'Tilter': a novel polarimeter for fast optical activity measurements in birefringent crystal sections. *Acta Cryst.*, **A52**, C-39.
- Corker, D.L. and Glazer, A.M. (1996). An investigation into the crystal structure and disorder of  $\text{PbZrO}_3$ . *Acta Cryst.*, **A52**, C-525.
- Lewis, J.G. and Glazer, A.M. (1996). A new light microscopy technique for examining birefringent materials. *Acta Cryst.*, **A52**, C-525.
- (26)** Glazer, A.M., Lewis, J.G. and Kaminsky, W. (1996). An automatic optical imaging system for birefringent media. *Proc. Roy. Soc. A*, **452**, 2751-2765.
- 1997** Kaminsky, W. and A.M. Glazer. (1997). Crystal optics of D-mannitol,  $\text{C}_6\text{H}_{14}\text{O}_6$ : crystal growth, structure, basic physical properties, birefringence, optical activity, Faraday effect, electro-optic effects and model calculations, *Zeits. Krist.*, **212**, 283-296.
- Corker, D.L., Glazer, A.M., Dec, J., Roleder, K. and Whatmore, R.W. (1997). A re-investigation of the crystal structure of the perovskite  $\text{PbZrO}_3$  by x-ray and neutron diffraction. *Acta Cryst.*, **B53**, 135-142.
- Glazer, A.M. (1997). Crystal Clear. *Physics World*, **10**, 13.
- Glazer, A.M. (1997). Time for a Change. *New Scientist*, **154**, 51.
- Glazer, A. M., and Cosier, J. (1997) Method and apparatus for indicating optical anisotropy," *UK patent application 2,310,925* 7.
- Mucha, D., Stadnicka, K., Kaminsky, W. and Glazer, A.M. (1997). Determination of optical rotation in monoclinic crystals of tartaric acid, (2R,3R)-(+)- $\text{C}_4\text{H}_6\text{O}_6$ , using the 'tilter' method. *J. Phys. C. : Condensed Matter*, **9**, 10829-10842
- Lewis, J.G. and Glazer, A.M. (1997). DELTASCAN, a light microscope imaging system for examining birefringent materials. *Microscopy and Microanalysis*, **3**, suppl. 2, 853.
- Kaminsky, W. (1997). Topographies of chiral and associated optical properties in  $\text{FeBO}_3$  using a novel polarimeter, the 'Tilter'. *Ferroelectrics*, **204**, 233-246.

- 1998** (27)Corker, D.L., Glazer, A.M., Whatmore, R.W., Stallard, A. and Fauth, F. (1998). A neutron diffraction study into the rhombohedral phase of the perovskite series,  $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$ , *J. Physics: Condensed Matter*, **10**, 6251-6269
- Ricote, J., Whatmore, R.W., Impey, S.A., Corker, D.L. and Glazer, A.M. (1998). A TEM and neutron diffraction study of the local structure of the rhombohedral phase of lead zirconate titanate. *J. Physics: Condensed Matter*, **10**, 1767-1786
- Tolédano, J.C., Glazer, A.M., Hahn, Th., Parthé, E., Roth, R.S., Berry, R.S., Metselaar, R. and Abrahams, S.C. (1998). Structural phase transition nomenclature: Report of an IUCr working group on phase transition nomenclature. *Acta Cryst.* **A54**, 1028-1033
- Kaminsky, W., Fitzmaurice, A.J. and Glazer, A.M. (1998). Measurement and calculation of second-harmonic generation in single-crystal spheres: application to d coefficients of D-mannitol. *J. Phys. D: Appl. Phys.*, **31**, 767-775.
- Kaminsky, W. and Glazer A.M. (1998). Comparison of experimental optical properties of TGS with calculations using the DES model. *Phase Transitions*, **66**, 1-21.
- Glazer, A.M. (1998). Crystal clear. *Chemistry in Britain*, **12**, 18.
