Summaries of 2006, 2007, 2011, 2013, 2017, 2018 and 2019

Traveling with the Atom Trips

2006 Scientific/Historical Traveling Trip to England (London, Bath, and the Cotswolds) and Counties Waterford and Cork, Ireland
Glen and Kitty Rodgers

In May 2006, we traveled first to London where we were hosted at the Goodenough Club located in Mecklenburgh Square. This is a possible housing site for future traveling groups we might lead. We then visited the Royal Society where we were hosted by Rupert Baker (the librarian of the RS) and Prof. Michael Hunter, a member of the faculty of Birkbeck College and an expert on Robert Boyle. After showing us the many general books in the RS on Robert Boyle and other scientists, Michael treated us to looking over several of the 46 volumes of original Boyle manuscripts. He also pointed out that St. Martins-in-the-Fields was built during the time that Boyle lived in London but was not his parish church, which was St. James. Boyle and his sister were buried in St. Martins upon their deaths in 1691 but when it was torn down and rebuilt on the same site (1721 - 1726) all the grave bones were collected together and reburied. It is not clear if these remains are still located on the St. Martins site. After this visit to the Royal Society we visited St. James and also the Handel House Museum.

The next day we visited Westminster Abbey. This was our third visit. [See [Scientists at the Heart of Westminster Abbey](http://www.travelingatom.com/ArticlesTable/ScientistsattheHeartofWestminsterAbbey.htm) for an account of our second trip there in 2002 as leaders of a travel seminar entitled "Traveling with the Atom: London and Paris" and sponsored by Allegheny College. In 2002 our group had visited the full graves (G), sites of internment of ashes (A) and memorials (M) to scientists such as J.J. Thomson (A), Ernest Rutherford (A), P.M.C. Dirac (M), Lord Kelvin (G), Michael Faraday (M), George Green (M), James Clerk Maxwell (M), William Herschel (M), Johannes Herschel (G), Charles Darwin (G), and Isaac Newton(G). For this our third visit to the Abbey we had done even more research on the scientists buried or memorialized in the Abbey. Dr. Peter Morris of The Science Museum accompanied us. Before our visit we had corresponded extensively with Christine Reynolds, Assistant Keeper of the Muniments at The Library, Westminster Abbey. As a result of these consultations we were able to find the memorials or graves of the following scientists in the following locations:

In St. Andrews Chapel located in the north transept, east aisle: John W. Strutt, Lord Rayleigh (M), Humphry Davy (M), Thomas Young (M), James Simpson (M), and Thomas Telford (G). These located on the back wall of the chapel beyond the grave of Lord Henry Norris. This area is roped off and access to the stones is only available by asking a verger to let you in.

In the lantern area directly in front of the steps (on the left-hand side) leading to the high altar is a memorial stone to Robert Hooke. This is the only place where a German bomb came down into the Abbey and exploded. One can still see the pock marks in the southwest columns (about 10 to 15 feet up) where the shell damaged the interior.

We revisted the everyday altar area (at the front of the nave) that is roped off and contains the markers for Rutherford (A) and Thomson (A). As in our 2002 visit the Rutherford diamond stone is under the corner of the altar table and one has to lift the heavy purple and gold cloth to see it. The Thomson diamond is even more difficult to see being almost hidden beneath the table. These diamonds are about two feet on each side and have an apex in common.

Christine Reynolds pointed out that German visitors often look at G. F. Handel's marker (found in the south transept of the Abbey) and think that the English have made an error in his date of birth. However, these discrepancies are caused by the adjustment between the Continental and English calendars. The same is true for the Newton dates. She also pointed out that Lord Kelvin was buried in a full-sized coffin although there is only the usual sized diamond covering the grave. Peter Morris pointed out that there is an article by James Moore that describes how and why Charles Darwin came to be buried in the Abbey.

