


# Academic research based on openEHR

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If you are using *openEHR* for an academic (including open source) product, and would like to be included on the list, or you want to submit updates or corrections, then [let us know](#)<sup>1</sup>.

## Current Research

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1. <mailto:webmaster@openehr.org>
  2. <http://www.ufjf.br/>
  3. <http://www.uff.br/>
  4. <http://www.ufmg.br/>





Country	Institution	Team	Description
 Brazil	<b>University of Rio de Janeiro</b> <sup>2</sup>	Rigoleta Dutra	PhD Thesis on archetype-based systems [2009]
	<b>Fluminense Federal University</b> <sup>3</sup>	Luciana Tricai Cavalini, Helia Kawa, Israel Figueiredo Junior, postgrad/undergrad students	Epidemiologic Surveillance Support System (EpiS3): a decision-support system for epidemiological surveillance (disease control and prevention for communities and healthcare settings). Current activities: <ul style="list-style-type: none"> <li>• Building archetypes in order to fit the interface between clinical and epidemiological concepts</li> <li>• Developing the application on the top of OSHIP (Open Source Health Information Platform), the reference implementation of openEHR specs in Python/Zope3</li> </ul> [2009]
	<b>Minas Gerais Federal University</b> <sup>4</sup> School of Information Sciences	Marcelo Rodrigues dos Santos	Phd Thesis on semantic interoperability involving the usage of <i>openEHR</i> RM and AM models. [2009]
	Hospital das Clinicas University of São Paulo <b>Ribeirão Preto School of Medicine</b> <sup>5</sup>	Center of Information and Analyses (contact: Flavio Barbosa)	Applying archetypes for construction of clinical observations and radiological reports. [May 2009]

2. <http://www.ufrj.br/>

3. <http://www.uff.br/>

4. <http://www.ufmg.br/>

5. [http://www.fmrp.usp.br/novo\\_portal/](http://www.fmrp.usp.br/novo_portal/)

 Germany	<b>University of Heidelberg / Heilbronn University</b>	Petra Knaup, Jasmin Buck, Christian Kohl	<ul style="list-style-type: none"> <li>Expressing Clinical Data Sets with openEHR Archetypes</li> <li>Modelling of a comprehensive electronic patient record for the Neonatology Department of the University Hospital Heidelberg using the <i>openEHR</i> approach</li> </ul>
 Japan	<b>Ehime University</b> <sup>6</sup>	Shinji KOBAYASHI, Eizen KIMURA, Ken ISHIHARA	Ruby reference implementation of <i>openEHR</i> . <a href="#">Home page</a> <sup>7</sup> . [2008-]
 New Zealand	<b>The University of Auckland, National Institute for Health Innovation</b> <sup>8</sup>	Koray Atalag, Hong Yul Yang	GastrOS is an endoscopic reporting application based on open standards: openEHR and MST. GUI is driven by Archetypes/Templates. It is part of our research at the University of Auckland to investigate software maintainability and interoperability.  Uses <a href="#">openEHR.Net on CodePlex</a> <sup>9</sup> [Mar 2012]
 Portugal	Center for Research in Health Technologies and Information Systems (CINTESIS), Faculty of Medicine, Porto University	Gustavo Bacelar, José Patriarca-Almeida, Paulo R. Ferreira, Pedro M Vieira-Marques, Ricardo Cruz-Correia	Master Thesis (Gustavo Bacelar) on conversion of clinical guidelines statements to openEHR archetypes and templates.  <a href="#">SAHIB</a> <sup>10</sup> - Enhancing

6. <http://www.ehime-u.ac.jp/>

7. <http://openehr.jp/>


8. <http://www.fmhs.auckland.ac.nz/soph/centres/nihi/>

9. <http://openehr.codeplex.com/>

10. <http://www.sahib.gim.med.up.pt/>

			<p>multi-institutional health data availability through multi-agent systems  This project aims to build applications that find, retrieve and deliver patient information (using openEHR) to the point-of-care in a secure and timely fashion, event though it is distributed across multiple healthcare institutions, whilst safeguarding the different agendas and constraints of the various actors.</p> <p>[Apr 2012]</p>
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11. <http://www.ieru.org/>
  12. <http://oe.dynalias.net:8080/JSPWebArchetypeOntologizer/>
  13. <http://www.upv.es/>
  14. <http://www.um.es/>