- 1999** Muncaster, G., Sankar, G., Catlow, C.R.A., Thomas, J.M., Bell, R.G., Wright, P.A., Coles, S., Teat, S.J., Clegg, W. and Reeve, W. (1999). An in situ microcrystal x-ray diffraction study of the synthetic aluminophosphate zeotypes DAF-1 and CoAPSO-44. *Chem. Mater.*, **11**, 158-163.
- Geday, M.A., Kaminsky, W. and Glazer A.M. (1999). Measurements of birefringence in nonhomogeneous samples. *Acta Cryst. A*, P05.16.006.
- Hazen, R.M and Glazer, A.M. (1999). *Techniques of Solid State Research*. (HarperCollins).
- Glazer, A.M. (1999). Studies of ferroic crystals by optical methods. *Acta Cryst.A.*, M05.FF.01.
- Reeve, W.F. (1999). Structural study of the ferroelectric and paraelectric phases of  $\text{PbNb}_2\text{O}_6$ , *Acta Cryst. A*, P05.10.007.
- Kim, D.Y. and Kaminsky, W. (1999). Optical rotation in the low temperature phase of  $\text{K}_2\text{ZnCl}_4$ . *Acta Cryst. A*, P05.10.003.
- 2000** Geday, M.A., Kaminsky, W., Lewis, J.G. and Glazer, A.M. (2000). Images of absolute retardance  $L\Delta n$ , using the rotating polariser method. *J. Microscopy*, **198**, 1-9.
- Kreisel, J., Glazer, A.M., Jones, G., Thomas, P.A., Abello, L. and Lucazeau, G. (2000). An x-ray diffraction and Raman spectroscopy investigation of A-site substituted perovskite compounds: the  $(\text{Na}_{1-x}\text{K}_x)_{0.5}\text{Bi}_{0.5}\text{TiO}_3$  ( $0 < x < 1$ ) solid solution. *J.Phys.:Condens. Matter*, **12**, 3267-3280.
- Geday, M., Kreisel, J., Glazer, A.M. and Roleder, K. (2000). Birefringence imaging of phase transitions: application to  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ . *J. Appl. Cryst.*, **33**, 909-914.
- Kreisel, J. and Glazer, A.M. (2000). Estimate of the compressibility in  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$  and related perovskite-type titanates. *J.Phys.:Cond. Matter*, **12**, 8689-9698
- Glazer, A.M. (2000). Teaching crystallography to reluctant physicists. *Acta Cryst.*, **A56**, S173.
- 2001** Kreisel, J., Glazer, A.M., Bouvier, P. and Lucazeau, G. (2001). High-pressure Raman study of a relaxor ferroelectric. The  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$  perovskites. *Phys. Rev.*, **B63**, 174106-1-174106-10.
- Kim, D.Y., Kaminsky, W. and Glazer A.M. (2001). A low-temperature tilter system and its application to the measurement of the anisotropy of optical rotation in  $\text{K}_2\text{ZnCl}_4$  in the vicinity of the phase transition at 145K. *Phase Trans.*, **73**, 533-563

- Kim, D.Y. and Glazer, A.M. (2001). Linear birefringence along the [010] direction of  $(\text{NH}_3\text{C}_3\text{H}_7)_2\text{MnCl}_4$ . *Jpn. J. Appl. Phys.*, **40**, L756-757.
- Toledano, J-C., Berry, R.S., Brown, P.J., Glazer, A.M., Metselaar, R., Pandey, D., Perez-Mato, J.M., Roth, R.S. and Abrahams, S.C. (2001). Nomenclature of magnetic, incommensurate, composition-changed morphotropic, polytype, transient-structural and quasicrystalline phases undergoing phase transitions. II. Report of an IUCr working group on phase transition nomenclature. *Acta Cryst.*, **A57**, 614-626.
- 2002** Glazer, A.M. (2002). The Braggs. *Ferroelectrics*, **267**, 35-41.
- (28) Geday, M. and Glazer, A.M. (2002). A new view of conoscopic images of optically active crystals. *J. Appl. Cryst.* **35**, 185-190.
- Kaminsky, W., Thomas, P.A. and Glazer, A.M. (2002). Optical rotation in  $\text{RbTiOAsO}_4$  (point group  $\text{mm}2$ ). *Z. Krist.*, **217**, 1-7.