In the north choir aisle (what Christine Reynolds called "Musician's Aisle"), which is the last part of the Abbey a visitor would get to in the usual walk around the church, we find a memorial bust to George Stokes and markers to James Prescott Joule (M), John Hooker (M), Sir Walter Ramsay (M), Sir John Adams (M), Joseph Lister (M), Alfred Wallace (M), and a second marker to Charles Darwin (M). These markers are to the left and above a large memorial to John Thynnes. Peter Morris pointed out that Thynnes died just before Darwin. He commented that if the order of death of Thynnes and Darwin had been reversed, Darwin might have had a more elaborate monument in his honor.

We also had the occasion to have dinner with Peter Morris at Rules restaurant, London's oldest restaurant at Maiden Lane, Covent Garden. Just a few steps down Maiden Lane is the Corpus Christi Catholic Church that now occupies the site of a laboratory and phosphorus factory run by Robert Boyle's technological assistant, Ambrose Godfrey Hanckwitz. See “The London of Robert Boyle” by Thorburn Burns for an account of the placements of the various sections of the factory relative to the rooms of the present-day church.

We traveled on to Bath, England and toured the Roman Baths. Some items related to chemistry were evident in the baths. First, these mineral hot springs contain iron salts so the characteristic orange-red iron deposits show the post-Roman water levels very clearly. Second, tin was brought in from the mines in Cornwall for casting pewter objects. Third, lead (also most likely from Cornwall) was used to make the plumbing fixtures. Some of these lead pipes still in place are quite thick so water could be piped under pressure to fashion fountains in the baths.

Once in southern Ireland we first traveled to Lismore, County Waterford, the birthplace of Robert Boyle. Boyle was born in Lismore Castle the 7th son (and 14th and last child) of Richard Boyle, the 1st Earl of Cork, 1st Viscount Dungarvan, 1st Baron Boyle of Youghal, Lord High Treasurer of the Kingdom of Ireland! This castle is still the most grandiose castle in all of Ireland. It was purchased by Richard Boyle from Sir Walter Raleigh. The gardens are open to the public but the castle itself is a private residence and only available to larger parties to rent while the Duke is away. The best view of the castle is from the road that enters Lismore from Clogheen to the north. We also visited The Robert Boyle Science Room in the Lismore Heritage Center directly across the street from the beautiful Millennium Park in the heart of town. We met here with Mary Hoolihan who is the principal creator of the Boyle Science Room. The room is new (2004) and has a timeline of science with an appropriate emphasis on Irish scientists. This room is the site of a variety of hands-on science activities for children (ages 5 to 12) brought in from the surrounding schools. Robert Boyle would thoroughly approve of these activities as they draw the children into the excitement of scientific exploration and application and explain through doing how the world works. Lismore Castle eventually passed into the hands of the Dukes of Cavendish who are of the same line as Henry Cavendish and also William Cavendish who founded the Cavendish Physics Laboratory in Cambridge. There is also an American connection to Lismore. It seems that Lord Charles Cavendish married Adele Astaire. Adele and Fred Astaire were frequent visitors to Lismore and they are reputed to enjoy dancing together on the bridge quite near to where we stayed in Lismore, the Pine Tree House B&B.

We drove to Youghal (pronounced Yawl) to visit Richard Boyle's memorial in St. Mary's Collegiate Church. Richard wanted his memorial to be very near the main altar of the church but the archbishop objected saying, in effect, that if the memorial was right next to the altar the townspeople would not know if they were worshipping God or the 1st Earl of Cork! The main street and gate of Youghal are both colorful and pleasant.

Spring 2007 Scientific/Historical Traveling Trip

to Southwest Germany, Strasbourg, Bern, and Italy

We started in the Heidelberg area where we visited Roentgen's grave in Geissen; the Roentgen Museum in Wurzburg; the Kekule Collection in Darmstadt; the restored pharmacy in Heppenheim where Liebig was an apothecary apprentice; some Bunsen/Kirchhoff sites, the Philosophenweg, and the Pharmacy Museum in Heidelberg; the great astronomical clock in Strasbourg that Robert Boyle had such admiration for; the rebuilt parliamentary building of the first Chemical Congress (1860) in Karlsruhe, and the Atomkellermuseum in Haigerloch.

From Germany we traveled to Bern, Switzerland to visit the Einsteinhaus where Einstein and his first wife, Mileva Marić, lived in a flat on the second floor of Kramgasse No. 49 from 1903 to 1905. See <http://www.einstein-bern.ch/index.php> for more information.

