

Curriculum Vitae

Dr Godfrey Town, Ph.D. Consultant in Light Based Therapy for Skin Treatments & Cosmetic Laser Safety

SUMMARY

Registered Clinical Technologist (Registration No: CT02310), holder of Cardiff University Law School Expert Witness Certificate (March 2016). Practising certificated Laser Protection Adviser (Certificate No: L00159) for over 15 years and has provided technical and clinical support to hundreds of UK and Ireland establishments using laser and intense light sources. Delivers regular basic laser safety training for healthcare professionals, beauty therapists and other laser users and deals with technical issues, adverse incidents and avoiding clinical complications. Author of 27 peer-reviewed publications on laser and intense light safety and efficacy. Engagement with international and national agencies including the International Electrotechnical Commission (IEC), American National Standards Institute (ANSI), the US Food & Drug Administration (FDA), The European Committee of Domestic Equipment Manufacturers (APPLiA) and the European Commission (EC) in order to identify, design and formulate necessary standards and regulations for lasers and light-based devices.

PROFILE

Qualified Professional Laser Protection Advisor

Ph.D. thesis entitled 'Quality Assurance in the Democratisation of Light-Based Therapies' incorporating critical analysis of background literature and adverse incidents, numerous experimental / clinical trials, with associated statistical analysis using a combination of qualitative and quantitative methods.

Relevant Ph.D., research included critical literature review and original research examining the safety and suitability of lasers and intense light sources for use by professionals and the general public, including:

- Human safety assessment – Skin damage and other possible hazards including skin burns & cancer
- General risk of ocular damage from light-based devices and a case study on near eye exposure
- A Laser Protection Adviser's view of adverse incidents from laser and intense light use
- Professional experience-based observations
- Development of national and international standards for lasers and intense light sources
- Full spectrum computational modelling of light-tissue interactions.

EDUCATION / QUALIFICATIONS

Ph.D. in Quality Assurance in the Democratisation of Light-Based Therapies	2013
University of Wales Trinity Saint David, Swansea Metropolitan University, Swansea.	
Specialist Certificate of Competence to be a Laser Protection Adviser	since 2003
Non-ionising Radiation Protection (Medical, Research and Teaching). The Society for Radiological Protection, RPA2000, Dartington, Devon.	
Cardiff University Law School Bond Solon Expert Witness Certificate	since 2013
Completed Bond Solon medico-legal training courses on Excellence in Report Writing, Courtroom Skills – Witness Familiarisation, Cross Examination and Civil Law and Procedures.	
Legal Update for Expert Witnesses course (March 2019)	since 2019

RELEVANT CAREER HISTORY

Independent Laser Protection Adviser (LPA) , Haywards Heath	since 2003
Online Laser Training Ltd., UK, USA, Australia & New Zealand Programme Director	since 2014
Cyden Ltd. , Swansea (IPL designer & manufacturer) Director of Product Safety (Nov 2012-Nov 2014) Director of Clinical Affairs & Training (Feb 2011-Oct 2012) International Director of Sales and Marketing (Feb 2005-Jan 2011)	2005-2014
Energist International Ltd. , Swansea (intense pulsed light source developer & manufacturer) General Manager, Sales & Marketing	2003-2004
Franklynn Laser Centre , Haywards Heath (private laser & IPL clinic) Clinical Laser Technologist / Laser Safety Supervisor / Registered Manager	1997-2002
Asclepion-Meditec Ltd. , Haywards Heath (laser developer and manufacturer) Managing Director Vice President, Applications & Product Management (Aesthetic Business Unit)	2000-2003
Medical Laser Technology Ltd. , Inverkeithing (laser designer and manufacturer) Export Marketing Manager, Medical Laser Technology	1997-2000