- Glazer, A.M. (2002). Helen Megaw- Obituary. *The Independent*. 28<sup>th</sup> March.
- Roleder, K., Franke, I., Glazer, A.M., Thomas, P.A., Miga, S. and Suchanicz, J. (2002). The piezoelectric effect in  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$  ceramics. *J. Phys.: Condens. Matter*, **14**, 5399-5406.
- Glazer, A.M. (2002). WINOPTACT: a computer program to calculate optical rotatory power and refractive indices from crystal structure data. *J. Appl. Cryst.*, **35**, 652.
- Einspahr, H., Glazer, A.M. and Helliwell, J. (2002). The top '100' most cited papers. *CD-ROM for the IUCr*.
- Jones, G.O., Kreisel, J., Geday, M., Jennings, V., Thomas, P.A. and Glazer, A.M. (2002). Investigation of a peculiar relaxor:  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{O}_3$ . *Ferroelectrics*, **270**, 191-196.
- Zekria, D. and Glazer, A.M. (2002). Investigation of the structure and phases in perovskite-type lead magnesium niobate titanate (PMN-PT). *Acta Cryst.*, **A58**, C341.
- Glazer, A.M. (2002). Perovskites Modern and Ancient. Book Review. *Acta Cryst.* **B58**, 1075.
- 2003** Hernandez-Rodriguez, C., Geday, M.A., Kreisel, J., Glazer, A.M. and Hidalgo-Lopez, A. (2003). Optical birefringence imaging of the phase transition of  $\text{K}_2\text{Mn}_2(\text{SO}_4)_3$ . *J. Appl. Cryst.*, **36**, 914-919.
- Glazer, A.M. (2003). The Braggs. In *Great Solid State Physicists of the 20<sup>th</sup> Century*, edited J.A. Gonzalo & C.A. Lopez, World Scientific.
- Kreisel, J., Bouvier, P., Dkhil, B., Thomas, P.A., Glazer, A.M., Welberry, T.R., Chaabane, B. and Mezouar, M. (2003). High-pressure X-ray scattering of oxides with a nano-scaled local structure: A case study of  $\text{Na}_{1/2}\text{Bi}_{1/2}\text{TiO}_3$ . *Phys. Rev.* **B68**, 014113-1,7.
- Glazer, A.M. (2003). The morphotropic phase boundary – my part in its downfall. *J. Conf. Abs.*, **8**, 137.
- Glazer, A.M. and K.G. Cox. (2003). Optical Properties, *International Tables for Crystallography, Volume D*. Ed. A. Authier, Kluwer Academic, London
- Kreisel, J., Bouvier, P., Dkhil, B., Chaabane, B., Glazer, A.M., Thomas, P.A. and Welberry, R. (2003). Effect of high pressure on relaxor ferroelectrics. *J. Conf. Abs.*, **8**, 195.
- Jiang, Q., Thomas, P.A., Shuvaeva, V. and Glazer, A.M. (2003). Investigation of crystal growth, structure and properties of  $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3 - x\text{BaTiO}_3$  crystals near the morphotropic phase boundary. *J. Conf. Abs.*, **8**, 165.
- Raevski, I.P., Prosandeev, S.A., Shuvaeva, V.A., Glazer, A.M., Semenchov, A.F., Raevskaya, S.I.,

- Smotrakov, V.G. and Eremkin, V.V. (2003). Dielectric and optical studies of  $\text{NaNbO}_3$  – based solid solution crystals. *J. Conf. Abs.*, **8**, 270.
- Shuvaeva, V. A., Glazer, A.M., Jiang, Q. and Thomas, P.A. (2003). Optical study of the phase transitions in  $(\text{K}_x\text{Na}_{1-x})_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ . *J. Conf. Abs.*, **8**, 308.
- Shuvaeva, V. A., Zekria, D., Glazer, A.M., Jiang, Q., Bhattacharya, P. and Thomas, P.A. (2003). The local structure of the relaxor solid solutions. *J. Conf. Abs.*, **8**, 309.