In Italy we visited Pavia (a reproduction of the scientific cabinet of Alessandro Volta at the University); Como (many sites, including the Volta Temple, all in honor of Volta, who invented the chemical battery then called the voltaic pile); Vercilli (where Amadeo Avogadro is honored); Pisa (where Galileo, according to legend, dropped a series of different massed objects from the leaning tower, where he discovered the moons of Jupiter and, it is said, he observed the swaying motion of hanging lamps). There is also in Pisa a small museum/library called the Domus Galilaeana, which is the depository for the documents of Galileo, Enrico Fermi and others.

In Florence we visited the Museo di Storia della Scienza (Museum for the history of science) that has a room dedicated to Galileo’s instruments and a working model of an inclined plane. We also visited the Fondazione Scienza e Tecnica which houses a very large collection of 19th century scientific instruments including many related to the history of the atomic concept. Italy’s greatest monument to Galileo is also in Florence’s Church of Santa Croce.

In Rome we visited the Physics Musuem at Citta Universitaria, which has a collection of papers and instruments related to Enrico Fermi. We tried to find the future Museo Storico della Fisica e Centro Studi e Ricerche "Enrico Fermi".

We would have loved to visit Palermo in Sicily where Cannizzaro was born and finally laid to rest in 1926, the centenary of his birth, in the Palermo Pantheon (i.e., the church of San Domenico). Cannizzaro was also a professor of chemistry at the University of Palermo. However, in the final analysis, we decided this site was too far south for us to visit on this trip

Spring 2011 Scientific/Historical Traveling Trip

to Paris, Brugge, Copenhagen, York and London

In Paris we explored various sites related to Antoine Lavoisier. These included his birthplace at Rue Pecquay, the site of the Office of Gunpowder where the Lavoisier’s lived and worked 1776 – 1792 (and the site of his laboratory at La Petit Arsenal), Saint Merri where he was christened, the former Place de la Revolution (now the Place de la Concorde) where he was beheaded, the plaque marking the Cimitiere des Errancis where his remains were originally placed, and the Catacombs where the victims of the guillotine were ultimately interred.

We took the train from Paris to Brussels to Brugge. In Brussels, we visited the Atomium, the body-centered-cubic monument erected for the World Fair in Brussels (Expo 58). Driving from Brugge toward Copenhagen, we stopped at Rudkøbing on the Island of Langeland to visit the birthplace of Hans Christian Ørsted, who discovered electromagnetism in 1820. After visiting Stevns Klint where one sees the sharply demarcated geological strata marking the Cretaceous--Tertiary boundary, we stopped at the Ole Rømer observatory, now part of the Kroppedal Museum in Taastrup.

Now based in Copenhagen, we drove across the Örsend Bridge into Sweden and took a ferry to the island of Hven where we visited the Tycho Brahe Museum. Back in Copenhagen we visted the Round Tower (Rundetaarn) where Brahe had an observatory. We found Ole Rømer’s memorial in Vor Frue Kirke and Rosenborg Castle with its Ole Rømer room. We saw plaques marking Ørsted’s residence and visited Ørstedparken with his statue surrounded by three goddesses of fate. At the Niels Bohr Institute we were warmly hosted by Felicity Pors, the Niels Bohr archivist. The visit included Bohr’s office, the auditorium, and the Archives. We visited his birthplace, saw his bust in a public square (Vor Frue Plads) near the main building of the University of Copenhagen, and the Bohr Family Grave in Assistens Kirkegård (where Hans Christian Andersen and Søren Kierkegaard are also buried). We visited the Carlsberg Brewery with its Elephant Gate but missed the Carlsberg Laboratory and Honorary Residence.