PROFESSIONAL AFFILIATIONS

- Senior Research Fellow, Ph.D., Department of Dermatology, Aalborg University Hospital, Aalborg, Denmark Appointed 2019
- Innovation Scholar, University of Wales Trinity Saint David, Faculty of Applied Design & Engineering, Swansea, UK 2009-2013
- Committee Member:
 - EPL/076 Optical radiation safety and laser equipment; since 2010
 - IEC TC/76 WG04 Safety of medical laser equipment; since 2010
 - IEC TC61 WG30 'Liaison Expert EPL/76' Safety of household and similar electrical appliances and CPL/061WG05; since 2010
 - IEC TC61/MT 16 Biological effects of optical radiation since 2017
 - IEC TC61/PT60335-2-115 Particular requirements for beauty care apps. since 2015
 - ANSI SSC-3 ASCZ136 Laser safety standards sub-committee; since 2017
 - APPLiA (CECED) Beauty Working Group (PBC WG) since 2014
- Secretary of Association of Laser Protection & Healthcare Advisers (ALPHA), UK. since 2016
- Fellow of American Society for Laser Medicine and Surgery (ASLMS). since 2008
- Member of British Medical Laser Association (BMLA). since 2003
- Entered in UK IPEM Register of Clinical Technologists, UK. since 2002
- Member of European Society for Laser Dermatology (ESLD). since 2002
- Fellow of International Academy for Laser Medicine & Surgery (IALMS) since 2001
- Chair, Home Use Device Safety Group www.home-use-device.com since 2001
- UK Register of Expert Witnesses since 2011
- Non Clinical Member, International Council on Surgical Plume since 2014

Dr Town's career history and experience has included a thorough grounding in light-based technology and chemistry including:

- Basic laser physics, laser safety, medical / surgical and industrial applications with Dr Michael Slatkine, Laser Industries, Israel (1990-1991), attendance at numerous international live surgery workshops for CO₂, Nd:YAG laser application training (Dr Bown, Mr Singer etc.) in UK, Belgium, Germany, USA, Australia, Japan etc.
- Copper Vapour lasers, basic laser technology training at Dynamic Light Pty, Sydney 1992.
- Copper Bromide lasers, basic laser technology training at Norseld Pty, Adelaide and clinical applications training with Dr S. McCoy, Adelaide 1997.
- Intense Pulsed Light applications training with Palomar Medical in 1999.
- Basic laser physics, laser safety, medical / surgical / ophthalmic applications with Aesculap Meditec AG, Jena (1996-7) with emphasis on Er:YAG ablative surgical lasers for routine dermatology surgery and cosmetic laser skin resurfacing. Certificated yearly under § 32 German Medical Product Law as Medical Product Advisor, 29.01.2001 to 01.02.2003.
- Er:YAG laser applications training with Dr D. Fleming, Brisbane and Dr K. Khatri, Cambridge, MA.
- Light-based devices used include: Normal mode ruby 694 nm, high power diode 810 nm, IPL, copper bromide 511 & 578 nm, diode 630 nm with thulium chloride in aqueous solution, frequency doubled Nd:YAG 532 nm, CO₂, Er:YAG in dermatology and dentistry, band-pass filtered intense pulsed light with and without PDT, 1990-2002.
- Worked in hospital and private clinic operating rooms as a visiting Laser Theatre Technician to assist during laser surgery demonstrations and trials in numerous countries, including endoscopic OBGYN cases (endometriosis etc.), STD (cervical cancer etc.) cases, palliative surgery in ENT and GI cases, laparoscopic cholecystectomy, neuro-surgery cases, routine ENT surgery (rhinophyma etc.), cosmetic surgery (trans-conjunctival blepharoplasty, ablative resurfacing, hair removal (POS-related hirsutism, idiopathic hirsutism, recurrent pilonidal sinus, hypertrichosis, pseudofolliculitis barbae, male-female gender reassignment, unwanted body and facial hair), most types of tattoo removal (amateur, professional, traumatic, medical and cosmetic), vascular facial telangiectasia, angiomas (including spider angioma, cherry angioma, Campbell de Morgan spots, senile angioma), Spitz Nevus, pyogenic granulomas (proliferative angiomas), angiofibromas, adenoma sebaceum, adult Port Wine Stains (Class III, IV & Va), and benign pigmented epidermal and dermal nevi, skin tags (acrochordons), chondrodermatosis nodularis helices, dermatofibroma, sebaceous cysts, hidradenoma, facial viral warts, hypertrophic scars, rhinophyma, Morbus Favre-Racouchot, epidermal nevi (solar lentigo), seborrheic keratosis, actinic keratosis, lentigo senilis, xanthelasmata, syringoma, chloasma, milia, laser resurfacing for Bowen's Disease, vascular Nevus of Ota, Café-au-Lait macules, laser acne and other scar revision, collagen stimulation for fine lines and wrinkles, etc.
- Clinical and scientific studies undertaken with laser and intense light sources 2000-2018.