- 2004** Zekria, D. and Glazer, A.M. (2004). Automatic determination of the morphotropic phase boundary in lead magnesium niobate-titanate  $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})_{(1-x)}\text{Ti}_x\text{O}_3$  within a single crystal using birefringence imaging., *J. Appl. Cryst.*, **37**, 143-149.
- Glazer, A., Collins, S.P., Zekria, D., Liu, J. and Golshan, M. (2004). Observation of divergent beam X-ray diffraction from a crystal of diamond using synchrotron radiation [Dedicated to Kathleen Lonsdale, born Jan 28<sup>th</sup>, 1903, died Apr 1<sup>st</sup>, 1971], *J. Synchrotron Rad.*, **11**, 187-189.
- Raevski, I.P., Raevskaya, S.I., Prosandeev, S.A., Shuvaeva, V., Glazer, A.M. and Prosandeeva, M.S. (2004). Diffuse first-order phase transitions in an antiferroelectric based on  $\text{NaNbO}_3$ -Gd, *J. Phys.: Condens. Matter*, **16**, L221-L226.
- Raevskaya, S.I., Semenchov, A.F., Abdulvakhidov, K.G., Raevski, I.O., Prosandeev, S.A., Shilkina, L.A., Smotrakov, V.G., Eremkin, V.V., Shuvaeva, V.A. and Glazer, A.M. (2004). X-ray, optical and dielectric studies of diffused phase transitions in  $\text{NaNbO}_3$ -based solid solution crystals. *Ferroelectrics*, **298**, 261-265.
- Zekria, D., Glazer, AM., Shuvaeva, V., Dec, J. and Miga, S. (2004). Birefringence of lead titanate ( $\text{PbTiO}_3$ ), *J. Appl. Cryst.*, **37**, 551-554..
- Geday, M. and Glazer, A.M. (2004). Birefringence of  $\text{SrTiO}_3$  at the ferroelastic phase transition, *J. Phys.: Condens. Mat.*, **16**, 3308-3310.
- Glazer, A.M., Thomas, P.A., Baba-Kishi, K.Z., Pang, G.K.H. and Tai, C.W. (2004). The morphotropic phase boundary in  $\text{Pb}(\text{Zr}_{1-x}\text{Ti}_x)\text{O}_3$  and the interplay between short and long-range order. *Phys. Rev.*, **B70**, 184123 1-9.
- Glazer, A.M. and Pajdzik, L. (2004). Birefringence imaging of minerals using a tilting stage. *Acta Cryst.*, **A60**, S193.
- Kreisel, J., Bouvier, P., Dkhil, B., Chaabane, B., Glazer, A.M., Thomas, P.A. and Welberry, T.R. (2004). Effect of high pressure on the relaxor ferroelectrics  $\text{Na}_{1/2}\text{Bi}_{1/2}\text{TiO}_3$  (NBT) and  $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$  (PMN). *Ferroelectrics*, **302**, 293-298.
- 2005** Shuvaeva, V.A., Zekria, D., Glazer, A.M., Jiang, Q., Weber, S.M., Bhattacharya, P. and Thomas, P.A. (2005). The local structure of the lead-free relaxor ferroelectric  $(\text{K}_x\text{Na}_{1-x})_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ , *Phys. Rev.*, **B71**, 174114.
- Zekria, D., Shuvaeva, V.A. and Glazer, A.M. (2005). Birefringence imaging measurements on the phase diagram of  $\text{PbMg}_{1/3}\text{Nb}_{2/3}\text{O}_3$ - $\text{PbTiO}_3$ . *J. Phys.: Condens. Matter*, **17**, 1593-1600.
- Thomas, P.A., Kreisel, J., Glazer, A.M., Bouvier, P. Jiang, Q. and Smith, R. (2005). The high-pressure structural phase transitions of sodium bismuth titanate. *Z. Krist ( Special Issue on Phase Transitions)* **220**(8), 717-725
- Shuvaeva, V. A., Glazer, A.M. and Zekria, D. (2005). The macroscopic symmetry of  $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})_{1-x}\text{Ti}_x\text{O}_3$  in the morphotropic phase boundary region ( $x = 0.25$ - $0.45$ ). *J. Phys. Condens. Matter*, **17**, 5709-5723.