After flying to Manchester, England, we drove to Leeds where we were hosted by Stuart Martin of the Priestley Society. We visited the Leeds Library (the Athenaeum), where we viewed Joseph Priestley documents and books, saw his statue (and that of James Watt) and then went over to the Mill Hill Chapel where, at the back there is a brass plaque listing him as the minister from 1767 to 1773. In Birstall we went by a house in Fieldhead that is marked as Priestley’s birthplace, drove by another statue of him in the Market Place, and saw Old Hall in Heckmondwike where Priestley lived from 1742 to 1752. This is presently a Samuel Smith Public House but there is a plaque telling of Priestley’s tenure here. Many thanks to Stuart Martin for his wonderful hospitality in showing us these Priestley sites.

We drove south to Grantham and the Woolsthorpe Manor, the home of Isaac Newton where a descendant of the apple tree is in place and visible from his old room. This was the scene of his 1666-1667 *annus mirabilis* where he devised his gravitational theory and split white light into its component colors. We went into Grantham to see his statue and visit the King’s School which he attended from ages 12 to 17. We drove to Cambridge, had lunch at the Eagle Pub and boarded a train to London.

In London, we visited with Frank James at the Royal Institution and had lunch at their new cafeteria. We toured the Benjamin Franklin House close to Trafalgar Square.

Spring 2013 Scientific/Historical Traveling Trip to

Venice, Vienna, Halstatt, Salzburg, Munich, Nice & the Provence

March 14 to April 11, 2013

We spent a few days revisiting Venice, mostly seeing the sites and going to concerts, but we did visit the Cimitero on Isola di San Michele where we saw Christian Doppler’s gravestone which honors his efforts to take care of his family. We toured the Venice Clock Tower and were reminded that Galileo introduced his telescope at nearby Campanile San Marco. Making our way to Vienna, we were reminded that we had considered visiting Duino Castle on the Adriatic Coast (where Boltzmann committed suicide in 1906) but scheduling just didn’t allow it.

In Vienna, we saw the plaques at the Akademisches Gymnasium honoring Lise Meitner and Erwin Schrödinger. We took the 71 bus out to Zentralfriedhof to see Ludwig Boltzmann’s grave with its S = k log W inscription. (We also visited the “honor graves” of Beethoven, Schubert, Brahms and Strauss.) We should have tried to find Josef Loschmidt. We did large portions of the “Vienna: A Random Walk in Science”, starting with the Arcades of the University of Vienna with its busts of Doppler, Loschmidt, Boltzmann (S = k log W again) and Schrödinger (with the summary of his equation, iħψ = Hψ), among others. We visited the Landtmann coffee house, enjoyed by many scientists and other academics over the years, and visited the bust of Ernst Mach in the Rathauspark. We went by the Institut für Radiumforschung on Boltzmanngasse, visited the Schrödinger Office, and a plaque on the house that was his residence after he returned from Ireland.

We visited the beautiful mountain town of Alpach, Austria, where Schrödinger is buried (under a tombstone that bears his equation), rather amazingly, in a Catholic Cemetery. We also stopped by the Congress Centrum Alpach, a convention center with a main hall named after Schrödinger.

In Munich, we walked the Maximillianstrasse, found the statues of Count Rumford and Joseph von Fraunhofer, visited the English Gardens with the marker that it was established by Count Rumford, and then had lunch at the Hofbrauhaus where Boltzmann would meet weekly with his colleagues and students.

The remainder of this trip was in the Provence region of France where we did not concentrate on scientific/historical traveling. We did visit the town of Baux where we toured Les Baux, the spectacular caves that yielded bauxite.

Spring 2017 Traveling with the Atom: United Kingdom & Ireland

April 5 to May 1, 2017

 Starting in London, we visited the John Snow Pub located where Snow was the first to find that cholera was transmitted by contaminated water. We climbed the Monument to the Great Fire of London with our friend, Dr. Peter Morris, and talked about how Christopher Wren and Robert Hooke had installed a zenith telescope and an underground laboratory in this structure. I found the statue of Michael Faraday outside the Institution of Engineering and Technology and then walked to the Victoria Embankment Garden near the poignant memorial to Arthur Sullivan. Here I sat on a bench and thought about Michael and Sarah Faraday. I continued to find the plaque marking the residence of Isaac Newton near Leicester Square. I went into Burlington House and found the Royal Society of Chemistry. In the reception area I admired the painting “Hope: The Chemist”, by Stuart Updike, and the busts of Boyle, Liebig, and Dewar. I would have loved to go into the RSC to look around but could not get permission to do so. Continuing on to the Royal Institution, I took my time looking in detail at various exhibitions, paintings, the “lines of force” carpeting, the famous lecture hall, the library rooms, Faraday’s magnetic laboratory, and the magnificent statue of Faraday in the lobby. At the end of this day, I disembarked at the “Elephant and Castle” metro stop to view the unimpressive “Faraday Memorial” where he was born.

