



IAAI - UK Newsletter

INTERNATIONAL ASSOCIATION OF ARSON INVESTIGATORS

October 2003
Issue 1

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CHAIRMAN'S MESSAGE

It has been over 8 months since our inaugural meeting at City Hall on the banks of the River Thames. A lot has happened within our Chapter and communication, the foundation of our organisation, has been a priority for the committee to establish. The newsletters, emails and networking throughout the UK cannot be under valued.

I have met with many of you recently at conferences and seminars around the Country and am totally enthused by your passion, professionalism and commitment toward fire and arson investigation. Our membership now stands at 105 and is growing daily. It is wonderful to see the broad range of organisations that belong to the Chapter and the wealth of experience that we have to offer each other.

Those of us that were involved in the establishing of the IAAI-UK Chapter were under no misunderstanding at the enormous task ahead of us; like all our membership, we have extremely high workloads and not enough hours in the day! However, it has been so encouraging to receive all the positive feedback and correspondence, and ask you all to continue to make yourselves heard.

Belonging to this Chapter is not just about paying £12 a year, receiving two

great newsletters and attending meetings ... it is about sharing our knowledge and experience with each other. Over the years to come, our Chapter will be heralded as an extremely professional, ethical and non-political organisation and I firmly believe that the IAAI-UK will be a significant 'voice' of the practitioners in the United Kingdom.

Our web site has taken a lot of energy to set up, and I am hopeful that within the next month it will be up and running. The web-site will be a gateway for us to contact each other, it will have regular updates for news, views and membership information. I thank you for your patience in waiting for the web-site and those of you who are in-the-know will acknowledge how important good site construction is. The address is:

www.iaai-uk.com

Our merchandise has already been a success, with many of you supporting the Chapter and displaying our new logo wherever you can. Please see our merchandise on page 6 in the newsletter and fill in your order forms!

Finally, I would like to thank those people who have sponsored us from the start. I would like to thank, on behalf of you all, FM Global for the recent donation of IT equipment; Gardiner Associates for the facilities for our Chapter meeting at Brunel in July, and AC Roy Wilsher of the London Fire Brigade in supporting the Chapter and its London Fire Officers. I would also like to thank Graham Thomson for offering us the facility of holding our AGM at Cleveland in January 2004.

I would like to leave you with the last and most important paragraph from our IAAI Code of Ethics:

'I will bear in mind always that I am a truth-seeker, not a case-maker: that it is more important to protect the innocent than to convict the guilty.'

Peter Mansi
Chairman, IAAI-UK Chapter (honorary)

THE COMMITTEE

Peter Mansi
Chairman

John Galvin
Deputy Chairman

Dominic "Jack" Goble
Treasurer

Nick Carey
Secretary

Sheila Hamilton
Training & Education

Gareth Roberts
Certified Fire Investigator Programme

Hilary Brown
Membership

Roger Berritt

Claire Purton

If you have any queries, then feel free to contact the committee members at;

firstname.lastname@IAAI-UK.org.uk

(For those of you unfamiliar with Jack-short-for-Dominic Goble, his e-mail address uses the latter).

EVENTS DIARY

11 November '03 **Reading**
Fire Investigation - Who Cares?

Covering fire investigation, arson and forensic investigation, aimed at practitioners, insurers, forensic scene examiners.

Graham Ansell - 0118 932 2143 £45

27 - 29 January '04 **Cleveland**
International Fire & Arson Investigation Conference

Hosted by the University of Teesside, in partnership with Cleveland Police and Cleveland Fire Brigade. (Reduced costs apply if booked before 30th Nov).

Kate Nelson - www.tees.ac.uk/fire £675

29 January '04 **Cleveland**
IAAI-UK Annual General Meeting
Extraordinary General Meeting

April '04
IAAI-UK Newsletter, Issue 2
Submission date 15th March, by the latest, please

CERTIFIED FIRE INVESTIGATOR

The Certified Fire Investigator (CFI) Program is a voluntary certification program administered by the International Association of Arson Investigators. The goal of the CFI program is to acknowledge demonstrated competence in the field of fire investigation. Once successfully completed, the CFI program is a real distinction that acknowledges an individual's demonstrated competency in all phases of fire investigation through completion of a detailed application and written examination process.

The CFI program has several benefits;

- **Allows** the Fire Investigation Professional to be recognised as having demonstrated competency in all phases of fire investigation.
- **Encourages** continuing education and training in the field of fire investigation.