- Hayward, S.A., Carpenter, M.A., Redfern, S.A. T., Salje, E.K.H., Morrison, F.D., Scott, J.F., Knight, K.S., Tarantino, S., Glazer, A.M., Shuvaeva, V. and Daniel, P. (2005). Transformation processes in

- LaAlO<sub>3</sub>: neutron diffraction, dielectric, thermal, optical and Raman studies, *Phys. Rev B*, **72**, 054110 (2005).
- Glazer, A.M. and Kelsey, C. (2005). Helen Dick Megaw, in *Out of the Shadows*, Byers and Williams, Cambridge University Press.
- Glazer, A.M. (2005). Helen Dick Megaw, in *Oxford Dictionary of National Biography*
- 2006** Kaminsky, W., Weckert, E., Kutzke, H., Glazer, A.M. and Klapper, H. (2006). Non-linear optical properties and absolute structure of metastable 4-methyl benzophenone. *Z. Krist.*, **221**, 294-299.
- (29) Pajdzik, L. and Glazer, A.M. (2006). Three-dimensional birefringence imaging with a microscope tilting-stage I. Uniaxial crystals. *J. Appl. Cryst.*, **39**, 326-337 .
- (30) Pajdzik, L. and Glazer, A.M. (2006). Three-dimensional birefringence imaging with a microscope tilting-stage I. Biaxial crystals. *J. Appl. Cryst.*, **39**, 856-870 .
- 2007** (31) Pajdzik, L.A. and Glazer, A.M. (2007) . Three-dimensional Birefringence Imaging of Optically Anisotropic Materials. *European Crystallography Meeting, Marrakesh*.
- Zhang, N., Glazer, A.M., Baker, D. and Thomas, P.A. (2007). Investigation of K<sub>x</sub>Na<sub>1-x</sub>NbO<sub>3</sub> (KNN) near the Morphotropic Phase Boundaries. *European Crystallography Meeting, Marrakesh*
- Glazer, A.M. (2007). Crystals appeal to everyone. *Materials Today*, **5**, 57.
- 2008** Wood, I.G., Daniels, P., Brown, R.H. and Glazer, A.M. (2008). Optical birefringence study of the ferroelectric phase transition in lithium niobate tantalate mixed crystals: LiNb<sub>1-x</sub>Ta<sub>x</sub>O<sub>3</sub>. *J. Phys.: Condens. Matter*, **20**, 235237—235242
- Yokota, H., Uesu, Y., Strukov, B. and Glazer A.M. (2008). Nonlinear optical properties and ferroelectric phase transition of LaBGeO<sub>5</sub>. *Ferroelectrics*. **389**, 125-131
- 2009** Baker, D.W., Thomas, P.A., Zhang, N. and Glazer, A.M. (2009). A structural study of K<sub>x</sub>Na<sub>1-x</sub>NbO<sub>3</sub> (KNN) for compositions in the range from x = 0.24 to x = 0.36. *Acta Cryst.* **B65**, 22-28
- Zhang, N, Glazer, A.M., Baker, D and Thomas, P.A. (2009) Structures of K<sub>0.05</sub>Na<sub>0.95</sub>NbO<sub>3</sub> (50–300 K) and K<sub>0.30</sub>Na<sub>0.70</sub>NbO<sub>3</sub> (100–200 K) *Acta Cryst.*, **B65**, 291–299
- Glazer, A.M. (2009). Crystal clarity. *Public Science Review: Science and Technology*, **3**, 321-322.
- Baker, D.W., Thomas, P.A., Zhang, N. and Glazer, A.M. (2009) A comprehensive study of the phase diagram of K<sub>x</sub>Na<sub>1-x</sub>NbO<sub>3</sub>. *Appl. Phys. Lett.*, **95**, 091903
- (32) Yokota, H., Zhang, N., Taylor, A.E., Thomas, P.A. and Glazer, A.M. (2009) The crystal structure of the rhombohedral phase of PbZr<sub>1-x</sub>Ti<sub>x</sub>O<sub>3</sub> (PZT) ceramics at room temperature. *Phys. Rev.*, **B80**, 104109.