The next day we took the tour of the Westgate section of Highgate Cemetery. Here we found the graves of Michael and Sarah Faraday. The tour guide told a story of how Michael, a Sandemanian, accepted Queen Victoria’s invitation to Sunday tea and was consequently ex-communicated (or the equivalent) from his church for not putting in the required Sunday prayer time. Thanks to the Friends of West Gate who took over that part of the cemetery and re-opened it for tours.

We set out to the Royal Palace at Hampton Court in search of the Faradays’ “Court and Favour House” granted to them by Queen Victoria. This was more difficult than expected. It is not at 37 Hampton Court Road as advertised but rather another section of the street where there are no house numbers. The house is in a state of disrepair but has an appropriate stone engraving above the door. It is right next to the house where Christopher Wren lived. On the way back into town we passed the James Clerk Maxwell building of King’s College London. Unfortunately, we did not have time to go in but admired the nearby large posters regarding Rosalind Franklin, Maurice Wilkins and the DNA Double Helix.

In Oxford we traced a walking tour of Harry Moseley sites that was recommended to us by Dr. Stephen Johnston at the Museum of the History of Science that we had visited several times before, including with our 2002 “Traveling with the Atom” student group. The tour took us into Trinity College to see the Chapel, the Hall, and the Garden Quadrangle where he lived for his four years here. The War Memorial Library was closed so we could not see the Memorial Board that includes Moseley’s name. We did find the Moseley family residence on Woodstock Road and then had lunch at The Eagle & Child Public House (the “bird & the baby”) where CS Lewis and JRR Tolkien and the “inklings” met on a regular basis. We found the Moseley plaque at the Clarendon Laboratory and bopped into the University Museum to revisit the many statues of scientists around the perimeter of the main hall. On our way from Oxford toward Northern Wales we visited the famous Iron Bridge. In Conwy and Bangor we were hosted by an old friend, Dr. Ian Butler, who holds a position at the University of Bangor.

We took the ferry to Dublin where we immediately trekked over to St. Patrick’s Cathedral to see the gaudy Boyle Family Memorial. A verger provided details about the memorial, where it was originally placed, and how it wound up at the back of the cathedral. Outside, we admired the statue of Benjamin Guinness who completely funded and supervised the renovation of the cathedral. The next day we went to the Guinness Storehouse for a stout and a toast to Robert Boyle. We also visited Erwin Schrödinger sites including a plaque at the former site of the Dublin Institute for Advanced Studies on the south side of Merrion Square. We found the Schrödinger residence (the so-called “Clontarf Household”) where an Irish-Austrian Society plaque on this private residence honors the father of wave mechanics. Finally, we found the “?What is Life?” all-aluminium sculpture in the National Botanic Gardens. Schrödinger’s book “What is Life?” is said to have inspired biologists to search for the molecular basis of genetic materials. The sculpture celebrates the 60th anniversary of the discovery of the DNA double helix. We also found the Abbey Theatre, a favorite of the various members of the “Clontarf Household” who referred to the Abbey and Gate Theatres as “Sodom and Begorrah”, due to their often controversial presentations. Finally, in Dublin we found the Book of Kells in the library of Trinity College Dublin and the Long Room in the old library where Robert Boyle, the little boy born in a castle in Lismore, Ireland, is honored with 37 other “men eminent for learning”.