RELEVANT CAREER PATH ACTIVITIES

The following activities are of relevance to Dr Town's work as an educator and as an Expert Witness in the field of laser and intense light source personal injury claims:

Dr Town's Ph.D. entitled 'Quality Assurance in the Democratisation of Light-Based Therapies' ran to almost 100,000 words of critical analysis of background literature, personal engagement with national and international agencies in order to identify, design and formulate necessary regulations and standards that currently do not exist and numerous experimental / clinical trials, with associated statistical analysis using a combination of qualitative and quantitative methods. His literature review and original research in examining the safety and suitability of lasers and intense light sources for use by the general public has included:

- Human safety assessment – Skin damage and other possible hazards including skin burns;
- Risk of ocular damage;
- Light based treatments: dermal side-effects including temporary and long-term side effects;

- Reported adverse incidents from laser and intense pulsed light use;
- A survey of home-use related hair removal, skin rejuvenation and acne studies;
- National and international standards and regulations for lasers and intense light sources;
- Professional experience based observations;
- Full spectrum computational model of light-tissue interaction;
- Identification and classification of skin types and skin tones;
- Systematic multi-centre home-use safety trial;
- *In vivo* and *in vitro* studies – Ocular safety in the event of near eye exposure.

Dr Town has worked since 2003 as an RPA2000 certificated Laser Protection Adviser (Medical, Research and Teaching) providing support to many hundreds of UK establishments, inspecting their facilities and equipment and advising on the development of suitable treatment protocols and training requirements for staff. He routinely holds training workshops for laser and intense light device users including healthcare professionals, clinical technologists and beauty therapists.

Dr Town has been a UK Registered Clinical Technologist since 2002 and was the Registered Manager of a successful independent laser clinic for 5 years from where he also performed laser and intense light source treatments on hundreds of patients under clinical supervision of a medical laser expert. He was the Registered Person: 'Registered to carry out specially controlled techniques involving the use of Class 3B or Class 4 devices (being a technique of medicine or surgery) and Registered Person - Registered to Carry Out Minor Surgical Procedures using Local Anaesthetic and or sedation on Persons from 16 Years of Age.'

Dr Town has worked as an Expert Witness on personal injury cases involving laser and other light-based treatments since 2013.

Dr Town's scientific studies include the following recent relevant investigations published in international peer-reviewed journals:

1. Ash C, Town G, Whittall R, Tooze L, Phillips J. Lasers and intense pulsed light (IPL) association with cancerous lesions. *Lasers Med Sci*. 2017 Nov; 32(8):1927-33.
2. Town G, Bjerring P. Is paradoxical hair growth caused by low-level radiant exposure by home-use laser and intense pulsed light devices? *J Cosmet Laser Ther*. 2016; 18(6):355-362 DOI: 10.3109/14764172.2016.1157373 Epub ahead of print 2016 May 16.
3. Ash C, Donne K, Daniel G, Town G, Clement M, Valentine R. Mathematical modelling of the optimum pulse structure for safe and effective photo epilation using broadband pulsed light. *J Appl Clin Med Phys*. 2012; 13:5: 3702. doi: 10.1120/jacmp.v13i5.3702.
4. Thomas G, Ash C, Hugtenburg R, Kiernan M, Town G, Clement M. Investigation and Development of a Measurement Technique for the Spatial Energy Distribution of Home-Use Intense Pulsed Light (IPL) Systems. *J Med Eng Technol* 2011; 35:3-4:191-196.
5. Town G, Ash C. Do Home-use Hair Removal Lasers & Intense Light Devices Deliver What They Promise? *Journal of Cosmetic Surgery & Medicine* 2010; Vol 5:3:48-55.
6. Town G, Ash C. Are home-use intense pulsed light (IPL) devices safe? *Lasers Med Sci*. 2010; 25:773-780.
7. Town G, Ash C. Measurement of Home Use Laser and Intense Pulsed Light Systems for Hair Removal: Preliminary Report. *J Cosmet Laser Ther*. 2009; 11:157-168.
8. Ash C, Town G and Bjerring P. Relevance of the structure of time-resolved spectral output to light-tissue interaction using intense pulsed light (IPL). *Lasers Surg Med*. 2008; Vol 40:2: 83-92.
9. Town GA, Ash C, Eadie E, Moseley H. Measuring key parameters of intense pulsed light (IPL) devices *J Cosmet Laser Ther*. 2007; 9:3:148-160.
10. Ash C, Town GA, Martin GR. Preliminary trial to investigate temperature of the iPulse™ glass transmission block during treatment of Fitzpatrick II, IV, V, and VI skin types. *Lasers Med Sci*. 2006; 22:1: 4-9.