The CFI certification program requires minimum levels of *Education, Training, and Experience* in the field of fire investigation. It is a program that seeks a realistic balance between those areas to insure that an applicant's experience is well rounded and not purely academic.

"Today more than ever we are seeing changes in the field of fire investigation. Many things have made our job in determining fire origin and cause extremely challenging. One way of meeting that challenge and to keep pace with the many changes in our industry is to certify as a CFI.

The CFI program is a standard measure of an individual's competence in all phases of fire investigation. The CFI program encourages an individual to be his or her best and to stay abreast of the latest changes in the fire investigation field."

UK Update

John Galvin and Jack Goble have been working with Kirk Hankins, the International IAAI CFI Director, to produce the International Association of Arson Investigators - United Kingdom Certified Fire Investigator (IAAI-UK CFI) Programme.

To date all the documentation including the application form and the standard operating procedure (SOP) have now been developed and have gained preliminary approval. We anticipate that formal approval of the UK programme will be announced at the annual International CFI Committee meeting in November.

It is anticipated that at the AGM to be held at Cleveland an official announcement from the IAAI-UK Chapter will launch the programme. We will be inviting requests from fire investigators to apply to sit the examination to be awarded this internationally recognised achievement. If successful, the award demonstrates that the candidate has been able to meet the highest standards required of the International IAAI CFI Committee (as approved by the Pro Board) in the areas of education, training and experience. It should be noted that the

Qualifications and Curriculum Authority have agreed that the IAAI-UK CFI Programme will maintain its level of credibility in the UK under the existing application and examination format.

Not all IAAI members are eligible to take the examination. It should be noted that there are only currently 889 IAAI Certified Fire Investigators world-wide. You do not have to be a member of the IAAI to apply for the IAAI-UK CFI Programme. The IAAI CFI is highly regarded and considered a passport to work on the international field.

The Application Process

The applicant will initially register their interest in the IAAI-UK CFI Programme by completion of a formal request that includes a declaration relating to the applicant's good character.

By return the applicant will receive:

- The application form
- A copy of the Standard Operating Procedure (SOP)
- A study-guide stating the bibliography for the examination
- An application processing fee notification form

The application form has to be completed by the applicant and a minimum point score **MUST** be achieved in the areas relating to education, training and experience to be eligible to sit the examination. Supporting documentation to allow verification of all claimed points **MUST** be provided.

The application will be scrutinised in both the UK by the Proctor and in the US by the International CFI Committee. If satisfactory a notification of examination eligibility will be sent to the applicant. The examination must be taken within 12 months of the receipt of this notification.

The Examination

The format of the examination will be oral. We anticipate that three IAAI CFI's from outside the UK will conduct the first series of examinations. The candidate will be asked a series of 5 questions taken from within the contents of the study material. These 5 questions may be further supported by supplementary questions as required.

The examination is a pass or fail. The score achieved by the candidate will not be revealed to the candidate or any other party. The International IAAI CFI Committee will circulate notification of the examination result.

We anticipate a high degree of initial interest in the IAAI-UK CFI Programme and look forward to the time when we can formally announce the first successful candidates have passed.

Should you have any questions regarding this programme, please email:

john.galvin@iaai-uk.org.uk or
dominic.goble@iaai-uk.org.uk

John Galvin
Deputy Chairman (IAAI-UK)

Thunder in the Forest

Beat the Heat

I was very fortunate to be invited to the Oregon Chapter's annual seminar "**Beat the Heat**" when an electrical class in Canada was cancelled at short notice. Jamie Novak (President, Minnesota Chapter) was teaching for a full day at the four-day seminar – two weeks after surgery!

Jamie's subjects were "Electrical fires and gas explosions" and it was great to get the opportunity to assist Jamie by presenting some UK case histories and to explain arc fault circuit analysis.

The other speakers subjects included: "Fireplaces: through the eyes of an expert" Dale Feb's excellent explanation of chimney and flue fires; "Fire cause & origin of mobile equipment" a detailed explanation of electrical vehicle fires from Bill Leming with lots of samples including two full dash boards! Judge Raymond White's view of "Testifying as an expert witness" and retired FBI agent Tim Huff's interactive workshop "Behavioural analysis interview".