 Spain	<b>University of Alcalá,</b> Madrid <b>Information Engineering</b> <b>Research Unit</b> <sup>11</sup>	L. Lezcano, Miguel-Angel Sicilia, P. Serrano-Balazote, E. Rivero-Ruiz	Activities: <ul style="list-style-type: none"> <li>• Development of Java libraries to translate openEHR archetypes to OWL: <a href="#">ADL2OWL translator</a><sup>12</sup></li> <li>• Integrating SWRL rules with archetypes translated to OWL.</li> <li>• Mapping archetypes in OWL form to ontologies.</li> </ul> [Dec 2011]
	<b>Technical University of Valencia</b> <sup>13</sup> , Biomedical Informatics Group  *Faculty of Informatics. <b>Murcia University</b> <sup>14</sup> .	David Moner, Jesusaldo Tomás Fernández*, José Alberto Maldonado, Montserrat Robles, Diego Boscá	Activities: <ul style="list-style-type: none"> <li>• Description of existing information as legacy archetypes.</li> <li>• Formalisation of the constraint part of archetypes as semi-structured data types.</li> <li>• Ontological engineering of Archetypes: cooperative development, translation to ontological languages.</li> </ul> See LinKEHR editor tool - a generic, schema-based archetype tool - <a href="http://www.linkehr.com/">http://www.linkehr.com/</a> . [June 2009]
	<b>University of Seville</b> <sup>16</sup>	Isabel Román Martínez	Integration of Federated EHR Systems Using Semantic Web Techniques - the

11. <http://www.ieru.org/>

12. <http://oe.dynalias.net:8080/JSPWebArchetypeOntologizer/>

13. <http://www.upv.es/>

14. <http://www.um.es/>

16. <http://www-en.us.es/>

		<p>integration of heterogeneous systems using the <i>open</i> EHR Reference Model and archetype methodology.</p> <ul style="list-style-type: none"> <li>• This has led to the implementation of the <i>openEHR models in OWL</i><sup>17</sup> (note that these are around 0.95 Release vintage and have not been updated since mid? 2004).[2003-2005]</li> <li>• Currently working on SOA for healthcare, using ISO RM/ODP, OMG MDA, <i>openEHR</i> [2009]</li> </ul>
<p>Departamento de Informática y Sistemas Campus de Espinardo, <b>Murcia University</b><sup>18</sup></p>	<p>Jesualdo Tomás Fernández Breis Rafael Valencia García<sup>19</sup> Marcos Menárguez Tortosa Catalina Martínez Costa<sup>20</sup></p>	<p>The <b>POSEACLE project</b><sup>21</sup> started in 2004 aiming at facilitating a semantic management of electronic healthcare records related information and knowledge. This research project has been done in cooperation with the <b>Biomedical Informatics group</b><sup>22</sup> at the <b>Technical University of Valencia (Spain)</b><sup>23</sup> The main objectives are:</p> <ul style="list-style-type: none"> <li>• Development of ontologies for the design, generation and use of standardised federated electronic health records;</li> </ul>
<p>17. <a href="http://trajano.us.es/%7Eisabel/EHR/">http://trajano.us.es/%7Eisabel/EHR/</a></p>		

18. <http://www.um.es/>

19. <http://webs.um.es/valencia>

20. <http://klt.inf.um.es/%7Ecati>

21. [http://webs.um.es/jfernand/miwiki/doku.php?id=projects:poseacle\\_gen](http://webs.um.es/jfernand/miwiki/doku.php?id=projects:poseacle_gen)

22. <http://gim.upv.es/>

23. <http://www.upv.es>

			<ul style="list-style-type: none"> <li>• Publishing existing clinical information as a valid extract of an EHR compliant with the European standard;</li> <li>• Intelligent and customised access to existing clinical information compatible with ISO13606 and OpenEHR;</li> <li>• Development of tools supporting clinical investigation.</li> </ul> <p>[March 2010]</p>
<p>University of Santiago de Compostela<sup>24</sup>, Knowledge Engineering Applied to Medicine Group.<sup>25</sup></p>	<p>María Jesús Taboada Iglesias María Meizoso García José Luis Iglesias Allones Diego Martínez Hernández Serafín Tellado López Rosario Lalín</p>	<p>The project "Management of terminologies for archetypes"<sup>26</sup> started in 2009 aiming at:</p> <ul style="list-style-type: none"> <li>• developing automated methods to recover and integrate relevant clinical terminology based on the definition of OpenEHR archetypes.</li> <li>• providing semantic interoperability between healthcare information and clinical practice guidelines, through the archetypes and terminology systems.</li> </ul> <p>[March 2012]</p>	