- Glazer, A.M. (2009). VIBRATE! A program to compute irreducible representations for atomic vibrations in crystals. *J. Appl. Cryst.*, **42**, 1194-1196
- 2010** Kaminsky, W., Steininger, S., Herreros-Cedres, J. and Glazer, A.M. (2010) Evidence of circular polarization along the optic axis in c-cut NH<sub>4</sub>H<sub>2</sub>PO<sub>4</sub>, induced by circular differential reflection and anomalous birefringence. *J. Phys. Condens. Matter*, **22**, 095902.
- Glazer, A.M. (2010) How should research be organized? *Crystallography Reviews*, **16**, 243-244.
- (33) Glazer, A.M., Zhang Nan, Bartaszyte, A., Keeble, D.S., Huband, S. and Thomas, P.A. (2010). Observation of unusual temperature-dependent stripes in LiTaO<sub>3</sub> and LiTa<sub>x</sub>Nb<sub>1-x</sub>O<sub>3</sub> crystals with near-zero birefringence. *J. Appl. Cryst.* **43**, 1305-1313..

- (34) Phelan, D., Long X., Xie Y., Ye, Z.-G., Glazer A.M., Yokota H., Thomas, P.A. and Gehring, P.M. (2010). A single crystal study of competing rhombohedral and monoclinic order in lead zirconate titanate. *Phys. Rev. Lett.*, **105**, 207601 (1-4).
- Glazer, A.M. (2010). The ripple effect. *New Scientist.*, 2 October. Issue 2780.
- 2011** Glazer, A.M. (2011). A brief history of tilts. *Phase Trans.*, **84**, 405-420
- Gorfman, S., Keeble, D.S., Glazer, A.M., Ye, Z.G., Collins, S. and Thomas, P.A. (2011). High-resolution X-ray diffraction study of single crystals of lead zirconate titanate. *Phys Rev. (Rapid Comms.)*, **B84**, 020102
- Glazer, A.M. (2011). The scientist or engineer as an expert witness, by James G. Speight *Crystallography Reviews*, **17**, 145-146.
- Zhang, N., Yokota, H., Glazer, A.M. and Thomas, P.A. (2011) Neutron powder diffraction refinement of  $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$ . *Acta Cryst.*, **B67**, 386-398.
- Zhang, N., Yokota, H., Glazer, A.M. and Thomas, P.A. (2011). The *not so* Simple Cubic Structure of  $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$  (PZT): Complex local structural effects in perovskites. *Acta Cryst.*, **B67**, 461-466.
- Yokota, H., Zhang, BN., Thomas, P.A. and Glazer, A.M. (2011). Crystal structure determinations of Zr rich  $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$ . *Ferroelectrics*, **414**, 147-154.
- 2012** Margueron, S., Bartaszyte, A., Glazer, A.M., Simon, E., Hlinka, J., Gregora, I. and Gleize, J. (2012) Resolved E-symmetry zone-centre phonons in  $\text{LiTaO}_3$  and  $\text{LiNbO}_3$ . *J. Appl. Phys.*, **111**, 104105
- Bartaszyte, A., Glazer, A.M., Wondre, F., Prabakharan, D., Thomas, P.A., Huband, S., Keeble, D.S. and Margueron, S. (2012) Growth of  $\text{LiNb}_{1-x}\text{Ta}_x\text{O}_3$  solid solution crystals. *Materials Chemistry and Physics*, **134**, 728-735
- Roleder, K., Bussmann-Holder, A., Górný, M., Szot, K. and Glazer, A.M. (2012). Precursor dynamics to the structural instability in  $\text{SrTiO}_3$ . *Phase. Trans.*, **85**, 939-948
- Glazer, A.M., Zhang, N, Bartaszyte A., Keeble D.S., Huband S., Thomas P.A., Gregora I., Borodavka F., Margueron S. and Hlinka, J. (2012).  $\text{LiTaO}_3$  crystals with near-zero birefringence. *J. Appl. Cryst.* **45**, 1030-1037
- 2013** Frantti, J., Fujioka, Y., Puzosky, A., Xie, Y., Ye, Z.-G and Glazer, A.M. (2013). A statistical model approximation for perovskite solid-solutions: a Raman study of lead-zirconate-titanate single crystal. *J. Appl. Phys.*, **113**, 174104
- Glazer, A.M. (2013). The first paper by W.L. Bragg – what and when? *Cryst.Rev.*, **19**, 117-124.