I was impressed with the US approach to a multi-day seminar where speakers were given from 4 hours to an entire day to present their subject. In my opinion, this approach allowed a presenter to get sufficiently detailed in their subject for the audience to really benefit. I understand that most US Chapter seminars are structured this way and it is a contrast from the conventional UK fire seminar.

The second part of the trip was the "**Fire & Thunder in the Forest**" explosions and electricity class organised by Russ Melton, his team at Folley Mansfield Partnership along with Jamie Novak and many others. I was involved with assisting in the preparation of the 3 storey farm house for a propane explosion, giving some of the electrical input along with Mark Svare and Matt Dubbin and assisting the class with their live burn scenes.

Mark, Matt and myself were responsible for providing a temporary power supply for the gas engineers who were recording the data (gas levels in air, pressure and temperature).



In addition, we laid out the wiring for halogen lights, air movement fans and the devices used to ignite the gas/air mixes.

In the house one primary ignition source was used with three additional circuits each supplying several igniters. We wired up 17 igniters in the house in 5 locations (2 in the basement and 3 in the ground floor). The primary igniter was located on a manikin's hand on the left side of the house and was the only one that needed to be fired.

The propane/air mixture was between 4 and 4.5 % throughout the house. The flammable range of propane is 2.4 – 9.5% in air. Well - it went with quite a bang as the photographs show! Unfortunately, there was some damage to houses in the locality, that appeared to be as a result of the negative pressure wave.

A lot of very useful data was collected. It had been observed (at previous explosions over the last 4 years) that the position of the ignition source within the structure made quite a difference with the debris field pattern. We put this knowledge to good use when locating the ignition source for this explosion. The majority of the debris from the explosion fanned out away from the ignition source with little debris on the left side of the scene that was closest to occupied property approximately 300 metres away.

The Oregon chapter's committee members were fantastic and all of the delegates that I met were extremely welcoming. In particular I would like to thank the seminar organisers Steve Corwin & John Wolfe, past President Dennis Shew, the new Vice President Vicki Parker, and the new President Ryan Fields (the elections were held during the seminar). Thanks to everyone involved with this two-part trip, you know who you are and I don't think there is room to list everyone!

Nick Carey

Increasing the load at Christmas

Once again the 'festive season' will soon be on top of us bringing new and wonderful special features that are not part of our fire safety culture for the rest of the year.



Most festive decorations, grotto features, displays and foliage (real and artificial) comprise of 'combustible' materials. That is, they have a significant organic content. Decorations sold for domestic-type uses that have been 'treated' to make them more difficult to ignite have been available for some years.

If treated, decorations made from paper can resist ignition or at worst probably resist spreading flame if they come into contact with a small flame or smouldering source such as smoker's materials. Irrespective of the presence of flame-retardants and whether or not they contribute to flame spread, these organic materials will still be consumed in a developing fire. Thereby, they will still contribute to the overall fire load.



For decorations that are made of plastics, including artificial foliage, melting is likely to be a feature. Effective flame-retardant additives may be incorporated in the plastic and thus make ignition difficult. However, a variety of plastics are found, leading to a correspondingly wide range of burning behaviour.

Once again, irrespective of plastic type and resistance to ignition, all plastics are likely to contribute to the overall intensity of a developing fire. Further, they will usually spread fire downwards because of their thermoplastic properties via flaming drips, burning debris and molten pools.



Festive decorations tend to be 'hung up' or draped about and, as a result of which, are much greater hazards in case of fire envisaging the worst-case scenario of rapid vertical fire spread.

Fires involving decorations depend on many factors unique to the individual circumstances at a premise. Similarly, for special festive effects, the location, orientation, settings and safety features are important (some supermarkets find that drab emergency exit signs provide excellent staging for such decorations).



As in all fire investigations, the way materials are used can be more important than their inherent burning behaviour.

Kevin Nimmo, MRSC MBEng MIFireE MSEL P CChem

Guardian Angels

The FireAngel is an ionisation-type smoke detector, which by the manufacturers own admission, is generally more effective at detecting fast flaming fires that consume combustible materials rapidly and spread fire quickly. In all circumstances, smoke alarms can only respond in the presence of smoke. Positioning, adverse ventilation or inappropriate lampshades (the latter only with regards to FireAngel) can divert smoke away, thus delaying or preventing the alarm from activating.