24. <http://www.usc.es/>

25. <http://www.usc.es/keam>



26. <http://www.usc.es/keam/project.html>

 <p>Slovak Republic</p>	<p>NCA STU – National archetype center, <b>Slovak Technical University</b>, Bratislava.</p>	<p><a href="#">Peter Linhardt, PhD</a><sup>27</sup></p>	<p>The <b>National Archetype Centre</b> programme, established Sep 2011 undertakes the following activities:</p> <ul style="list-style-type: none"> <li>• Localisation of openEHR archetypes for National health information system;</li> <li>• Development of archetypes for GP Information systems;</li> <li>• Research project: transformation of free text medical records to the archetype-based form.</li> </ul> <p>[March 2012]</p>
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27. [mailto:peter.linhardt at stuba dot sk](mailto:peter.linhardt@stuba.sk)

28. <http://www.imt.liu.se/mi/ehr/>

 Sweden	Medical Informatics group at the Department of Biomedical Engineering, <b>Linköpings universitet, Sweden</b> <sup>28</sup>	Erik Sundvall, Daniel Karlsson	For current details see: <a href="http://www.imt.liu.se/mi/ehr/">http://www.imt.liu.se/mi/ehr/</a> Project examples: <ul style="list-style-type: none"> <li>• Exploration of archetype-based approaches to the EHR</li> <li>• Creation of the Java based LiU Archetype Editor</li> </ul> [2012]
	Karolinska Institutet	Nadim Anani, Rong Chen, Sabine Koch	Ongoing PhD program to explore how semantic EHR technology, openEHR in particular, can be extended to support distributed clinical processes. This will be done by exploring how to incorporate clinical practice guidelines and clinical pathways into openEHR, using guidelines from the clinical domain of stroke care.  [Mar 2012]
 UK	CHIME (Centre for Health Informatics and Multi-professional Education), <b>University College London</b> <sup>30</sup>	Seref Arikan <sup>31</sup> , Professor David Ingram	<b>Opereffa</b> <sup>32</sup> is a proof of concept implementation of key aspects of openEHR specification. Its initial version explores the key requirements of implementation, all the way from a web based UI to a RDMS based back end. It includes some Eclipse plugins and Eclipse BIRT (Business Intelligence and Reporting Tools) integration.

28. <http://www.imt.liu.se/mi/ehr/>

30. <http://www.chime.ucl.ac.uk/>

31. <http://www.openehr.org/wiki/display/%7Eserefarikan>

32. <http://opereffa.chime.ucl.ac.uk>


			[Mar 2012]
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## Past Research

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33. <http://infocom.cqu.edu.au/hi>


34. <http://www.healthconnect.gov.au/>

Country	Institution	Team	Description
 Australia	<b>Health Informatics Research Group</b> <sup>33</sup> <b>Central Queensland University</b> , Australia  In Oct 2007, this group was closed.	Sebastian Garde, Evelyn Hovenga	Development of an <i>openEHR</i> User Interface Generator that employs archetypes, templates, and stylesheets (for the actual design of the user interface) to generate the EHR system's presentation.  [2004-2007]
	Distributed Systems Technology Centre (DSTC)  (now defunct)  (Australia)	Andrew Goodchild, Hoylen Sue, Zar Zar Tun	The <b>HealthConnect project</b> <sup>34</sup> is an Australian federal and state government initiative to create a national network of shared EHRs. In May 2002, Ocean Informatics and the DSTC began Phase 1 of a planned multi-phase project to trial <i>openEHR</i> as the basis for the Australian national EHR architecture to underpin <b>HealthConnect</b> and other similar initiatives. Phase 1 of the project entailed detailed requirements and design. It was successfully completed in March 2003. Phase 2 of the project began in January 2004. It involves the development and implementation of <i>openEHR</i> -based software to support a multi-disciplinary clinical trial of diabetes shared care involving hospitals, GPs and allied-health professionals in the Brisbane South GP