- Cordero, F., Craciun, F., Trequattrini, F., Galassi, C., Thomas, P.A. and Glazer, A.M. (2013). Splitting of the transition to the antiferroelectric state in  $\text{PbZr}_{0.95}\text{Ti}_{0.05}\text{O}_3$  into polar and antiferrodistortive components (2013) *Phys. Rev.*, **88**, 094107
- 2014** Glazer, A.M., Aroyo, M.I. and Authier, A. (2014). Seitz symbols of crystallographic symmetry operations. *Acta Cryst.*, **A70**, 300-302.
- (35) Zhang N., Yokota H., Glazer, A.M., Ren Z, Keen D.A., Keeble D.S., Thomas P.A. and Ye Z.-G. (2014). The missing boundary in the phase diagram of  $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$ . *Nature Comms.*, **5**, 5231.
- Baba-kishi, K.Z. and Glazer, A.M. (2014). Local structure of  $\text{Pb}(\text{Zr}_{0.53}\text{Ti}_{0.47})\text{O}_3$ . *J. Appl. Cryst.*, **47**, 1688-1698.



- 2015** Frantti, J., Fujioka, Y., Puretzy, A., Xie, J., Ye, Z-G., Parish C. and Glazer A.M. (2015). Phase transitions and thermal-stress-induced structural changes in a ferroelectric  $\text{Pb}(\text{Zr}_{0.80}\text{Ti}_{0.20})\text{O}_3$  single crystal. *J. Phys.: Condensed Matter*, **27**, 025901 (14pp).
- Glazer, A.M. (2015). Phase Transitions in Materials: Book Review. *Acta Cryst.*, **B71**, 122-123.
- Glazer, A.M. (2015). There ain't nothing like a dame: a commentary on Kathleen Lonsdale (1947) 'Divergent beam x-ray diffraction'. *Phil. Trans. Roy. Soc. A* **373**, 20140232. (Invited paper to celebrate 350<sup>th</sup> anniversary of the journal *Philosophical Transactions of the Royal Society*).
- Souvignier, B., Wondratschek, H., Aroyo, M.I., Chapuis, G. and Glazer, A.M. (2015). Space groups and their descriptions. *Chapter 1.4 International Tables for Crystallography, Volume A: Space-group Symmetry, 6<sup>th</sup> Edition*.
- Glazer, A.M. (2015) How Lawrence Bragg shortened World War I. *Institute of Crystallography Newsletter*, **23**, 12.
- Zhang, N., Pasciak, M., Glazer, A.M., Hlinka, J., Gutmann, M., Sparkes, H., Welberry, R., Majchrowski, A., Roleder, K., Xie Y. and Zuo-guang, Ye. (2015) . A neutron diffuse scattering study of  $\text{PbZrO}_3$  and Zr-rich  $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$ . *J. Appl. Cryst.*, **48**, 1637-1644.
- Glazer, A.M. (2015) Celebrating the Braggs – A Personal Account, *Interdisciplinary Science Reviews*, **40**, 329-339
- 2016** Walker, D., Glazer, A.M., Gorfman, S., Baruchel, J., Pernot, P., Kluender, R.T., Masiello, F., DeVreugd, C. and Thomas, P.A. (2016) X-ray white beam topography of self-organized domains in flux-grown  $\text{BaTiO}_3$  single crystals. *Phys. Rev. B*, **94**, 024110
- Schilling, A., Kumar, A., McQuaid, R.G.P., Glazer, A.M., Thomas, P.A. and Gregg, J.M. (2016) Reconsidering the origins of Forsbergh birefringence patterns. *Phys. Rev. B*, **94**, 024109
- Glazer, A.M. (2016) FOURIER2D and FOURIER3D: programs to demonstrate Fourier synthesis in crystallography. *J. Appl. Cryst.*, **49**, 2276-2278
- 2017** Huband, S., Keeble, D.S., Zhang, N., Glazer, A.M., Bartasyte A. and Thomas, P.A. (2017) Relationship between the structure and optical properties of lithium tantalate at the zero-birefringence point. *J. Appl. Phys.*, **121**, 024102.