In tests, it was determined that the FireAngel sounder was relatively easy to damage. Sharp knocks or moderate squeezing of the plastic case was sufficient to impair its activation. In addition, the alarms' volume was severely impaired if the sounder contacts (three spring-shaped components) were poor. These contacts were not fixed in position and had an extremely small area of contact. Poor contact occurred if the sounder plate was dirty, or due to fluff and debris ingress. Once cleaned, the alarm returned to normal alarm activation levels.

The smoke alarm that had reportedly not sounded, was taken from a fire, where the occupant was unable to inform the Brigade of its history. As such, I would appreciate details of any similar cases where FireAngel smoke alarms have reportedly not sounded (when it should have).

Hilary Brown MChem MRSC MIFireE

Annual General Meeting 29 January 2004

During the first year of the Chapter the founding members have acted as the honorary executive and held the positions of;



Peter Mansi
Chairman



John Galvin
Deputy Chairman



Nicholas Carey
Secretary



Dominic "Jack" Goble
Treasurer

Elections and Amendments to the Constitution

As you will read elsewhere in this autumn's newsletter the progress that the Chapter has seen in its inaugural year has been nothing short of phenomenal. It was expected that the IAAI-UK would one day grow at a rate that would surpass the older and more established international Chapters but this was not expected in our first year.

It soon became clear that the work levels were growing at a rate not envisaged and so the founding members co-opted (or is that coerced?) three further board members for executive activity and a forth for non-executive opinion. The roles and activities were designated as follows;

• Training and Education - Dr. Sheilah Hamilton

The aim is to promote and organise training sessions, encourage sharing of expertise and assist the work of its members in the field of fire investigation. In addition, it will initiate, encourage and support national and international initiatives that actively reduce the number of accidental and deliberate fires, fire deaths and fire related injuries or promote the profile of the IAAI.

• Certified Fire Investigator Programme – Gareth Roberts Esq.

The aim is to promote the UK CFI programme throughout the fire investigation community, assist applicants at all stages of the application and examination procedure, and maintain the established standards of the CFI programme, as agreed by the IAAI CFI International Committee.

• Membership - Ms. Hilary Brown

The aim is to encourage and promote membership of the UK Chapter and the IAAI (International) within all areas of the fire community, to those involved with any aspect of fire investigation. It will ensure that all members are kept informed of

the work being carried out by the members of the IAAI-UK and the IAAI (International) and encourage others to contribute whenever possible. It will also promote the core aims and objectives of the IAAI.

We expected to be dealing with a few teething problems in our set-up but we did not expect the speed at which we have moved to a point where our constitution would need to be amended so soon after the establishment of the Chapter to keep up with our growth.

At present, the constitution reads;

Section 2: The Executive. The Executive of the Chapter should be as follows: Chair, Deputy-Chair, Secretary and Treasurer.

Section 3: The Board. The Board should consist of the Executive and three additional eligible members.

Section 4: Election. The Executive and Board shall be elected at the Annual General Meeting (AGM) in the month of January. Elections will be by the traditional method. Persons wishing to stand for election shall be proposed and seconded by any member present at the AGM. If more than one person stands for any post, an election by a majority show of hands by the members present will determine the result of the election.

Because of the extremely diverse membership, it has been suggested that the AGM should be dynamically situated each year, to allow for fair representation of all its members. This has been loosely planned as *North* and *South* venues in alternate years (although we won't forget our Irish colleagues).

As detailed below, the elections to be held at the first AGM on 29th January next year, will be in line with the original constitution (voting carried out by a show of hands), which was basic in design for a small organisation. Immediately following the AGM, we will be holding an Extraordinary General Meeting (EGM) to propose and vote on changes benefiting the Membership: use of postal votes and postal nominations, amongst other things. Until then we will be running the first elections as written. However, the proposals to be tabled at the EGM will be immediately implemented by the Board in all possible ways.

The proposals for amendment are simple in content, but are quite wordy and will therefore be left to the EGM. However, it should be said that the current constitution incorporates a rolling process of re-election for the additional board members suitable for smaller organisations, which will fall at the EGM if the streamlining of procedures is accepted by the membership.

The founding members will be seeking election to the positions they held in an honorary capacity and it will be proposed that the three additional co-opted members be similarly elected to the board. Without presumption, if the current honorary board were elected it would be their intention to co-opt Dr Berritt to the board in a non-executive capacity.