Dr Town's clinical studies include the following investigations published in international peer-reviewed journals:

1. Town G, Botchkareva N, Uzunbajakava N, Nuijs A, van Vlimmeren M, Ash C, Dierickx C. Light-based home-use devices for hair removal: Why do they work and how effective they are? *Lasers Surg Med.* 2019; 51:481-490.
2. Emerson R, Ash C, Town G, Donne K, Omi T, Daniele G. Pigmentation: Selective photothermolysis or non-specific skin necrosis using different intense pulsed light (IPL) systems? *J Cosmet Laser Ther.* 2013; Jun;15(3):133-42. Epub 2013 Feb 27.
3. Ash C, Town G, Bjerring P, Webster S. Evaluation of a novel skin tone meter and the correlation between Fitzpatrick skin type and skin colour. *Photonics & Lasers in Medicine* 2015; Vol. 4 (2):177–186. DOI: 10.1515/plm-2013-0056, October 2014.
4. Trelles M, Ash C, Town G. Clinical and Microscopic Evaluation of Long-Term Epilation Effects of the iPulse Personal Home-Use Intense Pulsed Light (IPL) Device. *J Eur Acad Dermatol Venereol.* 2013; Jan 18. doi: 10.1111/jdv.12069 [Epub ahead of print].
5. Town G, Ash C, Dierickx C, Fritz K, Bjerring P, Haedersdal M. Guidelines on the safety of light-based home-use hair removal devices from the European Society for Laser Dermatology (ESLD). *J Eur Acad Dermatol Venereol.* 2012; 26(7):799-811. doi: 10.1111/j.1468-3083.2011.04406.x. Epub 2012 Jan 3.
6. Thaysen-Petersen D, Bjerring P, Dierickx C, Nash JF, Town G, Haedersdal M. A systematic review of light-based home-use devices for hair removal and considerations on human safety. *J Eur Acad Dermatol Venereol.* 2012 May;26(5):545-53. doi: 10.1111/j.1468-3083.2011.04353.x. Epub 2011 Nov 30.
7. Emerson R, Town G. Hair removal with a novel, low fluence, home-use intense pulsed light device: Preliminary Results. *J Cosmet Laser Ther* 2009; Vol. 11:2: 98-105.
8. Vedamurthy M and Town G. Use of Intense Pulsed Light (IPL) in Skin Types IV and V: An Indian Experience. *Australasian Journal of Cosmetic Surgery* 2008; Vol 4:1: 64-73.
9. Lavelle M, Jafri Z, Town GA. Recurrent pilonidal sinus treated with epilation using a ruby laser. *J. Cutan Laser Ther* 2002; 4: 45-47.

Dr Town has been a regular participant as a delegate and/or speaker at the American Society for Lasers in Medical Science (ASLMS) meetings in USA and the International Master Class on Aging Skin (IMCAS) meetings in Europe since 1995 where he has been in an ideal position to keep abreast of the latest light-based technologies, network with laser clinicians and listen to controversies and discussion of best clinical practice as related to cutaneous injuries from laser and intense light sources.

RESEARCH INTERESTS

- Side effects and adverse incidents in the use of medical and cosmetic lasers and intense light sources;
- Comparative evaluation of lasers and intense pulsed light devices;
- Safety of home-use light-based devices;
- Development of international standards for lasers and intense light sources for medical, cosmetic and domestic use.

LANGUAGES

English (mother tongue), German (fluent), French (working knowledge)

FULL BIBLIOGRAPHY AVAILABLE

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