33. <http://infocom.cqu.edu.au/hi>

34. <http://www.healthconnect.gov.au/>

		<p>division, Australia. It is the first clinical trial of the <i>openEHR</i> model and archetypes and as such, will provide an important validation of the approach. DSTC's implementation:</p> <ul style="list-style-type: none"> <li>• Based on openEHR release 0.9.</li> <li>• a scalable, secure, shared electronic health record to meet Australias national electronic health record requirements.</li> <li>• Implemented using a combination of XML, Web Services, J2EE, Relational Database, LDAP and PKI. Also supports interfaces with external systems via HL7. Smart card support is also available. The user interface is totally web driven and works with most popular browsers.</li> <li>• Currently supports Hospital Doctors, General Practice, Pathology, Endocrinologists, Ophthalmologists, Dieticians, Diabetes Educators and Podiatrists. Emergency medicine, pharmacy and community nursing to be added soon.</li> </ul> <p><b>Status</b> (1-july-2006): DSTC ceased and development continued into Extensia products (commercial).</p>
	University of	Puvanendran

 <p>Sri Lanka</p>	<p><b>Moratuwa</b><sup>35</sup>  Sri Lanka; Health Development Research Program(<b>HDRP</b><sup>36</sup>),  Faculty of Medicine,  <b>University of Colombo</b><sup>37</sup>, Sri Lanka</p>	<p><b>Senthilruban</b><sup>38</sup></p>	<ul style="list-style-type: none"> <li>• "eCare" - a common gateway for electronic health care, with a plan to use the <i>openEHR</i> architecture and its archetypes for patient profile handling</li> <li>• Research proposal to design a common national distributed electronic health record system for Sri Lanka, based on the <i>openEHR</i> architecture</li> </ul> <p>[2004-2005]</p>
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35. <http://www.mrt.ac.lk/>


36. <http://www.hdrp.5u.com/>

37. <http://www.cmb.ac.lk/>

38. <mailto:senthilruban@yahoo.com>

39. <http://www.chime.ucl.ac.uk/>

40. <http://www.manchester.ac.uk/>


 UK	CHIME (Centre for Health Informatics and Multi-professional Education), <b>University College London</b> <sup>39</sup>	David Ingram, Dipak Kalra, David Lloyd, Tony Austin, Nathan Lea, Yin Su Lim, and Tom Beale	<ul style="list-style-type: none"> <li>• Contribution to the <i>openEHR</i> specifications and archetype methodology</li> <li>• Contributions to Java implementation of <i>openEHR</i> core components</li> <li>• Initial investigation into Java J2EE implementation of <i>openEHR</i> EHR, Demographics and archetypes services</li> <li>• Java JNI wrapper for the Ocean Informatics for Eiffel reference ADL parser</li> </ul> [2004-2007]
	<b>University of Manchester, UK</b> <sup>40</sup>	Prof Alan Rector, Rahil Qamar	<ul style="list-style-type: none"> <li>• Assistance migrating <i>openEHR</i> Archetype Definition Language to other formalisms such as XML</li> <li>• Investigation of the <i>openEHR</i>-GALEN terminology linkage</li> </ul> [2004-2007]

39. <http://www.chime.ucl.ac.uk/>

40. <http://www.manchester.ac.uk/>

41. <http://www.mayo.edu/>

42. <mailto:robsmith5@1talltrees.com>

 US	Laboratory for Biomedical Informatics, <b>Mayo Clinic</b> <sup>41</sup> , USA	Peter Elkin	<ul style="list-style-type: none"> <li>Investigating how <i>openEHR</i> archetypes and/or archetype-like structures can be applied to solve problems within Biomedical Informatics</li> </ul>
	Ontolog NHIT_EHR, USA	<b>Bob Smith</b> <sup>42</sup>	<ul style="list-style-type: none"> <li>"Primary Issues in scaling EHR for full deployment" - validating ontology and <i>openEHR</i> archetype requirements and underlying assumptions</li> </ul>

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41. <http://www.mayo.edu/>

42. <mailto:robsmith5@1talltrees.com>