- Huband, S., Keeble, D.S., Zhang, N., Glazer, A.M., Bartasyte A. and Thomas, P.A. (2017) Crystallographic and optical study of  $\text{LiNb}_{1-x}\text{Ta}_x\text{O}_3$  *Acta Cryst.* **B73**, 498-506
- Huband, S., Glazer, A.M., Roleder, K., Majchrowski, A. and Thomas, P.A. (2017) Crystallographic and optical study of  $\text{PbHfO}_3$  *J. Appl. Cryst.*, **50**, 378-384
- Glazer, A.M. (2017). 66 Years in Crystals! *ACA Reflexions*, 2, Summer, 5-8
- 2018** (36) Zhang, N., Yokota, H., Glazer, A.M., Keen, D.A., Gorfman, S., Thomas, P.A., Ren, W. and Ye, Z-G. (2018). Local-scale structures across the morphotropic phase boundary in  $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$ . *IUCrJ*, **5**, 1-9
- Glazer, A.M. (2018) Confusion over the description of the quartz structure yet again. *J. Appl. Cryst.* **51**, 915-918
- Wang, Z., Zhang, N., Yokota, H., Glazer, A.M., Yoneda, Y., Ren, W. and Ye, Z-G. (2018). Local structures and temperature-driven polarization rotation in Zr-rich  $\text{PbZr}_{1-x}\text{Ti}_x\text{O}_3$ . *Appl. Phys. Lett.*, **113**, 012901.

Choe, H., Bieker, J., Zhang, N., Glazer, A.M., Thomas, P.A. and Gorfman, S. (2018). Monoclinic distortion, Polarization Rotation and Piezoelectricity in Na<sub>0.5</sub>Bi<sub>0.5</sub>TiO<sub>3</sub> ferroelectric. *IUCrJ.* **5**, 417-427.

Glazer, A.M. (2018). Helen D. Megaw (1907-2002) *ACA Reflexions*, 2, Summer, 24-27.

Glazer, A.M. (2018). How did they do that? Beavers-Lipson Strips. (2018). *IUCr Newsletter* **26**(1). <https://www.iucr.org/news/newsletter/volume-26/number-1>

Zhang, N., Gorfman, S., Choe, H., Vergentev, T., Dyadkin, V., Yokota, H., Chernyshov, D., Wang, B., Glazer, A.M, Ren, W. and Ye, Z.-G. (2018). Probing the intrinsic and extrinsic origins of piezoelectricity in lead zirconate titanate single crystals. *J. Appl. Cryst.*, **51**, 1396-1403

Glazer, A.M. (2018) Some musings on quartz. *IUCr Newsletter* **26**(2). <https://www.iucr.org/news/newsletter/volume-26/number-2>

<b>Books</b>	<p>“A Journey into Reciprocal Space: A crystallographer’s perspective”, IOP Concise Physics 2018</p> <p>“A Very Short Introduction to Crystallography”, publisher OUP 2016</p> <p>“Crystal Clear: the Autobiographies of Sir Lawrence and Lady Bragg” by A.M, Glazer and P. Thomson, publisher OUP 2015</p> <p>"Space Groups for Solid State Scientists" by G. Burns and A.M. Glazer, publisher Academic Press          First edition 1978          Second edition 1990          Third Edition 2013</p> <p>"The Structures of Crystals" by A.M. Glazer, publisher Hilger 1987</p> <p>“Techniques of Solid State Research” by R.M. Hazen and A.M. Glazer, publisher HarperCollins 1999</p> <p>“Statistical Mechanics: A Survival Guide” by A.M. Glazer and J.S. Wark, publisher OUP 2001</p>
--------------	---