Special Offer! Limited time only

IAAI-UK MERCHANDISE

Only available until 5th November 2003!

We have been successful in identifying a merchandise provider and are pleased to be able to offer introductory prices, with up to 30% off! Each has the unique IAAI-UK logo.

	Special	Normal
➤ Mouse Mat	£2.50	£3.00
➤ Lapel Pin	£1.50	£2.00
➤ Coffee Mugs	£4.00	£5.00
➤ Polo Shirts	£15.50	£18.00

The heavyweight polo shirts are available in M, L or XL (**please specify the size when ordering**) and have an embroidered logo on the left side (when you're wearing it).

This offer is made so that our members can be the first to display the newly formed Chapter's logo, promoting these items in the workplace and amongst their colleagues and friends! After 5th November, all merchandise is still available, but normal prices resume.

Please complete the form and return to;

IAAI-UK Chapter, PO Box 28694, London N20 0WT

All cheques to be made payable to '**IAAI-UK Trading**'.

Thank you for supporting the Chapter!

Don't forget to include postage and packing (or specify pick-up at the AGM (Cleveland) in January). Rates are as follows;

UK and Europe	£1.50 for orders up to £5.00 £2.50 for orders up to £20.00 £3.50 for orders over £20.00
USA	£5.00
Pick-up at AGM	free



MERCHANDISE ORDER FORM

Description	Quantity	Size	Special Offer	Normal Price	Total
Embroidered Polo Shirt (M/L/XL)			£15.50	£18.00	
Coffee Mug			£4.00	£5.00	
Mouse Mat			£2.50	£3.00	
Enamel Lapel Pin			£1.50	£2.00	
Postage & Packaging					£
Total					£



Name: _____

Address: _____

Postcode: _____

Telephone: _____

Order Total: £ _____

Signature: _____

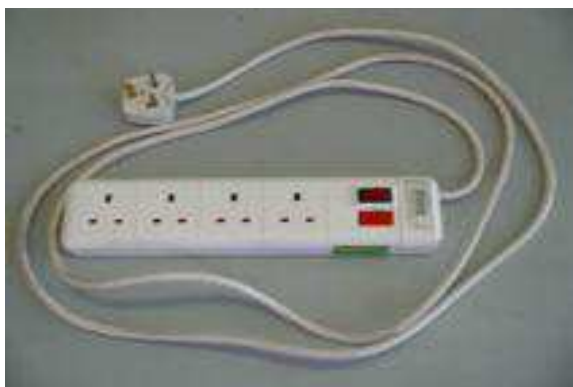


Cheques payable to 'IAAI-UK Trading' and returned to IAAI-UK Chapter, PO Box 28694, London N20 0WT

Recall Notices and Fire Trends

Some manufactures' are extremely diligent, issuing recall notices like parking tickets, with overbearing exuberance. The aim of this section is **not only** to bring the readers' attention to relevant recall notices, but also to briefly describe those items or appliances that have resulted in fire due to the defect and bring attention to potential trends.

Micromark 4-way extension lead



In July 2003, a corporation in Hammersmith withdrew a number of 4-way extension leads from service, which were causing concern. The units had been in use over the last four years to supply power to computers. The extension leads had all developed signs of internal heat damage that posed a real threat of fire. Upon request of the occupier, London Fire Brigade collected four units for further examination.

In all cases, the conductor that led from the fuse holder to the input terminal of the switch block had overheated and started to melt the insulation to its own and adjacent conductors, and the plastic outer casing. The conductor was measured as having a core diameter of 2.86 mm. When compared to similar commercially available units, the 2.9mm diameter, 0.75mm cross-sectional area was rated to 14amps.



Heat damage to the electrical insulation

The computers that it served were standard items of some years old; their power supply units were not rated highly. Even modern multimedia machines with a power consumption of 300watts (230V) would only draw a maximum of 3amps. This type of loading should not result in the damage detected with this rating of cable.

Regardless of the specification, the most obvious testimony to the defect is the items themselves, in varying states of damage. Thus, the fire implications of this product are presented.

Jack Goble EngTech TIFireE JP

Built-in fridge's

Over the last couple of years, 26 fires in the London region have been attributed to built-in fridge's and freezers manufactured by Philips, Brauneckt and Di Dietrich, now all part of Whirlpool. In June 2001, Whirlpool took two appliances for further examination to their laboratory in Germany, but the Brigade is still awaiting their results.