Now in southwest Scotland and travelling with our friends, Dr. & Mrs John Reglinski, we visited Parton Kirk, the burial grounds of the Clerk Maxwell family and then went on to find the inspiring Maxwell at Glenlair Trust where, hosted by Duncan Ferguson, we explored all the improvements he and his family have made to restore and preserve the Clerk Maxwell family home. We next obtained the key to the Corsock and Kirk-Patrick Church and went in to admire the magnificent stained-glass Maxwell Window. We also found the original Corsock Parish Church, now a private residence called the Maxwell House, where the window was originally installed.

In Glasgow, we found the “Lord Kelvin: Revolutionary Scientist” display in the Hunterian Museum at the university. We also went by the Old Main Gate which honors both Maxwell (Sir John not James) and Kelvin, among many others. We tried to find two Frederick Soddy plaques, but our GPS was not accurate enough to locate them.

In Edinburgh we visited the Maxwell Foundation where our hosts were Dr. John Arthur and Dr. David Forfar, the latter being the president of the foundation. This is where Clerk Maxwell was born and now houses a splendid museum with a variety of exhibits, objects, portraits, sketches, library, and informative panels. Of particular interest was an explanation of the two panels found on the plinth of the James Clerk Maxwell statue, recently erected near St. Andrews Square. We took the 3-mile Maxwell Walking Tour, designed by John Arthur who served as our guide.

We visited the Joseph Black Building on the new campus of Edinburgh University where, hosted by Dr. Andy Alexander, we inspected the “Chemistry Collection”. We found Joseph Black’s grave in the locked Covenanter’s Prison section of Greyfriars Kirkyard. The magnificent headstone is worth the effort to see it.

We headed south to Keswick in the Lake District. We visited the birthplace of John Dalton on Dalton Lane in Eaglesfield where we inspected the new National Chemical Landmark blue plaque. Now travelling toward York, we found the Stramongate School with its plaque honoring both John Dalton and Sir Arthur Stanley Eddington, the Kendall Quaker Meeting House, and the wonderful little Quaker Tapestry Museum & Exhibition. We inspected the tapestry honoring Quaker Scientists including Dalton, Eddington and Dame Kathleen Lonsdale.

Back in London, we visited The Science Museum to find the John Dalton Exhibit that included his wooden “atom” wooden spheres and one of his meteorological journals.

Traveling with the Atom portions of a Trip to Australia and New Zealand

January 15 to February 12, 2018

 Large portions of this trip did not involve scientific/historical travelling. However, at the Arts Centre in Christchurch, New Zealand, we had the honor of visiting Rutherford’s Den, hosted by Lead Visitor Co-ordinator Jenny Stuart. This facility was severely damaged in the 2010 and 2011 earthquakes. Now completely renovated, the Den is a fully modernized, multi-media museum that houses the spaces where Rutherford studied, attended lectures, and carried out his “electrical researches” at Canterbury College before emigrating to England. There are interactive displays suitable for both scientists and non-scientists, including children. The “den”, a former gown room under the now completely restored lecture hall, has a concrete floor suitable for carrying out experiments adversely sensitive to vibrations. Here, one can sit and listen to recordings made by Rutherford and his colleagues.

 In Havelock, located in the northern section of the South Island, we visited the Rutherford-Pickering Memorial honoring both Rutherford and William Hayward Pickering, a space-age pioneer. We also found the former Havelock School that both Rutherford and Pickering attended. It is now a youth hostel. We visited Nelson College, Rutherford’s secondary school, and the Lord Rutherford Memorial Hall which occupies the site of the Foxhill School, Rutherford’s primary school. Most importantly, we spent time at the Lord Rutherford Memorial Reserve, located near Rutherford’s birthplace. In a garden setting, fourteen picturesque and informative display panels cascade down from a bronze statue of a young child carrying a “Mathematics Primer” heading out to the future.