A free-standing refrigerator is normally fitted with a large heat exchanger panel on the rear of the casing, and is cooled by the natural flow of air. This is not possible with units that are built-in to kitchen units, so a small fan mounted on the base at the front is relied on for ventilation. The spring-shaped heat exchanger coils have also been moved to the base of the unit, towards the back.

The action of the fan drawing air in allows ingress of fluff and other intrusive foreign debris. When tested, the fluff was found to be extremely easy to ignite using a small flame and was capable of sustained smouldering.



Fridge base showing heat exchanger and fire-damage

In general, the units that have been attributed as the cause of fire have been several years old and heavily clogged with fluff and debris.

Two causes of fire have been identified, from an accumulation of fluff and debris hindered the fan, restricting airflow;

- ❖ Causing the fan to stall and the motor to overheat.
- ❖ Causing rapid cycling of the overheat thermostat, leading to localised heating and arcing of the contact heads.



Both of these faults are capable of leading to ignition of fluff and the adjacent plastic casing.

Hilary Brown MChem MRSC MIFireE

Arson-Reducing Initiatives

Novelty Lighter - "Turboflame®"



*"A windproof turbo jet flame lighter...will melt glass at over 1200 °...
can even be used inverted..."*

Guy Fawkes would have killed for a lighter like this!"

There is a small refillable gas lighter on the market called a Turboflame®. It comprises a 2cm-diameter metal gas cylinder with a rectangular block on one side, which houses the piezo-electric igniter. The top has a wide nozzle with slots on two sides to induct air. It is 7cm long and has a plastic cap to protect the nozzle, attached by a chain (which comes off in your pocket!). Within the metal casing is a plastic gas cylinder.

The flame is a very impressive narrow blue pre-mixed jet flame, of adjustable size. The central pale blue flame cone is between 1 and 2cm long, and the outer dark blue flame is between 3 and 6cm long, and barely visible except against a dark background. Beyond about 2.5cm length the central flame lifts-off and extinguishes, but with the lock in position gas continues to vent. The thin blue flame is hot enough to solder with.

To quote a review in "Summit" magazine (British Mountaineering Council, Volume 31, 2003 p12) the "Turboflame®" is "*small enough to pop on your key ring, yet hot enough to solder with, this is ideal for cutting rope, spot heating plastic, canoe patching and burning your friend's arm with*".

The significant feature from an arson point of view is the lock switch at the base of the nozzle that enables it to be locked open (a deliberate design feature). The lighter can then be placed in any orientation (including upside-down) and will continue to burn unattended. After about 90 seconds, the heat starts to melt the plastic top.

On a police fire investigation training course I lit one and dropped it onto the front passenger seat of a car. It ignited the seat within seconds, and the car was allowed to burn for 15 minutes. The lighter did not explode in this test, presumably because it continued to vent gas. The remains of the lighter were initially hard to recognise in the debris, but part of the casing, long cylindrical brass refilling and flame height adjustment valve were distinguishable, along with the chain for the cap.

It costs from £5.99 and is available from camping shops. It is not CE marked but the display boxes are marked BSEN ISO9994: 1996.

They are reportedly banned in some European countries. They are small, concealable, readily shoplifted because they are displayed at the counter to catch the eye, and they have novelty value. As well as a potential ignition source for the arsonist, it is a handy tool for scene kit.

Steve Andrews, Forensic Science Service, Chorley Laboratory

With thanks...

At the moment the IAAI-UK runs from "hot-desking" (nabbing a free desk when the need arises). Once again, our generous sponsors - FM Global, have assisted us by donating some IT equipment in the form of printers and monitors. These will be saved for when that office materialises!

Submissions

Want to have your voice heard? The next newsletter is due out in April 2004. We need your articles (please!), comments and other submissions (by 15th April, please). Anything from amusing anecdotes, cartoons, photos (of fire investigations) for imaginative captioning...to case studies, fire trends, arson initiatives and training or book critiques...you get the idea.

For queries or submissions, please contact

newsletter@iaai-uk.org.uk

The preferable format is entirely electronic, although hard copies may also be submitted (Newsletter, IAAI-UK Chapter, PO Box 28694, London N20 0WT), where supporting diagrams and photographs will be scanned in. Please include a stamped SAE if you would like your submission returned. In addition to the article, please include your full name, contact details, designatory letters and position.