2019 Traveling with the Atom: Stockholm, Tallinn, Helsinki & St. Petersburg

June 17 to July 8, 2019

 In Stockholm, we visited the Nobel Prize Museum where we were hosted by senior curator, Ulf Larssen. This museum feels, looks, and even smells historic. It’s small and well done. The second day we drove to the Alfred Nobel Bjorkborn at Karlskoga. His laboratory is special as is the Manor where we were “hosted” by Ragnar Sohlman, the co-executor of the Nobel Estate. On the way back to Stockholm we stopped at Linköping to see the bust of the young Berzelius in front of the school where his father was principal. On day three we ferried to Skansen and visited the Crown Pharmacy (Apoteket Kronan), many items of which are from Scheele’s pharmacy in Köping. Day 4: walked around the bluestone Concert Hall (Konsert huset) and then to The Hops Garden (Kungliga Humlegarden), went around the statue of Linné (Linnaeus) holding his Systema Naturae and then up to the statue of Carl Wihelm Scheele. From there we walked to Berzelius Park with its wonderful statue of him amidst beautiful flower gardens. Day 5 we went to Stockholms universitet to see the bust of Svante Arrhenius near the Arrheniuslaboratoriet. We saw signs for the Siegbahnhusen but that was closed for the construction of an Accelerator. Found the grave Berzelius near the entrance to the Solna Kyrk in the Solna Kyrkogard (Solna Cemetery). Walked to the grave Alfred Nobel in the Northern Burial Grounds (Norra begravningsplaten).

 We joined the Rick Steves 9-day tour to Tallinn, Helsinki and St. Petersburg in Tallinn and made arrangements, in advance, to get on-line tickets for the Lomonosov Museum (in the Kurstkamera) in St. Pete. Visited Sibelius Park outside of Helsinki and the Pub Trolley in the city. In St. Petersburg, we saw many of the typical sites including the Peter and Paul Fortress, the Church of the Spilled Blood, the Hermitage, the Summer Palace (Peterhof), a performance of the ballet, “Cinderella”, in the Mikhailovsky Theatre, the Siege Monument & Museum and Catherine’s Palace. For science, we tried to visit Lomonosov’s grave at the “Necropolis of the 18th Century” at Alexander Nevsky Larva or Monastery but it unexpectedly closed early. We did see the graves of Dostoevsky, Glinka, Rimsky-Korsakov, Musorgsky, Borodin and Tchaikovsky at the nearby “Necropolis of Art Masters”.

 Our three “Traveling with the Atom” highlights in St. Petersburg started when we broke off an arduous tour when it pulled up to St. Isaac’s Cathedral. We took the underground from the Admiralteyskaya Metro stop, where we made our way to D. I. Mendeleev Institute for Metrology (VNIIM) where we first viewed Mendeleev’s statue with his 3-story periodic table behind him. Then we met our host Dr. Elena Ginek who gave us the complete tour. (We had had to write an official letter requesting permission to visit before we arrived in Russia.) This is a five-atom site which includes a three-way clock tower designed by Mendeleev, a display of the 131 honorary degrees he received from institutions all around the world, his office just as he left it, his many balances and clocks and many other items of note. The next day, our last in St. Petersburg, we started by walking in front of the Hermitage (with a 16-year fellow member of the Rick Steves tour and his mother asking me to explain hybrid atomic orbitals) to get to the Twelve Colleges building that houses the Mendeleev Museum and Archive. We had proof of our admittance to the museum and it was needed. The four rooms had been spiffed up nicely for the 150th anniversary of Mendeleev’s publication of his first table. Our hostess, Anastasia Bondarenko, did a great job of showing the four of us around. At the end of our tour, Tatiana Moiseeva joined us and we were off to the Kunstkamera in search of the Lomonosov Collection. Tatiana had been chief of the Lomonosov Museum from 2002 to 2009 and really knew the intricacies of their collection of Lomonosov artefacts. We also went upstairs to the Gottorp (Greater Academic) Globe constructed in the mid-1600’s and given to Peter the Great. This is a non-atomic scientific artefact not to be missed.

 We returned to Tallinn and joined our daughter, Jennifer, who was leading the two University of Washington choral groups to the 2019 Estonian Song Festival 150 (2019 laulupidu 150). We were treated to Jen directing one of the pieces sung by the University Chamber Singers at the House of Blackheads. The next day, we drove to Tartu where we visited the Estonian National Museum. The two days spent at the Estonian Song Festival were exquisite. This started with a 6-hour parade to the Song Festival grounds. There were 30,000 singers and 200,000 people in the audience. Totally amazing!